

# **Europe in figures**

Eurostat yearbook 2008

>> with CD-ROM <<





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Eurostat yearbook 2008

>> with CD-ROM <<



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#### ABSTRACT

*Europe in figures* — *Eurostat yearbook 2008* — presents a comprehensive selection of statistical data on Europe. The yearbook may be viewed as an introduction to European statistics and provides guidance to the vast range of data freely available from the Eurostat website at http://ec.europa.eu/eurostat.

Most data cover the period 1996-2006 and some indicators are provided for other countries such as candidate countries to the European Union, members of EFTA, Japan or the USA (subject to availability). With just over 500 statistical tables, graphs and maps, the yearbook treats the following areas: the economy, education, health, living conditions and welfare, the labour market, industry and services, agriculture, forestry and fisheries, international trade, transport, the environment, energy, science and technology and European regions. This edition's spotlight chapter covers Europe's ageing society and associated demographic challenges.

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#### PREFACE

Official statistics play a fundamental role in today's society. Public administrations, policy makers, economic operators, markets, researchers and citizens rely on high quality statistics to describe developments in the economic, social, environmental and cultural spheres as accurately as possible. Statistical authorities respond to the needs of these users who require easy and timely access to such high quality information.

Impartial and objective statistical information is essential in order to enable well informed decisions based on an accurate and relevant picture of society. Statistical information underpins transparency and openness of policy decisions; official statistics therefore are a public good and a basis for the smooth functioning of democracy.



At European level, statistics are increasingly important for the definition, implementation, monitoring and evaluation of policies. Europe needs a plethora of statistical data which meet the highest possible standards in terms of quality. For example, reliable statistics are needed to assess macro-economic developments such as inflation, employment, government finances, economic growth and the business cycle in general: in order to facilitate economic policy coordination among Member States; to keep Europe on the path to long-term prosperity, notably through the revised Lisbon strategy and the integrated guidelines on growth and employment; and finally, to reinforce a commitment to solidarity and social justice. European statistics thus constitute an essential information tool that may help monitor European Union strategic objectives, as well as sustaining underlying policies and supporting instruments.

Eurostat, the Statistical Office of the European Communities, ensures the collection, production and dissemination of harmonised statistics at European level. Eurostat gets most of its data from the national statistical authorities in the Member States. It then processes, analyses and publishes that data at a European level, following common statistical concepts, methods and standards. Eurostat also supports and encourages the development of similar statistical systems within countries neighbouring the European Union, driving thereby a process of statistical harmonisation.

I hope this publication will encourage you to use Eurostat's data for your information needs and daily work. Please consult our website at http://ec.europa.eu/eurostat which offers you free access to nearly all Eurostat data and publications.

Hervé Carré Director-General, Eurostat

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#### THE EUROSTAT YEARBOOK

Europe in figures – Eurostat yearbook 2008 provides users of official statistics with an overview of the wealth of information that is available on Eurostat's website and within its online databases. It belongs to a set of general compendium publications and, of these, it provides the most extensive set of analyses and detailed data. Europe in figures has been conceived as a publication that provides a balanced set of indicators, with a broad cross-section of information.

#### **STRUCTURE OF THE PUBLICATION**

Europe in figures is divided into an introduction, 15 main chapters and a set of annexes. The main chapters contain data and/or background information relating to particular topics, starting with a spotlight chapter on demographic change – challenge or opportunity.

Each subchapter starts with an introduction containing background information and policy relevance, followed by some details regarding definitions and data availability and then a commentary on the main findings. The main focus of each subchapter is a set of tables and graphs that have been selected to show the wide variety of data available for that particular topic; often these include information on how important benchmark indicators have developed during recent years within the EU, its Member States and the euro area. Users will find a great deal more information when consulting the Eurostat website, which contains subject-specific publications and online databases – details of this are presented at the end of each section. The annexes at the end of the publication contain a glossary of statistical terms, a list of statistical symbols, abbreviations and acronyms, and a subject index.

### CD-ROM AND DEDICATED SECTION ON THE EUROSTAT WEBSITE

The paper version of the yearbook is accompanied by a CD-ROM which contains the full yearbook content in PDF format, as well as all tables and graphs in Excel spreadsheet format. In addition, the Eurostat website offers a specific dedicated section, in relation to the yearbook, which contains the PDF version of the publication as well as PDF files of other compendium publications (http://epp.eurostat.ec.europa.eu/pls/portal/url/page/PGP\_DS\_YEARBOOK/PGE\_DS\_YEARBOOK\_01).

#### DATA EXTRACTION AND COVERAGE

The statistical data presented in the yearbook were extracted during August 2007 and represent data availability at that time. The accompanying text was drafted during September and October 2007.

Note that, when presenting a time-series, the data are generally presented for the latest 11 years for which information is available. Longer time-series will usually be available when consulting Eurostat's online databases.

The tables and graphs generally show all of the country information that has been collected for each particular indicator. This publication generally presents information for the 27 Member States of the EU (EU-27), the euro area (based on 13

members), as well as the individual Member States. The EU-27 and euro area aggregates are only provided when information for all of the countries is available, or if an estimate has been made for missing information. Any partial totals that are created are systematically footnoted with respect to the missing components of the geographical aggregate in question.

Time-series for geographical aggregates are based on a consistent set of countries for the whole of the time period shown (unless otherwise indicated). In other words, although the EU has only had 25 Member States since the start of 2004 and 27 Member States since the start of 2007, the time-series for EU-27 refer to a sum or an average for all 27 countries for the whole of the period presented, as if all 27 Member States had been part of the EU in earlier periods. In a similar vein, the data for the euro area are consistently presented for all 13 members, despite the later accessions of Greece and Slovenia to the euro area. As such, unless otherwise stated, the data for the euro area covers the 13 Member States that share the euro as a common currency (Belgium, Germany, Greece, Spain, France, Ireland, Italy, Luxembourg, the Netherlands, Austria, Portugal, Slovenia and Finland) for each reference year. The order of the EU Member States used in the Eurostat yearbook generally follows their order of protocol; in other words, the alphabetical order of the countries' names in their respective native languages; in some graphs the data are ranked according to the values of a particular indicator.

This edition of the yearbook does not take into account the accession of Cyprus or Malta to the euro area at the start of 2008, as data was extracted and analysed in 2007.

When available, information is also presented for the (at time of writing) candidate countries of Croatia, the former Yugoslav Republic of Macedonia and Turkey, for EFTA countries, as well as for Japan and the United States. In the event that non-member countries did not provide data, then these have been excluded from the tables and graphs in an attempt to save space; however, the full set of 27 Member States is maintained in tables and graphs even when data are not available, with footnotes for those countries for which information is missing. In the event that a reference year is not available for a particular country, then efforts have been made to fill tables and graphs with previous reference years (again these exceptions are footnoted).

Eurostat online databases contain a large amount of meta-data that provides information on the status of particular values or series. In order to improve readability, the majority of this metadata has been omitted when constructing the tables and graphs. Nevertheless, individual data cells that are forecasts, provisional or estimates are shown in an italic font – note that these values are likely to change in the future. Equally, when important breaks in series are present, these have been footnoted appropriately. A colon (:) is used to represent data that is not available, either because the value was not provided by the statistical authority or because the value is confidential. In graphs, missing information is footnoted as being not available. The dash (-) is used to indicate values that are not relevant or not applicable in tables.

#### THE EUROSTAT DATA CODE

A code (such as 'tps00001') has been inserted as part of the source whenever Eurostat data is presented in this publication. This code allows the reader to easily access the most recent data on the Eurostat website (note that the data on the website is frequently updated and may also be more detailed or be available in a variety of different measurement units). For more details, consult the link entitled 'The Eurostat data code' on the Eurostat homepage.

#### **CHAPTER GUIDES TO WEBSITE DATA**

At the end of the introduction to each main chapter of this publication, a coloured box headed 'data in this domain' provides information on the main access points to the relevant website data by detailing the statistical theme of Eurostat as well as relevant subthemes (if applicable). The subchapters of the publication give more detailed listings in additional coloured boxes under the heading 'website data'. Note that these listings only start at the level of subthemes (given in a bold font), as identified in the introductory section to each main chapter. Hence, to find the full path to access the data it is necessary to combine these two sets of information ('data in this domain' and 'website data').

## INFORMATION ON EU POLICIES AND OTHER ACTIVITIES

The Eurostat yearbook aims at providing statistical information on the European Union, its Member States and some other countries. It also provides information on related EU policies and activities. Such information does not necessarily reflect the official views of Eurostat or the European Commission. Further information about such policies and activities may be found on the website of the European Commission at http://ec.europa.eu.

#### STATISTICAL SYMBOLS

Statistical data are often accompanied by additional information in form of statistical symbols (also called 'flags') to indicate missing information or some other meta-data. In this yearbook, the use of statistical symbols has been restricted to a minimum. The following symbols are included where necessary:

Italic	Value is a forecast, provisional or an estimate and is therefore likely to change
:	Not available, confidential or unreliable value
-	Not applicable or zero by default
0	Less than half the final digit shown and greater than real zero

Breaks in series are indicated in the footnotes provided with each table and graph.

In the case of the EU Member States, even when data are not available, these countries have been included in tables and graphs systematically (with appropriate footnotes for graphs indicating that data are not available, while in tables use has been made of the colon (:) to indicate that data are not available). For nonmember countries outside of the EU, when data are not available for a particular indicator the country has been removed from the table or graph in question.

## EUROSTAT – THE STATISTICAL OFFICE OF THE EUROPEAN COMMUNITIES

Eurostat is the Statistical Office of the European Communities, situated in Luxembourg. Its task is to provide the European Union (EU) with statistics at a European level that enable comparisons between countries and regions. Eurostat's mission is 'to provide the European Union with a high-quality statistical information service'. To meet this challenge, Eurostat aims:

- to implement a set of standards, methods and organisational structures which allow comparable, reliable and relevant statistics to be produced throughout the Community, in line with the principles of the European statistics code of practice;
- to provide the European institutions and the governments of the Member States with the information needed to implement, monitor and evaluate Community policies;
- to disseminate statistics to the European public and enterprises and to all economic and social agents involved in decision-making, and;
- to facilitate the improvement of the statistical systems of the Member States and support developing countries, as well as the countries moving towards a market economy.

As one of the Directorate-Generals of the European Commission, Eurostat is headed by a Director-General. Under him are seven Directors responsible for different areas of activity (Directorates as of November 2007):

- A. Resources;
- B. Statistical methods and tools; dissemination;
- C. National and European accounts;
- D. Economic and regional statistics;
- E. Agriculture and environment statistics; statistical cooperation;
- F. Social statistics and information society;
- G. Business statistics.

In 2007, Eurostat had around 870 posts; of these some 73 % were civil servants, 8 % were seconded national experts, and 19 % had other types of contract. Eurostat's budget was around EUR 62 million in 2007 (excluding costs of statutory staff) of which EUR 47 million were budgeted for the implementation of the statistical programme. In addition, a budget of EUR 47 million was sub-delegated to Eurostat by other Directorates-General.

Since the early days of the European Communities, there was a realisation that the planning and implementation of Community policies must be based on reliable and comparable statistics. As a result, the European statistical system (ESS) was built-up gradually to provide comparable statistics at an EU level. For this purpose, Eurostat does not work alone. The ESS comprises Eurostat and the statistical offices, ministries, agencies and central banks that collect official statistics in the EU Member States, Iceland, Liechtenstein, Norway and Switzerland (you can find the contact details and Internet addresses of all members of the ESS by choosing the link to the 'European Statistical System (ESS)' from the list of activities presented on the right-hand menu of the Eurostat homepage and then selecting the link to 'National Statistical Institutes').

The ESS functions as a network in which Eurostat's role is to lead the way in the harmonisation of statistics in close cooperation with the national statistical authorities. At the heart of the ESS is the Statistical Programme Committee (SPC), which brings together the heads of Member States' national statistical offices and is chaired by Eurostat. The SPC discusses joint actions and programmes to be carried out to meet EU information requirements. It agrees a five-year programme, which is implemented by the national authorities and monitored by Eurostat.

#### INFORMATION FOR A MODERN SOCIETY — IMPARTIALITY AND OBJECTIVITY

To actively participate in a democratic Europe, public administrations, researchers, trade unions, businesses and political parties, among others, need high-quality, impartial, reliable and comparable statistical data. These actors need to be able to access data without exclusion: in other words, no key information should be withheld from particular citizens, enterprises or public bodies. Rather, each of these should have equal access to the data available. Eurostat and its partners in the ESS provide equal opportunities to access a wide range of comprehensive information on social, economic and environmental developments in Europe, through providing free access to data on the Eurostat website.

Today's information society is characterised by the rapid transfer and sheer scale of data flows. While access to and the transfer of information has grown exponentially, the reliability of information cannot always be guaranteed. Access to reliable and high-quality statistics and Eurostat's obligation for trustworthiness is enshrined in law, as Article 285(2) of the EC Treaty says: 'The production of Community statistics shall conform to impartiality, reliability, objectivity, scientific independence, cost-effectiveness and statistical confidentiality; it shall not entail excessive burdens on economic operators'. These are principles upon which Eurostat's day-to-day work is based.

It is easier for people to understand each other if they know about each other's conditions of life and work, and they have information on trends that are developing within society as a whole. Comparisons, however, require comparable statistics that, in turn, demand the use of a common 'statistical language'. This common language has to embrace concepts, methods and definitions, as well as technical standards and infrastructures, often referred to by statisticians as harmonisation. This is Eurostat's raison d'être – and sums up what the ESS is all about.

The data that are collected, harmonised and reported upon by Eurostat have been agreed through a well-defined political process at the European level in which the Member States are deeply involved. Most surveys and data collection exercises are based on European regulations or directives that are legally binding.

#### A PRACTICAL GUIDE TO ACCESSING EUROPEAN STATISTICS

The simplest way of accessing Eurostat's broad range of statistical information is through the Eurostat website (http://ec.europa.eu).

Since 1 October 2004 Eurostat has provided users with free access to its Internet databases and all of its publications in PDF format. The website is updated daily and provides direct access to the latest and most comprehensive statistical information available on the EU and the Member States. The information published on the website is available in German, English and French. Eurostat is currently working on improvements to the website in terms of functionality and design. Therefore, some information given below might be outdated during the course of the next year.

For full access to all of the services available through the website, it is recommended that users should take a few moments to register from the homepage. Registration is free of charge and allows access to:

- tailor-made e-mail alerts informing you of new publications as soon as they are online;
- access enhanced functionalities of the databases (save queries and make bulk downloads).

The information on the website is structured according to a set of 'themes', which may be accessed from the left-hand menu bar of the homepage, providing access to:

- general and regional statistics;
- economy and finance;
- population and social conditions;
- industry, trade and services;
- agriculture and fisheries;
- external trade;
- transport;
- environment and energy;
- science and technology.

Within each of these themes the user is initially presented with the possibility of accessing information relating to (pre-defined) tables, data(bases), methodology or publications, by means of a series of tabbed pages. Those users who are not able to limit their search by statistical theme can enter the website through a series of tabs in the middle of the homepage which provide access to the full range of tables, data, methodology and publications.

#### TABLES, GRAPHS AND MAPS

The most important indicators may be found in the form of predefined tables, graphs and maps. They can be accessed through the Eurostat data tree or from the homepage for each of the nine statistical themes detailed above. Pre-defined tables are generally presented for a single indicator, with European aggregates and data for the Member States on the y-axis and time on the x-axis (they can be accessed by clicking on ). The data are selected from key EU policy indicators, including short-term economic data, long-term indicators, structural indicators, and sustainable development indicators. The new tables, graphs and maps interface (TGM) allows, in addition to tables, for customisable graphs and maps of the same indicators (the interface can be accessed by clicking on ). Some of the most important indicators that are produced in this format are listed below. Chapter 14 'Linking statistics to European policies' gives more information on these sets of indicators.

Euro-Indicators – this is a collection of the freshest, monthly and quarterly data, used to evaluate the economic situation within the euro area and the EU. Euro-Indicators are updated daily and the publication of key figures is announced as part of Eurostat's release calendar that is available on the Eurostat website (http://epp.eurostat.ec.europa.eu/pls/portal/url/page/PGP\_RELEAS E/PGE\_DS\_RELEASE).

Structural indicators ( ) – these are used to assess the longerterm progress being made within the EU in the domains of employment, innovation and research, economic reform, social cohesion, and the environment, as well as the general economic background; they are most relevant for political debate with respect to the Lisbon objectives.

Sustainable development indicators — a sustainable development strategy was adopted by the European Council in Gothenburg in June 2001, and renewed in June 2006; it aims to reconcile economic development, social cohesion and protection of the environment. Monitoring progress towards this goal is an essential part of the strategy, while a parallel objective is to inform the general public about progress in attaining the commonly agreed objectives of sustainable development.

#### DATA

More detailed statistics and larger volumes of data can be downloaded from the Internet databases (also called 'open tables') which allow the user to select the information he/she is interested in through a number of selection screens for each dimension of the data set; the data can be extracted in a variety of formats (text files, HTML, Excel, etc.). Open tables can be accessed through the Eurostat data tree or from the homepage for each of the nine statistical themes detailed above, under the 'Data' heading.

#### **METHODOLOGY**

The Special Data Dissemination Standard (SDDS) format, established by the International Monetary Fund (IMF) in 1996 to guide members in the provision of their economic data to the public, is a standard already adopted by 57 countries (including almost all of the Member States). The use of the SDDS format within Eurostat was implemented after a decision of the Eurostat Board on 7 January 2004.

Meta-data may be accessed either from the heading 'Methodology' or directly from the data tree, when browsing the database, as an icon (E) is used to alert users to the availability of additional information.

#### PUBLICATIONS

Eurostat produces a variety of publications, both for non-experts and specialists. All of these are available on the Eurostat website in PDF format, free of charge. As with the data, the publications are organised under Eurostat's nine statistical themes. There are a variety of different types of publication, ranging from news releases to more in-depth analyses in the form of the statistical books collection. Among the most interesting collections are:

News releases – rapid updates providing information about the release of new key data on the EU;

Statistics in focus and Data in focus – these are relatively short publications which present up-to-date summaries of the main results of statistical surveys, studies and analyses;

Pocketbooks – these handy, pocket-sized publications present main indicators for a particular theme in a concise format;

Statistical books – a collection of comprehensive studies; these publications are usually quite lengthy and provide analyses, tables and graphs for one or more statistical domains;

Methodologies and working papers – intended for specialists who want to consult methodologies, nomenclatures, or specific studies for a particular data set.

All PDF versions of these products are available for consultation and download via the Eurostat website. Alternatively, some Eurostat publications are also printed or made available on CD-ROM or DVD; these can be ordered from the website of the EU bookshop (see http://bookshop.europa.eu) or through sales agents in the Member States. The bookshop is managed by the Office for Official Publications of the European Communities (see http://publications.europa.eu).

#### SUPPORT FOR INTERNET USERS

Eurostat and the other members of the European statistical system, have set-up a system of user support centres for Internet users. These exist in nearly all of the Member States, as well as some EFTA countries. In order to offer the best possible and personalised support, requests should always be addressed to the relevant national support centre. The mission of each centre is to provide additional help and guidance to users who are having difficulty in finding the statistical data they require. More information is available on the Eurostat website (http://epp.eurostat.ec.europa.eu/pls/portal/url/page/PGP\_DS\_SUPPORT).

#### **EUROSTAT'S SERVICE FOR JOURNALISTS**

Statistics make news and they are essential to many stories, features and in-depth analyses. Printed media, as well as radio and TV, use Eurostat data intensively. Eurostat's press office puts out user-friendly news releases on a key selection of data covering the EU, the euro area, the Member States and their partners. All Eurostat news releases are available free of charge on the Eurostat website at 11 a.m. on the day they are released. Some 182 press releases have been published in the last year, of which the majority were based on monthly or quarterly Euro-Indicators. The press office also coordinates press briefings on important statistical results and events.

Eurostat's media support centre helps professional journalists find data on all kinds of topics. Journalists can contact media support for further information on news releases and other data (tel. (352) 4301-33408; fax (352) 4301-35349; e-mail: eurostat-mediasupport@ec.europa.eu).

# In the spotlight

Demographic change: challenge or opportunity?





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This spotlight chapter focuses on the demographic challenges that Europe has to face in the coming decades. It starts with a presentation of the current demographic situation, comparing the population structure in the EU and the rest of the world (Subchapter 1), as well as providing a more detailed description of the picture within the EU (Subchapter 2). The analysis then moves on to look at the different components that contribute to population change (Subchapter 3), in particular, births (Subchapter 4), life expectancy and death (Subchapter 5), and migratory flows (Subchapter 6), before closing with an analysis of the effects that these different elements are likely to have on Europe's ageing population (Subchapter 7).

Three factors are at the heart of Europe's ageing society: low fertility rates, extended life expectancy, and a baby-boom generation that is reaching retirement age. Together with other factors, such as unemployment and changes in the span of the average working life, the age structure of society impacts on the numerical balance between persons not working compared with those in work.

Future demographic trends are likely to see a sustained increase in the proportion of the EU's population that is aged above the current retirement age of 65. In order to address these challenges, the European Commission released a Green Paper in March 2005 (COM(2005) 94) entitled 'Confronting demographic change: a new solidarity between the generations' <sup>(1)</sup>. It raises questions such as: how can the decline in population be reversed? or how can society cope with the impact of an ageing population, while providing opportunities to the youngest members of society?

Eurostat's long-term demographic projections can be used to make 'what-if' scenarios through to the year 2050. They show possible demographic developments based on assumptions about fertility, mortality and migration that in turn are derived from observed trends and expert opinion. These projections can be used to highlight a number of policy concerns that may result from an ageing society, including the financial sustainability of social protection schemes. Higher old age dependency ratios are likely to affect the balance between government receipts and expenditure, with healthcare and long-term care (for example, of the frail and very old) being two expenditure categories which are likely to increase.

As a result, the EU will, in the coming decades, face a number of significant challenges, which will need to be taken into account within a variety of different policy areas.

EUROSTAT DATA IN THIS DOMAIN: Population and social conditions Population Demography International migration and asylum Population projections Census

For more information: http://ec.europa.eu/employment\_social/news/2005/mar/ comm2005-94\_en.pdf.

#### EU POPULATION COMPARED WITH OTHER REGIONS

#### **DEFINITIONS AND DATA AVAILABILITY**

The majority of the data in this section is provided by the Population Division of the Department of Economic and Social Affairs of the United Nations (UN) Secretariat – for more information: http://esa.un.org/unpp.

Since the 1970s, the UN has been involved in several multinational survey programmes whose results provide key information about fertility, mortality, maternal and child health. The UN data reflects demographic information produced by other UN agencies or bodies, such as, Economic and Social Commissions, the High Commissioner for Refugees (UNHCR), the United Nations Children's Fund (UNICEF), and the World Health Organization (WHO). Data from other regional organisations, such as Eurostat, is also consulted and used when elaborating forecasts.

UN country groupings that are designated as 'more developed' and 'less developed' are exclusively intended for statistical convenience and do not express any judgment about the stage reached by a particular country or area in the development process. More developed regions include: all regions of Europe <sup>(2)</sup> plus Northern America, Australia, New Zealand and Japan. Less developed regions include: all regions of Africa, Asia (excluding Japan), Latin America and the Caribbean, as well as Melanesia, Micronesia and Polynesia.

The preparation of population estimates and projections by the UN involves two distinct processes: the incorporation of new and relevant information regarding past demographic dynamics; and the formulation of assumptions about the future paths of fertility, mortality and international migration <sup>(3)</sup>. Because future trends cannot be known with certainty, a number of projection variants are produced: low; medium; high; constant-fertility; instant-replacement-fertility; constant-mortality; no change (constant-fertility and constant-mortality); and zero-migration. For the purposes of this publication, the medium variant has been selected. Under this variant, total fertility in all countries is assumed to converge towards 1.85 children per woman, although not all countries reach this level during the projection period.

Mortality is projected on the basis of models concerning changes in life expectancy. These models produce smaller gains the higher the life expectancy that has already been reached. The selection of a model for each country is based on recent trends in life expectancy by gender. For countries highly affected by the HIV/AIDS epidemic, a model incorporating a slow pace of mortality decline has generally been used to project a certain slowdown in the reduction of general mortality risks not related to HIV/AIDS.

Under the normal migration assumption, the future path of international migration is set on the basis of past international migration estimates and consideration of the policy stance of each country with regard to future international migration flows. Projected levels of net migration are generally kept constant over most of the projection period.

#### **MAIN FINDINGS**

In comparison to other regions, the EU's population is growing at a relatively slow pace. Between 1960 and 2005 the world's population more than doubled, rising from 3 032 million inhabitants to 6 515 million, while the corresponding rate of change in the EU-27 was an overall increase of 21.9 % to reach 491 million inhabitants. The fastest expansion in world population during the last 45 years was reported in particular for countries in Africa, Asia, and Latin America and the Caribbean.

The relative weight of the EU-27's population fell from 13.3 % of the world total in 1960 to 7.5 % by 2005. This trend is projected to continue, such that by 2050, the EU-27 will account for around 5 % of the world's population. The proportion of the world's population that are Chinese is also expected to decline to around 15 % by 2050, almost 5 percentage points down on its share of 2005; although the total number of Chinese people is projected to increase by almost 100 million over the period considered. In contrast, population growth in India is more pronounced. The UN projects this pattern will continue, and India is likely to become the most populous nation on the planet before 2050, when its population is expected to be over 1 650 million persons.

<sup>(2)</sup> EU-27, Albania, Andorra, Belarus, Bosnia and Herzegovina, Croatia, Faeroe Islands, Iceland, Liechtenstein, the former Yugoslav Republic of Macedonia, Republic of Moldova, Montenegro, Norway, the Russian Federation, Serbia, Switzerland and the Ukraine.

<sup>(3)</sup> Note that methodological information concerning Eurostat population projections – EU-27 projections in this subchapter and the next – is presented under the heading of definitions and data availability in the next subchapter.

The world's population growth peaked in the period 1985-1990, when the number of global inhabitants increased, on average, by 87.9 million persons per annum. By 2050 the rate of population growth is expected to have slowed considerably, such that each year will see an additional 33.1 million inhabitants on the planet. The world's population is projected, nevertheless, to grow by 41.1 % overall between 2005 and 2050. The fastest growing population is projected to be that of Africa, where by 2050 the UN foresees the number of inhabitants being more than twice as high as in 2005. For means of comparison, the UN projects that the populations of Asia, Latin America and the Caribbean, North America, and Oceania will rise by between 34 % and 46 % overall between 2005 and 2050.

#### SOURCES

#### **Statistical books**

The social situation in the European Union 2005-2006 Population statistics (with CD-Rom) European social statistics – demography

Pocketbooks Living conditions in Europe – statistical pocketbook – data 2002-2005

#### Methodologies and working papers

Demographic outlook – national reports on the demographic developments in 2005 Methodology for the calculation of Eurostat's demographic indicators Basic methodology for the recalculation of intercensal population estimates Demographic statistics: definitions and methods of collection in 31 European countries

#### Website data

#### Demography

Demography – national data Main demographic indicators Population change: absolute numbers and crude rates Demographic cohort indicators

Population

Average population by sex and five-year age groups

Population by sex and age on 1 January of each year

Population structure indicators on 1 January

#### Population projections

Trend scenario, national level – base year 2004 Trend scenario, regional level – base year 2004

Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat; for more information: http://esa.un.org/unpp/

This pattern is unlikely to be observed in the EU-27, Japan or the Russian Federation, where the population is projected to decline between 2005 and 2050.

#### Table SP.1: World population

(million)

	1960	1965	1970	1975	1980	1985	1990	1995	2000	2005
World	3 032	3 343	3 699	4 076	4 451	4 855	5 295	5 719	6 124	6 515
Europe (1)	605	635	657	676	693	707	721	729	729	731
Africa	282	320	364	416	480	554	637	726	821	922
Asia	1 704	1 899	2 139	2 394	2 636	2 896	3 181	3 452	3 705	3 938
Latin America and the Caribbean	220	253	288	325	364	404	444	484	523	558
Northern America	204	219	232	243	256	269	284	300	316	332
Oceania	16	18	20	21	23	25	27	29	31	33
EU-27	403	420	435	447	457	464	470	476	482	491
China	657	729	831	928	999	1 067	1 1 4 9	1214	1 270	1 313
India	446	494	549	614	689	771	860	954	1 046	1 1 3 4
Japan	94	99	104	112	117	121	124	125	127	128
Russian Federation	120	127	130	134	139	143	149	149	147	144
United States	186	199	210	220	231	243	256	270	285	300

(1) EU-27, Albania, Andorra, Belarus, Bosnia and Herzegovina, Croatia, Faeroe Islands, Iceland, Liechtenstein,

the former Yugoslav Republic of Macedonia, Republic of Moldova, Montenegro, Norway, the Russian Federation, Serbia, Switzerland and the Ukraine.

Source: Eurostat (demo\_pjan), United Nations, Population Division of the Department of Economic and Social Affairs

#### Table SP.2: World population

(% share of world regions and some countries in total world population)

	1960	1965	1970	1975	1980	1985	1990	1995	2000	2005
Europe (1)	20.0	19.0	17.8	16.6	15.6	14.6	13.6	12.7	11.9	11.2
Africa	9.3	9.6	9.8	10.2	10.8	11.4	12.0	12.7	13.4	14.2
Asia	56.2	56.8	57.8	58.7	59.2	59.7	60.1	60.4	60.5	60.4
Latin America and the Caribbean	7.3	7.6	7.8	8.0	8.2	8.3	8.4	8.5	8.5	8.6
Northern America	6.7	6.6	6.3	6.0	5.7	5.5	5.4	5.2	5.2	5.1
Oceania	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
EU-27	13.3	12.6	11.8	11.0	10.3	9.5	8.9	8.3	7.9	7.5
China	21.7	21.8	22.5	22.8	22.4	22.0	21.7	21.2	20.7	20.2
India	14.7	14.8	14.9	15.1	15.5	15.9	16.2	16.7	17.1	17.4
Japan	3.1	3.0	2.8	2.7	2.6	2.5	2.3	2.2	2.1	2.0
Russian Federation	4.0	3.8	3.5	3.3	3.1	3.0	2.8	2.6	2.4	2.2
United States	6.1	6.0	5.7	5.4	5.2	5.0	4.8	4.7	4.7	4.6

EU-27, Albania, Andorra, Belarus, Bosnia and Herzegovina, Croatia, Faeroe Islands, Iceland, Liechtenstein, the former Yugoslav Republic of Macedonia, Republic of Moldova, Montenegro, Norway, the Russian Federation, Serbia, Switzerland and the Ukraine.

Source: Eurostat (demo\_pjan), United Nations, Population Division of the Department of Economic and Social Affairs

#### Figure SP.1: World population, 2005

(% of total)



(1) Excluding EU-27, Japan, the Russian Federation and the United States.

(2) Excluding China and India.

Source: Eurostat (demo\_pjan), United Nations, Population Division of the Department of Economic and Social Affairs

#### Figure SP.2: World population

(% of total)



(1) Excluding EU-27, Japan, the Russian Federation and the United States.

(2) Excluding China and India.

Source: Eurostat (demo\_pjan), United Nations, Population Division of the Department of Economic and Social Affairs

#### Figure SP.3: Population change

(average annual change, million)



Source: Eurostat (demo\_pjan), United Nations, Population Division of the Department of Economic and Social Affairs

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### Figure SP.4: Increase in world population, 1995-2005

(overall change, million)



Source: Eurostat (demo\_pjan), United Nations, Population Division of the Department of Economic and Social Affairs

## Table SP.3: Population and population projections (million)

	2005	2010	2015	2020	2025	2030	2035	2040	2045	2050
World	6 515	6 907	7 295	7 667	8 011	8 318	8 587	8 824	9 026	9 191
Europe (1)	731	730	727	722	715	707	698	687	676	664
Africa	922	1 032	1 1 4 9	1 271	1 394	1 518	1 643	1 765	1 884	1 998
Asia	3 938	4 166	4 389	4 596	4 779	4 931	5 052	5 148	5 220	5 266
Latin America and the Caribbean	558	594	628	660	688	713	733	750	762	769
Northern America	332	349	364	379	393	405	417	427	436	445
Oceania	33	35	37	39	41	43	45	46	48	49
EU-27	491	493	495	496	496	495	492	487	481	472
China	1 313	1 352	1 389	1 421	1 446	1 458	1 458	1 448	1 431	1 409
India	1 1 3 4	1 220	1 303	1 379	1 447	1 506	1 554	1 597	1 632	1 658
Japan	128	128	127	124	122	118	115	111	107	103
Russian Federation	144	140	136	132	128	124	120	116	112	108
United States	300	315	329	343	355	366	376	386	394	402

 EU-27, Albania, Andorra, Belarus, Bosnia and Herzegovina, Croatia, Faeroe Islands, Iceland, Liechtenstein, the former Yugoslav Republic of Macedonia, Republic of Moldova, Montenegro, Norway, the Russian Federation, Serbia, Switzerland and the Ukraine.

Source: Eurostat (proj\_tbp\_pop), United Nations, Population Division of the Department of Economic and Social Affairs



(million)



(1) EU-27, Albania, Andorra, Belarus, Bosnia and Herzegovina, Croatia, Faeroe Islands, Iceland, Liechtenstein, the former Yugoslav Republic of Macedonia, Republic of Moldova, Montenegro, Norway, the Russian Federation, Serbia, Switzerland and the Ukraine.

Source: Eurostat (demo\_pjan and proj\_tbp\_pop), United Nations, Population Division of the Department of Economic and Social Affairs

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#### **EU-27 POPULATION**

#### **INTRODUCTION**

The current EU-27 population profile is the result of many years of high, followed by low birth rates, accompanied by a steady, gradual increase in life expectancy. Sudden changes in fertility or migratory patterns for one year, unless sustained, will only result in a one-off effect and do little to bring about a structural change in the make up of a population's profile.

The social and economic changes associated with population ageing are likely to have profound implications for the EU, stretching across a wide range of policy areas – among others, impacting on the school-age population, changes in family structures, labour force participation, healthcare, social protection and social security issues, government finances, and economic competitiveness.

Over the last 40 years much of the European labour force has been made-up of members of the baby-boom generations, who have formed a high proportion of the working age population. This demographic characteristic is projected to end during the coming decades, as the baby-boom generation take their retirement. Europe's fertility rates have been in decline since the 1970s, and the number of young people entering the labour market has become progressively smaller. The proportion of people of working age in the EU-27 is shrinking at the same time as those who are taking their retirement expands.

The challenges posed by this shift in demographics largely fall into the competence of the Member States, however the EU aims to support national policy efforts. It promotes employment through social and economic policies that reinforce each other to deliver growth, more and better jobs and social cohesion, and uses the instruments available to promote a better balance between the generations and between working and family life. The European Commission's Green Paper 'confronting demographic change and a new solidarity between the generations' highlights increased investment in the young, alongside encouraging older generations to remain active for longer as possible solutions to alleviate the challenges associated with an ageing population. Many Member States have recognised a need to raise employment rates and extend working lives, through initiatives that aim to create more flexible pathways to retirement and encourage individuals to prolong their economic activity.

#### **DEFINITIONS AND DATA AVAILABILITY**

Eurostat produces a large range of demographic data, including statistics on population, births and deaths, marriages and divorces. A number of important policies, notably in social and economic fields, use population data – such as, fertility rates and life expectancy when planning social policies for retirement schemes, or regional population data for calculating GDP per capita which is used as part of the decision making criteria for the allocation of structural funds to economically less advantaged regions.

There has, until recently, been no comprehensive legal base for the collection of statistics on migration and international protection, with Eurostat generally compiling statistics in this area under specific arrangements with the Member States.

However, the European Parliament and the Council recently adopted a Regulation on Community statistics on migration and international protection <sup>(4)</sup>. This new Regulation specifies the collection of statistics relating to international migration flows, foreign population stocks, acquisition of citizenship, asylum applications and decisions, measures taken against illegal entry and stay, returns of unauthorised migrants, and residence permits issued to thirdcountry citizens. Its focus is to harmonise statistical outputs, based on a set of common definitions relating to immigration, border management, and asylum issues, and on established international standards (in particular, the UN recommendations for migration statistics). The Regulation provides a framework which needs to be completed through the adoption of implementing measures in the form of Commission regulations. The European Statistical System will be actively involved in the preparation and implementation of these measures.

Most European countries evaluate population data on the basis of gender and age breakdowns as of 1 January (although some countries adopt another date). Unless otherwise stipulated, the population data presented is based on 1 January. Population figures are generally based on data from the most recent census, adjusted by the components of population change produced since the last census, or alternatively population registers. Note that demographic statistics for France have a break in series in 1998, as prior to this date information was collected on the basis of metropolitan France (in other words excluding French overseas departments), while from 1998 onwards these departments are included. Besides the national French data, this break in series also concerns EU and euro area aggregates.

Every three to five years, Eurostat produces demographic projections. Those presented here relate to the baseline variant of the trend scenario, which is one of a set of 'what-if' scenarios. The projections are made using the latest available figures for the population on 1 January, with key assumptions made with respect to mortality, fertility and migration by sex and by age.

The regional breakdown of population projections is computed starting from the assumptions already formulated for the national level exercise that are then specified for the different regions. One issue that is peculiar to the regional dimension is that of interregional migration (in other words, population movements between different regions within the same country, for example, a drift from rural to urban areas). Note that appropriate data were not available for France or the United Kingdom, and so regional population projections were not made for these countries.

<sup>(4)</sup> Regulation (EC) No 862/2007 of the European Parliament and of the Council of 11 July 2007 on Community statistics on migration and international protection and repealing Council Regulation (EEC) No 311/76 on the compilation of statistics on foreign workers (text with EEA relevance); for more information: http://eur-lex.europa.eu/ Lext/riServ/Lext/riServ.do?uri=OJ:L:2007:199:0023:01:EN:HTML.

#### **MAIN FINDINGS**

During the last 45 years, the population of the EU-27 has grown from about 403 million in 1960 to just over 495 million by 2007. Population growth in the EU-27 was strongest at the beginning of this period in the 1960s, when average annual increases were generally over 3 million persons per year, peaking at 4.2 million in 1963. The rate of population change slowed down significantly in the 1970s, such that by the 1980s the average increase in population was around one million persons each year. This level of population growth continued during much of the next 20 years, although there was a slight reversal in the trend observed during the period 2003 to 2006, as the number of EU-27 inhabitants rose by approximately 2 million a year.

Germany has the largest population among the Member States with almost 17 % of the EU-27 total in 2007, followed by France, the United Kingdom and Italy with 12 to 13 % each. These four countries together comprised almost 54 % of the total population of the EU-27. The 12 Member States that have joined the EU since 2004 represented almost 21 % of the EU-27's population in 2007, some 103.3 million persons.

The population is still growing in a majority of European countries, although the situation is varied across Member States. Most of the overall population growth in the EU-27 in the last decade may be attributed to an increased number of inhabitants in Ireland, Spain, France, Italy and the United Kingdom; in relative terms, Ireland, Spain and Cyprus recorded the highest population growth rates.

Some 16.0% of the EU-27's population were aged less than 15 years in 2006. Ireland (20.5 %) had the youngest population, followed by Denmark, France, Luxembourg and Cyprus – all reporting that those aged less than 15 accounted for between 18 % and 19 % of their total population. Persons of a working age (between 15 and 64 years old) accounted for 67.2 % of the EU-27's population; while the remaining 16.7 % of the population were aged 65 or more.

Eurostat projects that the EU-27's population will rise to a high of 496.5 million persons during the period 2021-2023 and fall thereafter down to about 472 million inhabitants by 2050; note these projections depend to some degree on variable factors, such as net migration, which are difficult to forecast. The changes in population levels will not be distributed equally across the Member States, as the populations of Cyprus, Ireland, Malta, Luxembourg and Sweden are all forecast to rise considerably (by more than 10 % overall) during the period considered. France, the United Kingdom, the Netherlands, Belgium and Austria are also likely to have larger populations by 2050.

On the other hand, the number of inhabitants in the Baltic States, Slovakia, the Czech Republic, Hungary and Poland might fall by more than 10 % overall between 2005 and 2050, while the largest declines in population are projected for Bulgaria (an overall reduction of 33.8 %) and Romania (21.2 %). In absolute terms, the biggest population losses are foreseen for Germany (-8.0 million persons) and Italy (-5.5 million persons), where the number of inhabitants is expected to fall by almost 10 %.

In recent decades Europe has had a relatively large proportion of its population in working age (15 to 64 years old). Cohorts (groups of people of about the same age) of the so-called babyboom generation are reflected as bulges in European population pyramids, as shown in Figures 8 and 9. In 2005 the largest fiveyear age group of the population for both men and women was those persons aged 35 to 39, accounting for just fewer than 4 % of the total population. As this relatively large cohort becomes older and moves towards retirement, the proportion of older persons in the EU will increase - as shown by the pyramid for 2030 and 2050. The importance of the very old (80 years or more) will be considerable by 2050, when this age group is likely to account for 11.2 % of the EU-27's population. At the end of the ageing transition (see the population pyramid for 2050), the babyboom generation will be standing on a relatively narrow working age population.

Maps 1 to 3 show changes in population over the period 2005 to 2030. Some of the most rapid population growth in the EU-27 over this period may be expected in the southern and eastern coastal regions of Iberia, the Spanish islands, as well as a number of urban regions, and the whole of Ireland. Aside from Stockholm (Sweden) and Wien (Austria), urban population growth is projected to be concentrated away from capital cities. For example, in Germany some of the highest population growth rates are expected in cities such as Köln, Karlsruhe, Bremen or Stuttgart, while Berlin and many other cities in eastern Germany are likely to experience population reduction.

#### SOURCES

#### **Statistical books**

The social situation in the European Union 2005-2006 Population statistics (with CD-ROM) European social statistics – demography

#### **Pocketbooks**

Living conditions in Europe - statistical pocketbook - data 2002-2005

#### Methodologies and working papers

Demographic outlook – national reports on the demographic developments in 2005 Methodology for the calculation of Eurostat's demographic indicators Basic methodology for the recalculation of intercensal population estimates Demographic statistics: definitions and methods of collection in 31 European countries

#### Website data

#### Demography

Demography – national data Main demographic indicators

Population change: absolute numbers and crude rates

Population

Average population by sex and five-year age groups Population by sex and age on 1 January of each year Population structure indicators on 1 January

Demography – regional data

Population and area

Population at 1 January by sex and age from 1990 onwards

Annual average population by sex

#### **Population projections**

Trend scenario, national level – base year 2004 Trend scenario, regional level – base year 2004

#### Figure SP.6: Total population, EU-27 (1)

(at 1 January, million)



Break in series, 1998.
Source: Eurostat (demo\_pjan)

#### Table SP.4: Total population

(at 1 January, million)

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
EU-27 (1)	478.1	480.4	481.1	482.2	483.0	484.5	486.5	488.6	490.9	493.0	495.1
Euro area (1)	302.2	304.5	305.2	306.2	307.5	309.0	310.9	312.9	314.9	316.7	318.4
Belgium	10.2	10.2	10.2	10.2	10.3	10.3	10.4	10.4	10.4	10.5	10.6
Bulgaria	8.3	8.3	8.2	8.2	7.9	7.9	7.8	7.8	7.8	7.7	7.7
Czech Republic	10.3	10.3	10.3	10.3	10.3	10.2	10.2	10.2	10.2	10.3	10.3
Denmark	5.3	5.3	5.3	5.3	5.3	5.4	5.4	5.4	5.4	5.4	5.4
Germany	82.0	82.1	82.0	82.2	82.3	82.4	82.5	82.5	82.5	82.4	82.3
Estonia	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.3	1.3
Ireland	3.7	3.7	3.7	3.8	3.8	3.9	4.0	4.0	4.1	4.2	4.3
Greece	10.7	10.8	10.9	10.9	10.9	11.0	11.0	11.0	11.1	11.1	11.2
Spain	39.5	39.6	39.8	40.0	40.5	41.0	41.7	42.3	43.0	43.8	44.5
France (1)	59.7	59.9	60.2	60.5	60.9	61.3	61.7	62.1	62.5	63.0	63.4
Italy	56.9	56.9	56.9	56.9	57.0	57.0	57.3	57.9	58.5	58.8	59.1
Cyprus	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8
Latvia	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.3
Lithuania	3.6	3.6	3.5	3.5	3.5	3.5	3.5	3.4	3.4	3.4	3.4
Luxembourg	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5
Hungary	10.3	10.3	10.3	10.2	10.2	10.2	10.1	10.1	10.1	10.1	10.1
Malta	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Netherlands	15.6	15.7	15.8	15.9	16.0	16.1	16.2	16.3	16.3	16.3	16.4
Austria	8.0	8.0	8.0	8.0	8.0	8.1	8.1	8.1	8.2	8.3	8 <i>.3</i>
Poland	38.6	38.7	38.7	38.7	38.3	38.2	38.2	38.2	38.2	38.2	38.1
Portugal	10.1	10.1	10.1	10.2	10.3	10.3	10.4	10.5	10.5	10.6	10.6
Romania	22.1	22.0	21.9	21.9	21.9	21.8	21.8	21.7	21.7	21.6	21.6
Slovenia	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Slovakia	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
Finland	5.1	5.1	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.3	5.3
Sweden	8.8	8.8	8.9	8.9	8.9	8.9	8.9	9.0	9.0	9.0	9.1
United Kingdom	58.2	58.4	58.6	58.8	59.0	59.2	59.4	59.7	60.1	60.4	60.8
Croatia	4.6	4.5	4.6	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
FYR of Macedonia	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Turkey	63.5	64.6	65.8	66.9	67.9	68.8	69.8	70.7	71.6	72.5	73.4
Iceland	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Liechtenstein	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Norway	4.4	4.4	4.4	4.5	4.5	4.5	4.6	4.6	4.6	4.6	4.7
Switzerland	7.1	7.1	7.1	7.2	7.2	7.3	7.3	7.4	7.4	7.5	7.5

(1) Break in series, 1998.

Source: Eurostat (tps00001)

The inhabitants of a given area on 1 January of the year in question (or, in some cases, on 31 December of the previous year). The population is based on data from the most recent census adjusted by the components of population change produced since the last census, or based on population registers.

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### Figure SP.7: Population by age class, EU-27

(1996=100)



Source: Eurostat (tps00010)

#### Figure SP.8: Age pyramid, EU-27, 2005

(% of total population)



Source: Eurostat (demo\_pjan)

#### Table SP.5: Population by age class, 2006

(% of total population)

	0 to 14	15 to 24	25 to 49	50 to 64	65 to 79	80 years and
	years	years	years	years	years	more
EU-27	16.0	12.7	36.4	18.1	12.6	4.1
Euro area	15.6	11.9	36.8	18.0	13.2	4.5
Belgium	17.1	12.1	35.6	18.1	12.8	4.4
Bulgaria	13.6	13.6	35.5	20.1	13.9	3.3
Czech Republic	14.6	13.2	36.9	21.0	11.1	3.1
Denmark	18.7	11.2	35.1	19.9	11.1	4.1
Germany	14.1	11.8	36.5	18.4	14.8	4.5
Estonia	15.1	15.6	34.7	17.9	13.5	3.3
Ireland	20.5	15.2	37.8	15.5	8.4	2.7
Greece	14.3	12.0	37.6	17.6	14.9	3.6
Spain	14.5	11.9	40.4	16.6	12.3	4.4
France	18.6	12.9	34.4	17.9	11.6	4.6
Italy	14.1	10.3	37.5	18.3	14.6	5.1
Cyprus	18.4	15.8	37.1	16.6	9.4	2.6
Latvia	14.3	15.7	35.5	17.6	13.6	3.2
Lithuania	16.5	15.6	36.1	16.5	12.4	2.9
Luxembourg	18.6	11.6	38.3	17.1	11.0	3.3
Hungary	15.4	12.9	35.8	20.1	12.3	3.5
Malta	17.1	14.4	34.9	20.0	10.5	3.0
Netherlands	18.3	12.0	36.5	19.0	10.7	3.6
Austria	15.9	12.3	37.7	17.6	12.1	4.4
Poland	16.2	16.2	36.0	18.2	10.6	2.7
Portugal	15.6	12.2	37.3	17.7	13.2	3.9
Romania	15.5	15.2	37.0	17.4	12.3	2.5
Slovenia	14.1	13.1	38.0	19.2	12.4	3.2
Slovakia	16.6	15.9	38.0	17.8	9.3	2.4
Finland	17.3	12.5	33.2	21.1	12.0	4.0
Sweden	17.3	12.4	33.3	19.7	11.9	5.4
United Kingdom	17.8	13.2	35.2	17.8	11.6	4.4
Croatia	15.8	13.1	35.3	18.9	14.0	3.0
FYR of Macedonia	19.4	16.1	36.8	16.6	9.6	1.5
Turkey	28.3	17.7	37.3	10.8	:	:
Iceland	21.8	14.6	36.0	15.9	8.6	3.1
Liechtenstein	17.4	12.3	39.4	19.4	8.7	2.9
Norway	19.5	12.4	35.2	18.2	10.1	4.7
Switzerland	16.0	11.8	37.4	18.8	11.5	4.5

Source: Eurostat (tps00010)

#### Figure SP.9: Moving age pyramids, EU-27 (1)

(% of total population)



(1) Limited data availability for 1950 and 1970, based on those Member States for which data are available. Source: Eurostat (demo\_pjan and proj\_tbp\_pop) Figure SP.9 (continues from previous page): Moving age pyramids, EU-27 (1)

(% of total population)



<sup>(1)</sup> Limited data availability for 1950 and 1970, based on those Member States for which data are available. Source: Eurostat (demo\_pjan and proj\_tbp\_pop)

#### Figure SP.10: Population projections, EU-27

(at 1 January, million)



Source: Eurostat (proj\_tbp\_pop)

(% of total population)

#### Figure SP.11: Population projections, EU-27



Source: Eurostat (proj\_tbp\_pop)



### Figure SP.12: Population projections, persons aged 80 years and more, EU-27

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#### Table SP.6: Population projections

(at 1 January, million)

	2005	2010	2015	2020	2025	2030	2035	2040	2045	2050
EU-27	487.9	492.8	495.3	496.4	496.3	494.8	491.7	486.9	480.5	472.0
Euro area	310.2	315.1	317.9	319.4	319.7	318.9	317.1	314.3	310.0	304.4
Belgium	10.4	10.6	10.7	10.8	10.9	11.0	11.0	11.0	11.0	10.9
Bulgaria	7.7	7.4	7.1	6.8	6.5	6.2	5.9	5.6	5.4	5.1
Czech Republic	10.2	10.1	10.0	9.9	9.8	9.7	9.5	9.3	9.1	8.9
Denmark	5.4	5.5	5.5	5.5	5.6	5.6	5.6	5.5	5.5	5.4
Germany	82.6	82.8	82.9	82.7	82.1	81.1	79.9	78.4	76.7	74.6
Estonia	1.3	1.3	1.3	1.2	1.2	1.2	1.2	1.2	1.1	1.1
Ireland	4.1	4.3	4.6	4.8	4.9	5.1	5.2	5.3	5.4	5.5
Greece	11.1	11.3	11.4	11.4	11.4	11.3	11.2	11.1	10.9	10.6
Spain	42.9	44.6	45.3	45.6	45.6	45.4	45.1	44.6	43.9	42.8
France	60.2	61.5	62.6	63.6	64.4	65.1	65.7	66.0	65.9	65.7
Italy	58.2	58.6	58.6	58.3	57.8	57.1	56.3	55.3	54.2	52.7
Cyprus	0.7	0.8	0.8	0.9	0.9	0.9	0.9	1.0	1.0	1.0
Latvia	2.3	2.2	2.2	2.1	2.1	2.0	2.0	1.9	1.9	1.9
Lithuania	3.4	3.3	3.3	3.2	3.1	3.1	3.0	3.0	2.9	2.9
Luxembourg	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6
Hungary	10.1	10.0	9.8	9.7	9.6	9.5	9.4	9.2	9.1	8.9
Malta	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Netherlands	16.3	16.7	17.0	17.2	17.4	17.6	17.7	17.6	17.5	17.4
Austria	8.1	8.3	8.4	8.4	8.5	8.5	8.5	8.4	8.3	8.2
Poland	38.1	37.8	37.4	37.1	36.8	36.5	36.1	35.4	34.5	33.7
Portugal	10.5	10.7	10.8	10.8	10.7	10.7	10.6	10.4	10.2	10.0
Romania	21.7	21.3	20.9	20.3	19.7	19.2	18.8	18.3	17.8	17.1
Slovenia	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9
Slovakia	5.4	5.3	5.3	5.3	5.2	5.2	5.1	5.0	4.9	4.7
Finland	5.2	5.3	5.4	5.4	5.4	5.4	5.4	5.4	5.3	5.2
Sweden	9.0	9.2	9.4	9.6	9.8	9.9	10.0	10.1	10.1	10.2
United Kingdom	59.9	60.9	61.9	62.9	63.8	64.4	64.7	64.7	64.6	64.3

Source: Eurostat (tps00002)

Population projections involve making population estimates or producing the most plausible figures for the years to come. Estimates are made using the latest available figures for the population on 1 January. In general, key assumptions are made with respect to mortality, fertility and migration by sex and by age, and ageing techniques are applied to the population pyramid from year to year.

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Map SP.1: Average annual growth rate of population, by NUTS 2 regions, 2005-2030 (% per annum)



Source: Eurostat (proj\_rtbp\_pop)


#### **INTRODUCTION**

This section focuses on population change, which is made up of two distinct aspects: namely, natural population change and net migration. Natural population change is the difference between live births and deaths, or put in general terms, fertility and mortality. Births are covered in more detail within the next subchapter, while life expectancy and deaths are treated in Subchapter 5, and migration in Subchapter 6.

There are many regions within the EU-27 that currently report a higher number of deaths than births. This trend is apparent in much of Bulgaria, the Czech Republic, Germany, Hungary, Romania, Slovakia, Slovenia, as well as the Baltic States, and the sparsely populated regions of northern Sweden and Finland.

Many areas that have a negative evolution of natural population change enjoy some compensation from positive, net migration; this is a pattern that exists in parts of western Germany, eastern Austria, northern Italy, Slovenia or southern Sweden. The opposite pattern is much rarer, as there are only a handful of regions in the EU where positive natural change (more births than deaths) has been compensated by negative net migration; one example is northern Poland.

When the two components of population change do not compensate, but rather add to each other, they can lead to more significant swings in the overall population. In recent years this has been the case in Ireland and Denmark, many regions in the Benelux and France, as well as limited number of areas in southern and eastern Spain, where natural population increases have been accompanied by positive net migration. In contrast, some regions in eastern Germany, north western Spain, southern Italy, the Baltic States, as well as the Czech Republic, Hungary, Poland, Romania and Slovakia have witnessed both components of population change moving in a negative direction; it is in these areas of the EU where the largest declines in population have been recorded in the last decade. Often, their population is expected to continue falling in the coming years.

Family structures differ from one Member State to another, reflecting different historical developments, social attitudes and traditions. However, there are a number of common demographic characteristics that are apparent across the whole of the EU, including: a reduction in the number of marriages; an increase in the average age at which people marry; and an increase in the number of divorces. There are now more and smaller European households, with a higher proportion of people living alone, which may, at least in part, be attributed to changing family structures. However, the changes observed in the age structure of the EU-27's population may also explain, to some degree, the growing proportion of people living alone. Indeed, the highest proportion of people living alone is found among the elderly.

#### **DEFINITIONS AND DATA AVAILABILITY**

Population change is defined as the difference between the size of the population at the end and the beginning of a period. It is equal to the algebraic sum of natural increase and net migration including corrections (see below for more details). There is negative change when both of these components are negative or when one is negative and has a higher absolute value than the other.

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Natural increase is defined as the difference between the number of live births and the number of deaths during the year. The natural increase is negative (in other words, a natural decrease) when the number of deaths exceeds the number of live births.

Net migration is defined as the difference between immigration into and emigration from the area considered during the reference year (net migration is therefore negative when the number of emigrants exceeds the number of immigrants). Since most countries either do not have accurate figures on immigration and emigration, or have no figures at all, net migration is generally estimated on the basis of the difference between population change and natural increase between two dates (in Eurostat's database, this concept is generally referred to as corrected net migration).

#### **MAIN FINDINGS**

Europe's contribution to global population change is relatively small and has fallen in recent decades. In the first half of the 1960s, European population growth contributed almost a tenth of the increase observed in world population. This share was consistently reduced, such that during by 2005, population growth in Europe accounted for less than 1 % of the global increases in population.

The pattern of population change within the EU has changed considerably in recent decades. Until the end of the 1980s, the most important constituent of population growth was natural increase; although its importance started to decline from the mid-1960s. The contribution of net migration became more important from the middle of the 1980s and has become the main component of demographic growth. In 2005, the population of the EU-27 rose by 2.0 million persons, of which 1.7 million could be attributed to positive net migration and 0.3 million from natural population increase.

The patterns of population change vary considerably across the Member States. Germany has recorded a natural population decrease since 1972, while Italy did so between 1993 and 2003. Many of the Member States that have joined the EU since 2004 also reported natural population reductions in the past decade. In contrast, relatively high natural increases were observed in Ireland, Spain, France, the Netherlands and the United Kingdom. Net emigration is rare among the Member States. Over the period 2000 to 2005, the largest net flows of migrants left Poland and Bulgaria; Lithuania, Romania, Latvia and Slovakia were the only other countries to report net emigration during this period. The highest inflows of migrants were recorded in Spain and Italy, while the United Kingdom, Germany and France also reported quite high levels of net migration.

As many European countries are currently at a point in the demographic cycle where natural population change is close to being balanced or negative, the relative importance of migration increases. However, as Europe's population ages, natural population change might become once again the principal component of population change – however, it will then be negative. According to Eurostat's projections, the total population in 16 of the 27 Member States is expected to decline during the period 2005 to 2050. Natural decreases are likely to be most noticeable in Germany and Italy, where natural change is expected to result in 17.2 million and 11.2 million fewer inhabitants. The overall decline in population in these two countries is likely to be compensated, to some degree, by migratory flows, although the net result will still be a loss of more than 8 million persons in Germany and almost 6 million in Italy. In absolute terms the other countries that are expected to see considerable declines in their overall populations between 2005 and

2050 include Hungary (1.2 million persons), the Czech Republic (1.3 million), Bulgaria (2.7 million), Poland and Romania (both 4.7 million) – in each of these countries the decline as a result of natural change is expected to far outweigh that which may be attributed to emigration.

At the other end of the scale, the largest population increases are likely to be recorded in France and the United Kingdom, where the population is expected to grow by 5.5 million and 4.4 million between 2005 and 2050. While migration is expected to be the sole motor of population growth in the United Kingdom, the gains predicted in France are likely to come from roughly equal contributions from immigrants and natural population increases. The only other Member States where population levels are expected to increase by upwards of a million persons between 2005 and 2050 are Ireland, Sweden and the Netherlands. The main component of population growth in Sweden and the Netherlands will be immigration, whereas in Ireland the pattern is likely to be similar to that in France, with roughly equal contributions from immigration and natural population increases.

#### **SOURCES**

#### **Statistical books**

The social situation in the European Union 2005-2006 Population statistics (with CD-Rom) European social statistics – demography

#### **Pocketbooks**

Living conditions in Europe - statistical pocketbook - data 2002-2005

#### Methodologies and working papers

Demographic outlook – national reports on the demographic developments in 2005 Methodology for the calculation of Eurostat's demographic indicators Demographic statistics: definitions and methods of collection in 31 European countries

#### Website data

#### Demography

Demography – national data Main demographic indicators Population change: absolute numbers and crude rates Demography – regional data Population change Births and deaths International migration and asylum International migration flows Immigration Emigration **Population projections** 

Trend scenario, national level – base year 2004 Trend scenario, regional level – base year 2004

## Figure SP.13: Average annual population change

(1 000)



(1) EU-27, Albania, Andorra, Belarus, Bosnia and Herzegovina, Croatia, Faeroe Islands, Iceland, Liechtenstein, the former Yugoslav Republic of Macedonia, Republic of Moldova, Montenegro, Norway, the Russian Federation, Serbia, Switzerland and the Ukraine.

Source: Eurostat (demo\_pjan), United Nations, Population Division of the Department of Economic and Social Affairs



**Figure SP.14: Population change, net migration and natural population change, EU-27** (million)

(1) Break in series, 1998.

Source: Eurostat (tps00006, tps00007 and tps00008)

Population change: the difference between the size of the population at the end and the beginning of a period. It is equal to the algebraic sum of natural increase and net migration (including corrections). There is negative change when both of these components are negative or when one is negative and has a higher absolute value than the other.

Net migration: the difference between immigration into and emigration from the area during the year (net migration is therefore negative when the number of emigrants exceeds the number of immigrants). Since most countries either do not have accurate figures on immigration and emigration or have no figures at all, net migration is estimated on the basis of the difference between population change and natural increase between two dates. The statistics on net migration are therefore affected by all the statistical inaccuracies in the two components of this equation, especially population change.

Natural population change: the difference between the number of live births and the number of deaths during the year. The natural increase (or natural decrease) is negative when the number of deaths exceeds the number of births.

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Table	SP.7:	Natural	population	change
(1, 0, 0, 0)				

(1 000)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
EU-27 (1)	185.9	223.7	169.1	161.6	297.8	231.7	152.0	103.9	391.9	297.3	:
Euro area (1)	206.7	261.8	222.1	246.1	344.6	315.1	271.5	201.5	397.3	292.7	:
Belgium	12.2	12.4	9.9	8.6	11.4	10.6	5.5	5.1	13.7	14.5	:
Bulgaria	-44.9	-57.7	-52.8	-39.5	-41.4	-44.2	-46.1	-44.6	-40.2	-42.3	-39.5
Czech Republic	-22.3	-22.1	-19.0	-20.3	-18.1	-17.0	-15.5	-17.6	-9.5	-5.7	1.4
Denmark	6.6	7.8	7.7	7.1	9.1	7.1	5.5	7.1	8.8	9.3	9.5
Germany	-86.8	-48.2	-67.3	-75.6	-71.8	-94.1	-122.4	-147.2	-112.6	-144.4	-148.9
Estonia	-5.8	-6.0	-7.3	-6.0	-5.3	-5.9	-5.4	-5.1	-3.7	-3.0	-2.4
Ireland	18.9	21.2	22.4	21.3	23.4	27.6	31.1	32.7	33.8	33.6	36.8
Greece	0.0	2.3	-1.8	-2.7	-2.0	-0.3	-0.3	-1.1	0.7	2.5	6.6
Spain	11.2	19.5	4.7	9.0	37.2	46.2	50.2	57.1	82.7	79.0	109.8
France	:	:	225.1	229.2	267.5	262.9	248.3	231.3	280.7	275.1	302.5
Italy	-24.2	-22.4	-51.0	-20.5	-12.4	-16.8	-17.5	-44.8	17.5	-34.9	2.1
Cyprus	4.7	4.1	3.4	3.4	3.1	3.3	2.7	2.9	3.1	2.8	3.6
Latvia	-14.5	-14.7	-15.8	-13.4	-12.0	-13.3	-12.5	-11.4	-11.7	-11.3	-10.8
Lithuania	-3.8	-3.3	-3.7	-3.6	-4.8	-8.9	-11.1	-10.4	-10.9	-13.3	-13.5
Luxembourg	1.8	1.6	1.5	1.8	2.0	1.7	1.6	1.3	1.9	1.8	1.7
Hungary	-37.9	-39.1	-43.6	-48.6	-38.0	-35.1	-36.0	-41.2	-37.4	-38.2	-31.7
Malta	2.3	2.0	1.7	1.3	1.5	1.1	0.9	0.9	0.9	0.7	0.7
Netherlands	52.0	56.7	61.9	60.0	66.1	62.2	59.7	58.4	57.5	51.5	49.7
Austria	8.0	4.6	2.9	-0.1	1.5	0.7	2.3	-0.3	4.7	3.0	3.6
Poland	42.7	32.4	20.3	0.6	10.3	5.0	-5.7	-14.2	-7.4	-3.9	4.6
Portugal	3.5	8.3	7.3	8.1	14.6	7.7	8.1	3.7	7.3	1.9	3.4
Romania	-54.8	-42.4	-31.9	-30.6	-21.3	-39.2	-59.1	-54.1	-42.6	-41.1	-38.6
Slovenia	0.2	-0.8	-1.2	-1.4	-0.4	-1.0	-1.2	-2.1	-0.6	-0.7	0.8
Slovakia	8.9	7.0	4.4	3.8	2.4	-0.8	-0.7	-0.5	1.9	1.0	0.6
Finland	11.6	10.2	7.8	8.2	7.4	7.6	6.1	7.6	10.2	9.8	10.8
Sweden	1.2	-2.8	-4.2	-6.6	-3.0	-2.3	0.8	6.2	10.4	9.6	14.7
United Kingdom	96.9	96.9	87.7	67.9	70.7	66.9	62.6	84.4	132.9	139.9	246.0
Croatia	3.2	3.5	-5.2	-6.8	-6.5	-8.6	-10.5	-12.9	-9.4	-9.3	-8.9
FYR of Macedonia	15.3	12.9	12.4	10.5	12.1	10.1	9.8	9.0	5.4	4.1	4.0
Turkey	1 054.0	1 056.0	1 046.0	1 024.0	948.0	940.0	933.0	925.0	917.0	911.0	906.0
Iceland	2.5	2.3	2.4	2.2	2.5	2.4	2.2	2.3	2.4	2.4	2.5
Liechtenstein	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.1
Norway	17.1	15.2	14.2	14.1	15.2	12.7	11.0	14.0	15.8	15.5	17.3
Switzerland	20.4	17.7	16.4	15.9	15.9	11.1	10.6	8.8	12.9	11.8	13.1

(1) Break in series, 1998.

Source: Eurostat (tps00007)



## Figure SP.15: Net migration and natural population change, 2000-2005 (1)

**Figure SP.16: Projections of population change, net migration and natural population change, EU-27** (million)



Source: Eurostat (proj\_tbp\_eve and proj\_tbp\_asm)

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(1) EU-27, Albania, Andorra, Belarus, Bosnia and Herzegovina, Croatia, Faeroe Islands, Iceland, Liechtenstein, the former Yugoslav Republic of Macedonia, Republic of Moldova, Montenegro, Norway, the Russian Federation, Serbia, Switzerland and the Ukraine.

Source: United Nations, Population Division of the Department of Economic and Social Affairs

### **BIRTHS**

#### **INTRODUCTION**

The slowdown in the EU-27's population growth can be partly attributed to the fact that people are generally having fewer children. Fertility rates have fallen in the EU in recent decades. A total fertility rate of around 2.1 children per woman is considered to be the replacement level – in other words, the average number of children per woman required to keep the natural population stable in the long-run, under the theoretical assumption of no migration. The total fertility rate of the EU-27 declined from almost 2.6 in the first half of the 1960s to about 1.4 during the period 1995 to 2005.

While fertility rates of women aged less than 30 have declined since the 1970s, fertility rates of those aged 30 or more have risen since the 1980s. As such, part of the decline in fertility within the EU is likely to be a result of postponement of childbearing.

Relatively high fertility rates tend to be recorded in those Member States which have implemented a range of family-friendly policies, such as the introduction of accessible and affordable childcare and/or more flexible working patterns (France, the Nordic countries, or the Netherlands). Most commentators agree that fertility will increase if there are stimuli, such as higher economic growth and security, more childcare facilities, fiscal measures that support families, family benefit income, a stock of suitable housing, or a range of policies designed to reconcile work and family life, such as more flexible working arrangements (part-time or telework). While a conventional analysis of declining fertility rates might suggest that the decline in fertility rates could be related to increased female participation in the labour market, there is clear evidence of a positive relationship in many countries, for example, in the Nordic countries or Spain, where tertiaryeducated women in employment tend to have more children than less educated women.

#### **DEFINITIONS AND DATA AVAILABILITY**

Live births are defined as the birth of children that showed any sign of life; they refer to the number of births excluding stillbirths (total births include live births and stillbirths).

Live births outside marriage are defined as births where the mother's marital status at the time of birth is other than married.

The crude birth rate is the ratio of the number of births during the year to the average population in that year; the value is expressed per 1 000 inhabitants.

Total fertility rates are defined as the mean number of children that would be born alive to a woman during her lifetime if she were to pass through her childbearing years conforming to the fertility rates by age of a given year. The total fertility rate is therefore the completed fertility of a hypothetical generation, computed by adding the fertility rates by age for women in a given year (the number of women at each age is assumed to be the same). 7 1-

Fertility rates according to the age of the mother (also known as age specific fertility rates) are defined as the ratio of the number of births to mothers of age *x* to the average female population of age *x*. Eurostat converts the rates established using the age at last birthday into rates based on the age reached during the year in order to produce comparable data between countries.

The mean age of women at childbearing is defined as the mean age of women when their children are born. For a given calendar year, the mean age of women at childbearing can be calculated using fertility rates by age (in general, the reproductive period is between 15 and 49 years of age). Completed fertility is defined as the mean number of children born to women of a given generation at the end of their childbearing years. This is calculated by adding the fertility rates by age of the mother observed for successive years, when the cohort has reached the age in question (in general, only ages between 15 and 49 years are considered). In practice, the fertility rates for older women can be estimated using the rates observed for previous generations, without waiting for the cohort to reach the end of the reproductive period.

#### **MAIN FINDINGS**

Fertility rates vary considerably across the world, with Europe (1.41) and North America (1.99) the only continents to report fertility rates below the natural replacement level of 2.1 during the period 2000 to 2005; fertility rates in China (1.70), Russia (1.30) and Japan (1.29) were also well below the natural replacement level. Africa had the highest fertility rate (4.98), while Latin America and the Caribbean (2.52), Asia (2.47) and Oceania (2.37) all reported rates slightly below the world average of 2.65.

Crude birth rates express the number of births in relation to the whole population: the European crude birth rate (10.2 births per 1 000 inhabitants) was the lowest among the continents and approximately half the world average of 21.1 for the period 2000 to 2005. The EU-27 rate fluctuated during this five-year period between 10.3 and 10.6, which was slightly above the latest crude birth rates registered for Russia (9.9) or Japan (9.0), but lower than those recorded for China (13.6), the United States (14.1) or India (25.1).



The EU-27's fertility rate fell at a relatively fast pace between 1960 and 1999, from an average of 2.59 children per woman to 1.42. The fertility rate subsequently recovered somewhat to 1.5 by 2004, with just over 5 million live births being recorded each year in the EU-27 during most of the last decade. These aggregated figures hide considerable differences across the Member States, as fertility rates initially declined at the most rapid pace in northern European countries, followed in the 1980s by southern Europe, and in the 1990s by many of the 12 Member States that have recently joined the EU. In 2005, some of the lowest fertility rates in the EU-27 were registered in southern and eastern Europe.

The mean age for women giving birth rose to over 30 in five of the Member States (Spain, Italy, the Netherlands, Sweden and Denmark) by 2005, and was between 29 and 30 in a further ten of the Member States. The trend for postponing birth was, in the last decade, most prevalent in the Czech Republic, the Baltic States, Hungary and Slovenia, where the average age of women giving birth rose by at least two years in the period 1995 to 2005. Births outside marriage accounted for an increasing share of total births, partly reflecting the growing popularity of cohabitation, rising to almost 33 % of all births in the EU-27 by 2005. A majority of the children born in Sweden and Estonia were born to unmarried parents, and around 40 % of those born in Denmark, France, Latvia, Slovenia, Finland and the United Kingdom were also born outside of marriage in 2005.

The biggest gains in the absolute number of births at a regional level between 2005 and 2030 are projected for several areas in the Netherlands – Flevoland, Utrecht, Groningen and Noord-Holland, as well as Åland (Finland), Sydsverige and Västsverige (Sweden), and the provinces of Luxembourg and Namur (Belgium) <sup>(5)</sup>. In contrast, the number of births in the Voreio Aigaio (Greece), Castilla y León, Galicia and the Principado de Asturias (all Spain), Severozapaden (Bulgaria) and Chemnitz (Germany) is projected to fall by as much as 40 to 45 %, while an overall reduction of just over 50 % is foreseen for Dessau (also Germany).

(5) France and the United Kingdom, not available.

### SOURCES

**Statistical books** The social situation in the European Union 2005-2006 Population statistics (with CD-Rom) European social statistics – demography

#### **Pocketbooks**

Living conditions in Europe - statistical pocketbook - data 2002-2005

#### Methodologies and working papers

Demographic outlook – national reports on the demographic developments in 2005 Methodology for the calculation of Eurostat's demographic indicators Study of low fertility in the regions of the European Union: places, periods and causes

#### Website data

#### Demography

Demography - national data Main demographic indicators Population change: absolute numbers and crude rates Fertility Fertility indicators Live births by month Live births by marital status and mother's age at last birthday Live births by marital status and mother's age reached during the year Fertility rates by age Live births by birth order and mother's age at last birthday Live births by birth order and mother's age reached during the year Fertility rates by true birth order and age, by generation Demography - regional data Population change Births and deaths Births by age of the mother

#### Population projections

Trend scenario, national level – base year 2004 Trend scenario, regional level – base year 2004 Table SP.8: Average number of live births per year(1 000)

	1960-65	1965-70	1970-75	1975-80	1980-85	1985-90	1990-95	1995-00	2000-05
World	111 829	117 740	119 550	120 479	128 653	136 825	135 888	133 632	133 493
Europe (1)	11 873	10 838	10 453	10 128	10 080	9 806	8 366	7 431	7 419
Africa	14 449	16 066	18 151	20 550	23 311	25 728	27 850	30 062	32 816
Asia	70 704	76 143	75 917	74 190	78 945	84 627	82 844	79 547	76 623
Latin America and the Caribbean	9 691	10 233	10 804	11 389	11 769	11 790	11 757	11 683	11 601
Northern America	4 663	4 002	3 735	3 760	4 064	4 356	4 518	4 341	4 461
Oceania	449	459	491	463	484	518	554	567	573
EU-27	7 595	7 501	6 944	6 473	6 166	5 919	5 554	5 106	5 0 5 9
China	26 313	28 798	25 131	20 745	21 627	24 721	21 555	19 848	17 569
India	19 108	20 241	21 699	23 452	25 048	26 524	27 890	27 728	27 408
Japan	1 662	1 793	2 147	1 759	1 533	1 281	1 2 1 3	1 2 1 3	1 1 4 1
Russian Federation	2 585	1 854	2 027	2 163	2 371	2 363	1 620	1 326	1 441
United States	4 197	3 618	3 383	3 396	3 689	3 973	4 123	3 992	4 1 2 4

(1) EU-27, Albania, Andorra, Belarus, Bosnia and Herzegovina, Croatia, Faeroe Islands, Iceland, Liechtenstein,

the former Yugoslav Republic of Macedonia, Republic of Moldova, Montenegro, Norway, the Russian Federation, Serbia, Switzerland and the Ukraine.

Source: Eurostat (tps00111), United Nations, Population Division of the Department of Economic and Social Affairs

Live births are the births of children that showed any sign of life (total births minus stillbirths).

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## Table SP.9: Number of live births

(1 000)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
EU-27 (1)	5 132.9	5 117.9	5 075.0	5 072.5	5 123.1	5 021.9	4 993.2	5 040.7	5 116.8	5 134.4	:
Euro area (1)	3 162.8	3 186.0	3 178.1	3 207.7	3 275.9	3 224.3	3 218.4	3 233.6	3 269.5	3 257.1	:
Belgium	116.4	116.2	114.5	113.5	116.3	114.0	111.1	112.1	115.6	117.8	:
Bulgaria	72.2	64.1	65.4	72.3	73.7	68.2	66.5	67.4	69.9	71.1	74.0
Czech Republic	90.4	90.7	90.5	89.5	90.9	90.7	92.8	93.7	97.7	102.2	105.8
Denmark	67.6	67.6	66.2	66.2	67.1	65.5	64.1	64.7	64.6	64.3	65.0
Germany	796.0	812.2	785.0	770.7	767.0	734.5	719.3	706.7	705.6	685.8	675.0
Estonia	13.2	12.6	12.2	12.4	13.1	12.6	13.0	13.0	14.0	14.4	14.9
Ireland	50.7	52.8	54.0	53.9	54.8	57.9	60.5	61.5	62.0	61.0	:
Greece	100.7	102.0	100.9	100.6	103.3	102.3	103.6	104.4	105.7	107.5	111.0
Spain	362.6	369.0	365.2	380.1	397.6	406.4	418.8	441.9	454.6	466.4	475.0
France	764.7	758.1	768.6	776.5	808.2	804.1	793.6	793.9	800.2	807.8	830.9
Italy	528.1	534.5	515.4	537.2	543.1	535.3	538.2	544.1	562.6	554.0	560.0
Cyprus	9.6	9.3	8.9	8.5	8.4	8.2	7.9	8.1	8.3	8.2	8.8
Latvia	19.8	18.8	18.4	19.4	20.2	19.7	20.0	21.0	20.3	21.5	22.3
Lithuania	39.1	37.8	37.0	36.4	34.1	31.5	30.0	30.6	30.4	30.5	31.3
Luxembourg	5.7	5.5	5.4	5.6	5.7	5.5	5.3	5.3	5.5	5.4	5.5
Hungary	105.3	100.4	97.3	94.6	97.6	97.0	96.8	94.6	95.1	97.5	99.9
Malta	5.0	4.8	4.7	4.4	4.4	4.0	3.9	4.1	3.9	3.9	3.9
Netherlands	189.5	192.4	199.4	200.4	206.6	202.6	202.1	200.3	194.0	187.9	185.1
Austria	88.8	84.0	81.2	78.1	78.3	75.5	78.4	76.9	79.0	78.2	77.9
Poland	428.2	412.6	395.6	382.0	378.3	368.2	353.8	351.1	356.1	364.4	374.2
Portugal	110.4	113.0	113.5	116.0	120.0	112.8	114.4	112.5	109.3	109.4	105.4
Romania	231.3	236.9	237.3	234.6	234.5	220.4	210.5	212.5	216.3	221.0	219.5
Slovenia	18.8	18.2	17.9	17.5	18.2	17.5	17.5	17.3	18.0	18.2	18.9
Slovakia	60.1	59.1	57.6	56.2	55.2	51.1	50.8	51.7	53.7	54.4	53.9
Finland	60.7	59.3	57.1	57.6	56.7	56.2	55.6	56.6	57.8	57.7	58.8
Sweden	95.3	90.5	89.0	88.2	90.4	91.5	95.8	99.2	100.9	101.3	105.9
United Kingdom	732.9	726.6	716.9	700.0	679.0	669.1	668.8	695.5	716.0	722.5	748.5
Croatia	53.8	55.5	47.1	45.2	43.7	41.0	40.1	39.7	40.3	42.5	41.4
FYR of Macedonia	31.4	29.5	29.2	27.3	29.3	27.0	27.8	27.0	23.4	22.5	22.6
Turkey	1 486.0	1 500.0	1 505.0	1 501.0	1 494.0	1 486.0	1 482.0	1 479.0	1 360.0	1 361.0	1 362.0
Iceland	4.3	4.2	4.2	4.1	4.3	4.1	4.0	4.1	4.2	4.3	4.4
Liechtenstein	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.4
Norway	60.9	59.8	58.4	59.3	59.2	56.7	55.4	56.5	57.0	56.8	58.5
Switzerland	83.0	80.6	78.9	78.4	78.5	72.3	72.4	71.8	73.1	72.9	73.6

(1) Break in series, 1998.

Source: Eurostat (tps00111)



### Table SP.10: Crude birth rate

(‰)

	1960-65	1965-70	1970-75	1975-80	1980-85	1985-90	1990-95	1995-00	2000-05
World	35.1	33.4	30.8	28.3	27.6	27.0	24.7	22.6	21.1
Europe (1)	19.2	16.8	15.7	14.8	14.4	13.7	11.5	10.2	10.2
Africa	48.0	47.0	46.5	45.9	45.1	43.2	40.8	38.9	37.7
Asia	39.2	37.7	33.5	29.5	28.5	27.9	25.0	22.2	20.1
Latin America and the Caribbean	41.0	37.9	35.3	33.0	30.6	27.8	25.3	23.2	21.5
Northern America	22.0	17.7	15.7	15.1	15.5	15.8	15.5	14.1	13.8
Oceania	26.7	24.5	24.0	21.0	20.4	20.1	19.9	18.9	17.8
EU-27	18.4	17.6	15.8	14.3	13.4	12.7	11.7	10.7	10.4
China	38.0	36.9	28.6	21.5	20.9	22.3	18.2	16.0	13.6
India	40.7	38.8	37.3	36.0	34.3	32.5	30.7	27.7	25.1
Japan	17.2	17.6	19.9	15.4	12.9	10.5	9.7	9.6	9.0
Russian Federation	21.0	14.4	15.3	15.9	16.8	16.2	10.9	8.9	9.9
United States	21.8	17.7	15.7	15.1	15.6	15.9	15.7	14.4	14.1

 EU-27, Albania, Andorra, Belarus, Bosnia and Herzegovina, Croatia, Faeroe Islands, Iceland, Liechtenstein, the former Yugoslav Republic of Macedonia, Republic of Moldova, Montenegro, Norway, the Russian Federation, Serbia, Switzerland and the Ukraine.

*Source*: Eurostat (tps00112), United Nations, Population Division of the Department of Economic and Social Affairs The crude birth rate relates the number of births during the year to the average population in that year. The value is expressed per 1 000 inhabitants.

### Figure SP.18: Live births outside marriage and crude birth rate, EU-27



(1) Break in series, 1998.

(2) Excluding Belgium from 1998 onwards.

Source: Eurostat (tps00018 and tps00112)

Live births where the mother's marital status at the time of birth is other than married.

فتحر Regional crude birth rate, by NUTS 2 regions, 2005 (1) 1 Guadeloupe (FR) Martinique (FR) FS (‰) <= 9 > 9 and <= 10 Guvane (FR) Réunion (FR) > 10 and <= 11 > 11 Data not available (1) All regions in France, 2004; all regions in the United Kingdom, 2003. es (PT) Madeira (PT) Statistical data: Eurostat database: REGIO © EuroGeographics Association, for the administrative boundaries Cartography: Eurostat — GISCO, 04/2008 S Ż 600 km Canarias (ES) Malta eurostat

Map SP.2: Regional crude birth rate, by NUTS 2 regions, 2005  $_{(\%)}$ 

Source: Eurostat (d3natmo)

## Table SP.11: Average fertility rates

(mean number of children per woman)

	1960-65	1965-70	1970-75	1975-80	1980-85	1985-90	1990-95	1995-00	2000-05
World	4.98	4.90	4.47	3.92	3.58	3.38	3.05	2.80	2.65
Europe (1)	2.58	2.36	2.16	1.97	1.89	1.83	1.57	1.40	1.41
Africa	6.87	6.80	6.72	6.61	6.45	6.13	5.68	5.28	4.98
Asia	5.65	5.67	5.04	4.19	3.67	3.40	2.97	2.67	2.47
Latin America and the Caribbean	5.97	5.54	5.04	4.48	3.92	3.41	3.03	2.73	2.52
Northern America	3.35	2.55	2.01	1.78	1.81	1.89	1.99	1.95	1.99
Oceania	3.98	3.57	3.23	2.73	2.59	2.51	2.48	2.42	2.37
EU-25	2.64	2.54	2.23	1.94	1.79	1.67	1.56	1.43	1.48
China	5.72	6.06	4.86	3.32	2.55	2.46	1.92	1.78	1.70
India	5.82	5.61	5.26	4.89	4.50	4.15	3.86	3.46	3.11
Japan	2.02	2.00	2.07	1.81	1.76	1.66	1.49	1.39	1.29
Russian Federation	2.55	2.02	2.03	1.94	2.04	2.12	1.55	1.25	1.30
United States	3.31	2.55	2.02	1.79	1.83	1.92	2.03	1.99	2.04

(1) EU-27, Albania, Andorra, Belarus, Bosnia and Herzegovina, Croatia, Faeroe Islands, Iceland, Liechtenstein, the former Yugoslav Republic of Macedonia, Republic of Moldova, Montenegro, Norway, the Russian Federation, Serbia, Switzerland and the Ukraine.

Source: Eurostat (demo\_find), United Nations, Population Division of the Department of Economic and Social Affairs

#### Figure SP.19: Fertility rate, EU-25

(mean number of children per woman)



Source: Eurostat (demo\_find)

-1-

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Belgium	1.56	1.59	1.60	:	:	:	:	:	:	:	:
Bulgaria	1.23	1.23	1.09	1.11	1.23	1.30	1.24	1.21	1.23	1.29	1.31
Czech Republic	1.28	1.18	1.17	1.16	1.13	1.14	1.14	1.17	1.18	1.23	1.28
Denmark	1.80	1.75	1.76	1.73	1.74	1.78	1.76	1.72	1.76	1.78	1.80
Germany	:	:	:	:	:	1.38	1.35	1.34	1.34	1.36	1.34
Estonia	1.38	1.37	1.32	1.28	1.32	1.38	1.34	1.37	1.37	1.47	1.50
Ireland	1.84	1.88	1.93	1.93	1.89	1.88	1.93	1.96	1.95	1.93	1.86
Greece	1.31	1.28	1.28	1.26	1.24	1.26	1.25	1.27	1.28	1.30	1.33
Spain	1.17	1.16	1.17	1.16	1.19	1.23	1.24	1.26	1.31	1.33	1.35
France	:	:	:	1.78	1.81	1.89	1.90	1.88	1.89	1.92	1.94
Italy	1.19	1.20	1.21	:	1.23	1.26	1.18	1.22	1.24	:	1.31
Cyprus	2.02	1.95	1.86	1.76	1.67	1.60	1.37	1.27	1.25	1.47	1.40
Latvia	:	:	:	:	:	:	:	1.23	1.29	1.24	1.31
Lithuania	1.55	1.49	1.47	1.46	1.46	1.39	1.30	1.24	1.26	1.26	1.27
Luxembourg	1.69	1.77	1.71	1.68	1.74	1.76	1.65	1.63	1.63	1.70	1.70
Hungary	1.57	1.46	1.37	1.32	1.28	1.32	1.31	1.30	1.27	1.28	1.31
Malta	:	:	:	:	:	:	:	:	:	:	:
Netherlands	1.53	1.53	1.56	1.63	1.65	1.72	1.71	1.73	1.75	1.72	1.71
Austria	1.42	1.45	1.39	1.37	1.34	1.36	1.33	1.39	1.38	1.42	1.40
Poland	:	:	1.51	1.44	1.37	1.35	1.31	1.25	1.22	1.23	1.24
Portugal	1.41	1.44	1.47	1.47	1.50	1.55	1.45	1.47	1.44	1.40	1.40
Romania	1.41	1.37	1.40	1.40	1.39	1.39	1.31	1.25	1.27	1.29	1.32
Slovenia	1.29	1.28	1.25	1.23	1.21	1.26	1.21	1.21	1.20	1.25	1.26
Slovakia	1.52	1.47	1.43	1.37	1.33	1.30	1.20	1.18	1.20	1.24	1.25
Finland	1.81	1.76	1.75	1.70	1.73	1.73	1.73	1.72	1.77	1.80	1.80
Sweden	1.73	1.60	1.52	1.50	1.50	1.54	1.57	1.65	1.71	1.75	1.77
United Kingdom	1.71	1.73	1.72	1.71	1.68	1.64	1.63	1.64	1.71	1.76	1.78
Croatia	:	:	:	:	:	1.46	1.37	:	1.32	1.34	1.41
FYR of Macedonia	2.12	2.07	1.93	1.90	1.76	1.88	1.73	1.80	1.77	1.52	1.46
Iceland	2.08	2.12	2.04	2.05	1.99	2.08	1.95	1.93	1.99	2.04	2.05
Liechtenstein	:	:	:	:	:	1.57	1.52	1.47	1.36	1.44	1.49
Norway	1.87	1.89	1.86	1.81	1.85	1.85	1.78	1.75	1.80	1.83	1.84
Switzerland	1.48	1.50	1.48	1.47	1.48	1.50	1.38	1.39	1.38	1.42	1.42

## Table SP.12: Fertility rate

(mean number of children per woman)

Source: Eurostat (tps00015)

The mean number of children that would be born alive to a woman during her lifetime if she were to pass through her childbearing years conforming to the fertility rates by age of a given year. It is therefore the completed fertility of a hypothetical generation, computed by adding the fertility rates by age for women in a given year (the number of women at each age is assumed to be the same). The total fertility rate is also used to indicate the replacement level fertility; in more developed countries, a rate of 2.1 is considered to be replacement level.



Figure SP.20: Mean age of women at childbearing

(1) Not available, 1995

(2) Not available, 2005.(3) Not available.

Source: Eurostat (tps00017 and demo\_find)

The mean age of women when their children are born. For a given calendar year, the mean age of women at childbearing is calculated using the fertility rates by age as weights (in general, the reproductive period is between 15 and 49 years of age). When calculated in this way, the mean age is not influenced by a specific population structure (number of mothers in each age group) and is therefore better for geographical and temporal comparisons.

Table SP.13: Mean age of women at childbearing (years)

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Belgium	28.4	28.5	28.6	:	:	:	:	:	:	:	:
Bulgaria	24.2	24.4	24.5	24.5	24.7	25.0	25.1	25.3	25.5	25.7	26.0
Czech Republic	25.8	26.1	26.4	26.6	26.9	27.2	27.5	27.8	28.0	28.3	28.7
Denmark	29.2	29.3	28.9	29.0	29.1	29.2	29.2	29.9	30.0	30.1	30.2
Germany	28.3	28.4	28.5	28.6	28.7	28.7	28.8	29.0	29.1	29.3	29.4
Estonia	25.5	25.8	26.1	26.3	26.5	27.0	27.2	27.5	27.7	27.9	28.2
Ireland	:	:	:	:	:	:	:	:	:	:	:
Greece	28.2	28.4	28.6	28.7	28.9	29.6	29.2	29.3	29.5	29.6	29.9
Spain	30.0	30.2	30.4	30.5	30.6	30.7	30.7	30.8	30.8	30.9	30.9
France	:	:	:	29.3	29.3	29.3	29.3	29.4	29.5	29.6	29.6
Italy	29.7	29.9	30.4	:	30.3	30.3	30.4	30.6	30.7	:	30.7
Cyprus	28.1	28.1	28.3	28.4	28.6	28.7	28.9	29.1	29.2	29.2	29.5
Latvia	25.4	25.5	25.9	26.2	26.3	26.7	26.9	27.1	27.2	27.4	27.7
Lithuania	25.6	25.7	26.0	26.3	26.4	26.6	26.8	26.9	27.1	27.4	27.5
Luxembourg	28.9	29.2	29.2	29.2	29.4	29.3	29.3	29.5	29.6	29.7	29.7
Hungary	26.3	26.5	26.6	26.8	27.0	27.3	27.6	27.8	28.0	28.2	28.5
Malta	:	:	:	:	:	:	:	:	:	:	:
Netherlands	30.0	30.1	30.2	30.2	30.3	30.3	30.3	30.3	30.4	30.5	30.5
Austria	27.7	27.8	27.9	28.0	28.1	28.2	28.4	28.6	28.8	28.8	29.0
Poland	26.9	27.0	27.1	27.2	27.3	27.4	27.6	27.8	27.9	28.1	28.2
Portugal	28.0	28.1	28.3	28.4	28.5	28.6	28.8	28.9	29.0	29.2	29.3
Romania	24.9	25.1	25.1	25.3	25.5	25.7	25.8	26.1	26.2	26.4	26.7
Slovenia	27.0	27.3	27.5	27.8	28.0	28.2	28.5	28.8	28.9	29.2	29.4
Slovakia	:	:	26.0	26.2	26.4	25.8	26.8	27.0	27.3	27.4	27.7
Finland	29.3	29.3	29.4	29.5	29.6	29.6	29.7	29.7	28.9	29.9	29.9
Sweden	29.2	29.4	29.5	29.7	29.8	29.9	30.0	30.1	30.3	30.4	30.5
United Kingdom	:	:	28.3	28.4	28.4	28.5	28.6	28.7	28.8	29.0	29.0
Croatia	:	:	:	:	:	27.8	27.9	:	28.0	28.2	28.4
FYR of Macedonia	:	:	:	26.2	26.2	26.4	26.6	26.7	26.8	27.0	27.2
Iceland	28.7	28.8	28.6	28.8	28.7	28.9	29.1	29.3	29.3	29.5	29.4
Liechtenstein	:	:	:	:	:	30.1	29.8	30.8	29.6	31.0	31.1
Norway	28.8	28.9	29.1	29.2	29.3	29.3	29.4	29.5	29.7	29.7	29.8
Switzerland	29.4	29.5	29.6	29.7	29.7	29.8	30.0	30.1	30.2	30.4	30.5

Source: Eurostat (tps00017)

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
Belgium	1.87	1.84	1.84	1.81	1.80	1.78	1.76	:	:	:	:	:
Bulgaria	:	:	1.87	1.86	1.87	1.81	1.81	1.77	1.73	1.67	1.64	1.61
Czech Republic	:	:	:	:	:	:	:	:	:	:	:	:
Denmark	1.87	1.89	1.88	1.88	1.89	1.89	1.89	1.92	1.95	1.95	1.95	1.92
Germany	1.66	1.63	1.61	1.59	1.56	1.55	1.52	1.49	1.48	1.47	1.47	1.47
Estonia	:	:	:	:	:	:	:	:	:	:	:	:
Ireland	:	:	:	:	:	:	:	:	:	:	:	:
Greece	1.97	1.86	1.84	1.78	1.79	1.77	1.75	1.78	1.71	1.63	1.57	1.52
Spain	1.79	1.70	1.67	1.66	1.69	1.61	1.58	1.58	1.52	1.48	1.45	:
France	2.12	2.09	2.08	2.07	2.04	2.03	2.02	2.01	2.01	1.99	1.99	1.97
Italy	1.68	1.63	1.62	1.59	1.56	1.54	1.51	1.50	:	:	:	:
Cyprus	:	:	:	:	:	:	:	:	:	:	:	:
Latvia	1.92	1.91	1.91	1.88	1.86	1.84	1.80	1.82	1.79	1.77	1.69	1.64
Lithuania	:	:	:	:	:	:	:	:	:	:	:	:
Luxembourg	1.74	1.77	1.81	1.80	1.84	1.83	1.86	1.87	1.81	1.82	1.83	1.84
Hungary	2.01	2.03	2.03	1.99	1.98	1.97	1.96	1.94	1.91	1.88	1.83	1.81
Malta	:	:	:	:	:	:	:	:	:	:	:	:
Netherlands	1.86	1.83	1.83	1.81	1.79	1.78	1.78	1.77	1.76	1.75	1.74	:
Austria	1.58	1.57	1.58	1.58	1.59	1.62	1.62	1.61	1.60	1.60	1.60	1.60
Poland	:	:	:	:	:	:	:	:	:	:	:	:
Portugal	1.88	1.86	1.87	1.82	1.82	1.82	1.81	1.79	1.74	1.70	1.66	1.64
Romania	2.16	2.11	2.04	2.02	1.97	1.91	1.85	1.65	1.68	1.68	1.66	1.67
Slovenia	:	:	:	:	:	:	:	1.72	1.67	1.62	:	:
Slovakia	:	:	:	:	:	:	:	:	:	:	:	:
Finland	1.96	1.95	1.93	1.93	1.91	1.91	1.89	1.87	1.90	1.89	1.86	:
Sweden	2.05	2.03	2.03	2.02	2.01	2.00	1.99	1.98	1.98	1.97	1.96	:
United Kingdom	:		:	:	:	:	:	:	:	:	:	:
Iceland	2.47	2.50	2.38	2.43	2.40	2.39	2.34	2.41	2.38	2.28	2.35	2.29
Norway	2.09	2.10	2.10	2.08	2.08	2.08	2.07	2.06	2.07	2.05	2.04	2.02
Switzerland	1.71	1.82	1.74	1.69	1.67	1.66	1.66	1.65	1.63	1.63	1.60	:

## Table SP.14: Completed fertility by generation of the mother

(mean number of children per woman)

Source: Eurostat (tps00016)

The mean number of children born to women of a given generation at the end of their childbearing years. This is

calculated by adding the fertility rates by age of the mother observed for successive years, when the cohort has reached the age in question (in general, only ages between 15 and 49 years are considered). In practice, the fertility rates for

older women can be estimated using the rates observed for previous generations, without waiting for the cohort to reach the end of the reproductive period.





Map SP.3: Births: assumed relative change comparing 2005 with 2030, by NUTS 2 regions (%)

Source: Eurostat (proj\_rtbp\_dem\_eve)

## Table SP.15: Assumed future fertility rate – baseline variant

(mean number of children per woman)

	2005	2010	2015	2020	2025	2030	2035	2040	2045	2050
Belgium	1.63	1.66	1.68	1.69	1.70	1.70	1.70	1.70	1.70	1.70
Bulgaria	1.21	1.25	1.29	1.34	1.39	1.44	1.47	1.49	1.50	1.50
Czech Republic	1.15	1.24	1.37	1.44	1.48	1.50	1.50	1.50	1.50	1.50
Denmark	1.77	1.78	1.78	1.79	1.79	1.79	1.80	1.80	1.80	1.80
Germany	1.37	1.41	1.43	1.44	1.45	1.45	1.45	1.45	1.45	1.45
Estonia	1.40	1.45	1.49	1.54	1.58	1.60	1.60	1.60	1.60	1.60
Ireland	1.95	1.89	1.84	1.81	1.80	1.80	1.80	1.80	1.80	1.80
Greece	1.32	1.41	1.47	1.49	1.50	1.50	1.50	1.50	1.50	1.50
Spain	1.31	1.36	1.39	1.40	1.40	1.40	1.40	1.40	1.40	1.40
France	1.88	1.87	1.86	1.86	1.85	1.85	1.85	1.85	1.85	1.85
Italy	1.32	1.38	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40
Cyprus	1.45	1.43	1.46	1.49	1.50	1.50	1.50	1.50	1.50	1.50
Latvia	1.32	1.42	1.48	1.53	1.57	1.59	1.60	1.60	1.60	1.60
Lithuania	1.29	1.30	1.35	1.41	1.49	1.55	1.59	1.60	1.60	1.60
Luxembourg	1.66	1.73	1.77	1.78	1.79	1.79	1.80	1.80	1.80	1.80
Hungary	1.30	1.33	1.41	1.51	1.57	1.59	1.60	1.60	1.60	1.60
Malta	1.62	1.49	1.49	1.54	1.58	1.60	1.60	1.60	1.60	1.60
Netherlands	1.75	1.76	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75
Austria	1.40	1.42	1.44	1.44	1.45	1.45	1.45	1.45	1.45	1.45
Poland	1.19	1.19	1.29	1.42	1.53	1.58	1.60	1.60	1.60	1.60
Portugal	1.47	1.52	1.56	1.59	1.60	1.60	1.60	1.60	1.60	1.60
Romania	1.30	1.34	1.37	1.40	1.44	1.47	1.49	1.50	1.50	1.50
Slovenia	1.18	1.27	1.38	1.46	1.49	1.50	1.50	1.50	1.50	1.50
Slovakia	1.18	1.18	1.23	1.33	1.43	1.52	1.57	1.59	1.60	1.60
Finland	1.77	1.78	1.79	1.79	1.80	1.80	1.80	1.80	1.80	1.80
Sweden	1.77	1.84	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85
United Kingdom	1.72	1.74	1.74	1.75	1.75	1.75	1.75	1.75	1.75	1.75

Source: Eurostat (proj\_tbp\_asm)



#### **INTRODUCTION**

Another contributing factor to the ageing of the EU's population is a gradual increase in life expectancies. This may, at least in part, be attributed to higher standards of living, better healthcare, as well as more awareness of health issues. The first half of the 20th century was characterised by increased life expectancy resulting from declining mortality from communicable diseases (for more information on infant mortality, please refer to Chapter 3). In the latter part of the 20th century life expectancy increased due to improved living conditions and medical progress in relation to older generations; one important determinant has been the decrease in mortality from cardiovascular diseases (for more information on causes of death, please refer to Chapter 3).

A set of health expectancy indicators have been developed to extend the concept of life expectancy to cover morbidity and disability, so as to assess the quality of life; these indicators are included in the list of structural indicators on the basis of which the Commission draws up its annual synthesis report, thereby integrating public health into the Lisbon strategy.

The EC Treaty (Title XIII Public Health, Article 152) states that 'Community action, which shall complement national policies, shall be directed towards improving public health, preventing human illness and diseases, and obviating sources of danger to human health.' The on-going programme of Community action in the field of public health (2003-2008) targets the following objectives:

- to improve information and knowledge for the development of public health;
- to enhance the capability of responding rapidly and in a coordinated fashion to threats in health;
- promote health and prevent disease through addressing health determinants across all policies and activities.

A strategy for healthcare systems is proposed in two Commission communications entitled, 'modernising social protection for the development of high-quality, accessible and sustainable healthcare and long-term care: support for the national strategies using the open method of coordination' <sup>(6)</sup> and a 'follow-up to the high level reflection process on patient mobility and healthcare developments in the European Union' <sup>(7)</sup>.

### **DEFINITIONS AND DATA AVAILABILITY**

According to the United Nations (UN) definition, a death is the permanent disappearance of all evidence of life at any time after live birth has taken place (postnatal cessation of vital functions without capacity of resuscitation); this definition therefore excludes foetal deaths.

Life expectancy rates can be given for any age. They relate to the mean number of years still to be lived by a person who has reached a certain age, if subjected throughout the rest of his or her life to the current mortality conditions (age-specific probabilities of dying). The most common life expectancy figures relate to life expectancy at birth, measured as the mean number of years that a newborn child can expect to live. Otherwise, life expectancy figures can be given for specific ages; in this publication they are also presented at age 65.

Health expectancies extend the concept of life expectancy to morbidity and disability, in order to assess the quality of life. These are composite indicators that combine mortality data with data referring to health. The Healthy Life Years (HLY) indicator measures the number of remaining years that a person of a specific age is still expected to live in a healthy condition. A healthy condition is defined by the absence of limitations in functioning/disability. Therefore, the indicator is also called disability-free life expectancy (DFLE). HLY indicators are calculated by gender, at birth, and at the age of 65.

Most countries measure mortality both by age completed (age at last birthday) and age reached during the year. Mortality rates by age have been recalculated by Eurostat to the same definition, the age reached during the year of the event; this permits rates to be recombined by generation.

<sup>(6)</sup> COM(2004) 304; for more information: http://eur-lex.europa.eu/ LexUriServ/site/en/com/2004/com2004\_0304en01.pdf.

<sup>(7)</sup> COM(2004) 301; for more information: http://eur-lex.europa.eu/ LexUriServ/site/en/com/2004/com2004\_0301en01.pdf.

#### **MAIN FINDINGS**

Increasing life expectancy is one of the many factors that contribute towards Europe's ageing population profile. This indicator has gradually risen for males and females in Europe, as in other world regions, and this trend is expected to continue. EU-27 life expectancy of a boy at birth was 74.6 years in 2003, while the life expectancy of a newborn girl was just over six years higher at 80.8 years. There remain quite large variations in life expectancies across the EU-27. For males, the lowest life expectancy in 2005 was recorded in Lithuania (65.3 years) and the highest in Sweden (78.5); for women, the range was from a low of 75.7 years in Romania to a high of 83.8 in France (2004).

Gender differences in life expectancy were, in the 1960s, associated with unfavourable male mortality. This pattern was reversed in the 1980s as the gender gap closed in north western Europe, followed by southern Europe in the 1990s. The difference in life expectancies was further narrowed in recent years, as the growth in female life expectancy slowed somewhat. The convergence of life expectancy figures may be a consequence of more similar circumstances in terms of the lifestyles led by men and women in the EU – for example, fewer men are working in areas of the economy where high degrees of physical effort are required throughout the working day (agriculture, mining, or the manufacture of iron and steel). Nevertheless, persistently higher male mortality is recorded throughout the entire life cycle and with respect to all of the main causes of death.

The debate on the possible future course of life expectancy is wide-ranging, although Eurostat population projections suggest that the largest increases will be for the life expectancy of males in those Member States that have joined the EU since 2004, while the difference between male and female life expectancies is likely to continue to close.

Health expectancies can be used to measure the potential of the population to participate in society. There are many Member States that are in the process of implementing or considering changes to their statutory age for retirement, as well as the promotion of policies that actively encourage older persons to remain in work longer. In the EU-15 in 2003, women at birth could expect to have 66.0 healthy life years, while for men the value was 64.5 years. Healthy life years at birth ranged from less than 60 years in Hungary, the Netherlands (women only), Portugal (men only) and Finland, to over 70 years of healthy life for both men and women in Italy.

As people are living longer there has been a growing interest in the older generations – both as potential actors in the workforce, or as a specific market of consumers. This is borne out when looking at the life expectancy of those persons who are aged 65, as in 2005 the average man of this age could be expected to live an additional 12.5 years in Latvia, rising to 17.4 additional years in Sweden. The life expectancy of women at the age of 65 was higher, ranging from 16.1 years in Bulgaria to 21.3 years in Spain.

A ranking of the Member States according to healthy life years at age 65 differs considerably from that for total life expectancy. This indicator is of particular interest in relation to the possible future demand for healthcare and social services, or the potential for older persons to remain within the workforce. For both men and women Italy ranked as the country where people could expect to spend the longest period after the age of 65 in good health, with an average of 14.4 years of healthy life for men and 11.9 years for women.

Projected changes in life expectancy suggest that in the future there will be an increasing number of old persons. As such, the EU's population pyramid is likely to increasingly be characterised by a higher proportion of old and very old persons resting on an increasingly reduced proportion of young persons. Life expectancy in 2050 for men is projected to increase to between 74.3 years in Latvia and 83.6 years in Italy, while for women it is projected to range between 82.0 years in Romania and 89.1 years in Spain.

## SOURCES

#### **Statistical books**

The social situation in the European Union 2005-2006 Population statistics (with CD-Rom) European social statistics – demography

#### **Pocketbooks**

Living conditions in Europe - statistical pocketbook - data 2002-2005

#### Methodologies and working papers

Demographic outlook – national reports on the demographic developments in 2005 Methodology for the calculation of Eurostat's demographic indicators

#### Website data

#### Demography

Demography – national data
Main demographic indicators
Population change: absolute numbers and crude rates
Mortality
Deaths by month
Deaths by sex and age at last birthday
Deaths by sex and age reached during the year
Probability of dying by sex and age
Life expectancy by sex and age
Demography – regional data
Population change
Births and deaths
Deaths by sex and age
ulation projections

#### Population projections

Trend scenario, national level – base year 2004 Trend scenario, regional level – base year 2004

Figure SP.21: Life expectancy at birth, 2005 (years)



(1) 2003.(2) 2004.

The mean number of years that a newborn child can expect to live if subjected throughout his life to the current mortality conditions (age specific probabilities of dying).

Source: Eurostat (tps00025)

## Table SP.16: Life expectancy at birth

(years)

			Ma	le			Female							
	1995	1997	1999	2001	2003	2005	1995	1997	1999	2001	2003	2005		
EU-27	:	:	:	:	74.6	:	:	:	:	:	80.8	:		
Euro area	74.0	74.7	75.2	75.5	76.0	:	80.9	81.4	81.7	82.2	82.0	:		
Belgium	73.5	74.2	74.4	75.0	75.3	76.2	80.4	80.7	81.0	81.2	81.1	81.9		
Bulgaria	67.4	67.0	68.3	68.5	68.9	69.0	74.9	73.8	75.0	75.4	75.9	76.2		
Czech Republic	69.7	70.5	71.5	72.1	72.0	72.9	76.8	77.6	78.3	78.6	78.6	79.3		
Denmark	72.7	73.6	74.2	74.7	75.0	76.0	77.9	78.6	79.0	79.3	79.8	80.5		
Germany	73.3	74.1	74.8	75.6	75.8	76.7	79.9	80.5	81.0	81.5	81.3	82.0		
Estonia	61.5	64.3	64.9	64.9	66.1	67.3	74.3	75.9	76.0	76.4	77.1	78.2		
Ireland	72.8	73.4	73.4	74.5	75.9	77.3	78.3	78.7	78.9	79.9	80.8	81.7		
Greece	75.0	75.4	75.5	76.0	76.5	76.8	80.1	80.4	80.5	81.0	81.2	81.6		
Spain	74.4	75.2	75.3	76.2	76.3	77.0	81.8	82.3	82.4	83.2	83.0	83.7		
France	:	:	75.0	75.5	75.8	:	:	:	82.7	83.0	82.7	:		
Italy	75.1	75.9	76.6	77.2	77.1	:	81.6	82.1	82.7	83.2	82.8	:		
Cyprus	:	:	:	:	77.4	76.8	:	:	:	:	81.6	81.1		
Latvia	:	:	:	:	65.6	65.4	:	:	:	:	75.9	76.5		
Lithuania	63.3	65.5	66.3	65.9	66.4	65.3	75.1	76.6	77.0	77.6	77.8	77.3		
Luxembourg	73.0	74.0	74.4	75.1	74.8	76.6	80.6	80.0	81.4	80.7	80.8	82.2		
Hungary	65.5	66.7	66.7	68.2	68.4	68.7	74.8	75.5	75.6	76.7	76.7	77.2		
Malta	74.8	75.2	75.3	76.6	76.4	77.3	79.6	80.0	79.4	81.2	80.8	81.4		
Netherlands	74.6	75.2	75.4	75.8	76.3	77.3	80.5	80.7	80.5	80.8	81.0	81.7		
Austria	73.4	74.1	74.9	75.7	75.9	76.7	80.1	80.7	81.0	81.7	81.5	82.3		
Poland	:	68.5	:	70.0	70.5	70.8	:	77.0	:	78.4	78.8	79.3		
Portugal	71.7	72.2	72.6	73.5	74.2	74.9	79.0	79.3	79.7	80.5	80.6	81.3		
Romania	65.3	65.0	66.9	67.4	67.7	68.7	73.3	73.1	74.1	74.8	75.0	75.7		
Slovenia	70.8	71.1	71.8	72.3	72.5	73.9	78.5	79.1	79.5	80.4	80.3	80.9		
Slovakia	68.4	68.9	69.0	69.5	69.8	70.2	76.5	76.9	77.4	77.7	77.7	78.1		
Finland	72.9	73.5	73.8	74.6	75.2	75.6	80.4	80.7	81.2	81.7	81.9	82.5		
Sweden	76.2	76.8	77.1	77.6	78.0	78.5	81.7	82.0	82.0	82.2	82.5	82.9		
United Kingdom	74.0	74.7	75.0	75.8	76.2	77.1	79.3	79.7	79.9	80.5	80.5	81.1		
Croatia	:	:	:	71.0	71.2	71.8	:	:	:	78.0	78.2	78.8		
FYR of Macedonia	69.8	70.3	:	70.9	70.9	71.6	74.0	74.7	:	76.1	75.7	75.9		
Iceland	76.0	76.4	77.4	78.3	79.5	79.6	80.1	81.6	81.4	83.2	82.5	83.5		
Liechtenstein	75.0	71.9	75.5	76.3	78.4	77.5	79.9	80.4	82.9	82.5	81.6	84.1		
Norway	74.8	75.5	75.6	76.2	77.1	77.8	80.9	81.1	81.2	81.7	82.1	82.8		
Switzerland	75.4	76.3	76.9	77.5	78.0	78.7	81.9	82.2	82.7	83.2	83.2	84.0		

Source: Eurostat (tps00025)

## Figure SP.22: Healthy life years at birth, EU-15 (1)

(years)



(1) Estimates.

#### Source: Eurostat (tsdph100)

The indicator healthy life years (HLY) measures the number of years that a person at birth is still expected to live in a healthy condition. HLY is a health expectancy indicator which combines information on mortality and morbidity. The data required are the age-specific prevalence (proportions) of the population in healthy and unhealthy conditions and age-specific mortality information. A healthy condition is defined by the absence of limitations in functioning/disability. The indicator is calculated separately for males and females. The indicator is also called disability-free life expectancy (DFLE).

### Figure SP.23: Healthy life years at birth, 2003 (1)

(% of total life expectancy)



(1) Estimates, except Cyprus.

(2) 2002.

(3) Not available.

Source: Eurostat (tsdph100 and tps00025)

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## Table SP.17: Healthy life years at birth

(years)

			Male		Female						
	1999	2000	2001	2002	2003	1999	2000	2001	2002	2003	
EU-15	63.2	63.5	63.6	64.3	64.5	63.9	64.4	65.0	65.8	66.0	
Belgium	66.0	65.7	66.6	66.9	67.4	68.4	69.1	68.8	69.0	69.2	
Bulgaria	:	:	:	:	:	:	:	:	:	:	
Czech Republic	:	:	:	62.8	:	:	:	:	63.3	:	
Denmark	62.5	62.9	62.2	62.8	63.0	60.8	61.9	60.4	61.0	60.9	
Germany	62.3	63.2	64.1	64.4	65.0	64.3	64.6	64.5	64.5	64.7	
Estonia	:	:	:	:	:	:	:	:	:	:	
Ireland	63.9	63.3	63.3	63.5	63.4	67.6	66.9	66.5	65.9	65.4	
Greece	66.7	66.3	66.7	66.7	66.7	69.4	68.2	68.8	68.5	68.4	
Spain	65.6	66.5	66.0	66.6	66.8	69.5	69.3	69.2	69.9	70.2	
France	60.1	60.1	60.5	60.4	60.6	63.3	63.2	63.3	63.7	63.9	
Italy	68.7	69.7	69.8	70.4	70.9	72.1	72.9	73.0	73.9	74.4	
Cyprus	:	:	:	:	68.4	:	:	:	:	69.6	
Latvia	:	:	:	:	:	:	:	:	:	:	
Lithuania	:	:	:	:	:	:	:	:	:	:	
Luxembourg	:	:	:	:	:	:	:	:	:	:	
Hungary	:	:	:	:	53.5	:	:	:	:	57.8	
Malta	:	:	:	65.1	:	:	:	:	65.7	:	
Netherlands	61.6	61.4	61.9	61.7	61.7	61.4	60.2	59.4	59.3	58.8	
Austria	63.6	64.6	64.2	65.6	66.2	:	68.0	68.5	69.0	69.6	
Poland	:	:	:	62.5	:	:	:	:	68.9	:	
Portugal	58.8	60.2	59.5	59.7	59.8	60.7	62.2	62.7	61.8	61.8	
Romania	:	:	:	:	:	:	:	:	:	:	
Slovenia	:	:	:	:	:	:	:	:	:	:	
Slovakia	:	:	:	:	:	:	:	:	:	:	
Finland	55.8	56.3	56.7	57.0	57.3	57.4	56.8	56.9	56.8	56.5	
Sweden	62.0	63.1	61.9	62.4	62.5	61.8	61.9	61.0	61.9	62.2	
United Kingdom	61.2	61.3	61.1	61.4	61.5	61.3	61.2	60.8	60.9	60.9	
Norway	:	:	:	:	66.3	:	:	:	:	64.2	

Source: Eurostat (tsdph100)

### Figure SP.24: Life expectancy at 65, 2005

(years)



(1) 2004.
 (2) 2003.

#### Source: Eurostat (tsdph230)

The mean number of years still to be lived by a man or a woman who has reached the age 65, if subjected throughout the rest of his or her life to the current mortality conditions (age-specific probabilities of dying).



## Figure SP.25: Healthy life years at age 65, 2003 (1)

(years)

(1) Hungary and Norway, provisional; the Czech Republic and Malta, provisional data for 2002; Poland, 2002; all remaining information, except for Cyprus, estimates.

(2) Not available.

#### Source: Eurostat (tsdph220)

The indicator healthy life years (HLY) at age 65 measures the number of years that a person at age 65 is still expected to live in a healthy condition. HLY is a health expectancy indicator which combines information on mortality and morbidity. The data required are the age-specific prevalence (proportions) of the population in healthy and unhealthy conditions and age-specific mortality information. A healthy condition is defined by the absence of limitations in functioning/disability. The indicator is calculated separately for males and females. The indicator is also called disability-free life expectancy (DFLE).

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## Table SP.18: Life expectancy at 65

(years)

			Ma	le		Female							
	1995	1997	1999	2001	2003	2005	1995	1997	1999	2001	2003	2005	
EU-27	:	:	:	:	15.9	:	:	:	:	:	19.4	:	
Belgium	14.8	15.2	15.5	15.9	16.0	16.6	19.3	19.5	19.7	19.9	19.6	20.2	
Bulgaria	12.7	12.3	12.9	13.0	13.0	13.1	15.3	14.7	15.4	15.7	15.9	16.1	
Czech Republic	12.7	13.2	13.7	14.0	13.8	14.4	16.2	16.7	17.1	17.3	17.2	17.7	
Denmark	14.1	14.6	15.0	15.2	15.6	16.1	17.6	18.0	18.1	18.3	18.5	19.1	
Germany	14.8	15.2	15.6	16.1	16.2	16.9	18.7	19.1	19.4	19.8	19.6	20.1	
Estonia	12.0	12.5	12.6	12.7	12.7	13.1	16.1	16.8	17.0	17.3	17.4	18.1	
Ireland	13.5	14.0	14.1	15.0	15.9	16.8	17.2	17.6	17.6	18.5	19.2	20.0	
Greece	15.9	16.2	16.2	16.5	16.7	17.1	18.2	18.4	18.4	18.7	18.7	19.2	
Spain	16.2	16.4	16.2	16.9	16.8	17.3	20.2	20.5	20.3	21.0	20.8	21.3	
France	:	:	16.6	17.0	17.0	:	:	:	21.2	21.5	21.0	:	
Italy	15.8	16.1	16.4	16.9	16.8	:	19.9	20.2	20.5	21.0	20.6	:	
Cyprus	:	:	:	:	16.8	16.8	:	:	:	:	19.3	19.1	
Latvia	:	:	:	:	12.6	12.5	:	:	:	:	16.8	17.2	
Lithuania	12.9	13.2	13.4	13.5	13.3	13.0	16.9	17.3	17.6	17.9	18.1	17.6	
Luxembourg	14.8	14.8	15.3	16.0	15.3	16.7	19.7	19.2	19.9	19.7	18.9	20.4	
Hungary	12.2	12.5	12.5	13.2	13.0	13.3	16.0	16.3	16.2	17.0	16.9	17.2	
Malta	15.5	14.6	15.0	15.7	15.6	16.2	17.6	18.4	17.8	18.7	18.7	19.4	
Netherlands	14.7	15.1	15.2	15.6	15.8	16.4	19.2	19.3	19.2	19.4	19.5	20.1	
Austria	15.0	15.2	15.7	16.4	16.4	17.0	18.8	19.1	19.4	20.0	19.8	20.4	
Poland	:	13.1	:	13.7	13.9	14.3	:	16.8	:	17.7	18.0	18.5	
Portugal	14.7	14.9	15.0	15.7	15.7	16.1	18.1	18.4	18.5	19.1	19.0	19.4	
Romania	12.7	12.6	12.9	13.2	13.1	13.4	15.3	15.2	15.5	16.0	15.8	16.2	
Slovenia	13.7	14.0	14.1	14.5	14.3	15.2	17.7	18.0	18.3	19.0	18.8	19.3	
Slovakia	12.7	12.9	13.0	13.0	13.2	13.3	16.2	16.5	16.8	16.8	16.9	17.1	
Finland	14.6	15.0	15.2	15.7	16.2	16.8	18.8	19.1	19.5	19.8	20.0	21.0	
Sweden	16.0	16.3	16.5	16.9	17.1	17.4	19.9	20.1	20.1	20.2	20.4	20.7	
United Kingdom	14.6	15.1	15.4	16.1	16.3	17.0	18.2	18.5	18.6	19.2	19.1	19.5	
Croatia	:	:	:	13.5	13.4	13.8	:	:	:	16.9	16.8	17.3	
FYR of Macedonia	13.0	13.0	:	13.5	13.2	13.4	14.8	15.0	:	15.6	15.2	15.2	
Iceland	16.2	16.4	16.9	17.5	18.1	18.4	19.1	20.1	19.4	21.3	20.2	21.0	
Liechtenstein	16.9	14.5	14.8	17.3	17.0	18.3	19.2	19.8	19.8	19.9	20.6	21.6	
Norway	15.1	15.6	15.7	16.2	16.8	17.3	19.3	19.5	19.6	19.9	20.3	20.9	
Switzerland	16.2	16.6	16.9	17.3	17.6	18.1	20.4	20.5	20.8	21.3	21.1	21.8	

Source: Eurostat (tsdph230)

Table SP.19: Projected births and deaths, annual averages (1) (1 000)

			Births		Deaths					
	2010	2020	2030	2040	2050	2010	2020	2030	2040	2050
World	136 327	137 420	131 678	127 827	124 106	57 965	63 029	70 239	80 527	91 0 4 5
Europe (2)	7 520	7 008	6 459	6 452	6 349	8 593	8 833	8 929	9 312	9 541
Africa	35 324	38 301	39 622	40 226	39 563	12 934	13 645	14 341	15 295	16 473
Asia	76 831	75 847	69 921	65 969	63 438	29 964	33 178	38 301	45 538	52 993
Latin America and Caribbean	11 438	10 900	10 334	9 675	9 1 3 2	3 445	3 994	4 777	5 822	7 012
North America	4 641	4 769	4 733	4 909	5 025	2 774	3 082	3 543	4 150	4 560
Oceania	574	595	610	596	598	256	297	349	411	466
EU-27	4 916	4 618	4 303	4 184	3 988	5 021	5 285	5 634	6 192	6 671
China	17 459	17 973	16 278	14 640	14 510	9 403	11 096	13 430	16 307	18 710
India	27 077	25 598	22 852	21 382	20 234	9 671	10 025	10 962	12 635	14 724
Japan	1 062	881	835	801	736	1 144	1 359	1 561	1 639	1 606
Russian Federation	1 518	1 316	1 087	1 120	1 048	2 295	2 181	1 993	1 969	1 893
United States	4 298	4 401	4 348	4 506	4 583	2 528	2 794	3 197	3 731	4 085

(1) All data except for EU-27, averages based on the five years through to the reference period shown

(e.g. the annual average for 2010 covers the period 2005-2010).

(2) EU-27, Belarus, Republic of Moldova, Russian Federation, Ukraine, Faeroe Islands, Iceland, Norway, Albania, Andorra, Bosnia and Herzegovina, Croatia, Serbia and Montenegro, the former Yugoslav Republic of Macedonia, Liechtenstein and Switzerland

Source: Eurostat (proj\_tbp\_eve), United Nations, Population Division of the Department of Economic and Social Affairs



# Figure SP.26: Projected births and deaths, EU-27

(1 000)

Source: Eurostat (proj\_tbp\_eve)

**Table SP.20: Projected births and deaths (based on fertility and mortality assumptions)** (1 000)

_			Births			Deaths						
	2010	2020	2030	2040	2050	2010	2020	2030	2040	2050		
EU-27	4 916	4 618	4 303	4 184	3 988	5 021	5 285	5 634	6 192	6 671		
Euro area	3 116	2 868	2 730	2 648	2 493	3 103	3 368	3 616	3 992	4 367		
Belgium	109	111	106	103	103	104	107	112	128	139		
Bulgaria	62	49	41	41	34	110	101	97	97	94		
Czech Republic	92	86	73	74	70	112	114	125	137	135		
Denmark	58	59	61	56	55	57	60	66	72	72		
Germany	697	683	617	578	555	880	960	1 034	1 080	1 175		
Estonia	14	13	10	11	10	19	18	16	16	16		
Ireland	63	56	55	58	55	31	34	41	49	58		
Greece	108	94	87	86	80	118	135	141	155	169		
Spain	451	350	326	332	286	404	442	479	556	649		
France	724	702	701	688	667	546	589	627	732	787		
Italy	514	435	414	395	352	603	650	678	724	788		
Cyprus	9	9	8	8	9	6	7	9	10	12		
Latvia	24	22	17	18	18	33	31	29	28	29		
Lithuania	32	32	26	26	26	43	42	40	41	43		
Luxembourg	5	6	7	7	7	4	4	5	6	7		
Hungary	95	90	82	81	79	132	128	127	131	130		
Malta	4	5	5	5	5	3	4	5	6	6		
Netherlands	181	184	189	180	177	152	170	199	226	235		
Austria	75	75	69	64	63	77	82	90	100	112		
Poland	358	358	303	290	286	388	402	421	481	498		
Portugal	113	96	91	89	80	111	117	123	136	147		
Romania	214	178	150	148	127	270	256	248	260	272		
Slovenia	18	17	15	16	16	21	23	25	28	30		
Slovakia	51	48	42	41	39	55	56	61	69	73		
Finland	57	57	54	52	52	51	55	63	72	70		
Sweden	104	111	104	107	111	93	93	105	116	118		
United Kingdom	683	690	649	632	626	598	605	669	735	807		

Source: Eurostat (proj\_tbp\_eve)



Table SP.21: Life expectancy projections (based on mortality assumptions) (years)

	Males							Females							
	2005	2010	2020	2030	2040	2050		2005	2010	2020	2030	2040	2050		
Belgium	75.8	76.9	78.9	80.4	81.5	82.3		81.9	82.9	85.0	86.5	87.5	88.3		
Bulgaria	69.4	70.7	73.2	75.5	77.1	78.2		76.1	77.2	79.1	80.7	81.8	82.6		
Czech Republic	72.6	73.7	75.9	77.8	78.8	79.7		79.0	79.8	81.3	82.7	83.5	84.1		
Denmark	75.4	76.3	78.0	79.3	80.2	80.9		79.7	80.4	81.6	82.5	83.2	83.7		
Germany	76.3	77.2	78.9	80.2	81.2	82.0		81.9	82.7	84.2	85.4	86.2	86.9		
Estonia	65.7	66.5	68.9	71.6	73.5	74.9		77.0	77.8	79.5	81.2	82.3	83.1		
Ireland	76.5	77.1	78.1	78.9	79.6	80.3		81.5	82.1	83.2	84.0	84.6	85.1		
Greece	76.8	77.6	79.1	80.2	80.9	81.4		83.6	84.4	85.9	86.9	87.5	87.9		
Spain	76.4	77.5	79.4	80.8	81.9	82.7		83.6	84.5	86.2	87.5	88.4	89.1		
France	75.7	76.8	78.7	80.2	81.4	82.4		80.9	81.8	83.5	84.9	86.0	87.0		
Italy	77.5	78.4	80.1	81.5	82.6	83.6		83.3	84.1	85.6	86.8	87.9	88.8		
Cyprus	76.5	77.5	79.0	80.2	81.1	81.9		80.9	81.6	82.8	83.7	84.5	85.1		
Latvia	65.0	65.8	68.1	70.9	72.9	74.3		76.3	77.0	78.6	80.4	81.6	82.5		
Lithuania	66.7	67.4	69.6	72.3	74.3	75.5		77.7	78.5	80.1	81.8	82.9	83.7		
Luxembourg	75.2	76.3	78.4	79.9	80.9	81.6		81.6	82.4	83.9	85.1	85.9	86.7		
Hungary	68.8	70.1	72.8	75.2	77.0	78.1		77.0	78.0	79.8	81.5	82.6	83.4		
Malta	76.5	77.4	79.0	80.1	81.0	81.8		80.9	81.7	82.9	83.7	84.5	85.0		
Netherlands	76.4	77.0	78.2	79.0	79.7	80.2		80.9	81.4	82.2	82.8	83.2	83.6		
Austria	76.4	77.5	79.4	81.0	82.4	83.6		82.3	83.2	84.9	86.1	87.0	87.7		
Poland	70.7	72.0	74.6	76.8	78.2	79.1		78.7	79.6	81.3	82.8	83.8	84.4		
Portugal	74.4	75.4	77.1	78.5	79.5	80.4		81.2	82.2	83.9	85.1	86.0	86.6		
Romania	68.5	69.8	72.4	74.8	76.5	77.6		75.5	76.5	78.3	80.0	81.2	82.0		
Slovenia	72.8	73.9	76.1	77.9	79.0	79.8		80.3	81.2	82.8	83.8	84.6	85.2		
Slovakia	69.9	70.9	73.1	75.3	76.7	77.7		77.9	78.7	80.3	81.8	82.7	83.4		
Finland	75.5	76.7	78.7	80.2	81.2	81.9		82.0	82.8	84.2	85.3	86.0	86.5		
Sweden	78.3	79.1	80.7	81.9	82.7	83.3		82.5	83.2	84.5	85.4	86.0	86.5		
United Kingdom	76.6	77.6	79.5	81.0	82.0	82.9		81.1	82.0	83.7	85.0	85.9	86.6		

Source: Eurostat (proj\_tbp\_asm)

#### **MIGRATION AND ASYLUM**

#### **INTRODUCTION**

Migration is influenced by a combination of economic, political and social factors. These factors may act in a migrant's country of origin (push factors) or in the country of destination (pull factors). The relative economic prosperity and political stability of the EU are thought to exert a considerable pull effect on immigrants.

In the second half of the 20th century most of the Member States experienced a change in their international migratory patterns, as there was a shift from net emigration to immigration. More recently, international migration has become the main driver of population growth in a number of countries. Indeed, the working age population of several Member States would already have begun to shrink in the absence of immigration. It is, however, very unlikely that current levels of migration into the EU will be enough to compensate for the declining natural change in population that is expected in the coming decades. While international migration may be used as a tool to solve specific labour market shortages, it alone will almost certainly not be enough to reverse the on-going trend of population ageing.

Migration policies are increasingly concerned with attracting a particular migrant profile, often in an attempt to alleviate specific skills shortages. Selection can be carried out on the basis of language proficiency, work experience, education and/or age, or alternatively by employers so that migrants already have a job upon their arrival. Besides policies to encourage labour recruitment, immigration policy is often focused on two areas: preventing unauthorised migration and the illegal employment of migrants who are not permitted to work, and promoting the integration of immigrants into society. This latter point is of particular importance within the context of the Lisbon goals concerning employment and social cohesion. Significant resources have been mobilised to fight people smuggling and trafficking networks in the EU.

The Treaty of Amsterdam introduced a new Title IV ('Visas, asylum, immigration and other policies related to free movement of persons') into the EC Treaty. It covers the following fields: free movement of persons; controls on external borders; asylum, immigration and safeguarding of the rights of third-country nationals; judicial cooperation in civil and criminal matters, and administrative cooperation. Note that the EU's common immigration policy does not apply to Denmark which has decided to opt out of Title IV of the EC Treaty, while Ireland and the United Kingdom decide on their involvement on a case-by-case basis.

All Member States experience flows of international migration. They have agreed to develop more harmonised immigration policies. Following European Commission proposals, a number of pieces of EU legislation have been adopted. The main objective of EU immigration policy is to better manage migration flows by a coordinated approach which takes into account the economic and demographic situation of the EU. The leaders of the EU first set out an approach to managing migration in October 1999 at the European Council in Tampere (Finland), where they agreed that EU immigration policies should:

- be based on a comprehensive approach to the management of migratory flows so as to find a balance between humanitarian and economic admission;
- include fair treatment for third-country nationals aiming as far as possible to give them comparable rights and obligations to those of nationals of the Member State in which they live;
- develop partnerships with countries of origin including policies of co-development.

This general policy approach was confirmed in 2004 with the adoption of the Hague programme, which set objectives for strengthening freedom, security and justice in the EU during the period 2005-2010.

Some of the most important legal texts adopted in the area of immigration include:

- Council Directive 2003/86/EC on the right to family reunification <sup>(8)</sup>;
- Council Directive 2003/109/EC on a long-term resident status for third country nationals <sup>(9)</sup>;
- Council Directive 2004/114/EC on the admission of students <sup>(10)</sup>, and;
- Council Directive 2005/71/EC for the facilitation of the admission of researchers into the EU <sup>(11)</sup>.
- For more information: http://eur-lex.europa.eu/LexUriServ/site/en/oj/ 2003/l\_251/l\_25120031003en00120018.pdf.
- (9) For more information: http://eur-lex.europa.eu/LexUriServ/site/en/oj/ 2004/l\_016/l\_01620040123en00440053.pdf.
- (10) For more information: http://eur-lex.europa.eu/LexUriServ/site/en/oj/ 2004/L\_375/L\_37520041223en00120018.pdf.
- (11) For more information: http://eur-lex.europa.eu/LexUriServ/site/en/oj/ 2005/l\_289/l\_28920051103en00150022.pdf.

The Commission re-launched in 2005 the debate on the need for a common set of rules for the admission of economic migrants with a Green Paper on an EU approach to managing economic migration <sup>(12)</sup>, which led to the adoption of a 'policy plan on legal migration' at the end of 2005 <sup>(13)</sup>. In July 2006 the Commission adopted a communication on policy priorities in the fight against illegal immigration of third-country nationals <sup>(14)</sup> which aims to strike a balance between security and basic rights of individuals during all stages of the illegal immigration process. In June 2007, Council conclusions on the strengthening of integration policies in the EU by promoting unity in diversity were adopted, while in September 2007, the Commission presented its third annual report on migration and integration <sup>(15)</sup>.

The 1951 Geneva Convention relating to the Status of Refugees (as amended by the 1967 New York Protocol) has for more than 50 years defined who is a refugee, and laid down a common approach towards refugees that has been one of the cornerstones for the development of a common asylum system within the EU. Asylum is a form of protection given by a state on its territory. It is granted to a person who is unable to seek protection in his/her country of citizenship and/or residence, in particular for fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group, or political opinion.

Since the beginning of 1990s, the flow of persons seeking international protection in the EU has been such that the Member States have decided to find common solutions to this challenge. The major aims and principles of a common asylum policy were agreed in October 1999 at the European Council in Tampere. In the longer term, the goal was to create a common asylum procedure and a uniform status for those granted asylum that was valid throughout the EU. The European Commission adopted on 17 February 2006 a communication on strengthened practical cooperation in the area of asylum presenting a vision of how Member States should further cooperate on asylum with a view to the establishment of a fully harmonised EU system. The main goal was to improve the quality of individual decisions, in order to reduce the proportion of challenges to negative decisions, while providing greater consistency, which would hopefully deter secondary movement or multiple demands (as cases would be judged on the same basis across the whole of the EU).

- (12) COM(2004) 811; for more information: http://ec.europa.eu/ justice\_home/doc\_centre/immigration/work/doc/ com\_2004\_811\_en.pdf.
- COM(2005) 669; for more information: http://eur-lex.europa.eu/ LexUriServ/site/en/com/2005/com2005\_0669en01.pdf.
- (14) COM(2006) 402; for more information: http://eur-lex.europa.eu/ LexUriServ/site/en/com/2006/com2006\_0402en01.pdf.
- (15) COM(2007) 512; for more information: http://ec.europa.eu/ justice\_home/fsj/immigration/docs/com\_2007\_512\_en.pdf.

The EU is also focusing on the need for better coordination in partnership with third countries to deal more effectively with root causes and to provide for durable solutions to resolve refugee situations. In this context, the Council has invited the Commission to develop Regional Protection Programmes (RPP) to enhance protection capacity and develop resettlement programmes. A new financial instrument was adopted in March 2004 to establish a programme for financial and technical assistance to third countries in the area of migration and asylum (AENEAS); it is a multi-annual programme for the period 2004-2008.

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There has been further movement towards a common European asylum system through the harmonisation of asylum policies, notably through the adoption of a number of directives in this area. The four main legal instruments on asylum include:

- the Reception Conditions Directive <sup>(16)</sup>;
- the Asylum Procedures Directive <sup>(17)</sup>;
- the Qualification Directive <sup>(18)</sup>, and;
- the Dublin Regulation <sup>(19)</sup>.

These all share the same objective, namely to create an equitable system that forms the foundations of a common European asylum system, on which could be built further structures to safeguard the EU as a single asylum space, while ensuring that protection is given to those who require it. Together these legal instruments provide clear rules about how to assess an application for asylum, how to prevent multiple demands, how to guarantee minimum standards for the reception of asylum-seekers, including housing, education and health, as well as providing a set of criteria for qualifying either as a refugee or subsidiary protection status (covering persons who fall outside the scope of the Geneva Convention but who nevertheless still need international protection, such as victims of generalised violence or civil war).

- (16) Council Directive 2003/9/EC of 27 January 2003; for more information: http://eur-lex.europa.eu/LexUriServ/site/en/oj/2003/\_031/ l\_03120030206en00180025.pdf.
- (17) Council Directive 2005/85/EC of 1 December 2005; for more information: http://eur-lex.europa.eu/LexUriServ/site/en/oj/2005/l\_326/ l\_32620051213en00130034.pdf.
- (18) Council Directive 2004/83/EC of 29 April 2004 on minimum standards for the qualification and status of third country nationals or stateless persons as refugees or as persons who otherwise need international protection and the content of the protection granted; for more information: http://eur-lex.europa.eu/LexUriServ/ LexUriServ.do/uri=CELEX:32004L0083:EN:HTML.
- (19) Council Regulation (EC) No 343/2003 of 18 February 2003 establishing the criteria and mechanisms for determining the Member State responsible for examining an asylum application lodged in one of the Member States by a third-country national; for more information: http://eur-lex.europa.eu/LexUriServ/site/en/oj/2003/L\_050/ I\_05020030225en00010010.pdf.

In addition to this legislative work, solidarity has been enhanced through the creation of the European Refugee Fund (ERF) which fosters solidarity between Member States and promotes balance in the efforts they make in receiving asylum-seekers, refugees and displaced persons, while promoting the social and economic integration of refugees and their return to their countries of origin (if they so wish).

#### **DEFINITIONS AND DATA AVAILABILITY**

Eurostat produces statistics on a range of issues related to international migration and asylum. Data are supplied on a monthly, quarterly and annual basis by national statistical institutes and by ministries of justice and the interior. Whereas some Member States base their migration flow and migrant population stock statistics on population registers, others may use sample surveys or data extracted from administrative procedures such as the issuing of residence permits. Many statistics are currently sent to Eurostat as part of a joint migration data collection organised by Eurostat in cooperation with the United Nations Statistical Division, the United Nations Economic Commission for Europe, the Council of Europe and the International Labour Office.

Most important areas of Community statistics have a clear basis in European law, defining the responsibilities of Member States and of Eurostat in terms of the collection, transmission and publication of data. The migration statistics domain had been unusual in not having a legal base, being instead governed by a series of voluntary agreements between Eurostat and the data suppliers in Member States. While this may have been appropriate in the past, it became clear that the growing policy importance of this subject at both national and European level meant that a more formal approach was necessary. In the autumn of 2005 the Commission adopted a proposal for a regulation on statistics on migration and international protection, which was adopted by the European Parliament and the Council by the summer of 2007 <sup>(20)</sup>. The adoption of the Regulation 862/2007 is designed as a step towards the provision of reliable and harmonised statistics on migration and asylum.

The focus of the Regulation is to provide harmonised statistical definitions based on existing international standards and on European legislation and policy on immigration, asylum and border control issues. Although these definitions must be applied, Member States remain free to use any appropriate data sources, according to national availability and practice. The Regulation allows for the use of scientifically sound estimates in cases where directly observed

data are not available. To allow Member States time to make necessary amendments to their data collection systems, the proposed Regulation also allows for data to be supplied according to national definitions in the first year following its coming into force (2008), which will then be reported in the following year. The Regulation provides a framework which needs to be completed through the adoption of implementing measures in the form of Commission Regulations.

The Regulation covers most of Eurostat's existing statistics on migration related issues. Statistics on immigration and emigration flows, together with statistics on the citizenship and country of birth composition of the resident population, provide information on the impact of migration on the size and structure of the population. Statistics on asylum applications and the subsequent decisions to grant or refuse refugee status or other types of international protection will be adapted somewhat under the Regulation. For example, asylum applications statistics will be collected on a monthly basis as these are needed to allow a continuous monitoring of short-term variations in the origin and numbers of asylum seekers. In comparison, data on appeals against asylum decisions are relatively complex to collect annually.

The only new area of statistics covered by the Regulation is that of residence permits issued to non-EU citizens. These statistics offer a useful insight into the reasons for immigration – as a distinction can be made between permits issued under different immigration rules regarding the reunification of families, economic migrants, and persons admitted as students. A further aspect of the Regulation is that most of the statistics to be collected will include a disaggregation by age and sex. This is of particular interest when trying to monitor policies aimed at preventing the trafficking of women and children.

Acquisition of citizenship includes all those who acquire citizenship of the reporting country, having previously been citizens of another country, or stateless.

Non-nationals of a given country are persons who do not have the nationality of that country on the date in question.

An asylum applicant or an asylum-seeker is defined as a person who has requested protection under: either Article 1 of the 1951 Geneva (amended by the 1967 New York Protocol), or, within the remit of the United Nations Convention Against Torture and other forms of cruel or inhuman treatment (UNCAT) or the European Convention on Human Rights or other relevant instruments of protection. This definition is intended to refer to all who apply for protection on an individual basis, irrespective of whether they lodge their application on arrival at an airport or land border, or from inside the country, and irrespective of whether they entered the territory legally (for example, as a tourist) or illegally.

<sup>(20)</sup> Regulation (EC) No 862/2007 of the European Parliament and of the Council of 11 July 2007; for more information: http://eur-lex.europa.eu/LexUriServ/Site/en/oj/2007/[\_199/ l\_19920070731en00230029.pdf.

For many countries, the number of asylum applications represents the number of individuals who have applied for refugee status. In some other countries, the numbers represent the number of cases. One case may include family members in addition to the principal applicant. Asylum applications are here defined as new applications; they generally include only those claims which were lodged on the territory or at the border of the Member State.

#### **MAIN FINDINGS**

While net migration flows into the EU have been positive and generally rising since the end of the 1980s, there is a volatile nature to the evolution of migration. That said, there has been a significant increase in the number of migrants coming into the EU-27 in recent years: net migration ranged between 1.15 and 2.03 million per annum between 2001 and 2005, while net migration was never over the threshold of a million before 2001. When expressed as a ratio in relation to the total population, immigration accounted for 0.34 % of the total number of inhabitants in the EU-27 in 2005.

The vast majority of the Member States reported positive net migration (including corrections): the only exceptions with negative net migration (including corrections) in 2005 were the Netherlands (-22 800), Poland (-12 900), Lithuania (-8 800), Romania (-7 200) and Latvia (-600). These figures were relatively insignificant in relation to the immigrants outnumbering emigrants in countries such as Spain (641 200), Italy (324 200) or the United Kingdom (193 300). In relative terms, positive net migration accounted for 2.67 % of the population in Luxembourg in 2005, while Cyprus (1.92 %) Ireland (1.59 %) and Spain (1.48 %) were the only other countries to record net migration above the threshold of 1 % of the total population. At the other end of the scale, the loss of population through net migration was equivalent to 0.14 % of the total population in the Netherlands, rising to 0.26 % in Lithuania.

Migration has been the main component of demographic growth in the majority of the EU in recent years. This is particularly true in the Mediterranean countries and some of those Member States which have joined the EU since 2004. In parts of the Czech Republic, Germany, Greece, Italy, Hungary and Slovenia, where natural population change is in decline, net migration plays an important role in preventing widespread population decline. The large variations in migration flows in terms of size and origin reflect, to some degree, traditional patterns of migration, cultural and geographical ties. There are a number of different types of migration that may be identified: among them, economic migration (the search for work), family reunification, retirement, study, or asylum. These differences may explain to some degree the breakdown in age and gender patterns for migration into the different Member States.

Most of the Member States report that the highest share of immigrants are nationals of countries outside of the EU-25 Member States. In some cases a large proportion of the immigrant population are nationals returning to their country of origin – this was particularly the case in 2004 in Denmark, Ireland (2002), Lithuania and Finland. However, Lithuania was the only country where the number of nationals was bigger than number of foreigners in terms of immigration flows.

There are two different categories of person which should be taken into account when studying asylum statistics. The first includes persons who have lodged an asylum claim and whose claim is under consideration by a relevant authority. The second is composed of persons who have been recognised, after consideration, as refugees or have been granted another kind of international protection. Asylum-seekers generally remain within the territory of the Member State concerned during consideration of their claims.

The number of asylum-seekers has decreased over the past few years in the EU, having peaked in 1992 (670 000 applications in the EU-15) and again in 2001 (424 000 applications in the EU-27). By 2006 there were 192 800 asylum applications received in the EU-27. As such, the demographic impact of asylum-seekers within the EU is rather limited, and with a relatively high proportion of applications being rejected, their impact is also often of a temporary nature. Only a minority of asylum applicants are recognised as refugees or are granted subsidiary protection. Over half (57.8 %) of all EU-27 asylum decisions in 2006 resulted in a rejection, while some 55 140 persons were granted refugee status or subsidiary protection the same year.

The acquisition of citizenship is sometimes viewed as an indicator of the formal integration of migrants into their destination country, often requiring a period of legal residence, together with other factors such as language proficiency. Over 650 000 persons acquired the citizenship of an EU country in 2004 among those Member States for which data are available (notably excluding Italy); more than 100 000 persons became citizens of Germany, of France, or of the United Kingdom. Some countries may well face significant labour shortages by 2050, as their baby boom generation become old age pensioners and the relatively low numbers of babies being born today reach working age. Although not a long-term solution to the problems of population ageing, migration policy is one means of redressing such imbalances in the shorter-term. Eurostat population projections show that almost all Member States will be confronted with population decline in the coming decades, as Cyprus, Ireland, Luxembourg, Malta and Sweden are likely to be the only countries that will not see their population decline before 2050. The latest projections assume annual net migration into the EU of around 800 000 persons through to 2050. These projections and their contribution to overall population change may result in some regions being characterised by a higher migrant than indigenous population by 2050 - which may bring both benefits and challenges for society.

Demographic projections exist at a regional level for the movement of people within countries (inter-regional migration) and between countries (international migration). The regions (at NUTS 2 level) which are most likely to see significant patterns of emigration include the northern regions of Finland and Sweden, northern France, southern Italy, Northern Ireland and remote parts of Scotland, as well as a large number of regions in eastern Europe spread across the Czech Republic, Germany, Latvia, Lithuania, Hungary, Poland, Romania and Slovakia. The ten regions that are projected to receive the highest net inflow of inter-regional migrants between 2005 and 2030 include Emilia-Romagna (Italy), Comunidad Valenciana, Castilla-la Mancha and Andalucia (Spain), Köln, Oberbayern, Schleswig-Holstein and Stuttgart (Germany), Mazowieckie (Poland) and Attiki (Greece): note there are no statistics available for France or the United Kingdom. Each of these regions is expected to see its population increase by upwards of 250 000 persons over the period considered as a result of inter-regional migration. Aside from Mazowieckie, each of the ten regions above is also projected to receive an inflow of international migrants, often a considerable number, with a net addition of 566 000 international migrants in the Comunidad Valenciana, 466 000 in Andalucia, 293 000 in Attiki, or 267 000 in Emilia-Romagna. There are a number of other regions which are likely to be more attractive as potential destinations for international migrants, including Cataluña and the Comunidad de Madrid (Spain), or Lombardia and Veneto (Italy). Note that the high figures for international migration into Braunschweig (Germany) and for inter-regional migration flows out of the same region may be explained by the presence of the only admission office in the whole of Germany for ethnic Germans. As such, all national migrants returning to their country of origin are obliged to first register in this region, before moving to their final destination.

### SOURCES

Statistical books The social situation in the European Union 2005-2006

Methodologies and working papers

Demographic outlook – national reports on the demographic developments in 2005 Methodology for the calculation of Eurostat's demographic indicators

#### Website data

#### Demography

Demography – national data Main demographic indicators Population change: absolute numbers and crude rates International migration and asylum Asylum Asylum applications by citizenship Decisions on asylum applications by citizenship – annual data International migration flows Immigration Emigration Emigration

Trend scenario, national level – base year 2004 Trend scenario, regional level – base year 2004

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Table SP.22: Net migration (including corrections)(1 000)

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
EU-27 (1)	661	584	421	524	976	717	1 154	1 852	2 032	1 872	1 661
Euro area (1)	616	560	381	430	831	969	1 2 3 0	1 651	1 790	1 587	1 390
Belgium	2	15	10	12	17	13	36	41	36	36	51
Bulgaria	0	1	0	0	0	0	-214	1	0	0	0
Czech Republic	10	10	12	9	9	7	-43	12	26	19	36
Denmark	29	17	12	11	9	10	12	10	7	5	7
Germany	398	281	93	47	202	168	275	219	142	82	82
Estonia	-16	-13	-7	-7	-1	0	0	0	0	0	0
Ireland	6	16	17	16	24	32	39	33	31	48	66
Greece	77	71	61	55	45	29	38	38	35	41	40
Spain	71	83	94	159	238	390	441	649	625	610	641
France (1)	-15	-19	-14	-1	150	158	173	184	189	105	86
Italy	29	56	50	56	35	50	50	345	612	557	324
Cyprus	6	5	5	4	4	4	5	7	12	16	14
Latvia	-14	-10	-9	-6	-4	-6	-5	-2	-1	-1	-1
Lithuania	-24	-23	-22	-22	-21	-20	-3	-2	-6	-10	-9
Luxembourg	4	3	4	4	4	3	3	3	2	2	12
Hungary	18	18	18	17	17	17	10	4	16	18	17
Malta	0	0	1	0	0	10	2	2	2	2	2
Netherlands	15	21	30	44	44	57	56	28	7	-10	-23
Austria	2	4	2	8	20	17	44	35	38	62	56
Poland	-18	-13	-12	-13	-14	-410	-17	-18	-14	-9	-13
Portugal	22	26	29	32	38	47	65	70	64	47	38
Romania	-26	-25	-22	-11	-8	-10	-4	-2	-7	-10	-7
Slovenia	1	-3	-1	-5	11	3	5	2	4	2	6
Slovakia	3	2	2	1	1	-22	1	1	1	3	3
Finland	4	4	5	4	3	2	6	5	6	7	9
Sweden	12	6	6	11	14	24	29	31	29	25	27
United Kingdom	65	48	58	97	138	144	151	158	178	227	193
Croatia	-175	36	0	-4	-30	-46	15	9	13	12	8
FYR of Macedonia	-1	4	-2	-2	-2	-3	-3	-25	-3	0	-1
Turkey	102	93	101	99	79	58	2	-1	-3	1	-1
Iceland	-1	-1	0	1	1	2	1	0	0	1	4
Liechtenstein	0	0	0	1	0	0	0	0	0	0	0
Norway	6	6	10	13	19	10	8	17	11	13	18
Switzerland	25	-1	-3	11	25	24	41	48	42	38	32

(1) Break in series: until 1998 France includes metropolitan regions only; 2000-2001: corrections due to census.

Source: Eurostat (tps00008)

The difference between immigration into and emigration from the area during the year (net migration is therefore negative when the number of emigrants exceeds the number of immigrants). Since most countries either do not have accurate figures on immigration and emigration or have no figures at all, net migration is estimated on the basis of the difference between population change and natural increase between two dates. The statistics on net migration are therefore affected by all the statistical inaccuracies in the two components of this equation, especially population change.





# **Figure SP.28: Net migration rate (including corrections) (1)** (% of the total population)



(1) Break in series: until 1998 France includes metropolitan regions only; 2000-2001: corrections due to census. *Source:* Eurostat (tps00008 and tps00001)
### Figure SP.29: Net migration (including corrections), 2005

(% of the population)



Source: Eurostat (tps00008 and tps00001)



## Figure SP.30: Immigration by age group, 2004

(%)

(1) 2001.
 (2) Not available.
 (3) 2003.

Source: Eurostat (migr\_immiage)

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## Table SP.23: Immigration by age, 2004

	Total immigrants			Im	migrati	on by ac	ie (% of	total im	migrati	on)		
	(persons)	<15	15-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65+
Belgium	85 378	:	:	:	:	:	:	:	:	:	:	:
Bulgaria	:	:	:	:	:	:	:	:	:	:	:	:
Czech Republic	53 453	7.9	23.4	17.8	13.1	10.6	9.9	7.5	4.8	2.5	1.1	1.3
Denmark	49 860	15.7	35.7	17.5	10.2	7.2	4.4	2.9	2.1	1.7	1.3	1.3
Germany	780 175	9.8	26.1	17.3	12.5	9.7	7.9	6.2	4.2	2.3	1.5	2.5
Estonia	:	:	:	:	:	:	:	:	:	:	:	:
Ireland	70 000	:	:	:	:	:	:	:	:	:	:	:
Greece	:	:	:	:	:	:	:	:	:	:	:	:
Spain	684 561	12.7	22.3	18.0	13.4	9.6	6.7	4.9	3.5	3.0	2.5	3.3
France (1)	140 123	:	:	:	:	:	:	:	:	:	:	:
ltaly (2)	440 301	10.0	19.1	20.5	16.2	11.2	8.3	6.0	3.7	1.8	1.3	2.0
Cyprus	22 003	0.5	23.5	20.1	14.6	11.4	9.2	6.5	5.5	3.4	2.4	2.7
Latvia	1 665	23.2	10.0	9.1	11.7	8.8	10.1	6.1	4.3	4.5	4.0	8.2
Lithuania	5 553	7.7	26.0	19.0	11.8	8.1	7.0	5.8	4.0	3.0	1.9	5.6
Luxembourg	12 495	15.7	20.1	18.8	14.5	10.1	7.2	4.9	3.1	2.7	1.2	1.8
Hungary (2)	21 327	15.6	23.6	17.7	12.0	9.0	6.3	5.3	3.7	2.2	1.6	3.0
Malta	1 052	:	:	:	:	:	:	:	:	:	:	:
Netherlands	94 019	16.1	25.5	18.1	13.4	9.2	6.3	3.9	2.6	1.9	1.1	1.7
Austria	127 399	14.1	27.5	16.9	12.1	8.7	6.4	4.7	3.2	2.2	1.7	2.3
Poland	9 495	19.2	10.5	11.2	11.4	8.2	8.0	8.8	7.3	5.1	3.6	6.8
Portugal (3)	16 761	:	:	:	:	:	:	:	:	:	:	:
Romania (3)	2 987	:	:	:	:	:	:	:	:	:	:	:
Slovenia	10 171	7.5	23.6	16.4	13.0	11.3	9.9	6.8	4.4	2.2	2.2	2.7
Slovakia	10 390	9.5	13.8	13.2	12.8	11.2	10.0	7.8	7.5	5.4	3.7	4.9
Finland	20 333	19.0	19.7	17.7	12.7	9.0	6.2	4.5	3.5	2.6	1.7	3.2
Sweden	62 028	20.8	20.5	18.0	13.0	9.0	6.2	3.8	2.8	2.2	1.6	2.1
United Kingdom	<b>518 097</b>	6.3	37.3	22.7	12.3	8.5	4.9	1.7	2.2	1.7	1.7	0.8

Excluding EU-15 citizens.
 2003.
 Excluding nationals.

Source: Eurostat (migr\_immiage)



Table SP.24: Immigration by gender and by age group, 2004

	Т	otal											
	imm	igrants											
	(pe	rsons)		Immig	ration p	orofile b	oy age (	% shar	e of me	n in ea	ch age g	group)	
	Male	Female	<15	15-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65+
Belgium	:	:	:	:	:	:	:	:	:	:	:	:	:
Bulgaria	:	:	:	:	:	:	:	:	:	:	:	:	:
Czech Republic	34 385	19 068	51.6	56.9	63.4	68.4	70.6	71.8	70.9	72.4	71.6	69.4	52.8
Denmark	25 105	24 755	50.5	44.4	51.9	53.1	56.3	58.6	58.6	56.9	59.7	61.1	55.7
Germany	455 601	324 574	51.5	48.3	58.9	64.2	67.9	69.3	70.2	66.2	60.1	55.7	44.7
Estonia	:	:	:	:	:	:	:	:	:	:	:	:	:
Ireland	39 100	30 900	:	:	:	:	:	:	:	:	:	:	:
Greece	:	:	:	:	:	:	:	:	:	:	:	:	:
Spain	374 321	310 240	51.1	52.9	58.0	59.6	57.9	56.1	52.7	48.2	47.0	49.6	50.7
France	:	:	:	:	:	:	:	:	:	:	:	:	:
ltaly (1)	216 015	224 286	53.1	53.3	54.2	53.0	48.4	39.6	32.7	27.5	34.6	44.3	51.8
Cyprus	10 502	11 501	23.4	45.1	48.8	55.0	46.5	47.9	44.3	44.8	38.2	47.5	60.6
Latvia	994	671	51.0	53.0	57.2	64.6	69.4	70.8	75.2	69.4	62.7	65.7	42.6
Lithuania	2 968	2 585	50.5	49.0	50.7	61.6	65.8	61.6	53.9	66.2	60.6	46.3	31.4
Luxembourg	6 910	5 585	49.9	53.0	52.4	55.0	60.3	62.5	66.7	64.9	64.6	56.6	41.7
Hungary (1)	12 289	9 038	50.9	50.3	59.8	63.2	65.6	68.5	65.5	67.1	57.0	49.4	46.8
Malta	:	:	:	:	:	:	:	:	:	:	:	:	:
Netherlands	46 200	47 819	49.6	42.0	48.2	52.0	53.4	55.5	56.9	55.3	56.8	57.5	51.3
Austria	69 789	57 610	52.4	49.5	55.5	60.1	63.5	61.4	59.3	54.4	53.1	51.8	42.9
Poland	4 800	4 695	50.1	55.2	51.3	52.3	49.2	48.9	50.7	47.6	48.3	52.4	47.8
Portugal	:	:	:	:	:	:	:	:	:	:	:	:	:
Romania	:	:	:	:	:	:	:	:	:	:	:	:	:
Slovenia	7 485	2 686	52.2	71.8	73.5	79.9	80.9	81.5	82.3	76.5	63.5	60.3	51.6
Slovakia	6 329	4 061	51.3	52.2	58.8	64.5	67.0	69.0	70.1	62.6	63.4	61.8	49.8
Finland	10 130	10 203	48.3	45.7	50.9	53.4	54.4	50.0	51.1	47.6	53.6	51.0	47.7
Sweden	30 786	31 242	49.4	44.1	50.8	49.6	51.2	52.6	54.5	53.7	56.4	58.1	53.1
United Kingdom	260 621	257 477	67.2	46.7	46.1	50.3	62.4	65.2	62.6	36.0	42.2	26.3	63.7

(1) 2003.

Source: Eurostat (migr\_immiage)



### Figure SP.31: Immigration by broad group of citizenship, 2004

(% of total immigrants)





# Figure SP.32: Asylum applications, 2006 (1) (persons)

(1) EU-27, 192 765 asylum applications in 2006; euro area, 119 565 asylum applications in 2006.

Source: Eurostat (tps00021)

These figures refer to all persons who apply on an individual basis for asylum or similar protection, irrespective of whether they lodge their application on arrival at the border, or from inside the country, and irrespective of whether they entered the country legally or illegally. Due to different methods of collecting the information, data from different countries may not be entirely comparable.

## Table SP.25: Asylum applications

(persons)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
EU-27	:	:	313 645	380 450	406 585	424 180	421 470	337 235	268 575	227 520	192 765
Euro area	186 525	195 570	231 290	264 060	272 585	269 585	244 035	203 055	163 050	152 680	119 565
Belgium	12 435	11 790	21 965	35 780	42 690	24 505	18 800	13 585	12 400	12 575	8 870
Bulgaria	:	370	835	1 350	1 755	2 430	2 890	1 320	985	700	500
Czech Republic	:	2 110	4 085	7 355	8 790	18 095	8 485	11 400	5 300	3 590	2 730
Denmark	5 895	5 100	5 700	6 530	10 345	12 510	5 945	4 390	3 235	2 280	1 795
Germany	117 335	104 355	98 645	94 775	78 565	88 285	71 125	50 565	35 605	28 915	21 030
Estonia	:	0	25	25	5	10	10	15	10	10	5
Ireland	1 180	3 880	4 625	7 725	10 940	10 325	11 635	7 485	4 265	4 305	4 2 4 0
Greece	1 640	4 375	2 950	1 530	3 085	5 500	5 665	8 180	4 470	9 050	12 265
Spain	4 730	4 975	4 935	8 405	7 925	9 490	6 310	5 765	5 365	5 050	5 295
France	17 405	21 415	22 375	30 905	38 745	47 290	51 085	52 205	50 545	42 580	26 270
Italy	680	1 890	13 100	18 450	15 195	17 400	16 015	13 705	9 630	9 345	10 350
Cyprus	:	:	225	790	650	1 620	950	4 405	9 675	7 715	4 540
Latvia	:	:	35	20	5	15	25	5	5	20	10
Lithuania	:	240	160	145	305	425	365	395	165	100	145
Luxembourg	265	435	1 710	2 930	625	685	1 040	1 550	1 575	800	525
Hungary	1 260	:	7 120	11 500	7 800	9 555	6 410	2 400	1 600	1 610	2 115
Malta	:	70	160	255	160	155	350	455	995	1 165	1 270
Netherlands	22 855	34 445	45 215	39 275	43 895	32 580	18 665	13 400	9 780	12 345	14 465
Austria	6 990	6 720	13 805	20 130	18 285	30 125	39 355	32 360	24 635	22 460	13 350
Poland	600	3 580	3 425	3 060	4 660	4 480	5 170	6 810	7 925	5 240	4 225
Portugal	270	250	355	305	225	235	245	115	115	115	130
Romania	585	1 425	1 235	1 665	1 365	2 280	1 000	885	545	485	380
Slovenia	35	70	335	745	9 245	1 510	650	1 050	1 090	1 550	500
Slovakia	415	645	505	1 320	1 555	8 150	9 745	10 300	11 395	3 550	2 850
Finland	710	970	1 270	3 105	3 170	1 650	3 445	3 090	3 575	3 595	2 275
Sweden	5 775	9 680	12 840	11 220	16 285	23 500	33 015	31 355	23 160	17 530	24 320
United Kingdom	29 640	32 500	46 015	71 160	80 315	71 365	103 080	60 045	40 625	30 840	28 320
Iceland	:	:	:	:	:	:	:	:	:	85	40
Norway	1 780	2 270	8 375	10 160	10 845	14 770	17 480	16 020	7 950	5 400	5 320
Switzerland	18 060	23 185	39 735	43 935	15 780	18 720	24 255	18 920	12 730	8 650	8 580

Source: Eurostat (tps00021)

 Table SP.26: Acquisition of citizenship and asylum applications

 (persons)

						Asylum				
	Acqu citiz	iisition of enship	A: app	sylum lications	Nur de	nber of cisions	of v reject	which, ions (%)	Num positive	ber of decisions
	2004	2005	2005	2006	2005	2006	2005	2006	2005	2006
EU-27	:	:	227 520	192 765	292 285	237 985	61.4	57.8	46 730	55 140
Euro area	:	:	152 680	119 565	202 955	139 655	60.9	68.4	31 855	22 845
Belgium	:	:	12 575	8 870	17 585	8 345	58.8	70.8	3 700	2 440
Bulgaria	:	:	700	500	945	695	40.3	31.0	85	95
Czech Republic	5 020	2 626	3 590	2 730	4 375	3 020	60.2	72.6	330	365
Denmark	14 976	10 197	2 280	1 795	1 325	985	82.7	80.5	230	190
Germany	127 153	117 241	28 915	21 030	48 100	30 760	57.1	57.8	3 120	1 950
Estonia	6 543	7 072	10	5	15	5	69.2	71.4	5	0
Ireland	3 784	4 073	4 305	4 240	5 240	4 245	91.3	90.6	455	395
Greece	:	:	9 050	12 265	10 420	11 180	44.0	85.9	125	195
Spain	38 220	42 860	5 050	5 295	5 140	4 065	93.3	95.0	345	205
France	168 826	154 827	42 580	26 270	51 270	37 715	91.8	92.2	4 185	2 930
Italy	:	:	9 345	10 350	20 055	9 260	36.3	39.8	5 295	5 215
Cyprus	:	3 952	7 715	4 540	5 795	5 585	53.9	31.8	160	170
Latvia	17 178	20 106	20	10	10	15	41.7	7.1	0	10
Lithuania	610	435	100	145	385	445	7.8	6.5	345	395
Luxembourg	841	954	800	525	1 480	890	37.4	55.6	670	370
Hungary	5 432	:	1610	2 115	1 655	2 020	51.6	60.3	190	200
Malta	:	:	1 165	1 270	1 160	1 185	50.1	53.7	520	550
Netherlands	26 171	28 488	12 345	14 465	19 750	14 180	40.9	53.0	8 820	4 345
Austria	41 645	34 876	22 460	13 350	18 585	15 490	29.2	37.9	4 530	4 065
Poland	1 937	2 866	5 240	4 225	8 840	7 280	25.8	12.9	2 145	2 465
Portugal	1 346	:	115	130	90	105	82.0	71.2	15	30
Romania	:	767	485	380	470	365	88.5	74.9	55	55
Slovenia	3 333	2 684	1 550	500	1 785	900	37.3	63.1	25	10
Slovakia	4 016	1 393	3 550	2 850	3 785	2 815	21.8	30.6	25	10
Finland	6 880	5 683	3 595	2 275	3 455	2 520	72.8	61.1	570	695
Sweden	28 893	39 573	17 530	24 320	23 920	46 395	66.6	27.3	5 360	22 745
United Kingdom	140 740	161 755	30 840	28 320	36 650	27 520	75.8	74.2	5 425	5 045
Croatia	8 940	:	:	:	:	:	:	:	:	:
FYR of Macedonia	2 625	2 660	:	:	:	:	:	:	:	:
Turkey	8 2 3 8	6 901	:	:	:	:	:	:	:	:
Iceland	:	:	85	40	85	30	66.3	58.1	0	0
Norway	8 154	12 655	5 400	5 320	7 445	4 215	57.4	48.0	2 480	1 685
Switzerland	35 685	38 437	8 650	8 580	:	:	:	:	:	:

Source: Eurostat (tps00021, tps00024, tps00163 and tps00022)

These figures refer to grants of citizenship of the reporting country to persons who have previously been citizens of another country or who have been stateless.

Data on decisions refer to the date on which a decision was made, not to the date of the asylum application. Data is collected on decisions at 1st instance. Total decisions equals positive decisions + negative decisions + other non-status decisions.

The figures here refer only to grants of refugee status as defined by Article 1 of the Geneva Convention of 28 July 1951 relating to the status of refugees, as amended by the New York Protocol of 31 January 1967. Excluded from these figures are grants of other types of protection status such as humanitarian protection.



Table SP.27: Net migration projections (including corrections) (1) (1 000)

	2006-10	2011-15	2016-20	2021-25	2026-30	2031-35	2036-40	2041-45	2046-50
Belgium	101.7	97.1	95.4	93.7	92.7	92.6	92.6	92.6	92.6
Bulgaria	-58.3	-77.1	-83.1	-54.0	-3.7	13.0	14.2	13.7	13.0
Czech Republic	16.9	-10.2	22.0	85.1	106.8	107.7	105.8	103.4	101.0
Denmark	36.9	36.2	35.5	33.7	33.2	33.2	33.2	33.1	32.9
Germany	1 029.9	1 045.6	1 017.0	947.8	921.1	905.0	903.2	896.3	896.0
Estonia	-9.9	-13.5	-7.2	4.5	8.6	8.9	8.8	8.6	8.5
Ireland	78.1	75.8	72.2	68.1	65.5	64.4	63.4	62.7	62.1
Greece	201.1	201.2	196.4	187.3	175.7	174.2	174.2	174.2	174.5
Spain	999.5	560.1	555.8	543.5	528.6	526.7	525.3	517.2	510.3
France	310.4	311.2	305.7	297.6	294.7	294.3	294.2	293.9	293.6
Italy	631.4	597.0	594.5	583.5	570.5	569.1	569.3	569.1	569.0
Cyprus	31.5	29.9	24.2	22.5	22.8	23.3	23.7	24.0	24.3
Latvia	-12.6	-22.1	-11.7	7.8	14.5	14.9	14.7	14.4	14.2
Lithuania	-29.5	-35.1	-18.7	11.5	22.0	22.9	22.6	22.2	21.8
Luxembourg	14.0	14.2	14.1	14.0	13.9	13.9	13.9	13.9	13.9
Hungary	69.3	33.1	52.2	91.9	105.4	105.7	104.4	102.8	101.0
Malta	12.6	11.5	11.3	11.6	11.9	12.1	12.3	12.5	12.6
Netherlands	157.0	165.3	164.4	160.8	158.6	158.0	157.7	157.0	155.9
Austria	120.2	117.2	107.2	99.7	96.1	96.4	97.8	99.3	101.0
Poland	-158.7	-277.3	-153.7	87.4	172.8	180.4	178.2	174.4	170.1
Portugal	115.3	85.7	79.5	76.2	75.1	74.7	74.6	74.5	74.5
Romania	-68.4	-168.6	-226.5	-148.8	-7.3	41.4	45.8	44.9	43.5
Slovenia	30.1	18.7	22.8	31.7	34.8	34.9	34.6	34.1	33.5
Slovakia	-11.9	-13.7	-2.8	17.9	25.1	25.6	25.2	24.6	24.0
Finland	31.1	31.4	31.0	30.3	30.2	30.2	30.2	30.2	30.2
Sweden	125.2	120.8	116.3	111.0	109.4	108.6	108.0	107.4	106.9
United Kingdom	612.9	552.4	523.0	505.6	497.7	494.7	493.7	492.9	492.6

(1) Absolute figure for the whole period.

Source: Eurostat (proj\_tbp\_asm)

Map SP.4: Net interregional migration (cumulative change), by NUTS 2 regions, 2005-2030 (persons)



Source: Eurostat (proj\_rtbp\_dem\_eve)

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Map SP.5: Net international migration (cumulative change), by NUTS 2 regions, 2005-2030 (persons)



Source: Eurostat (proj\_rtbp\_dem\_eve)

### AN AGEING POPULATION

### **INTRODUCTION**

As has been shown in the previous subchapters, it is likely that the EU will face major challenges in relation to population and workforce ageing brought about by low fertility levels, longer life expectancy, and the baby-boom cohorts entering the age of retirement. While labour supply within the EU is expected to continue rising within the short-term, this trend will almost certainly be reversed in the long-run. The working population as a share of the total population will diminish and there will be an increase in the number of persons not working in relation to the number of people in work.

Old age dependency is likely to result in increased burdens for the working population to provide for the social expenditure that is related to population ageing, in the form of pensions, healthcare and institutional or private care. Increasing labour force participation is one factor that can be used to try to reconcile demographic developments and the social expenditure burden. Pension reforms have already been started in several Member States. In addition, policy makers have also considered ways of creating more flexible working opportunities that may be of interest to the elderly, or delaying the average age when they exit the labour market.

There is growing concern about these trends and in particular about their impact on social security and welfare systems. The ability of the EU as a whole to increase productivity and to make full use of its human resources will play an important role in determining its ability to cope with the socio-economic transformations that are linked to demographic ageing. Much of the care required by the elderly is currently provided by their descendents. However, with an increasing share of older people likely to live apart from their families, the need for professional care can be expected to increase. Moreover, the fastest growing age group in Europe will be those aged over 80. As a result, providing social and healthcare, as well as adapted housing, transport/mobility facilities and other public infrastructures for this population group will be a major challenge. The demand for services of this type will not only depend on the absolute number of elderly persons, but also on their future health.

Employment guidelines, adopted by the European Council in July 2005, reflect the overall EU goal of achieving full employment. The Council confirmed four priorities:

- attracting more people to enter and remain in the labour market;
- improving adaptability of workers and enterprises;
- increasing investments in human capital through better education and skills, and;
- ensuring effective implementation of reforms through better governance.

There has been some progress in employment rates over recent years, although the overall, female and older people's employment rates remain below the Lisbon and Stockholm targets for 2010. Only five of the Member States met the 70 % target for overall employment rates in 2006 (Denmark, the Netherlands, Sweden, the United Kingdom and Austria); for more information on these aspects, please refer to Chapter 5.

There are many measures, such as assisting effective job search, creating attractive working arrangements, ensuring that work pays, and promoting lifelong learning that are considered important when trying to increase labour force participation. Of the numerous initiatives in this field some examples include:

- promoting flexibility combined with security in the labour market;
- promoting childcare and other care services to increase female participation;
- strengthening active labour market policies;
- developing active ageing strategies;
- improving the level, effectiveness and sharing of investments in human capital;
- tackling undeclared work.

In order to address the demographic challenge of an ageing population, the Stockholm European Council of 2001 agreed that half of the EU population in the 55-64 age group should be in employment by 2010. Employment guidelines and a report by the employment taskforce chaired by Wim Kok urged the adoption of a comprehensive active ageing policy centred on appropriate financial incentives to encourage longer working lives, lifelong learning strategies, and improved quality of work. A Commission Green Paper 'faced with demographic change, a new solidarity between the generations' <sup>(21)</sup> concluded that Europe should pursue three priorities:

- modernisation of social protection systems, increasing the rate of female employment and the employment of older workers, innovative measures to support the birth rate and appropriate management of immigration;
- ensuring a balance between the generations, in the sharing of time throughout life, in the distribution of the benefits of growth, and in that of funding needs stemming from pensions and health-related expenditure;
- finding new bridges between the stages of life as young people find it difficult to get into employment. An increasing number of 'young retirees' want to participate in social and economic life. Study time is getting longer and young working people want to spend time with their children. These changes alter the frontiers and the bridges between activity and inactivity.

### **DEFINITIONS AND DATA AVAILABILITY**

Age dependency ratios are important demographic indicators that relate the young and old age population to the population of working age. In this publication the following terminology is used:

Young age dependency ratio: the population aged up to 14 years related to the population aged between 15 and 64 years; old age dependency ratio: the population aged 65 years or older related to the population aged between 15 and 64 years; total dependency ratio: the population aged up to 14 years and aged 65 years or older related to the population aged between 15 and 64 years.

(21) COM(2005) 94 final; for more information: http://ec.europa.eu/ employment\_social/news/2005/mar/comm2005-94\_en.pdf.

#### MAIN FINDINGS

Between 1960 and 2005, the proportion of young people (aged 0 to 14 years) in the European population fell from 26.7 % to 15.9 %. In contrast, the proportion of older persons (aged 65 or more) rose from 8.8 % to 15.9 % during the same period. These trends are projected to continue as a result of continuing low fertility rates and increased life expectancies.

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Europe reported the lowest share of young persons and the highest share of old persons across any of the continents in 2005. For means of comparison, the overall share of young persons in the world population was 28.3 % in 2005, while older generations accounted for 7.3 % of the global population.

Young age dependency ratios in Europe declined over the period 1960 to 2005 from 41.4 % to 23.3 %. Europe recorded the largest increase across the continents in relation to the old age dependency ratio during the period 1960 to 2005. The European old age dependency ratio rose from 13.6 % to 23.3 %, which was almost three times the pace of the next highest increase which was recorded in Oceania, where old age dependency increased from 12.3 % to 15.9 %. In 1960, North America had a population profile where older generations accounted for a higher proportion of the population than in Europe. However, the ageing process is considerably slower on the North American continent, as old age dependency rose from 15.0 % in 1960 to 18.3 % by 2005.

Combining these two sets of indicators, the total dependency ratio in 2005 ranged from 46.6 % in Europe to a high of 81.2 % in Africa, where the vast majority of dependents are children. In Europe the fall in young age dependency has been counterbalanced by an increase in old age dependency, as a result the net change in total dependency has been relatively small in comparison to the most other continents, necessitating a switch in social expenditure to more healthcare and pensions for the elderly. The shift in total dependency ratios between 1960 and 2005 shows that the most significant reductions in dependency were registered in Latin America and the Caribbean, where total dependency fell from 85.9 % in 1960 to 56.5 % by 2005. A similar pattern, although not quite as pronounced, was seen in Asia, where the total dependency ratio fell from 77.6 % to 52.4 %. These significant changes may be largely associated with reductions in fertility rates, coupled with more modest gains in life expectancy. Africa was the only continent to record a smaller reduction in its total dependency ratio than Europe between 1960 and 2005; although there were signs that the young age dependency ratio in Africa had started to fall at a rapid pace during the last decade (between 1995 and 2005).

Age related dependency ratios within the Member States have followed the broad developments outlined above for the whole of the European continent. The young age dependency ratio ranged from 20.0 % in Belgium to 30.4 % in Estonia in 2005, while old age dependency ratios were lowest in Slovakia (16.3 %) and highest in Italy (29.3 %). The total dependency of the EU-27 was 48.8 % in 2006, ranging from 39.5 % in Slovakia to 53.4 % in France. There were an additional six Member States (apart from France) that reported that the young and elderly together were in a majority when compared with those of working age; Germany, Italy, the United Kingdom, Denmark, Belgium and Sweden. Of these, Germany and Italy stood out as having particularly low young age dependency ratios and consequently very high old age dependency ratios, whereas all of the remaining countries reported young age dependency ratios above the EU average; in other words, they are characterised by having relatively high (for Europe) fertility rates.

It is important to consider that these dependency ratios are based on measures that compare the number of children and elderly persons with those of working age, and that no correction is made for those who do (for whatever reason) not work. For example, there has been a decline in activity rates of young adults in recent years, which has been largely driven by increased educational enrolment after compulsory education (see Chapter 2.1), as well as relatively high youth unemployment rates in certain Member States (see Chapter 5.2).

At the other end of the age ladder, there are considerable institutional and social differences in relation to activity rates among the elderly. The highest employment rates among older workers aged 60 or more tend to be recorded in the Nordic countries, in contrast to countries such as France and Austria, where relatively low levels of employment exist among those aged over 60.

A set of maps (8 to 11) are presented showing the evolution of the ratio of persons of working age to those aged 65 or more. These maps show the magnitude of the challenge being faced by Europe in the coming decades. In 1995 there was not a single region within the EU (at the NUTS 2 level) that reported an average of less than 2.5 persons of working age for each person aged 65 or more. By 2005, the situation had barely changed, as Liguria (Italy) was the only region that had surpassed this threshold. Eurostat population projections suggest that an additional five regions would join Liguria by 2015, including three more Italian regions (Toscana, Piemonte and Friuli-Venezia Giulia), and two regions in Germany (Chemnitz and Dessau). By 2025, the number of regions reporting less than 2.5 persons of working age per person aged 65 or more is projected to rise almost 50, approximately a quarter of the regions for which data are available (note that regional projections are not available for France or the United Kingdom). Those regions that are likely to be particularly affected by an ageing population in 2025 are spread across the EU: with 17 of them in Germany, 10 in Italy, 6 in Spain, 4 in Finland and in Sweden, 2 in each of Bulgaria, the Netherlands and Austria, and 1 in Belgium and in Greece.

Eurostat's population projections suggests that by 2050 the EU-27 will have 15 million fewer children (aged up to and including 14) compared with 2005; the share of children in the total population is expected to fall from 16.1 % in 2005 to 13.4 % by 2050. The projections foresee an increase of close to 5 million in the number of persons who will be aged 55 to 64, however, the biggest change will be seen for those aged 65 or more. They accounted for 16.6 % of the total population in 2005, a share that is projected to rise to 29.9 % by 2050. These trends are also reflected in the old age dependency ratio, which is expected to rise above 50 % for the EU-27; as such, for every pensioner there will be less than two persons of working age before 2050.

Germany and Italy will experience the most significant changes in relation to the ageing of their populations in the short-term, with persons aged 65 or more already accounting for upwards of 20 % of their respective populations by 2010. The highest shares of elderly people by 2050 are expected in Spain (35.7 % of the Spanish population), Italy (35.3 %), Bulgaria (33.5 %) and Greece (32.5 %). In contrast, the ageing phenomenon is projected to be least apparent in Luxembourg (where elderly people aged 65 or more will account for 22.1 % of the total population), the Netherlands (23.5 %) and Denmark (24.1 %).

While old age dependency ratios are expected to increase considerably, young age dependency ratios are projected to remain almost unchanged, rising only slightly as a result of modest increases in fertility in a number of Member States. The total dependency ratio of the EU-27 is projected to increase from 48.8 % in 2006 to 77 % by 2050. This means that whereas in 2004 there was one inactive person (young or elderly) for every two persons of working age, in 2050 there would be three inactive persons for every four of working age.

The growth of the population aged 80 or more will be even more pronounced as more people are expected to survive to higher ages. The proportion of very old people (aged 80 and more) is projected to almost triple in the EU-27, such that this cohort will account for a double-digit share of the total population by 2050, with more than 50 million people.

### SOURCES

### **Statistical books**

The social situation in the European Union 2005-2006 Population statistics (with CD-Rom) European social statistics – demography

Pocketbooks Living conditions in Europe – statistical pocketbook – data 2002-2005

### Methodologies and working papers

Demographic outlook – national reports on the demographic developments in 2005 Methodology for the calculation of Eurostat's demographic indicators Demographic statistics: definitions and methods of collection in 31 European countries

### Website data

### Demography

Demography – national data Main demographic indicators First demographic estimates Population change: absolute numbers and crude rates Population Average population by sex and five-year age groups Population by sex and age on 1 January of each year Population structure indicators on 1 January Demography – regional data Population and area Population at 1 January by sex and age from 1990 onwards Annual average population by sex

Trend scenario, national level – base year 2004 Trend scenario, regional level – base year 2004 71

### Figure SP.33: Proportion of the population aged under 15

(% of total population)



(1) EU-27, Albania, Andorra, Belarus, Bosnia and Herzegovina, Croatia, Faeroe Islands, Iceland, Liechtenstein, the former Yugoslav Republic of Macedonia, Republic of Moldova, Montenegro, Norway, the Russian Federation, Serbia, Switzerland and the Ukraine.

Source: Eurostat (tsieb040)

## Figure SP.34: Proportion of the population aged 65 and over





Yugoslav Republic of Macedonia, Republic of Moldova, Montenegro, Norway, the Russian Federation, Serbia, Switzerland and the Ukraine.

Source: Eurostat (prc\_hicp\_aind and tsieb040)

### Table SP.28: Proportion of the population

(% of total population)

	Under 15 years old						Over 65 years old					
	1960	1970	1980	1990	2000	2005	1960	1970	1980	1990	2000	2005
World	37.0	37.4	35.3	32.6	30.2	28.3	5.3	5.4	5.9	6.1	6.9	7.3
Europe (1)	26.7	25.3	22.2	20.5	17.5	15.9	8.8	10.5	12.4	12.7	14.7	15.9
Africa	43.5	44.7	44.9	44.7	42.5	41.4	3.1	3.2	3.1	3.1	3.3	3.4
Asia	39.6	40.3	37.6	33.5	30.5	28.0	4.1	3.9	4.3	4.8	5.8	6.4
Latin America and the Caribbean	42.5	42.5	39.5	36.2	31.8	29.8	3.7	4.0	4.4	4.8	5.7	6.3
North America	31.1	28.5	22.5	21.7	21.3	20.5	9.0	9.7	11.0	12.1	12.3	12.3
Oceania	33.3	32.4	29.6	26.6	25.8	24.9	7.3	7.1	8.0	9.1	9.8	10.3

(1) EU-27, Albania, Andorra, Belarus, Bosnia and Herzegovina, Croatia, Faeroe Islands, Iceland, Liechtenstein, the former Yugoslav Republic of Macedonia, Republic of Moldova, Montenegro, Norway, the Russian Federation, Serbia, Switzerland and the Ukraine.

Source: Eurostat (demo\_pjanind), United Nations, Population Division of the Department of Economic and Social Affairs

Figure SP.35: Young age dependency ratio

(%)



(1) EU-27, Albania, Andorra, Belarus, Bosnia and Herzegovina, Croatia, Faeroe Islands, Iceland, Liechtenstein, the former Yugoslav Republic of Macedonia, Republic of Moldova, Montenegro, Norway, the Russian Federation, Serbia, Switzerland and the Ukraine.

Source: Eurostat (demo\_pjanind), United Nations, Population Division of the Department of Economic and Social Affairs

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### Figure SP.36: Old age dependency ratio

(%)



(1) EU-27, Albania, Andorra, Belarus, Bosnia and Herzegovina, Croatia, Faeroe Islands, Iceland, Liechtenstein, the former Yugoslav Republic of Macedonia, Republic of Moldova, Montenegro, Norway, the Russian Federation, Serbia, Switzerland and the Ukraine.

Source: Eurostat (demo\_pjanind), United Nations, Population Division of the Department of Economic and Social Affairs



# Figure SP.37: Breakdown of the population by age, 2006 (%)

Source: Eurostat (demo\_pjanind)

# Table SP.29: Age related dependency ratios (%)

_	Young age dependency ratio						Old age dependency ratio					
	1960	1970	1980	1990	2000	2005	1960	1970	1980	1990	2000	2005
EU-27	:	:	:	29.2	25.7	24.0	:	:	:	20.6	23.2	24.6
Euro area	:	:	:	27.0	24.4	23.6	:	:	:	21.0	24.3	26.1
Belgium	39.4	33.9	33.5	30.9	23.4	20.0	11.2	14.0	17.8	19.5	23.8	24.8
Bulgaria	39.5	32.0	37.0	33.0	23.9	21.0	14.6	17.9	21.6	19.0	19.8	19.8
Czech Republic	39.8	36.4	32.7	25.5	27.6	28.4	16.4	18.9	22.2	23.2	22.2	22.7
Denmark	31.1	36.8	28.6	23.1	23.1	21.6	17.0	21.4	23.9	21.6	23.9	27.8
Germany	:	33.3	32.8	33.7	27.3	22.7	:	17.7	19.0	17.5	22.4	24.3
Estonia	53.2	54.2	51.8	44.7	32.8	30.4	19.2	19.3	18.2	18.6	16.8	16.4
Ireland	37.6	37.5	36.2	29.3	22.9	21.4	14.2	17.2	20.6	20.4	24.2	26.8
Greece	42.6	44.2	41.2	30.5	21.8	21.1	12.7	15.2	17.1	20.2	24.5	24.4
Spain	:	:	:	:	29.3	28.7	:	:	:	:	24.3	24.9
France	42.2	40.0	35.4	30.5	29.0	28.3	18.7	20.6	22.1	21.1	24.6	25.2
Italy	37.4	38.1	35.1	24.5	21.2	21.3	14.0	16.7	20.3	21.5	26.8	29.3
Cyprus	:	:	:	41.2	34.5	27.9	:	:	:	17.2	17.0	17.3
Latvia	:	32.8	30.7	32.1	26.7	21.6	:	18.0	19.6	17.7	22.1	24.1
Lithuania	:	43.2	36.2	33.9	30.6	25.2	:	15.9	17.4	16.2	20.8	22.3
Luxembourg	31.5	33.8	28.1	24.9	28.3	27.9	15.9	19.1	20.3	19.3	21.4	21.3
Hungary	38.7	31.3	33.8	31.0	24.8	22.8	13.6	17.0	20.9	20.0	22.0	22.7
Malta	:	:	36.1	35.8	30.2	25.6	:	:	12.5	15.7	17.9	19.3
Netherlands	49.1	43.8	34.3	26.4	27.4	27.3	14.6	16.2	17.4	18.6	20.0	20.8
Austria	33.0	39.5	32.4	26.0	25.4	23.7	18.4	22.7	24.3	22.1	22.9	23.5
Poland	54.5	42.0	36.8	39.0	28.6	23.8	9.5	12.6	15.5	15.4	17.6	18.7
Portugal	46.8	46.8	41.6	31.6	24.0	23.2	12.4	14.9	17.8	20.0	23.7	25.2
Romania	:	39.8	42.1	36.0	27.7	22.8	:	13.0	16.3	15.6	19.7	21.1
Slovenia	:	37.7	34.6	30.6	23.0	20.4	:	14.8	16.4	15.5	19.8	21.8
Slovakia	51.1	43.4	41.2	39.6	28.8	23.9	11.1	14.4	16.7	16.0	16.6	16.3
Finland	49.4	37.7	30.2	28.7	27.2	26.2	11.6	13.6	17.6	19.8	22.2	23.8
Sweden	34.5	31.8	30.9	27.7	28.8	27.0	17.8	20.7	25.3	27.7	26.9	26.5
United Kingdom	35.9	38.2	33.2	29.0	29.4	27.4	18.0	20.5	23.3	24.1	24.3	24.3
Croatia	:	:	:	29.0	24.4	23.8	:	:	:	17.0	24.4	24.9
FYR of Macedonia	:	:	:	:	33.3	28.9	:	:	:	:	14.6	15.8
Turkey	74.7	77.7	69.7	57.6	46.6	43.7	6.4	8.2	8.4	7.1	8.3	8.9
Iceland	60.9	56.4	44.3	38.8	35.8	33.9	:	15.0	15.7	16.4	17.8	17.9
Liechtenstein	44.7	43.5	33.1	27.4	26.3	24.7	16.2	12.3	12.9	14.2	14.8	15.6
Norway	41.3	39.1	35.5	29.2	30.8	30.1	14.0	20.4	23.3	25.2	23.5	22.4
Switzerland	36.8	36.5	30.2	24.9	25.9	23.9	12.3	17.3	20.9	21.3	22.7	23.3

Source: Eurostat (demo\_pjanind)



Map SP.6: Ratio of persons of working age to those aged 65 or more, by NUTS 2 regions, 1995

Source: Eurostat (d2jan and proj\_rtbp\_pop)

-11-

Map SP.7: Ratio of persons of working age to those aged 65 or more, by NUTS 2 regions, 2005



Source: Eurostat (d2jan and proj\_rtbp\_pop)



Map SP.8: Ratio of persons of working age to those aged 65 or more, by NUTS 2 regions, 2015

Source: Eurostat (d2jan and proj\_rtbp\_pop)

-11-

Map SP.9: Ratio of persons of working age to those aged 65 or more, by NUTS 2 regions, 2025



Source: Eurostat (d2jan and proj\_rtbp\_pop)

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### Figure SP.38: Proportion of the population aged under 15

(%)



(1) EU-27, Albania, Andorra, Belarus, Bosnia and Herzegovina, Croatia, Faeroe Islands, Iceland, Liechtenstein, the former Yugoslav Republic of Macedonia, Republic of Moldova, Montenegro, Norway, the Russian Federation, Serbia, Switzerland and the Ukraine.

Source: Eurostat (proj\_tbp\_pop), United Nations, Population Division of the Department of Economic and Social Affairs

# Figure SP.39: Proportion of the population aged 65 and over (%)



 EU-27, Albania, Andorra, Belarus, Bosnia and Herzegovina, Croatia, Faeroe Islands, Iceland, Liechtenstein, the former Yugoslav Republic of Macedonia, Republic of Moldova, Montenegro, Norway, the Russian Federation, Serbia, Switzerland and the Ukraine.

Source: Eurostat (proj\_tbp\_pop), United Nations, Population Division of the Department of Economic and Social Affairs



Table SP.30: Proportion of the population aged under 15 (%)

	2005	2010	2020	2030	2040	2050
EU-27	16.1	15.4	14.8	14.0	13.4	13.4
Euro area	15.7	15.4	14.6	13.6	13.2	13.1
Belgium	17.1	16.4	15.7	15.4	14.8	14.7
Bulgaria	13.8	12.8	12.4	11.0	11.0	11.5
Czech Republic	14.9	13.6	13.8	12.9	12.1	12.6
Denmark	18.8	18.0	16.0	16.3	16.5	15.7
Germany	14.5	13.7	13.0	12.7	12.0	11.9
Estonia	15.4	14.7	16.4	15.1	13.8	14.8
Ireland	20.8	21.0	19.8	16.9	16.1	16.0
Greece	14.4	14.2	14.0	12.6	12.1	12.3
Spain	14.6	14.8	14.2	11.7	11.3	11.5
France	18.5	18.2	17.2	16.3	16.0	15.8
Italy	14.2	14.0	12.9	11.6	11.4	11.2
Cyprus	19.4	16.6	15.4	15.3	13.4	13.3
Latvia	14.8	13.7	16.2	15.1	13.4	14.8
Lithuania	17.1	14.9	15.0	14.7	13.4	13.7
Luxembourg	18.7	17.9	17.0	17.3	17.0	16.6
Hungary	15.7	14.6	14.4	14.1	13.6	13.8
Malta	17.8	16.2	15.7	15.4	14.6	14.5
Netherlands	18.5	17.8	16.3	16.2	16.3	15.8
Austria	16.1	14.9	14.0	13.5	12.6	12.3
Poland	16.7	14.7	14.5	14.2	12.9	13.0
Portugal	15.7	15.7	15.1	13.4	13.1	13.1
Romania	15.9	15.1	14.9	13.1	12.3	12.5
Slovenia	14.3	13.5	13.5	12.9	12.1	12.8
Slovakia	17.0	15.0	14.2	13.5	12.6	12.8
Finland	17.5	16.5	16.1	15.8	15.2	15.3
Sweden	17.6	16.5	17.1	16.9	16.2	16.3
United Kingdom	18.0	17.0	16.3	15.8	14.9	14.7

Source: Eurostat (proj\_tbp\_pop)

# Table SP.31: Proportion of the population aged 65 and over (%)

	2005	2010	2020	2030	2040	2050
EU-27	16.6	17.5	20.6	24.5	28.1	29.9
Euro area	17.5	18.5	21.4	25.6	29.6	31.1
Belgium	17.2	17.5	20.5	24.7	27.3	27.7
Bulgaria	17.2	17.8	21.7	25.6	29.2	33.5
Czech Republic	14.0	15.5	20.8	23.6	26.8	31.0
Denmark	15.0	16.3	20.0	22.6	24.7	24.1
Germany	18.6	20.4	22.6	27.5	31.1	31.5
Estonia	16.4	16.9	18.7	21.2	23.1	25.7
Ireland	11.2	11.8	14.7	18.3	22.2	26.2
Greece	18.1	18.8	21.1	24.6	29.2	32.5
Spain	16.8	17.2	19.8	24.7	31.2	35.7
France	16.5	16.8	20.7	24.2	26.8	27.3
Italy	19.5	20.5	23.3	27.5	33.1	35.3
Cyprus	12.1	13.4	17.2	21.0	22.9	26.1
Latvia	16.5	17.4	18.4	21.3	23.5	26.1
Lithuania	15.2	16.1	17.5	21.4	24.4	26.7
Luxembourg	14.2	14.6	16.5	19.8	22.3	22.1
Hungary	15.6	16.7	20.3	22.3	24.8	28.1
Malta	13.2	14.2	19.4	22.4	22.5	24.7
Netherlands	14.0	14.9	18.8	22.5	24.6	23.5
Austria	16.0	17.7	20.0	25.1	29.3	30.4
Poland	13.1	13.5	18.2	22.6	24.8	29.4
Portugal	17.0	17.7	20.3	24.3	28.5	31.9
Romania	14.7	14.8	17.1	19.8	24.9	29.6
Slovenia	15.3	16.5	20.4	25.1	28.4	31.1
Slovakia	11.6	12.3	16.3	20.8	24.1	29.3
Finland	15.8	16.9	22.6	26.1	26.7	27.0
Sweden	17.2	18.3	21.2	23.1	24.6	24.3
United Kingdom	16.1	16.6	19.5	22.9	25.9	26.6

Source: Eurostat (proj\_tbp\_pop)

# Economy





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Economic and social progress and constant improvements in living and working conditions are fundamental objectives for the EU. Over the last five decades policy makers have strived to improve economic integration (through removing barriers to the free movement of goods, services, money and people) with the goal of creating more jobs and economic growth. Much has been achieved: such as the customs union, then the single market and, more recently, economic and monetary union (EMU). The chief objective of the Single European Act was to add new momentum to the process of the European construction so as to complete the internal market <sup>(22)</sup>. Since 1993 the European single market has strongly enhanced the possibilities for people, goods, services and money to move around Europe as freely as within a single country. These freedoms, foreseen from the outset of the EC in the Treaty establishing the European Economic Community of 1957 have been designed: to allow individuals the right to live, work, study or retire in another Member State; to increase competition leading to lower prices, a wider choice of things to buy and higher levels of protection for consumers; and to make it easier and cheaper for businesses to interact across borders.

(22) For more information: http://europa.eu/scadplus/treaties/singleact\_en.htm.

### EUROSTAT DATA IN THIS DOMAIN:

**Economy and finance** 

Main economic indicators National accounts (including GDP) Government statistics Financial accounts Exchange rates Interest rates Monetary and other financial statistics Prices Balance of payments – International transactions It is now easier to travel across the EU's internal frontiers, in particular within the Schengen area, or to order a wide range of products that may be delivered from all over the EU. According to the European Commission, the single market has created 2.5 million new jobs since 1993 and generated more than EUR 800 000 million in extra wealth, through abolishing tariffs and quotas, as well as technical and administrative obstacles to free trade <sup>(23)</sup>. The creation of the single market increased incentives to liberalise previously protected monopoly markets for utilities such as telecommunications, electricity, gas and water. As a result, many households and industries across Europe are increasingly able to choose who supplies them with related services. Nevertheless, there remain areas, for example in relation to financial services and transportation, where separate national markets still exist.

(23) For more information: http://europa.eu/pol/overview\_en.htm.

The Council and Parliament of the EU adopted in 2005 the 'Integrated Guidelines Package' <sup>(24)</sup> which is a roadmap for spurring growth and creating jobs in a socially cohesive and environmentally responsible EU for the period 2005 to 2008. This package represents a comprehensive strategy of macro-economic, microeconomic and employment policies. Under the package, Member States draw up national reform programmes, using the tax and social welfare policy mix they think best suits national circumstances.

(24) For more information: http://eur-lex.europa.eu/LexUriServ/site/en/oj/ 2005/l\_205/l\_20520050806en00210027.pdf.

### 1.1 NATIONAL ACCOUNTS – ECONOMIC OUTPUT

### **INTRODUCTION**

The most frequently used measure for the overall size of an economy is gross domestic product (GDP). It corresponds to the total monetary value of all production activity in a certain geographic area. GDP at market prices is the final result of the production activity of all producer units within a certain area (for example, a national territory), no matter whether the units are owned by nationals or foreigners.

GDP, and in particular GDP per capita, is one of the main indicators used for economic analysis, as well as spatial and/or temporal comparisons.

#### **DEFINITIONS AND DATA AVAILABILITY**

GDP can be defined and calculated in three ways:

- the output approach as the sum of gross value added of the various institutional sectors or the various industries, plus taxes and less subsidies on products;
- the expenditure approach as the sum of final uses of goods and services by resident institutional units (final consumption and gross capital formation), plus exports and minus imports of goods and services;
- the income approach as the sum of the compensation of employees, net taxes on production and imports, gross operating surplus and mixed income.

These three different approaches are covered in the opening three sections of this chapter.

Data within the national accounts domain encompasses information on GDP and its components, employment, final consumption aggregates, income, and savings. Many of these annual variables are also calculated on quarterly basis. Breakdowns exist for certain variables by economic activity (industries, as defined by NACE), investment products, final consumption purpose (as defined by COICOP) and institutional sectors.

Gross value added is defined as the value of all newly generated goods and services less the value of all goods and services consumed in their creation; the depreciation of fixed assets is not included. When calculating value added, output is valued at basic prices and intermediate consumption at purchasers' prices. Taxes less subsidies on products have to be added to value added to obtain GDP at market prices.

An analysis of the economy of different countries can be facilitated by studying GDP per capita, so removing the influence of the absolute size of the population. GDP per capita is a broad economic indicator of living standards, and a basic measure of the competitiveness of an economy. The volume index of GDP per capita in purchasing power standards (PPS) is expressed in relation to the EU average set to equal 100. If the index of a country is higher/lower than 100, this country's level of GDP per head is above/below the EU-27 average. Such comparisons of the wealth and competitiveness of countries should ideally be made using a PPS based series. To do this, measures of GDP in national currencies are converted into a common currency using purchasing power parities (PPPs) that reflect the purchasing power of each currency, rather than using market exchange rates. GDP per capita in purchasing power standards (the common currency), therefore eliminates

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differences in price levels between countries and also allows a comparison between economies of different absolute sizes. Note that the index, calculated from PPS figures is intended for cross-country comparisons rather than for temporal comparisons.

The calculation of the annual growth rate of GDP at constant prices is intended to allow comparisons of the dynamics of economic development both over time and between economies of different sizes, irrespective of price levels.

A further set of national accounts data is used within the context of competitiveness analyses, namely indicators relating to the productivity of the workforce, such as labour productivity measures. GDP in PPS per person employed is intended to give an overall impression of the productivity of national economies. It should be kept in mind, though, that this measure depends on the structure of total employment and may, for instance, be lowered by a shift from full-time to part-time work. GDP in PPS per hour worked therefore gives a clearer picture of productivity, through the use of a more reliable measure of labour input.

The breakdown of the gross value added generated by particular industries is presented in terms of six NACE Rev. 1 headings, covering: agriculture, hunting and fishing; industry; construction; trade, transport and communication services; business activities and financial services, and; other services.

### **MAIN FINDINGS**

EU-27 GDP was EUR 11 583 403 million in 2006, with the euro area accounting for 72.8 % of the total. The sum of the four largest EU economies (Germany, the United Kingdom, France and Italy) accounted for almost two thirds (64.7 %) of the EU-27's GDP in 2006. Cross-country comparisons should be made with caution and it is necessary to consider the effect of exchange rate fluctuations when analysing data. For example, the apparent fluctuation of GDP in the United States is, to a large degree, a reflection of a strong dollar between 2001 and 2003 and a subsequent reversal to a strong euro thereafter, rather than any inherent change in the level of GDP in dollar terms (which has continued to rise).

Having grown at an average rate of around 3 % per annum during the late 1990s, real GDP growth slowed considerably after the turn of the millennium, to just above 1 % per annum in both 2002 and 2003. The latest data available for 2006 showed a recovery, as the EU-27's economic output rose, once again, by around 3 % per annum.

In order to look at standards of living one of the most frequently cited statistics is that of GDP per capita. This indicator averaged EUR 23 500 in 2006 in the EU-27, with Luxembourg reporting by far the highest GDP per capita (EUR 71 600) across the Union. Even after accounting for the relatively high cost of living in Luxembourg, GDP per capita in PPS terms remained almost twice as high as in any other Member State. This is partly explained by the importance of cross-border workers in Luxembourg. The lowest levels of GDP per capita among the Member States were recorded in Bulgaria and Romania, where living standards (again in PPS terms) were approximately 40 % of the EU-27 average in 2006.

In recent years, labour productivity among those Member States that joined the EU since 2004, in particular the Czech Republic, Hungary, Slovakia and the Baltic Member States has been converging quickly towards the EU-27 average.

There has been a considerable shift in the economic structure of the EU economy in the last few decades, with the proportion of gross value added accounted for by agriculture and industry falling, while that for most services was rising. This change is, at least in part, a result of phenomena such as technological change, the evolution of relative prices, and globalisation, often resulting in manufacturing bases being moved to lower labour-cost regions. More than one guarter (27.7 %) of the EU-27's gross value added was accounted for by business activities and financial services in 2006. There were three other branches that also contributed significant shares of just over one fifth of total value added, namely other services, which is largely made up of public administrations, education and health systems, as well as other community, social and personal service activities (22.5 %); trade, transport and communication services (21.3 %); and industry (20.3 %). The remainder of the economy was divided between construction (6.2 %) and agriculture, hunting and fishing (1.9 %).

As such, the three groups of services identified above accounted for 71.5 % of total gross value added in the EU-27 in 2006. The relative importance of services was particularly high in Luxembourg, France and the United Kingdom, as well as the holiday destinations of Cyprus and Malta. Services accounted for more than three quarters of total value added in each of these five countries.



### SOURCES

Pocketbooks EU economic data pocketbook – Quarterly

Methodologies and working papers

European system of accounts ESA 1995 Handbook on quarterly national accounts Handbook on price and volume measures in national accounts Eurostat-OECD Methodological manual on purchasing power parities NACE Rev. 1 – Statistical classification of economic activities in the European Community

### Dedicated sections on the Eurostat website

ESA 95 Input-Output Tables EU Klems

### Website data

### Main economic indicators

Economy overview Economy – Structural Indicators Economy – Euro-Indicators National accounts (including GDP)

Annual national accounts Quarterly national accounts Supply, use and input-output tables



Figure 1.1: GDP per capita at current market prices, 2006

(1) Estimates.

Source: Eurostat (tec00001 and nama\_gdp\_c)

GDP (gross domestic product) is an indicator for a nation's economic situation. It reflects the total value of all goods and services produced less the value of goods and services used for intermediate consumption in their production. Expressing GDP in PPS (purchasing power standards) eliminates differences in price levels between countries, and calculations on a per head basis allows for the comparison of economies significantly different in absolute size.

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## Table 1.1: GDP per capita at current market prices(PPS, EU-27=100)

											GDP	GDP
											capita,	capita,
											2006	2006
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	(PPS)	(EUR)
EU-27	100	100	100	100	100	100	100	100	100	100	23 500	23 500
Euro area	115	115	114	114	114	113	112	111	111	110	25 800	26 600
Belgium	126	123	124	126	124	126	124	124	124	123	28 900	30 000
Bulgaria	27	27	27	28	29	31	33	34	35	37	8 700	3 300
Czech Republic	73	71	70	69	71	71	74	76	77	79	18 600	11 100
Denmark	134	133	131	132	128	129	125	124	126	127	29 700	40 500
Germany	125	123	123	119	117	116	117	116	115	114	26 700	28 200
Estonia	41	42	42	45	46	50	55	57	63	68	15 900	9 800
Ireland	115	122	127	131	133	139	141	142	144	143	33 500	41 100
Greece	85	84	83	84	88	91	92	93	95	97	22 700	19 300
Spain	94	96	97	98	99	101	101	101	103	102	24 000	22 300
France	115	116	115	116	116	116	112	112	114	113	26 500	28 400
Italy	120	120	118	117	118	112	111	108	105	104	24 300	25 100
Cyprus	86	87	88	89	91	90	89	92	94	93	21 900	18 900
Latvia	35	36	36	37	39	41	44	45	50	56	13 100	7 100
Lithuania	38	40	39	39	42	44	49	51	54	58	13 500	7 000
Luxembourg	216	218	238	245	235	241	248	253	263	279	65 400	71 600
Hungary	52	53	54	56	59	62	64	64	65	65	15 300	8 900
Malta	81	81	81	84	78	80	79	76	76	76	17 700	12 400
Netherlands	128	129	131	135	134	134	130	130	132	132	31 000	32 700
Austria	133	133	133	134	128	128	129	129	129	129	30 200	31 100
Poland	47	48	49	48	48	48	49	51	51	53	12 400	7 100
Portugal (1)	76	77	79	78	78	77	77	75	75	74	17 500	14 700
Romania	:	:	26	26	28	29	31	34	34	38	8 800	4 500
Slovenia	76	77	79	79	79	81	82	85	87	89	20 800	15 200
Slovakia	52	52	51	50	53	54	56	57	60	64	14 900	8 300
Finland	111	115	116	118	116	116	114	116	114	116	27 300	31 700
Sweden	123	122	124	125	120	119	120	120	119	120	28 200	33 700
United Kingdom	117	116	116	117	118	119	120	122	120	119	27 900	31 500
Croatia	43	44	42	43	44	46	48	49	50	50	11 700	7 700
FYR of Macedonia	27	27	27	27	25	25	26	26	27	28	6 500	2 500
Turkey	32	32	29	30	26	27	27	28	29	29	6 900	4 400
lceland	138	141	140	132	133	130	126	131	135	136	31 900	43 500
Norway	148	139	146	166	162	155	157	165	179	187	44 000	57 500
Switzerland	151	150	147	145	140	140	136	136	135	136	31 900	40 900
Japan	127	121	118	117	115	112	112	113	114	114	26 700	27 200
United States	160	160	162	159	155	152	152	153	155	155	36 300	35 000

(1) Break in series, 2003.

Source: Eurostat (tsieb011)

Gross domestic product (GDP) is a measure for the economic activity. It is defined as the value of all goods and services produced less the value of any goods or services used in their creation. The volume index of GDP per capita in purchasing power standards (PPS) is expressed in relation to the European Union (EU-27) average set to equal 100. If the index of a country is higher than 100, this country's level of GDP per head is higher than the EU average and vice versa. Basic figures are expressed in PPS, i.e. a common currency that eliminates the differences in price levels between countries allowing meaningful volume comparisons of GDP between countries. Please note that the index, calculated from PPS figures and expressed with respect to EU-27=100, is intended for cross-country comparisons rather than for temporal comparisons.



### Table 1.2: GDP at current market prices (EUR 1 000 million)

EU-27 (%) EU-27 7 3 5 3 7 7 5 9 8 1 3 0 8 5 4 5 9 1 6 0 9 5 3 6 9 8 9 3 10 0 5 7 10 555 10 991 11 583 100.0 Euro area 5 762 5 891 6 1 1 9 6 4 0 0 7 0 2 6 7 2 7 1 7 4 8 5 7 7 8 7 8 0 5 4 8 4 3 3 72.8 Belgium 2.7 **Bulgaria** 0.2 **Czech Republic** 1.0 Denmark 1.9 Germany 1 922 2 0 1 2 2 063 2 1 1 3 2 1 4 3 2 164 2 2 1 1 2 2 4 5 2 322 20.0 0.1 Estonia Ireland 1.5 1.8 Greece 8.5 Spain 1 2 4 0 1 368 1 4 4 1 1 4 9 7 15.5 France 1 3 1 5 1 660 1 053 1 087 1 2 4 9 1 2 9 5 1 335 1 391 1 4 2 3 1 4 7 5 12.7 Italy Cyprus 0.1 0.1 Latvia Lithuania 0.2 Luxembourg 0.3 Hungary 0.8 Malta 0.0 Netherlands 4.6 Austria 2.2 Poland 2.3 Portugal 1.3 Romania 8.0 Slovenia 0.3 Slovakia 0.4 Finland 1.4 2.6 Sweden **United Kingdom** 1 1 7 9 1 280 1 384 1 573 1 613 1 679 1 616 1 7 4 5 1 805 1 9 1 0 16.5 0.3 Croatia FYR of Macedonia 0.0 Turkey 2.8 Iceland 0.1 Liechtenstein 2.3 Norway 2.7 Switzerland 3 759 Japan 3 6 5 2 3 4 4 8 4 102 5 0 5 7 4 580 4 162 3 7 4 4 3 7 0 7 3 663 3 477 30.0 **United States** 6 1 5 6 7 323 7 802 9 690 9 395 9 9 9 4 10 5 0 9 90.7 8 696 10 629 11 309 11 072

Source: Eurostat (tec00001), Secrétariat de l'Etat à l'Economie, Economic and Social Research Institute,

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Share of

### Figure 1.2: GDP at current market prices

(EUR 1 000 million)



Source: Eurostat (tec00001)

### Figure 1.3: Real GDP growth, EU-27

(% change compared with the previous year)



Source: Eurostat (tsieb012 and tsdec100)

Gross domestic product (GDP) is a measure of the results of economic activity. It is the value of all goods and services produced less the value of any goods or services used in producing them. The calculation of the annual growth rate of GDP volume allows comparisons of economic development both over time and between economies of different sizes, irrespective of changes in prices. Growth of GDP volume is calculated using data at previous year's prices.

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### Table 1.3: Labour productivity

	Labour productivity per person employe (EU-27=100, based on a PPS series)							Labour productivity per hour worked (EU-15=100, based on a PPS series)					
	2001	2002	2003	2004	2005	2006		2000	2001	2002	2003	2004	2005
EU-27	100.0	100.0	100.0	100.0	100.0	100.0		:	:	:	:	:	:
Euro area	113.8	112.1	111.5	110.6	110.8	110.3		104.3	102.9	102.6	102.2	101.8	102.3
Belgium	134.5	136.2	134.4	135.6	135.2	134.9		130.7	125.6	127.4	126.0	130.0	128.2
Bulgaria	31.6	33.0	33.4	33.5	34.1	35.3		27.3	28.1	29.5	30.0	29.8	30.4
Czech Republic	63.6	62.9	66.5	68.6	69.3	71.2		44.3	47.7	47.8	50.4	52.1	52.2
Denmark	108.1	108.4	106.4	106.8	108.5	108.4		104.7	102.0	102.9	101.2	101.7	102.0
Germany	107.4	106.2	108.5	107.5	106.7	106.4		108.1	108.4	108.5	111.3	110.6	110.0
Estonia	48.0	50.8	54.4	56.9	61.5	63.7		34.5	35.7	37.8	40.4	42.3	45.2
Ireland	128.7	133.1	135.1	134.9	133.8	132.1		97.0	98.5	103.2	105.5	106.2	105.1
Greece	110.4	114.5	114.6	112.8	114.9	116.9		71.8	75.6	78.5	78.8	79.3	:
Spain	103.8	104.7	103.7	101.5	101.3	100.3		88.4	88.5	89.8	89.7	89.2	89.9
France	125.7	125.3	121.5	122.2	125.4	125.3		115.9	117.3	120.5	117.1	116.5	119.7
Italy	126.2	117.5	115.4	112.6	111.4	109.5		99.8	100.8	94.8	93.3	91.5	90.8
Cyprus	87.2	84.4	82.4	83.6	85.1	85.8		71.2	68.1	67.0	66.1	67.9	69.7
Latvia	41.6	43.0	44.2	45.5	49.4	52.9		30.4	31.6	32.9	33.5	35.7	:
Lithuania	47.1	47.9	51.8	53.7	55.2	58.6		34.1	37.9	39.2	42.8	44.1	43.6
Luxembourg	163.2	163.0	166.4	168.9	174.4	183.3		158.3	146.0	147.8	152.5	158.4	164.6
Hungary	68.4	70.8	71.7	72.7	73.9	74.8		46.3	49.9	51.6	53.0	54.0	54.9
Malta	90.4	91.9	90.2	88.4	87.9	88.2		78.5	75.8	76.7	75.9	73.4	:
Netherlands	113.9	113.1	110.7	112.7	114.7	114.4		119.8	117.8	118.6	116.1	119.7	:
Austria	118.6	118.8	120.0	120.2	119.9	121.1		101.6	97.9	98.3	99.0	99.5	99.2
Poland	56.3	58.5	59.9	61.4	60.4	61.5		40.9	42.0	43.7	44.6	45.9	44.8
Portugal	69.9	69.4	69.8	67.3	68.1	67.9		61.4	58.2	58.0	59.2	56.6	57.5
Romania	25.0	29.9	32.1	34.7	35.6	38.3		:	:	:	:	:	:
Slovenia	75.8	76.5	77.9	80.3	82.3	84.7		62.4	62.7	64.2	65.0	69.0	:
Slovakia	60.7	62.4	63.2	65.1	68.5	71.4		47.2	50.0	53.1	55.7	56.0	57.5
Finland	113.3	111.3	109.3	111.8	109.8	111.5		96.7	96.2	95.1	93.8	96.2	94.6
Sweden	107.5	106.4	108.3	109.6	109.0	110.1		102.4	98.8	99.4	102.3	102.6	101.5
United Kingdom	110.3	110.0	110.3	111./	109.8	110.3		87.0	87.9	89.0	90.2	92.1	89.8
Croatia	58.1	57.9	60.0	60.8	61.8	62.2		:	:	:	:	:	:
Turkey	36.6	38./	39.2	40.1	40.8	42.6		:	:	:	:	:	:
Iceland	104.2	104.1	101.2	106.9	109.0	108.3		80.4	83.1 144 F	84.8	82.6	8/./	89.9
Norway	137.3	131.4	134.8	141.8	154.2	160.0		140.5	141.5	137.2	142.2	148.5	160.5
Switzerland	107.5	107.2	105.4	105.7	105.8	106.2		101./	112.2	111.0	100.0	1155	:
United States	139.5	137.3	137.8	139.1	140.5	140.3		111.3	112.2	111.9	113.8	115.5	116./

Source: Eurostat (tsieb021 and tsieb022), OECD

GDP per person employed is intended to give an overall impression of the productivity of national economies expressed in relation to the European Union (EU-27) average. If the index of a country is higher than 100, this country's level of GDP per person employed is higher than the EU average and vice versa. Basic figures are expressed in PPS, i.e. a common currency that eliminates the differences in price levels between countries allowing meaningful volume comparisons of GDP between countries. Please note that persons employed does not distinguish between full-time and part-time employment.

GDP per hour worked is intended to give a picture of the productivity of national economies expressed in relation to the European Union (EU-15) average. If the index of a country is higher than 100, this country level of GDP per hour worked is higher than the EU average and vice versa. Basic figures are expressed in PPS, i.e. a common currency that eliminates the differences in price levels between countries allowing meaningful volume comparisons of GDP between countries. Expressing productivity per hour worked will eliminate differences in the full-time/part-time composition of the workforce.

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### Figure 1.4: Labour productivity per hour worked

(EU-15=100, based on a PPS series)



## Figure 1.5: Gross value added at basic prices, EU-27, 2006 (1)

(% share of total gross value added)



(1) Figures do not sum to 100 % due to rounding.

Source: Eurostat (tec00003, tec00004, tec00005, tec00006, tec00007 and tec00008)

Gross value added (GVA) is defined as the value of all newly generated goods and services less the value of all goods and services consumed as intermediate consumption. The depreciation of fixed assets is not taken into account. Gross value added is compiled according to the industry that created it. Here, the A6 breakdown derived from the NACE Rev. 1 is used.



### Table 1.4: Gross value added at basic prices

(% share of total gross value added)

							Tra	de,					
							tran	sport	Bus	iness			
							an	d	acti	vities			
	Agric	ulture,					comr	nuni-	ar	nd			
	huntir	ng and					cat	ion	fina	ncial	Ot	Other	
	fish	ning	Indu	ustry	Constr	uction	serv	vices	ser	vices	serv	/ices	
	2001	2006	2001	2006	2001	2006	2001	2006	2001	2006	2001	2006	
EU-27	2.4	1.8	21.7	20.2	5.7	6.2	21.7	21.2	26.3	27.9	22.2	22.6	
Euro area	2.5	1.8	21.7	20.2	5.7	6.4	21.3	20.8	26.5	27.9	22.2	22.8	
Belgium	1.3	1.0	21.2	19.2	4.9	5.1	21.6	22.5	28.2	28.8	22.9	23.4	
Bulgaria	13.4	8.5	25.0	25.6	4.6	5.9	22.2	24.2	19.8	20.7	14.9	15.1	
Czech Republic (1)	3.9	2.9	31.5	31.5	6.3	6.8	25.6	24.7	16.5	17.0	16.1	17.0	
Denmark	2.8	1.6	20.6	20.0	5.2	6.1	21.5	21.5	23.0	24.1	26.8	26.7	
Germany	1.4	0.9	24.9	25.4	4.8	4.0	18.2	17.9	28.0	29.5	22.7	22.3	
Estonia	4.7	3.2	22.7	21.1	5.6	8.0	28.3	28.8	22.0	23.3	16.7	15.6	
Ireland (1)	3.0	2.1	34.2	26.1	7.8	10.0	17.3	17.2	21.7	25.2	16.0	19.5	
Greece (1)	7.1	5.2	13.9	13.2	8.4	7.6	29.3	31.8	20.8	19.3	20.5	22.9	
Spain	4.3	2.9	20.3	18.2	8.9	12.2	26.0	24.6	20.1	21.3	20.5	20.9	
France	2.9	2.0	17.2	14.4	5.3	6.3	19.3	18.6	30.6	32.8	24.8	25.8	
Italy	2.7	2.1	22.8	20.5	5.3	6.1	24.2	23.0	24.9	27.1	20.2	21.3	
Cyprus	3.8	2.8	11.8	11.2	6.9	8.4	31.2	27.5	24.0	25.1	22.3	24.9	
Latvia	4.5	3.7	17.5	14.6	5.6	6.8	34.0	35.7	18.4	21.0	20.0	18.2	
Lithuania	7.1	5.5	24.7	26.3	6.0	8.6	31.1	31.1	12.3	13.1	18.8	15.4	
Luxembourg	0.7	0.4	12.4	9.4	6.2	5.3	22.5	20.2	41.2	48.6	17.0	16.2	
Hungary	5.2	4.3	25.6	26.0	5.0	4.7	21.5	20.2	20.6	22.0	22.1	22.7	
Malta	2.8	2.6	20.8	17.6	3.7	3.9	30.5	27.1	19.0	21.6	23.2	27.2	
Netherlands	2.6	2.2	18.9	18.6	5.7	5.5	22.8	21.9	27.4	27.7	22.6	24.1	
Austria	2.1	1.7	22.8	23.0	7.5	7.7	24.6	23.6	22.2	23.4	20.8	20.7	
Poland	5.1	4.4	22.5	25.1	7.0	6.6	27.9	27.6	18.3	17.6	19.2	18.7	
Portugal	3.6	2.8	19.5	18.1	7.8	6.5	24.5	24.8	20.5	21.4	24.2	26.3	
Romania (1)	14.7	9.6	30.5	27.3	5.9	7.2	23.4	25.4	14.2	16.7	11.3	13.8	
Slovenia (1)	3.0	2.5	30.1	28.2	5.8	5.9	20.6	22.2	19.6	20.6	20.9	20.6	
Slovakia	4.7	4.0	28.5	28.1	6.4	6.9	25.9	26.8	17.2	18.9	17.3	15.4	
Finland	3.4	2.5	27.8	26.3	5.5	6.1	22.2	22.3	20.3	20.9	20.8	21.9	
Sweden	1.9	1.4	23.5	24.0	4.4	5.0	19.5	19.5	24.2	22.9	26.5	27.2	
United Kingdom	0.9	0.9	20.6	17.5	5.6	5.4	22.8	21.3	28.2	32.6	21.9	22.3	
Croatia	9.0	7.1	24.3	23.5	4.9	6.8	24.8	25.9	15.3	18.3	21.6	18.4	
Turkey	11.7	9.0	25.0	24.9	5.0	5.2	35.8	33.6	8.3	12.6	14.2	14.8	
Iceland (1)	8.8	5.8	19.6	14.1	7.7	9.4	19.7	18.4	20.6	26.8	23.5	25.6	
Norway	1.8	1.6	36.0	40.2	4.2	4.6	19.3	16.2	17.5	17.6	21.2	19.7	
Switzerland	1.4	1.2	22.3	21.9	5.5	5.6	21.7	22.1	22.7	23.0	26.4	26.1	
United States	1.2	:	18.1	:	4.9	:	19.7	:	32.2	:	24.0	:	

(1) 2005 instead of 2006.

Source: Eurostat (tec00003, tec00004, tec00005, tec00006, tec00007 and tec00008)
#### 1.2 NATIONAL ACCOUNTS – CONSUMPTION AND SPENDING

#### **INTRODUCTION**

The statistics in this section show by broad category what GDP has been used for: the main domestic expenditure categories are consumption on the one hand, and investment on the other.

#### **DEFINITIONS AND DATA AVAILABILITY**

In the system of national accounts, only households, non-profit institutions serving households (NPISH) and government have final consumption, whereas corporations have intermediate consumption. Private final consumption expenditure, or that performed by households and NPISH, is defined as expenditure on goods and services for the direct satisfaction of individual needs, whereas government consumption expenditure includes goods and services produced by government, as well as purchases of goods and services by government that are supplied to households as social transfers in kind.

National accounts aggregates from the expenditure approach are used by the European Central Bank (ECB) and European Commission services as important tools for economic analysis and policy decisions. The quarterly series are central to business-cycle analysis and subsequent policy decisions. These series are also widely employed for supporting business decisions in the private sector, in particular within financial markets.

The expenditure approach of GDP is defined as private final consumption expenditure + government final consumption expenditure + gross capital formation + exports - imports.

- Private final consumption expenditure includes final expenditure of households and non-profit institutions serving households (NPISH), in other words, expenditure on goods or services that are used for the direct satisfaction of individual needs. NPISHs are private, non-market producers which are separate legal entities. Their principal resources, apart from those derived from occasional sales, are derived from voluntary contributions in cash or in kind from households in their capacity as consumers, from payments made by general governments and from property income. Examples of NPISHs are churches, trade unions and political parties.
- Government final consumption expenditure includes two categories of expenditure: the value of goods and services produced by general government itself other than ownaccount capital formation and sales, and purchases by general government of goods and services produced by market producers that are supplied to households — without any transformation — as social transfers in kind.

- Gross fixed capital formation consists of resident producers' acquisitions, less disposals, of fixed assets plus certain additions to the value of non-produced assets realised by productive activity. Fixed assets are tangible or intangible assets produced as outputs from processes of production that are themselves used repeatedly, or continuously, in processes of production for more than one year; such assets may be outputs from production processes or imports. Investment may be made by public or private institutions.
- Changes in inventories are measured by the value of the entries into inventories less the value of withdrawals and the value of any recurrent losses of goods held in inventories.
- Gross capital formation is the sum of gross fixed capital formation and the change in inventories.
- External balance is the difference between exports minus imports of goods and services. Depending on the size of exports and imports, it can be positive (a surplus) or negative (a deficit).

#### **MAIN FINDINGS**

Overall EU-27 final consumption expenditure in volume rose by 27.4 % between 1995 and 2006. The evolution of this indicator followed the developments of GDP which rose by 29.3 % during the same period. Gross capital formation outstripped both, increasing by 40.6 %. Consumption expenditure rose at its most rapid pace in the Baltic Member States and Ireland, where expenditure in volume terms more than doubled between 1995 and 2006. The slowest increase in consumption expenditure over this period was registered in Germany, where the corresponding increase was slightly more than 10 %. Consumption by households and non-profit institutions serving households represented 57.8 % of the EU-27's GDP in 2006. This share has been relatively stable over time, although it has declined in recent years from a peak of 58.7% in 2001.

The share of total GDP that is devoted to investment in fixed assets is an important indicator of future economic growth especially the level of investment in machinery and equipment and ICT products. Gross fixed capital formation represented 21.1 % of the EU-27's GDP in 2006. This marked the third successive year that the relative importance of gross fixed capital formation had risen, from a low of 19.6 % of GDP at the bottom of the last economic slowdown in 2003. There was a wide variation in investment intensity that may, in part, reflect the different economic structures of the Member States. Gross fixed capital formation as a share of GDP ranged from more than 30 % in Latvia, Estonia and Spain, to less than 19 % of GDP in Luxembourg, Germany, the United Kingdom and Sweden. The external balance of goods and services has been in surplus during the last decade. Nonetheless, in the most recent years the relative size of the surplus has decreased, reaching 0.3 % of GDP in 2006.



# SOURCES

Pocketbooks EU economic data pocketbook – Quarterly

Methodologies and working papers European system of accounts ESA 1995 Handbook on quarterly national accounts Handbook on price and volume measures in national accounts Eurostat-OECD Methodological manual on purchasing power parities NACE Rev. 1 – Statistical classification of economic activities in the European Community

## **Dedicated sections on the Eurostat website**

ESA 95 Input-Output Tables EU Klems

#### Website data

# Main economic indicators

Economy overview Economy – Structural Indicators Economy – Euro-Indicators

# National accounts (including GDP)

Annual national accounts Quarterly national accounts Supply, use and input-output tables

**Figure 1.6: Consumption expenditure and gross capital formation at constant prices, EU-27** (1995=100)



Source: Eurostat (nama\_gdp\_k)





# **Figure 1.7: Consumption expenditure at constant prices, 2006** (1995=100)

(1) Not available.

*Source:* Eurostat (nama\_gdp\_k)

Figure 1.8: Expenditure components of GDP, EU-27

(EUR 1 000 million)



Source: Eurostat (tec00009, tec00010, tec00011 and tec00012)

Private consumption expenditure consists of expenditure incurred for the direct satisfaction of individual or collective needs by private households or non-profit institutions serving households (such as religious societies, sports and other clubs, political parties, etc.).

Final consumption expenditure by general government includes the value of goods and services purchased or produced by general government and directly supplied to private households for consumption purposes.

Gross fixed capital formation consists of resident producers' aquisitions, less disposals, of fixed tangible or intangible assets. This covers in particular machinery and equipment, vehicles, dwellings and other buildings.

The external balance is defined as the difference between exports and imports, which in turn measure the value of exchanges of goods and services between residents and non-residents.





# Figure 1.9: Expenditure components of GDP, EU-27, 2006 (% share of GDP)

Source: Eurostat (tec00009, tec00010, tec00011 and tec00012)

# Figure 1.10: Gross fixed capital formation, 2006

(% share of GDP)



(1) Estimate. Source: Eurostat (tsier070)

#### 1.3 NATIONAL ACCOUNTS – INCOME FROM INPUT FACTORS

#### INTRODUCTION

Household saving rates vary considerably between countries because of institutional, demographic and socio-economic differences between countries. Government provisions for oldage pensions, the extent to which governments provide insurance against sickness and unemployment, and the demographic age structure of the population will all influence the rate at which a population saves – older persons tend to run down their financial assets during their retirement to the detriment of saving. Finally, the availability and price of credit, as well as attitudes towards debt may also influence choices made by individuals regarding expenditure and saving.

Aside from individuals' choices as to consumption and savings patterns, the Member States of the EU also need to have sound public finances, by balancing their choice of expenditure priorities in relation to the types and levels of taxes that they fix. The governments of the Member States retain responsibility for fixing their levels of direct taxation - i.e. tax on personal incomes and company profits, savings and capital gains. In the area of company tax, the EU has two goals: preventing harmful tax competition between Member States and supporting the principle of free movement of capital. Cross-border payments of interest, royalties and dividends to sister and parent companies have progressively been exempted from withholding tax in the country from which the payment is made and discussions are under way on having a common tax base for companies, i.e. the rules applying to each type of transaction would be the same across the EU in order to prevent unfair competition, while still leaving Member States free to set actual tax rates.

#### **DEFINITIONS AND DATA AVAILABILITY**

Eurostat data on income from input factors are crucial to economic analysis in a number of contexts inside and outside the European Commission. Typical examples are studies of competitiveness, of income distribution inequalities and of longterm economic developments. Users outside the European Commission include, in particular, academia and financial institutions.

Production requires 'input factors' such as the work of employees and capital; these input factors have to be paid for. The incomeside approach shows how GDP is distributed among different participants in the production process, as the sum of:

compensation of employees: the total remuneration, in cash or in kind, payable by an employer to an employee in return for work done by the latter during the accounting period; the compensation of employees is broken down into: wages and salaries (in cash and in kind); employers' social contributions (employers' actual social contributions and employers' imputed social contributions);

- gross operating surplus: this is the surplus (or deficit) on production activities before account has been taken of the interest, rents or charges paid or received for the use of assets;
- mixed income: this is the remuneration for the work carried out by the owner (or by members of his/her family) of an unincorporated enterprise; this is referred to as 'mixed income' since it cannot be distinguished from the entrepreneurial profit of the owner;
- taxes on production and imports less subsidies: these consist of compulsory (in the case of taxes) unrequited payments to or from general government or institutions of the EU, in respect of the production or import of goods and services, the employment of labour, and the ownership or use of land, buildings or other assets used in production.

Household saving is the main domestic source of funds to finance capital investment. Savings rates can be measured on either a gross or net basis. Net saving rates are measured after deducting consumption of fixed capital (depreciation). The system of accounts also provides for both disposable income and saving to be shown on a gross basis, in other words, with both aggregates including the consumption of fixed capital. In this respect, household savings may be estimated by subtracting consumption expenditure and the adjustment for the change in net equity of households in pension funds reserves from disposable income. The latter consists essentially of income from employment and from the operation of unincorporated enterprises, plus receipts of interest, dividends and social benefits minus payments of income taxes, interest and social security contributions.

#### **MAIN FINDINGS**

The higher the output of an economy, the more income can be redistributed to the factors that have provided for its creation. Between 1997 and 2006, the GDP of the EU-27 (measured at current prices) rose overall by 49.3 %. In comparison, the income of employees rose by 46.2 % in total over the same period. The fastest growth in income factors was recorded for taxes on production and imports less subsidies, resulting largely from a marked acceleration during periods of economic expansion (the late 1990s and again from 2004 onwards).

Within the EU-27 the breakdown of GDP by input factors in 2006 was dominated by the compensation of employees (48.7 %), while gross operating surplus and mixed income accounted for 38.9 % of GDP and taxes on production and imports less subsidies the remaining 12.4 %.

Different in wages, the proportion of employees in the labour force and taxes are some of the reasons that explain the variations in the distribution of income among the Member States. The compensation of employees ranged between 32.2 % in Bulgaria and 55.5 % in the United Kingdom. Conversely, the highest proportion of GDP accounted for by taxes less subsidies on production and imports was also recorded in Bulgaria (18.3 %), while the lowest shares were registered in the Czech Republic, Slovakia and Lithuania (all 10 % or less).

In some countries, gross national saving as a proportion of national disposable income fell considerably between 1997 and 2006. This was particularly the case in Portugal (down 6.5 points), Slovakia (down 3.9 points) and Italy (down 3.0 points). The highest national savings rates (between 27.7 % and 26.4 %) were recorded in Ireland, the Netherlands, Finland and Estonia.

In relation to gross household disposable income, gross household savings represented 11.4 % of GDP in 2006 for the EU-27. Germany, France and Italy reported a savings rate of around 15 % of their gross household disposable income. In contrast, Finland, the United Kingdom and the Czech Republic reported household savings rates of around 5 %. Estonia reported negative values during the last four years, indicating that households in this county were spending more money than they earned, and funded some of their expenditure through credit.

#### SOURCES

**Statistical books** 

Taxation trends in the European Union – Main results Taxation trends in the European Union – Data for the EU Member States and Norway Structures of the taxation systems in the European Union – Data 1995-2004

## Pocketbooks

EU economic data pocketbook - Quarterly

Methodologies and working papers European system of accounts ESA 1995 Handbook on quarterly national accounts

#### Website data

Main economic indicators Economy overview

> Economy – Structural Indicators Economy – Euro-Indicators

#### National accounts (including GDP)

Annual national accounts Quarterly national accounts Annual sector accounts Quarterly sector accounts Supply, use and input-output tables

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# Figure 1.11: Distribution of income, EU-27

(1997=100)



#### Source: Eurostat (tec00013, tec00015 and tec00016)

Compensation of employees is defined as the total remuneration, in cash or in kind, payable by an employer to an employee in return for work done by the latter. In particular, it also includes social contributions paid by the employer.

Operating surplus is the surplus (or deficit) on production activities before account has been taken of the interest, rents or charges paid or received for the use of assets. Mixed income is the remuneration for the work carried out by the owner (or by members of his family) of an unincorporated enterprise. This is referred to as 'mixed income' since it cannot be distinguished from the entrepreneurial profit of the owner.

Taxes and subsidies on products are current unrequited payments to or from general government or the Institutions of the European Union that are payable per unit of some good or service produced or transacted. The tax or subsidy may be a specific amount of money per unit of quantity of a good or service, or it may be calculated ad valorem as a specified percentage of the price per unit or value of the goods and services produced or transacted.

#### Figure 1.12: Distribution of income, 2006

(% share of GDP)



(1) Some or all components, not available.

Source: Eurostat (tec00013, tec00015 and tec00016)



# Figure 1.13: Gross national savings

(% of gross national disposable income)



Source: Eurostat (nama\_inc\_c)

### Table 1.5: Gross household savings (1)

(% of gross household disposable income)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
EU-27	:	:	:	12.3	11.7	12.5	12.4	12.3	11.9	11.8	11.4
Euro area	:	:	:	14.2	13.5	14.2	14.8	14.6	14.5	14.0	13.8
Belgium	18.5	17.7	17.0	17.2	15.4	16.4	15.8	14.7	13.3	12.2	12.5
Bulgaria	:	:	:	:	:	:	:	:	:	:	:
Czech Republic	11.2	11.0	9.2	8.5	8.5	7.4	8.1	7.4	4.9	5.8	4.9
Denmark	7.3	5.0	6.3	3.8	4.9	8.8	8.8	9.4	5.8	2.5	:
Germany	16.3	15.9	15.9	15.3	15.1	15.2	15.7	16.0	16.1	16.3	16.2
Estonia	7.8	6.7	8.1	8.3	4.1	3.1	0.5	-1.6	-1.0	-0.8	-0.7
Ireland	:	:	:	:	:	:	11.3	12.2	12.5	13.0	11.0
Greece	14.1	14.7	14.1	11.5	10.5	9.7	8.3	8.3	8.9	:	:
Spain	14.2	13.3	12.1	11.1	11.1	11.1	11.4	11.9	11.4	10.6	10.1
France	14.9	15.8	15.4	15.1	14.9	15.6	16.7	15.6	15.6	15.0	15.3
Italy	23.4	20.2	17.2	15.8	14.2	16.0	16.8	16.0	16.1	15.9	14.9
Cyprus	:	:	:	:	:	:	:	:	:	:	:
Latvia	-0.7	1.8	0.7	-0.5	2.9	-0.4	1.2	2.4	2.5	1.1	:
Lithuania	-1.3	3.4	7.2	4.5	4.1	3.7	1.8	0.9	0.4	1.5	:
Luxembourg	:	:	:	:	:	:	:	:	:	:	:
Hungary	:	:	:	:	:	:	:	:	11.3	11.0	:
Malta	:	:	:	:	:	:	:	:	:	:	:
Netherlands	17.4	17.9	16.9	14.0	12.1	14.7	13.9	13.1	13.0	12.1	12.5
Austria	12.9	11.8	12.6	13.1	12.8	12.0	12.1	13.2	13.3	13.7	14.1
Poland	14.2	14.1	14.4	12.9	10.7	12.1	8.4	7.8	7.2	7.7	:
Portugal	11.9	10.8	10.5	9.8	10.2	10.9	10.6	10.5	9.7	9.0	:
Romania	:	:	:	:	:	:	:	:	:	:	:
Slovenia	:	:	:	:	13.9	15.4	16.2	13.5	14.4	14.2	:
Slovakia	13.4	13.8	12.3	11.2	11.1	9.1	8.9	7.1	6.2	7.2	6.5
Finland	7.8	9.1	7.8	9.2	7.4	7.6	7.7	8.3	9.2	7.7	5.5
Sweden	10.1	7.9	7.1	7.0	8.2	12.7	13.4	13.2	12.4	11.6	:
United Kingdom	9.4	9.5	7.0	5.3	5.1	6.4	5.0	4.9	3.7	5.6	5.0
Norway	7.9	8.4	11.0	10.7	10.4	9.6	13.7	14.3	:	:	:

(1) Including net adjustment for the change in net equity of households in pension funds reserves.

Source: Eurostat (tsdec240)

The gross household saving rate measures the portion of disposable income that is not used by the household for the final consumption. It is measured by gross saving divided by gross disposable income adjusted for the change in the net equity in pension fund reserves

#### 1.4 NATIONAL ACCOUNTS – GOVERNMENT FINANCES

#### **INTRODUCTION**

The disciplines of the Stability and Growth Pact (SGP) keep economic developments in the EU, and in the euro area countries in particular, broadly synchronised <sup>(25)</sup>. They prevent Member States from taking policy measures which would unduly benefit their own economies at the expense of others. There are two key principles to the Pact: namely, that the deficit must not exceed 3 % of gross domestic product (GDP) and that the debt-to-GDP ratio should not be more than 60 %.

A revision in March 2005 based on the first five years of experience left these principles unchanged, but introduced greater flexibility in exceeding the deficit threshold in hard economic times or to finance investment in structural improvements. It also gave Member States a longer period to reverse their excessive deficits – although, if they do not bring their economies back into line, corrective measures, or even fines, can be imposed.

Each year, Member States provide the European Commission with detailed information on their economic policies and the state of their public finances. Euro area countries provide this information in the context of the 'stability programmes', while other Member States do so in the form of 'convergence programmes'. The European Commission assesses whether the policies are in line with agreed economic, social and environmental objectives and may choose to issue a warning if it believes a deficit is becoming abnormally high.

#### **DEFINITIONS AND DATA AVAILABILITY**

Member States acknowledge the need for solid and sustainable government finances. Under the rules on budgetary discipline within the EU Stability and Growth Pact (Amsterdam, 1997), Member States are to avoid situations of 'excessive government deficits': their ratio of planned or actual government deficit to GDP should be no more than 3 %, and their ratio of government debt to GDP should be no more than 60 % (unless the excess over the reference value is only exceptional or temporary, or unless the ratios have declined substantially and continuously). The Member States should, by law, notify their government deficit and debt statistics to the European Commission before 1 April and 1 October of each year under the 'excessive deficit procedure'. Eurostat collects the data and ensures that Member States comply with the relevant regulations. The main aggregates of general government are provided by the Member States to Eurostat twice a year, according to the ESA 95 transmission programme.

The data presented within this section correspond to the main revenue and expenditure items of the general government sector, which are compiled on a national accounts (ESA95) basis. The difference between total revenue and total expenditure – including capital expenditure (in particular, gross fixed capital formation) – equals net lending/net borrowing, which is also the balancing item of the non-financial accounts.

The main revenue of general government consists of taxes, social contributions, sales and property income. The main expenditure items consist of the compensation of civil servants, social benefits, interest on the public debt, subsidies and gross fixed capital formation.

The public balance is defined as general government net borrowing/net lending reported for the Excessive Deficit Procedure and is expressed in relation to GDP. General government comprises central, state and local government, as well as social security funds. Under the convergence criteria, the ratio of planned or actual government deficit (net borrowing) to GDP should be no more than 3 %.

General government consolidated gross debt is also expressed as a percentage of GDP. It refers to the consolidated stock of gross debt at nominal value at the end of the year. Under the convergence criteria, the ratio of general government consolidated gross debt to GDP should generally be no more than 60 % (unless the excess over the reference value is only exceptional or temporary, or unless the ratios have declined substantially and continuously).

Compulsory levies correspond to revenues which are levied (in cash or in kind) by central, state and local governments, and social security funds. Compulsory levies (henceforth generally referred to as taxes) are organised into three main areas, covered by the following headings:

- taxes on income and wealth, including all compulsory payments levied periodically by general government on the income and wealth of enterprises and households;
- taxes on production and imports, including all compulsory payments levied by general government with respect to the production and importation of goods and services, the employment of labour, the ownership or use of land, buildings or other assets used in production;
- social contributions, including all employers and employees social contributions, as well as imputed social contributions that represent the counterpart to social benefits paid directly by employers.

<sup>(25)</sup> For more information: http://ec.europa.eu/economy\_finance/about/activities/sgp/main\_en.htm.

Data on public procurement are based on information contained in the calls for competition and contract award notices submitted for publication in the Official Journal of the European Communities (the S series). The indicator shown is based on the value of public procurement, which is openly advertised relative to GDP.

State aid is made up of sectoral State aid (given to specific activities such as agriculture, fisheries, manufacturing, mining, services), ad-hoc State aid (given to individual enterprises), and State aid for horizontal objectives such as research and development, safeguarding the environment, support to small and medium-sized enterprises, employment creation or training, including aid for regional development. The first two of these (sectoral and ad-hoc State aid) are considered potentially more distortive to competition.

#### **MAIN FINDINGS**

The public (general government) deficit of the EU-27, measured in terms of a percentage share of GDP, was at its lowest rate in four years gradually falling to 1.6 % by 2006. The pattern was similar in the euro area, where the deficit was steadily reduced from its highest value in 2003 (-3.1 %) to -1.5 % by 2006.

The deficit ratios for 22 of the EU Member States were below the reference value of 3 % in 2006, which can be compared with 16 for 2003. Out of the 22, almost half (ten) reported a surplus, by far the highest number in any of the most recent four years for which data are available. Hungary and Italy recorded the highest deficits in the EU-27 in 2006, with 9.2 % and 4.4 % respectively. Malta reduced its deficit strongly from 9.9 % to 2.5 % of GDP over the period 2003-2006. Both Turkey and Croatia recorded reductions in their deficits over the period considered (Turkey reported a small surplus in 2006), whilst Norway's surplus continued to grow, reaching 18 % of GDP by 2006.

General government gross debt in the EU-27 reached 61.4 % of GDP in 2006, compared with 61.8 % for 2003, with higher ratios in the intervening years. In the euro area, the decline was of the same order, from 69.1 % to 68.6 % of GDP.

Between 2003 and 2006, the number of Member States with a debt ratio below 60 % of GDP fell from 19 to 17. The highest debt ratio was recorded by Italy, at over 100 % for the period considered. Greece followed closely, but reduced its debt-to-GDP ratio from 97.9 % to 95.3 % during the same period. At the other end of the scale, Estonia and Luxembourg reported the lowest debt to GDP ratios, both below 7 % throughout the period considered. Romania and Bulgaria recorded decreasing debt-to-GDP ratio below 60 % of GDP over the whole period, reaching 12.4 % and 22.8 % respectively in 2006. Croatia's debt-to-GDP ratio was 40.8 % in 2006, while Turkey (despite a major reduction over the period) recorded a ratio of 60.7 % in 2006.

The importance of the general government sector in the economy may be measured in terms of total government revenue and expenditure as a percentage of GDP. In the EU-27, total government revenue in 2006 amounted to 45.2 % of GDP, and expenditure to 46.8 % of GDP. In the euro area, the equivalent figures were 45.7 % and 47.3 % respectively.

The level of general government expenditure and revenue varies considerably between the Members States. Those with the highest levels of combined government expenditure and revenue as a proportion of GDP in 2006 were Sweden, Denmark, France and Finland, for which the government sector represented over 100 % of GDP. Nine Member States reported relatively low combined revenue and expenditure to GDP ratios below 80 %. Out of these, the government sector was smallest for Romania, Lithuania and Estonia, where revenue plus expenditure accounted for less than 70 % of GDP in 2006.

The main types of government revenue are taxes on income and wealth, taxes on production and imports, and social contributions. These three sources of revenue accounted in 2006 for over 90 % of EU-27 revenue. The structure of taxes within the EU-27 in 2006 shows that receipts from the three main tax headings were roughly equal: social contributions accounted for 13.8 % of GDP, taxes on production and imports for 13.6 %, and current taxes on income and wealth for 13.3 %. In a similar way to the distribution of government expenditure, there was considerable variation in the structure of taxes across the Member States. As may be expected, those countries that reported relatively high levels of expenditure tended to be those that also raised more taxes (as a proportion of GDP). For example, the highest return from taxes was 50.5 % of GDP recorded in Sweden, with Denmark recording the next highest share. The proportion of GDP accounted for by taxes fell to less than 30 % in Lithuania, Romania and Slovakia, with the relative importance of current taxes on income and wealth particularly low in the latter two countries.

General government expenditure may be identified by function by using the classification of the functions of government – COFOG. The largest category of general government expenditure using this classification was social protection, which accounted for 18.8 % of the EU-27's GDP in 2004, while general public services, health and education all accounted for broadly similar shares of expenditure, between 6.5 % and 5.2 %. The variation across countries was strong in 2005, particularly for social protection, with Sweden, Denmark, France and Germany spending over 22 % of GDP and Latvia and Ireland less than 10 %.



The value of public procurement, which is openly advertised, expressed as a proportion of GDP, rose between 1995 and 2005 in each of the 15 Member States for which data are available, except in Denmark. Public procurement accounted for 2.9 % of GDP in the EU-25 in 2005, with a high of 9.8 % recorded in Latvia.

In total, EU State aid amounted to 0.6 % of GDP in 2005, which marked a reduction compared with its peak value of 0.7 % in 2002. This average masks significant disparities between Member States: the ratio of total State aid to GDP ranged from 0.4 % or less in Belgium, the Netherlands, the United Kingdom, Greece, and Luxembourg to 1.4 % or more in Cyprus, Finland, Hungary, Romania and Malta. The relatively high importance of State aid in some of the new Member States may be largely attributed to pre-

accession measures that are either being phased out under transitional arrangements or are limited in time. In Finland, the relatively high importance of State aid may be explained by the large amount of aid to agriculture which represents more than 75 % of total aid in this country. Indeed, due to the particularities associated with aid to agriculture and fisheries, it is of interest to look at State aid figures that exclude these sectors. This second indicator produces a rather different ranking of Member States. For example, such aid in Finland represents 0.38 % of GDP, just below the EU average of 0.42 %. In absolute numbers, State aid by EU-25 Member States amounted to EUR 63 750 million in 2005.

# SOURCES

#### **Statistical books**

Government finance statistics – Summary tables Taxation trends in the European Union – Main results Taxation trends in the European Union – Data for the EU Member States and Norway

Pocketbooks

EU economic data pocketbook - Quarterly

#### Methodologies and working papers

Manual on quarterly non-financial accounts for general government Manual on sources and methods for the compilation of ESA95 financial accounts ESA95 manual on government deficit and debt Manual on compilation of taxes and social payments on a quarterly basis – First edition Manual on sources and methods for the compilation of COFOG statistics

# Dedicated sections on the Eurostat website

Government finance statistics

#### Website data

#### **Government statistics**

Annual government finance statistics Government deficit and debt Quarterly government finance statistics Other government indicators

**Financial accounts** 



#### Figure 1.14: Public balance

(net borrowing/lending of consolidated general government sector, % of GDP)



Net lending (+)/net borrowing (-) of general government is the difference between the revenue and the expenditure of the general government sector. The general government sector comprises the following subsectors: central government, state government, local government, and social security funds. GDP used as a denominator is the gross domestic product at current market prices.



# Table 1.6: Public balance, general government debt

	(net bori general	Public k rowing/lenc governmer	balance ding of cons nt sector, %	olidated of GDP)	Ge (gene	eneral gove ral governr gross debt,	ernment del ment consol , % of GDP)	ot idated
	2003	2004	2005	2006	2003	2004	2005	2006
EU-27	-3.1	-2.8	-2.4	-1.6	61.8	62.1	62.7	61.4
Euro area	-3.1	-2.8	-2.5	-1.5	69.1	69.6	70.3	68.6
Belgium	0.0	0.0	-2.3	0.4	98.6	94.2	92.2	88.2
Bulgaria	0.0	2.3	2.0	3.2	45.9	37.9	29.2	22.8
Czech Republic	-6.6	-3.0	-3.5	-2.9	30.1	30.4	30.2	30.1
Denmark	-0.1	1.9	4.6	4.6	45.8	44.0	36.3	30.3
Germany	-4.0	-3.8	-3.4	-1.6	63.8	65.6	67.8	67.5
Estonia	1.8	1.8	1.9	3.6	5.5	5.1	4.4	4.0
Ireland	0.4	1.3	1.2	2.9	31.1	29.5	27.4	25.1
Greece	-5.6	-7.3	-5.1	-2.5	97.9	98.6	98.0	95.3
Spain	-0.2	-0.3	1.0	1.8	48.7	46.2	43.0	39.7
France	-4.1	-3.6	-2.9	-2.5	62.9	64.9	66.7	64.2
Italy	-3.5	-3.5	-4.2	-4.4	104.3	103.8	106.2	106.8
Cyprus	-6.5	-4.1	-2.4	-1.2	68.9	70.2	69.1	65.2
Latvia	-1.6	-1.0	-0.4	-0.3	14.4	14.5	12.5	10.6
Lithuania	-1.3	-1.5	-0.5	-0.6	21.2	19.4	18.6	18.2
Luxembourg	0.5	-1.2	-0.1	0.7	6.3	6.4	6.2	6.6
Hungary	-7.2	-6.5	-7.8	-9.2	58.0	59.4	61.6	65.6
Malta	-9.9	-4.9	-3.1	-2.5	69.3	72.7	70.8	64.7
Netherlands	-3.1	-1.7	-0.3	0.6	52.0	52.4	52.3	47.9
Austria	-1.6	-1.2	-1.6	-1.4	64.6	63.8	63.4	61.7
Poland	-6.3	-5.7	-4.3	-3.8	47.1	45.7	47.1	47.6
Portugal	-2.9	-3.4	-6.1	-3.9	56.9	58.3	63.7	64.8
Romania	-1.5	-1.5	-1.4	-1.9	21.5	18.8	15.8	12.4
Slovenia	-2.7	-2.3	-1.5	-1.2	27.9	27.6	27.4	27.1
Slovakia	-2.7	-2.4	-2.8	-3.7	42.4	41.4	34.2	30.4
Finland	2.5	2.3	2.7	3.8	44.3	44.1	41.4	39.2
Sweden	-0.9	0.8	2.4	2.5	53.5	52.4	52.2	47.0
United Kingdom	-3.3	-3.4	-3.3	-2.7	38.7	40.4	42.1	43.2
Croatia	-5.5	-4.1	-3.8	-2.2	41.0	43.2	43.7	40.8
Turkey	-11.3	-5.8	-0.3	0.4	85.1	76.9	69.6	60.7
Norway	7.3	11.1	15.2	18.0	44.3	45.6	43.8	48.9

Source: Eurostat (tsieb060 and tsieb070)

The general government sector comprises the subsectors of central government, state government, local government and social security funds. GDP used as a denominator is the gross domestic product at current market prices. Debt is valued at nominal (face) value, and foreign currency debt is converted into national currency using end-year market exchange rates (though special rules apply to contracts). The national data for the general government sector are consolidated between the sub-sectors. Basic data are expressed in national currency, converted into euro using end-year exchange rates for the euro provided by the European Central Bank.





(general government consolidated gross debt, % of GDP)



Figure 1.16: General government expenditure by COFOG function, 2005 (1) (% of GDP)



(2) 2004.

Source: Eurostat (gov\_a\_exp)



# Figure 1.17: Government revenue and expenditure, 2006 (% of GDP)

Source: Eurostat (tec00021 and tec00023)

Total general government revenue is defined in ESA-95 §8.99 by reference to a list of categories: market output, output for own final use, payments for the other non-market output, taxes on production and imports, other subsidies on production, receivable property income, current taxes on income, wealth, etc., social contributions, other current transfers and capital transfers.

Total general government expenditure is defined in ESA-95 §8.99 by reference to a list of categories: intermediate consumption, gross capital formation, compensation of employees, other taxes on production, subsidies, payable property income, current taxes on income, wealth, etc., social benefits, some social transfers, other current transfers, some adjustments, capital transfers and transactions on non-produced assets.



(% of GDP)



#### Source: Eurostat (tec00018, tec00020 and tec00019)

Current taxes on income, wealth, etc. (ESA95 code D.5) cover all compulsory, unrequited payments, in cash or in kind, levied periodically by general government and by the rest of the world on the income and wealth of institutional units, and some periodic taxes which are assessed neither on the income nor the wealth. In ESA95, current taxes on income, wealth, etc. are divided into taxes on income and other current taxes.

Taxes on production and imports (ESA95 code D.2) consist of compulsory, unrequited payments, in cash or in kind which are levied by general government, or by EU institutions, in respect of the production and importation of goods and services, the employment of labour, the ownership or use of land, buildings or other assets used in production. In ESA95, taxes on production and imports comprise taxes on products and other taxes on production.

Social contributions (ESA95 code D.61) are divided into actual social contributions and imputed social contributions. Actual social contributions include employers' actual social contributions, employees' social contributions and social contributions by self-employed and non-employed persons. Imputed social contributions represent the counterpart to social benefits (less eventual employees' social contributions) paid directly by employers.



#### Figure 1.19: Public procurement

(value of public procurement which is openly advertised, as % of GDP)



(1) Not available for 1995.

#### (2) EA-12.

Source: Eurostat (tsier040), Commission services

Data on public procurement are based on information contained in the calls for competition and contract award notices submitted for publication in the Official Journal of the European Communities (the S series). The nominator is the value of public procurement, which is openly advertised. For each of the sectors - works, supplies and services - the number of calls for competition published is multiplied by an average based, in general, on all the prices provided in the contract award notices published in the Official Journal during the relevant year. The denominator is GDP, gross domestic product.

#### Figure 1.20: State aid, 2005

(% of GDP)



#### (1) 2004

Source: Eurostat (tsier051 and tsier052), Commission services

The numerator is the sum of all State aid granted to specific sectors (agriculture, fisheries, manufacturing, coal, transport except railways and other services), State aid given on an ad-hoc basis to individual companies e.g., for rescue and restructuring, and State aid for horizontal objectives such as research and development, safeguarding the environment, energy saving, support to small and medium-sized enterprises, employment creation, the promotion of training and aid for regional development. The denominator is GDP, gross domestic product

The numerator is the sum of all State aid granted to specific sectors (agriculture, fisheries, manufacturing, coal, transport except railways and other services) and State aid given on an ad-hoc basis to individual companies e.g., for rescue and restructuring. These types of aid are considered to be potentially more distortive to competition. The denominator is GDP, gross domestic product.

Economy

### **1.5 EXCHANGE AND INTEREST RATES**

#### **INTRODUCTION**

On 1 January 2002, around 7 800 million notes and 40 400 million coins entered circulation, valued at EUR 144 000 million, as the euro became the common currency of 12 of the Member States; Slovenia subsequently joined the euro area at the start of 2007.

Economic and Monetary Union (EMU) consists of three stages coordinating economic policy and culminating with the adoption of the euro. At the time of writing thirteen of the Member States – Belgium, Germany, Ireland, Greece, Spain, France, Italy, Luxembourg, the Netherlands, Austria, Portugal, Slovenia, and Finland – had so far entered the third stage, adopting the euro as their common currency. Cyprus and Malta joined the euro area on 1 January 2008, bringing the number of Member States using the euro to 15.

All EMU members are eligible to adopt the euro, but Denmark and the United Kingdom have opted to remain outside the euro, while Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Sweden have no target date for joining. The entry criteria for the euro include two years of prior exchange rate stability via membership of the Exchange Rate Mechanism (ERM), as well as criteria relating to interest rates, budget deficits, inflation rates, and debt-to-GDP ratios.

Through using a common currency the countries of the euro area have removed exchange rates and therefore benefit from lower transaction costs. The size of the euro area market is also likely to promote investment and trade.

Those countries joining the euro area have agreed to allow the European Central Bank (ECB) to maintain price stability, through the definition and implementation of monetary policy. When the euro was launched in 1999, the ECB took over full responsibility for monetary policy throughout the euro area, including setting benchmark interest rates and managing the euro area's foreign exchange reserves. The ECB has defined price stability as a year-on-year increase in the harmonised index of consumer prices (HICP) for the euro area close to but below 2 % over the medium term (see section 1.7 for more details in relation to consumer prices). Monetary policy decisions are taken by the ECB's governing council which meets every month to analyse and assess economic developments and the risks to price stability and to decide on the appropriate level of interest rates.

The ECB also has the job of ensuring that payments move smoothly across EU financial markets. The ECB and the European Commission are working jointly on a Single Euro Payments Area (SEPA) – a system that aims to make virtually all forms of crossborder euro payment faster and no more expensive than domestic payments by 2010.

#### **DEFINITIONS AND DATA AVAILABILITY**

Eurostat's database contains a number of different data sets concerning exchange rates. Three main areas are distinguished:

- data on bilateral exchange rates between currencies, including some special conversion factors for the countries that have adopted the euro;
- data on fluctuations in the exchange rate mechanism (ERM and ERM II) of the EU;
- data on effective exchange rate indices.

Bilateral exchange rates are available with reference to the euro; before 1999, exchange rates were given in relation to the ecu (European currency unit). The ecu ceased to exist on 1 January 1999, when it was replaced by the euro at an exchange rate of 1:1. From that date, the currencies of the euro area became subdivisions of the euro at irrevocably fixed rates of conversion.

Daily exchange rates are available from 1974 onwards against a large number of currencies. These daily values are used to construct monthly and annual averages, which are based on business day rates. Alternatively, month-end and year-end rates are also provided for the daily rate of the last business day of the month/year.

An interest rate is defined as the cost or price of borrowing, or the gain from lending; interest rates are traditionally expressed in annual percentage terms. Interest rates are distinguished either by the period of lending/borrowing, or by the parties involved in the transaction (business, consumers, governments or interbank operations).

Central bank interest rates are key reference rates set by the ECB and national central banks (for those countries outside of the euro area). Central bank interest rates are also referred to as official interest rates; they are the main instrument of monetary policy for central banks.

Long-term interest rates are one of the convergence criteria (or Maastricht criteria) for European Economic and Monetary Union. The data are based upon central government bond yields on the secondary market, gross of tax, with a residual maturity of around 10 years.

Eurostat publish a number of short-term interest rates, with different maturities: overnight, 1 to 12-months. Day-to-day money rates refer to deposits or loans on the money market with a maturity of just one business day. The rates shown are reference rates and are generally interbank rates.

Eurostat publish statistics on interest rates under several headings:

- long-term interest rates: government bond yields with a 10 years' maturity and interest rates used for the Maastricht criterion on long-term interest rates;
- central bank interest rates: different rates that central banks fix to conduct the monetary policy (reference rates);
- short-term interest rates: rates on money markets for different maturities (overnight, 1 to 12 months);
- retail bank interest rates: lending and deposit interest rates of commercial banks (non-harmonised and historical series), and harmonised MFI interest rates (monetary financial institutions interest rates);
- convergence of interest rates: the standard deviation and the coefficient of variation for: loans to households for house purchases; loans to non-financial corporations over one year; loans to non-financial corporations up to one year;
- interest rates: historical data for series for central bank interest rates, short- and long-term rates and ecu interest rates.

#### **MAIN FINDINGS**

It is important to note that nearly all of the information presented in this publication has been converted into euro (EUR). As such, when making comparisons between countries it is necessary to bear in mind the possible affect of currency fluctuations on the evolution of particular series. The value of the euro against the yen or the dollar depreciated considerably in 1999 and 2000. However, the last few years have seen a marked appreciation in the value of the euro, such that it reached record highs against the yen in July 2007 (EUR 1 = JPY 166.76) and against the dollar in October 2007 (EUR 1 = USD 1.4227).

At the end of the last period of rapid economic growth, global interest rates started to fall, with the most sizeable reductions in 2001. This pattern continued within the euro area (and to a lesser degree the United States) during 2002 and 2003, such that official lending rates of central banks reached historic lows — nowhere was this more evident than in Japan (where deflationary pressures resulted in an interest rate close to zero).

With signs of an economic recovery, there were several rate rises in the United States during 2004, which were confirmed in 2005 and 2006, after which the federal funds rate remained unchanged between June 2006 and September 2007, when it fell to 4.75 % on the back of fears for a slowdown in economic activity, in particular within the housing market with concerns over the subprime market. European interest rates followed this trend, and during the period from December 2005 to June 2007 there were 8 individual increases in interest rates, as the ECB tightened monetary policy, which thereafter remained unchanged through to September 2007.

## SOURCES

Pocketbooks EU economic data pocketbook – Quarterly

#### Website data

Exchange rates Bilateral exchange rates ERM fluctuations Effective exchange rate indices Former euro area national currencies exchange rates Interest rates Euro yield curves Long-term interest rates Central bank interest rates Short-term interest rates Retail bank interest rates Convergence of interest rates Interest rates: Bilaterates: Bilaterat

Economy

# Figure 1.21: Exchange rates against the euro (1)

(1997=100)



(1) CHF, Swiss franc; JPY, Japanese Yen; USD, United States Dollar; a reduction in the value of the index shows an appreciation in the value of the foreign currency and a depreciation in the value of the euro.

Source: Eurostat (tec00033), ECB

Exchange rates are the price or value of one country's currency in relation to another. Here the exchange rates are those for the euro published by the European Central Bank. Before 1999 the exchange rates are those of the ECU, as published by the European Commission.

Table 1.7: Exchange rates against the euro (1)

(1 EUR =... national currency)

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Belgium	40.5332	40.6207	40.340	-	-	-	-	-	-	-
Bulgaria	1.8910	1.96913	1.9558	1.9522	1.9482	1.9492	1.9490	1.9533	1.9558	1.9558
Czech Republic	35.930	36.0487	36.884	35.599	34.068	30.804	31.846	31.891	29.782	28.342
Denmark	7.4836	7.4993	7.4355	7.4538	7.4521	7.4305	7.4307	7.4399	7.4518	7.4591
Germany	1.96438	1.96913	1.95583	-	-	-	-	-	-	-
Estonia	15.713	15.7481	15.6466	15.6466	15.6466	15.6466	15.6466	15.6466	15.6466	15.6466
Ireland	0.74752	0.78625	0.78756	-	-	-	-	-	-	-
Greece	309.355	330.731	325.763	336.63	340.75	-	-	-	-	-
Spain	165.89	167.184	166.386	-	-	-	-	-	-	-
France	6.6126	6.6014	6.55957	-	-	-	-	-	-	-
Italy	1 929.3	1 943.6	1 936.3	-	-	-	-	-	-	-
Cyprus	0.58243	0.57934	0.57884	0.57392	0.57589	0.5753	0.58409	0.58185	0.57683	0.57578
Latvia	0.6594	0.66024	0.6256	0.5592	0.5601	0.5810	0.6407	0.6652	0.6962	0.6962
Lithuania	4.5362	4.4844	4.2641	3.6952	3.5823	3.4594	3.4527	3.4529	3.4528	3.4528
Luxembourg	40.5332	40.6207	40.340	-	-	-	-	-	-	-
Hungary	211.654	240.573	252.77	260.04	256.59	242.96	253.62	251.66	248.05	264.26
Malta	0.4375	0.4350	0.4258	0.4041	0.4030	0.4089	0.4261	0.4280	0.4299	0.4293
Netherlands	2.21081	2.21966	2.20371	-	-	-	-	-	-	-
Austria	13.824	13.8545	13.760	-	-	-	-	-	-	-
Poland	3.71545	3.91647	4.2274	4.0082	3.6721	3.8574	4.3996	4.5268	4.0230	3.8959
Portugal	198.589	201.70	200.482	-	-	-	-	-	-	-
Romania	0.81085	0.99849	1.6345	1.9922	2.6004	3.1270	3.7551	4.0510	3.6209	3.5258
Slovenia	180.986	185.948	194.473	206.613	217.98	225.977	233.849	239.087	239.568	239.60
Slovakia	38.1129	39.5407	44.123	42.602	43.300	42.694	41.489	40.022	38.599	37.234
Finland	5.88064	5.98251	5.94573	-	-	-	-	-	-	-
Sweden	8.65117	8.91593	8.8075	8.4452	9.2551	9.1611	9.1242	9.1243	9.2822	9.2544
United Kingdom	0.6923	0.67643	0.65874	0.60948	0.62187	0.62883	0.6920	0.67866	0.6838	0.68173
Croatia	:	:	7.58046	7.64316	7.4820	7.4130	7.5688	7.4967	7.4008	7.3247
FYR of Macedonia	56.526	60.961	60.618	60.725	60.913	60.979	61.262	61.323	61.309	61.189
Turkey	0.1718	0.2937	0.44724	0.57482	1.10242	1.43968	1.69485	1.77705	1.6771	1.8090
Iceland	80.4391	79.6976	77.180	72.580	87.420	86.180	86.650	87.140	78.230	87.760
Norway	8.01861	8.46587	8.3104	8.1129	8.0484	7.5086	8.0033	8.3697	8.0092	8.0472
Switzerland	1.6440	1.6220	1.6003	1.5579	1.5105	1.4670	1.5212	1.5438	1.5483	1.5729
Japan	137.076	146.415	121.32	99.47	108.68	118.06	130.97	134.44	136.85	146.02
United States	1 1 3 4 0	1 12109	1 0658	0 9236	0 8956	0 9456	1 1 3 1 2	1 2 4 3 9	1 2 4 4 1	1 2 5 5 6

(1) The euro replaced the ecu on 1 January 1999; on 1 January 2002, it also replaced the notes and coins of 12 Community currencies with the introduction of the euro to the euro area (EA-12) members; on 1 January 2007, the euro came into circulation in Slovenia; on 1 January 2008, the euro came into circulation in Cyprus and Malta.

Source: Eurostat (tec00033), ECB

# Table 1.8: Interest rates

(%)

	Centr intere officia rates f	al bank st rates: I lending for loans	EMU conv criterior yields (Ma criteri	vergence n bond aastricht on) (1)	Short-term rates: thre interban (annual a	interest e-month k rates verage)	Short-terr rates: d mone (annual	m interest day-to-day ey rates l average)	
	2001	2006 (2)	2001	2006	2001	2006	2001	2006 (3)	
EU-25	:	:	:	4.03	4.74	3.50	:	2.65	
Euro area	4.25	4.50	5.00	3.84	4.26	3.08	4.38	2.84	
Belgium	-	-	5.13	3.81	-	-	-	-	
Bulgaria	:	:	:	4.18	5.06	3.69	3.64	2.79	
Czech Republic	5.75	3.50	6.31	3.78	5.17	2.30	4.98	2.10	
Denmark	3.60	3.75	5.08	3.81	4.70	3.18	4.69	2.68	
Germany	-	-	4.80	3.76	-	-	-	-	
Estonia	:	:	10.15	4.30	5.31	3.16	3.93	1.97	
Ireland	-	-	5.01	3.76	-	-	-	-	
Greece	-	-	5.30	4.07	-	-	-	-	
Spain	-	-	5.12	3.78	-	-	-	-	
France	-	-	4.94	3.80	-	-	-	-	
Italy	-	-	5.19	4.05	-	-	-	-	
Cyprus	5.50	4.50	7.63	4.13	5.93	3.37	5.16	2.92	
Latvia	5.50	6.00	7.57	4.13	6.86	4.38	5.76	3.54	
Lithuania	5.50	:	8.15	4.08	5.93	3.11	4.11	2.88	
Luxembourg	-	-	4.86	3.92	-	-	-	-	
Hungary	11.25	9.00	7.95	7.12	10.87	7.23	10.92	6.43	
Malta	4.80	4.75	6.19	4.32	4.93	3.49	4.44	3.37	
Netherlands	-	-	4.96	3.78	-	-	-	-	
Austria	-	-	5.07	3.80	-	-	-	-	
Poland	15.50	5.50	10.68	5.23	16.07	4.21	17.12	4.10	
Portugal	-	-	5.16	3.91	-	-	-	-	
Romania	35.00	8.75	:	7.23	41.28	8.09	37.84	7.04	
Slovenia	12.00	5.00	:	3.85	10.87	3.58	:	3.37	
Slovakia	9.00	6.25	8.04	4.41	7.77	4.33	7.35	3.83	
Finland	-	-	5.04	3.78	-	-	-	-	
Sweden	4.50	3.75	5.11	3.70	4.12	2.57	4.08	2.10	
United Kingdom	4.00	5.00	5.01	4.37	5.04	4.85	5.09	4.73	
Turkey	58.94	17.50	:	:	:	:	93.04	15.05	
Japan	0.10	0.40	:	:	0.15	0.30	0.06	0.00	
United States	1.75	5.25	:	:	3.77	5.20	3.88	3.22	

(1) The indicator for Estonia represents interest rates on new EEK-denominated loans to non-financial corporations and households with maturity over 5 years; however, a large part of the underlying claims are linked to variable interest rates. The indicator for Luxembourg is based on a basket of long-term bonds, which have an average residual maturity close to ten years; the bonds are issued by a private credit institution.
(2) Slovenia and Turkey, 2005.
(3) EU-25, Estonia, Turkey, Japan and the United States, 2005.

Source: Eurostat (irt\_cb\_a, irt\_lt\_mcby\_a, tec00035 and tec00034), ECB, national central banks

An interest rate is the cost or price of borrowing, or the gain from lending, normally expressed as an annual percentage amount. Three-month interbank rates apply to deposits or loans between banks with an original maturity of three months. Day-to-day money refers to deposits or loans on the money market with a maturity of one business day.







Source: Eurostat (irt\_cb\_a), ECB, national central banks

#### **1.6 WAGES AND LABOUR COSTS**

#### **INTRODUCTION**

Globalisation, the behaviour of firms, employment-related policies and changes in the structure of markets may influence the way in which labour markets develop. The level and structure of labour costs are among some of the key macro-economic indicators used by policy-makers, employers and trade unions in assessing labour market supply and demand conditions.

Within the context of the renewed Lisbon strategy, as highlighted in the Integrated Guidelines for Growth and Employment there are two key guidelines, namely to ensure:

- 'that wage developments contribute to macro-economic stability and growth, and;
- employment-friendly labour cost developments and wagesetting mechanisms by encouraging social partners within their own responsibilities to set the right framework for wage-bargaining in order to reflect productivity and labour market challenges at all relevant levels and to avoid gender pay gaps, by reviewing the impact on employment of nonwage labour costs and where appropriate adjust their structure and level, especially to reduce the tax burden on the low-paid' <sup>(26)</sup>.

Article 141(1) of the EC Treaty sets out the principle of equal pay for male and female workers for equal work or work of equal value, and Article 141(3) provides the legal basis for legislation on the equal treatment of men and women in employment matters. The gender pay gap is a multidimensional phenomenon that may be related to a number of effects, such as the composition of the labour force, remuneration and personnel selection effects. Gender differences are not restricted to pay, and the principle of equal treatment has been extended to cover a range of employment aspects, including equal access to self-employment, working conditions and vocational training. Policy measures within this area are designed to take account of differences in male and female labour market participation rates and career structures, wage structures, promotion policies, as well as the concentration of women in low pay sectors and occupations.

(26) For more information: http://europa.eu/scadplus/leg/en/cha/c11323.htm.

#### **DEFINITIONS AND DATA AVAILABILITY**

Labour costs refer to the expenditure incurred by employers in order to employ personnel. These labour cost components and their elements are defined in Commission Regulation (EC) 1737/2005 of 21 October 2005 amending Regulation (EC) No 1726/1999 as regards the definition and transmission of information on labour costs implementing Council Regulation (EC) No 530/1999 concerning structural statistics on earnings and labour costs. Data relate to three core indicators:

- average monthly labour costs, defined as total labour costs per month divided by the corresponding number of employees, expressed as full-time units;
- average hourly labour costs, defined as total labour costs divided by the corresponding number of hours worked;
- the structure of labour costs (wages and salaries; employers' social security contributions; other labour costs), expressed as a percentage of total labour costs.

Gross earnings are the most important part of labour costs information is provided on average annual gross earnings. These cover remuneration in cash paid directly by the employer, before tax deductions and social security contributions payable by wage earners and retained by the employer. All bonuses, whether or not regularly paid, are included (13th or 14th month, holiday bonuses, profit-sharing, allowances for leave not taken, occasional commissions, etc.). The information is presented for full-time employees working in industry and services (as covered by NACE Sections C to K). The statistical unit is the enterprise or local unit. The population consists of all units having employees, although it is at present still confined to enterprises with at least 10 employees in most countries.

Net earnings are derived from gross earnings and represent the part of remuneration that employees can actually spend. Compared with gross earnings, net earnings do not include social security contributions and taxes, but do include family allowances.

The gender pay gap is given as the difference between average gross hourly earnings of male paid employees and of female paid employees, expressed as a percentage of average gross hourly earnings of male paid employees. The target population consists of all paid employees aged 16-64 that are at work for at least 15 hours per week.

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Minimum wages are enforced by law and apply nationwide to the majority of full-time employees in each country. Minimum wages are expressed as gross amounts, that is, before the deduction of income tax and social security contributions. For most countries, the minimum wage is agreed in terms of an hourly or monthly rate, with the following exceptions for those countries where the minimum wage is fixed at an hourly rate:

- France: minimum wage per hour \* 169 hours per month;
- Ireland and the United Kingdom: minimum wage per hour
   \* 39 hours per week \* 52/12.

In the case of Greece, Spain and Portugal, where 14 monthly minimum wages are paid per year, the minimum monthly wage is multiplied by 14/12.

The tax wedge on labour costs is defined as income tax on gross wage earnings plus the employee's and the employer's social security contributions, expressed as a percentage of the total labour costs of the earner. This indicator is available for single persons without children earning 67 % of the average earnings of an average worker in NACE Sections C to K (the business economy).

The unemployment trap measures the proportion of gross earnings which is taxed away by higher tax and social security contributions and the withdrawal of unemployment and other benefits when an unemployed person returns to employment; it is defined as the difference between gross earnings and the increase of the net income when moving from unemployment to employment, expressed as percentage of the gross earnings. The indicator is available for single persons without children earning 67 % of the average earnings of an average worker in NACE Sections C to K.

The low wage trap measures the proportion of gross earnings which is taxed away through the combined effects of income taxes, social security contributions, and any withdrawal of benefits when gross earnings increase from 33 % to 67 % of the average earnings of an average worker in NACE Sections C to K. This indicator is available for single persons without children and for one-earner couples with two children between 6 and 11 years old.

#### MAIN FINDINGS

Gross annual earnings of full-time employees in enterprises with 10 or more employees averaged EUR 29 247 in the EU-27 in 2005, ranging from a high of EUR 47 529 in Denmark to EUR 1 978 in Bulgaria. A more detailed analysis can be made for the EU-15 within industrial and service activities covered by NACE Sections C to K.

Despite some progress, there remains an important gap between the earnings of men and women in the EU. Women were paid 15 % less than their male counterparts within the EU-27 in 2006. The pay gap was below 10 % in Belgium, Ireland, Italy, Malta, Portugal and Slovenia, rising to more than 20 % in Germany, Estonia, Cyprus and Slovakia. Various effects may contribute to these gender pay gaps, such as: differences in labour force participation rates, differences in the occupations and activities that tend to be male or female dominated, differences in the degrees to which men and women work on a part-time basis, as well as the attitudes of personnel departments within private and public bodies towards career development and unpaid/maternity leave.

Statutory minimum wages also vary considerably between Member States, and reflect to some degree the price levels in each economy, with the highest minimum wage in 2007 being recorded in Luxembourg (EUR 1 570 per month) and the lowest in Bulgaria and Romania (EUR 92 and EUR 121 respectively). There was generally a relatively low share of employees in full-time employment who received the minimum wage – however, the latest figures available showed that this proportion rose to double digits in Bulgaria, France and Luxembourg.

There were quite large differences in the structure of labour costs within the Member States in 2005, as the relative importance of wages and salaries ranged from less than 70 % of total labour costs in Belgium, France, Italy (2002), Hungary and Sweden to more than 83 % in Denmark, Cyprus, Luxembourg and Malta. When social security and other non-salary costs account for a relatively high share of labour costs then this is likely to deter employers from hiring until they are absolutely sure that they require new labour.



# **SOURCES**

**Pocketbooks** EU economic data pocketbook – Quarterly

Methodologies and working papers Handbook on price and volume measures in national accounts

### Website data Main economic indicators Economy overview Economy – Structural Indicators

Economy – Euro-Indicators

# National accounts (including GDP) Annual national accounts Quarterly national accounts

Figure 1.23: Earnings in industry and services (average gross annual earnings of full-time employees in enterprises with 10 or more employees), 2005 (EUR)



EA-12.
 2004.
 Not available.

(4) 2003.

Source: Eurostat (tec00030)

Gross earnings are remuneration (wages and salaries) in cash paid directly to the employee, before any deductions for income tax and social security contributions paid by the employee. Data is presented for full-time employees in industry and services.

employees in enterprises with 10 or more employees) (EUR) 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 EU-27 30 142 30 349 28 454 27 948 29 2 47 Euro area 28 786 29 588 31 089 32 481 33 176 30 379 Belgium 29 1 3 1 29 6 1 6 30 701 31 644 33 109 34 330 34 643 35 704 28 901 36 673 37 674 1 330 1 436 **Bulgaria** 896 1216 1 5 1 8 1 588 1 678 1 784 1 978 **Czech Republic** 6016 6 1 3 7 6 5 6 9 7 4 0 5 8 2 8 4 • 36 376 36 235 37 209 Denmark 39 515 40 962 41 661 43 577 44 692 46 122 47 529 35 254 35 093 35 432 36 228 37 319 38 204 39 153 40 056 Germany 40 954 41 694 42 382 Estonia Ireland 11 917 12 605 13 210 13 926 14 721 15 431 16 278 16 739 Greece 16 043 16 192 16 528 17 038 17 432 17 768 18 462 19 220 Spain 19 828 20 4 39 21 150 25 089 25 545 25 777 26 339 26 712 27 418 28 185 28 847 29 608 30 521 France Italy • • • Cyprus 12 980 14 021 14 709 15 161 16 335 16 948 17 740 18 406 19 290 20 549 21 310

Table 1.9: Earnings in industry and services (average gross annual earnings of full time

Latvia	:	:	:	:	:	:	:	:	3 806	4 2 4 6	5 2 1 1
Lithuania	1 597	2 286	2 799	3 017	:	:	:	:	:	:	:
Luxembourg	:	32 600	33 337	34 462	35 875	37 745	38 442	39 587	40 575	42 135	43 621
Hungary	3 158	3 543	3 686	3 770	4 172	4 898	5 846	6 196	7 099	7 798	7 840
Malta	9 287	10 114	10 713	11 581	12 553	13 320	13 460	13 603	11 926	11 180	:
Netherlands	28 140	28 061	29 189	30 426	31 901	33 900	35 200	36 600	37 900	38 700	:
Austria	:	:	:	:	:	:	:	:	34 995	36 032	:
Poland	3 076	:	4 156	5 310	:	7 509	:	:	6 2 3 0	6 270	:
Portugal	:	:	:	:	12 620	13 338	13 322	13 871	14 253	14 715	:
Romania	:	:	:	:	:	:	:	:	2 414	3 155	3 713
Slovenia	:	:	:	:	:	:	:	:	:	:	:
Slovakia	:	3 179	3 292	3 125	3 583	3 837	4 582	4 944	5 706	6 374	7 040
Finland	23 883	24 005	24 944	25 739	27 398	28 555	29 916	30 978	31 988	33 290	34 081
Sweden	:	:	:	:	31 621	30 467	31 164	32 177	33 620	34 049	35 084
United Kingdom	:	:	29 370	32 269	37 677	39 233	40 553	38 792	41 253	42 866	:
Iceland	:	:	:	32 311	37 638	34 101	36 764	:	:	:	:
Norway	:	:	31 456	33 741	36 202	38 604	43 736	42 882	42 224	45 485	47 221
Switzerland	42 194	:	40 727	:	43 683	:	48 498	:	45 760	:	:

Source: Eurostat (tec00030)

Figure 1.24: Gender pay gap – female earnings lower than male earnings, 2006

(% difference between average gross hourly earnings of male and female employees, as % of male gross earnings, unadjusted form)



(1) Estimate.

(2) 2005.

Source: Eurostat (tsiem030)

The gender pay gap is given as the difference between average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees. The population consists of all paid employees aged 16-64 that are at work 15+ hours per week.

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		ľ	Vinimur (EUR/n	n wage 10nth)			Pro ea	Proportion of full-time employees earning the minimum wage (%)						
	2002	2003	2004	2005	2006	2007	2002	2003	2004	2005	2006	2007		
Belgium	1 163	1 163	1 186	1 2 1 0	1 2 3 4	1 259	:	:	:	:	:	:		
Bulgaria	51	56	61	77	82	92	5.1	:	:	16.0	14.6	:		
Czech Republic	:	199	207	235	261	280	2.0	2.0	2.0	2.0	2.3	:		
Denmark	:	:	:	:	:	:	:	:	:	:	:	:		
Germany	:	:	:	:	:	:	:	:	:	:	:	:		
Estonia	118	138	159	172	192	230	6.9	6.4	5.7	4.8	:	:		
Ireland	1 009	1 073	1 073	1 183	1 293	1 462	2.1	3.1	3.1	3.3	3.3	:		
Greece	552	605	631	668	668	658	:	:	:	:	:	:		
Spain	516	526	537	599	631	666	0.8	0.9	0.8	0.8	1.0	:		
France	1 126	1 154	1 173	1 197	1 2 1 8	1 280	14.0	13.4	15.6	16.8	15.1	:		
Italy	:	:	:	:	:	:	:	:	:	:	:	:		
Cyprus	:	:	:	:	:	:	:	:	:	:	:	:		
Latvia	107	116	121	116	129	172	15.4	13.6	13.6	12.0	8.9	:		
Lithuania	120	125	125	145	159	203	8.8	10.2	12.1	10.3	8.5	:		
Luxembourg	1 290	1 369	1 403	1 467	1 503	1 570	15.1	16.9	18.0	11.0	11.0	10.9		
Hungary	202	212	189	232	247	262	11.4	8.1	8.0	8.0	7.8	:		
Malta	552	534	542	557	580	585	3.5	1.1	1.5	1.5	1.5	1.5		
Netherlands	1 207	1 2 4 9	1 265	1 265	1 273	1 317	2.3	2.2	2.1	2.2	:	:		
Austria	:	:	:	:	:	:	:	:	:	:	:	:		
Poland	212	201	177	205	234	246	4.0	:	4.5	2.9	2.3	:		
Portugal	406	416	426	437	450	470	4.0	5.7	5.3	4.7	4.2	:		
Romania	62	73	69	72	90	121	8.9	12.2	12.0	9.7	8.2	:		
Slovenia	:	451	471	490	512	522	2.6	2.7	2.0	2.8	2.5	:		
Slovakia	114	133	148	167	183	217	0.1	0.4	1.9	1.7	1.9	:		
Finland	:	:	:	:	:	:	:	:	:	:	:	:		
Sweden	:	:	:	:	:	:	:	:	:	:	:	:		
United Kingdom	1 1 1 8	1 106	1 083	1 197	1 269	1 356	1.8	1.2	1.4	1.8	1.9	:		
Turkey	:	189	240	240	331	330	:	:	:	:	:	:		
United States	1 001	877	727	666	753	665	1.5	1.4	1.4	1.3	1.1	:		

#### Table 1.10: Minimum wage and proportion of employees earning the minimum wage

Source: Eurostat (tps00155 and tps00156)

Minimum wages are enforced by law and apply nationwide to the majority of full-time employees in each country. Minimum wages are gross amounts, that is, before the deduction of income tax and social security contributions. Such deductions vary from country to country. For most countries, the minimum wage is agreed in terms of a monthly rate.



Figure 1.25: Tax rate on low wage earners: tax wedge on labour cost, 2006 (%)

(1) Available only on an average production worker (APW) basis instead of average worker (AW) basis.

(2) Not available

Source: Eurostat (tsiem041), OECD, Commission services

The tax wedge on the labour cost measures the relative tax burden for an employed person with low earnings.

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# Figure 1.26: Tax rate on low wage earners: unemployment trap, 2006 (%)

(1) Available only on an average production worker (APW) basis instead of average worker (AW) basis.

Source: Eurostat (tsiem042), OECD, Commission services

The unemployment trap measures the percentage of gross earnings which is taxed away through higher tax and social security contributions and the withdrawal of unemployment and other benefits when an unemployed person returns to employment. This structural indicator covers single persons without children earning, when in work, 67 % of the average earnings.



Figure 1.27: Tax rate on low wage earners: low wage trap – single person without children, 2006 (%)

(1) Available only on an average production worker (APW) basis instead of average worker (AW) basis.

Source: Eurostat (tsiem042), OECD, Commission services

The low wage trap measures what percentage of the gross earnings is taxed away by the combined effects of higher taxes and reduced or lost benefits, when an employed single person moves from 33 % to 67 % of the average earnings.





Figure 1.28: Tax rate on low wage earners: low wage trap – one earner couple with two children, 2006 (%)

Available only on an average production worker (APW) basis instead of average worker (AW) basis.
 2005.

Source: Eurostat (tsiem044), OECD, Commission services

The low wage trap measures what percentage of the gross earnings is taxed away by the combined effects of higher taxes and reduced or lost benefits, when the earner in a one-earner couple with two children (in the age of 4 and 6) moves from 33 % to 67 % of the average earnings.

Figure 1.29: Labour costs (average hourly labour costs in industry and services of full-time employees in enterprises with 10 or more employees), 2005 (EUR)



(1) 2004.
 (2) 2003.

(3) Not available.

Source: Eurostat (tec00028)

Average hourly labour costs, defined as total labour costs divided by the corresponding number of hours worked.

Table 1.11: Labour costs (average hourly labour costs in industry and services of full-time employees in enterprises with 10 or more employees) (1) (EUR)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
EU-27	16.17	16.99	17.09	17.80	18.32	18.76	19.44	19.66	20.39	20.53	:
Euro area	19.39	19.74	19.86	20.31	21.18	21.69	22.42	22.96	23.77	24.71	:
Belgium	:	:	:	:	26.61	27.89	29.17	29.58	30.29	30.73	:
Bulgaria	:	:	1.11	1.22	1.23	1.29	1.32	1.39	1.45	1.55	:
Czech Republic	2.80	2.97	3.23	3.41	3.86	4.64	5.39	5.47	5.85	6.63	7.14
Denmark	:	23.40	24.63	25.92	26.53	28.54	29.06	30.30	30.70	31.98	:
Germany	22.90	23.30	23.60	24.00	25.00	25.60	26.20	26.80	26.90	27.20	27.70
Estonia	1.85	2.13	2.42	2.60	2.85	3.22	3.67	4.01	4.24	4.67	5.49
Ireland	:	:	:	:	:	:	:	:	:	:	:
Greece	9.26	9.77	9.77	10.60	10.98	11.62	12.46	13.37	:	:	:
Spain	14.43	14.19	14.13	14.22	14.22	13.07	13.63	14.21	14.76	15.22	15.77
France	22.09	22.52	22.94	23.57	24.84	26.00	27.04	27.68	28.46	29.29	30.31
Italy	17.59	18.92	18.30	18.68	18.99	19.27	19.99	20.64	21.39	:	:
Cyprus	7.25	7.83	8.19	8.41	9.10	9.43	9.91	10.68	11.10	11.65	11.98
Latvia	:	1.59	1.71	1.85	2.22	2.29	2.39	2.37	2.52	2.77	3.41
Lithuania	1.32	1.68	1.95	2.16	2.63	2.76	2.90	3.10	3.22	3.56	4.21
Luxembourg	21.38	21.26	21.56	22.52	24.48	25.39	26.21	27.02	29.97	31.10	31.98
Hungary	2.86	3.15	3.02	3.14	3.63	4.04	4.91	5.10	5.54	6.14	6.34
Malta	:	:	:	:	:	:	7.59	7.77	7.77	8.35	:
Netherlands	20.39	19.13	20.18	21.14	22.31	23.88	25.19	26.45	27.23	27.41	:
Austria	21.96	21.90	22.38	23.21	22.87	23.88	24.93	:	25.32	:	:
Poland	2.95	3.38	3.73	4.05	4.48	5.30	5.27	4.70	4.74	5.55	6.03
Portugal	7.18	7.40	7.60	7.99	8.13	8.60	9.10	9.60	10.20	10.60	10.97
Romania	:	:	:	:	1.41	1.55	1.67	1.60	1.76	2.33	2.68
Slovenia	7.35	7.90	8.51	8.94	8.98	9.58	9.70	10.54	10.41	10.76	:
Slovakia	2.16	2.61	2.91	2.76	3.07	3.26	3.59	4.02	4.41	4.80	5.33
Finland	20.25	20.30	20.40	21.37	22.10	23.59	23.82	24.78	25.34	26.70	27.39
Sweden	23.12	23.79	23.99	25.43	28.56	27.41	28.73	30.43	31.08	31.55	32.16
United Kingdom	14.22	17.69	19.16	20.84	23.71	24.51	25.24	23.56	24.71	24.47	:
Iceland	:	:	:	:	:	:	21.95	23.76	25.22	30.82	32.37
Switzerland	:	:	:	:	30.59	:	34.16	:	32.82	:	:

(1) Break in series: the Netherlands, 1997; Lithuania, 2000; Spain, 2001; Malta, 2003.

Source: Eurostat (tec00028)

Economy





## Figure 1.30: Breakdown of labour costs, business economy, 2005

(% share of total labour costs)

Labour costs are the total expenditure borne by employers for the purpose of employing staff. They include employee compensation (including wages, salaries in cash and in kind, employers' social security contributions), vocational training costs, other expenditure such as recruitment costs, spending on working clothes and employment taxes regarded as labour costs minus any subsidies received.

Figure 1.31: Labour cost growth (real unit labour cost growth: compensation per employee in current prices divided by GDP in current prices per total employment), EU-27



(% change compared with previous year)

Source: Eurostat (tsieb050)

This derived indicator compares remuneration (compensation per employee) and productivity (gross domestic product (GDP) per employment) to show how the remuneration of employees is related to the productivity of their labour. It is the relationship between how much each worker is paid and the value he/she produces by their work. Its growth rate is intended to give an impression of the dynamics of the participation of the production factor labour in output value created. Please note that the variables used in the numerator (compensation, employees) refer to employed labour only, while those in the denominator (GDP, employment) refer to all labour, including self-employed.

#### **1.7 CONSUMER PRICES**

#### **INTRODUCTION**

Changes in the price of consumer goods and services are usually referred to as the inflation rate. They measure the loss of living standards due to price inflation and are some of the most wellknown economic statistics by the general public.

Price stability is one of the primary objectives of the European Central Bank (ECB), with the inflation rate used as a prime indicator for monetary policy management in the euro area. The ECB has defined price stability as an annual increase in the harmonised index of consumer prices (HICP) for the euro area of close to but below 2 % (over the medium-term).

HICPs are economic indicators constructed to measure the changes over time in the prices of consumer goods and services acquired by households. HICPs give comparable measures of inflation in the euro area, the EU, the European Economic Area, as well as for individual countries. They are calculated according to a harmonised approach and a single set of definitions, providing an official measure of consumer price inflation for the purposes of monetary policy and assessing inflation convergence as required under the Maastricht criteria.

#### **DEFINITIONS AND DATA AVAILABILITY**

HICPs are presented with a common reference year, which is currently 2005=100. Normally the indices are used to create percentage changes that show price increases/decreases for the period in question. Although the rates of change shown in this publication are annual averages, the basic indices are compiled on a monthly basis and are published at this frequency by Eurostat. Eurostat publishes HICPs some 14 to 16 days after the end of the reporting month, with these series starting in the mid-1990s.

HICPs cover practically every good and service that may be purchased by households in the form of final monetary consumption expenditure. Owner occupied housing is, however, not yet reflected in the HICPs. The different goods and services are classified according to an international classification of individual consumption by purpose, known as COICOP/HICP. At its most disaggregated level, Eurostat publishes around 100 sub-indices, which can be aggregated to broad categories of goods and services.

There are three key HICP aggregate indices: the monetary union index of consumer prices (MUICP) for the euro area; the European index of consumer prices (EICP) covering all Member States; and the European Economic Area index of consumer prices (EEAICP), which additionally covers Iceland and Norway. Note that these aggregates reflect changes over time in their country composition through the use of a chain index formula – for example, the MUICP includes Slovenia only from 2007 onwards, while the EICP index only includes Bulgaria and Romania from 2007 onwards. HICP methodology allows country weights to change each year: with a country's weight being set as its share of household final monetary consumption expenditure in the geographical aggregate under consideration. For the EICP and the EEAICP, expenditure in national currencies is converted using purchasing power parities.

#### **MAIN FINDINGS**

Compared with historical trends, consumer price indices have risen only at a moderate pace during the last two decades. The EU inflation decreased during the 1990s, reaching 1.2 % by 1999, after which the pace of price increases settled at around 2 % per annum during the period 2000 to 2006. This pattern was quite similar to the evolution of inflation in the United States, while Japan has been characterised by exceptionally low inflation – often deflation (in other words falling prices) during the last decade.

In 2006, the highest price inflation among the then 25 EU Member States was recorded in Latvia and Slovakia (6.6 % and 4.3 % respectively). Of the two countries that joined the EU in 2007, Bulgaria recorded even higher inflation with 7.4 % and Romania was at 6.6 % in 2006. In general, inflation was often somewhat higher than the EU average among the ten Member States that joined the EU in 2004.

The overall inflation rate can be broken down to look at its constituent consumer price indices for different goods and services. Some of the most volatile prices are recorded for housing and energy-related items. The rapid increase in the price of oil and gas and generally buoyant housing markets were apparent in the most recent annual price changes, as in 2006 there was a relatively rapid increase in the price of housing, water, electricity, gas and other fuels (5.4 %), education (4.0 %) and transport (3.0 %). Other items tend to record falling prices and 2006 confirmed this trend for clothing and footwear (-0.6 %) and communications (-2.5 %) – the former being increasingly reliant on imports, while technology gains and increased competition have forced down prices within the communications sector.



# SOURCES

Pocketbooks EU economic data pocketbook – Quarterly

**Methodologies and working papers** Harmonised indices of consumer prices (HICPs) – A short guide for users Compendium of HICP reference documents

Dedicated sections on the Eurostat website Harmonised indices of consumer prices

#### Website data

# Main economic indicators Economy – Structural Indicators Economy – Euro-Indicators

#### Prices

Harmonised indices of consumer prices (HICP) Consumer price indices, 1985=100



# Figure 1.32: Consumer price index and inflation rate, EU (1)

(1) The data refer to the official EU aggregate, its country coverage changes in line with the addition of new EU Member States and integrates them using a chain index formula.

(2) 1996-1998, estimates.

(3) 1996, not available; 1997-1999, estimates.

Source: Eurostat (tec00027 and tsieb040)

Harmonised indices of consumer prices (HICPs) are designed for international comparisons of consumer price inflation. HICP is used for example by the European Central Bank for monitoring of inflation in the Economic and Monetary Union and for the assessment of inflation convergence as required under Article 121 of the Treaty of Amsterdam.

# Table 1.12: Inflation rate

(% change compared with previous year, based on the harmonized index of consumer prices)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
EU (1)	:	1.7	1.3	1.2	1.9	2.2	2.1	2.0	2.0	2.2	2.2
Euro area (2)	:	1.6	1.1	1.1	2.1	2.3	2.2	2.1	2.1	2.2	2.2
Belgium	:	1.5	0.9	1.1	2.7	2.4	1.6	1.5	1.9	2.5	2.3
Bulgaria	:	:	18.7	2.6	10.3	7.4	5.8	2.3	6.1	6.0	7.4
Czech Republic	:	8.0	9.7	1.8	3.9	4.5	1.4	-0.1	2.6	1.6	2.1
Denmark	:	2.0	1.3	2.1	2.7	2.3	2.4	2.0	0.9	1.7	1.9
Germany	:	1.5	0.6	0.6	1.4	1.9	1.4	1.0	1.8	1.9	1.8
Estonia	:	9.3	8.8	3.1	3.9	5.6	3.6	1.4	3.0	4.1	4.4
Ireland	:	1.3	2.1	2.5	5.3	4.0	4.7	4.0	2.3	2.2	2.7
Greece	:	5.4	4.5	2.1	2.9	3.7	3.9	3.4	3.0	3.5	3.3
Spain	:	1.9	1.8	2.2	3.5	2.8	3.6	3.1	3.1	3.4	3.6
France	:	1.3	0.7	0.6	1.8	1.8	1.9	2.2	2.3	1.9	1.9
Italy	:	1.9	2.0	1.7	2.6	2.3	2.6	2.8	2.3	2.2	2.2
Cyprus	:	3.3	2.3	1.1	4.9	2.0	2.8	4.0	1.9	2.0	2.2
Latvia	:	8.1	4.3	2.1	2.6	2.5	2.0	2.9	6.2	6.9	6.6
Lithuania	:	10.3	5.4	1.5	1.1	1.6	0.3	-1.1	1.2	2.7	3.8
Luxembourg	:	1.4	1.0	1.0	3.8	2.4	2.1	2.5	3.2	3.8	3.0
Hungary	:	18.5	14.2	10.0	10.0	9.1	5.2	4.7	6.8	3.5	4.0
Malta	:	3.9	3.7	2.3	3.0	2.5	2.6	1.9	2.7	2.5	2.6
Netherlands	:	1.9	1.8	2.0	2.3	5.1	3.9	2.2	1.4	1.5	1.7
Austria	:	1.2	0.8	0.5	2.0	2.3	1.7	1.3	2.0	2.1	1.7
Poland	:	15.0	11.8	7.2	10.1	5.3	1.9	0.7	3.6	2.2	1.3
Portugal	:	1.9	2.2	2.2	2.8	4.4	3.7	3.3	2.5	2.1	3.0
Romania	:	154.8	59.1	45.8	45.7	34.5	22.5	15.3	11.9	9.1	6.6
Slovenia	:	8.3	7.9	6.1	8.9	8.6	7.5	5.7	3.7	2.5	2.5
Slovakia	:	6.0	6.7	10.4	12.2	7.2	3.5	8.4	7.5	2.8	4.3
Finland	:	1.2	1.3	1.3	2.9	2.7	2.0	1.3	0.1	0.8	1.3
Sweden	:	1.8	1.0	0.5	1.3	2.7	1.9	2.3	1.0	0.8	1.5
United Kingdom	:	1.8	1.6	1.3	0.8	1.2	1.3	1.4	1.3	2.1	2.3
Turkey	:	85.6	82.1	61.4	53.2	56.8	47.0	25.3	10.1	8.1	9.3
Iceland	:	1.8	1.3	2.1	4.4	6.6	5.3	1.4	2.3	1.4	4.6
Norway	:	2.6	2.0	2.1	3.0	2.7	0.8	2.0	0.6	1.5	2.5
Japan (3)	0.1	1.8	0.6	-0.3	-0.7	-0.7	-0.9	-0.3	0.0	-0.3	0.3
United States (3)	3.0	2.3	1.6	2.2	3.4	2.8	1.6	2.3	2.7	3.4	3.2

The data refer to the official EU aggregate, its country coverage changes in line with the addition of new EU Member States and integrates them using a chain index formula.
 The data refer to the official euro area aggregate, its country coverage changes in line with the addition of new EU Member States and integrates them using a chain index formula.
 National CPI: not strictly comparable with the HICP.

Source: Eurostat (tsieb040)

Economy Economy



#### Figure 1.33: Inflation rate

(% change compared with previous year, based on the harmonized index of consumer prices)



The data refer to the official EU aggregate, its country coverage changes in line with the addition of new EU Member States and integrates them using a chain index formula; 1996, not available; 1997-1999, estimates.
 The data refer to the official euro area aggregate, its country coverage changes in line with the addition of new EU Member

States and integrates them using a chain index formula.; 1996, not available; 1997, estimate.

(3) National CPI: not strictly comparable with the HICP; 2006, not available.

Source: Eurostat (tsieb040)

Figure 1.34: Harmonized indices of consumer prices, annual rate of change, EU, 2006 (1) (%)



(1) The data refer to the official EU aggregate, its country coverage changes in line with the addition of new EU Member States

and integrates them using a chain index formula.(2) More commonly referred to as the inflation rate.

Source: Eurostat (prc\_hicp\_aind and tsieb040)



### **1.8 PRICE CONVERGENCE**

#### **INTRODUCTION**

A comparison of price changes between countries depends not only on movements in price levels, but also exchange rates – together these two forces impact upon price and cost competitiveness of individual Member States.

With the introduction of the euro, prices within those Member States that share a common currency are said to be more transparent, as it is relatively simple for consumers to compare the price of items across borders. Such comparisons that provide an economic case for purchasing a good or service from another country have led to an increase in cross-border trade. From an economic point of view, the price of a given good within the single market should not differ significantly depending on geographic location, beyond differences that may be explained by transport costs or tax differences. However, not all goods and services converge at the same pace. For example, price convergence in housing does not necessarily follow the same pace as for tradable goods. Indeed, even within individual countries there are large (and perhaps growing) discrepancies in the price of housing for rent or for sale between regions.

#### **DEFINITIONS AND DATA AVAILABILITY**

Purchasing power parities (PPPs) estimate price-level differences between countries. They make it possible to produce meaningful volume or price-level indicators required for cross-country comparisons. PPPs are aggregated price ratios calculated from price comparisons over a large number of goods and services. PPPs are employed either:

- as currency converters to generate volume measures with which to compare levels of economic performance, total consumption, investment, overall productivity and selected private household expenditures; or
- as price measures with which to compare relative price levels, price convergence and competitiveness.

Eurostat produces three sets of data using PPPs:

- levels and indices of real final expenditure these are measures of volume; they indicate the relative magnitudes of the product groups or aggregates being compared; at the level of GDP, they are used to compare the economic size of countries;
- levels and indices of real final expenditure per head these are standardised measures of volume; they indicate the relative levels of the product groups or aggregates being compared after adjusting for differences in the size of populations between countries; at the level of GDP, they are often used to compare the economic well-being of populations;
- comparative price levels these are the ratios of PPPs to exchange rates; these indices provide a comparison of the countries' price levels with respect to the EU average – if the price level index is higher than 100, the country concerned is relatively expensive compared with the EU average and vice versa; at the level of GDP, they provide a measure of the differences in the general price levels of countries; the coefficient of variation of comparative price levels is applied as an indicator of convergence among EU Member States.

The real effective exchange rate is deflated by nominal unit labour costs. This relative price and cost indicator aims to assess a country's competitiveness relative to its principal competitors in international markets, with changes in cost and price competitiveness depending not only on exchange rate movements but also on price trends. Double export weights are used to calculate the index, reflecting not only competition in the home markets of the various competitors, but also competition in export markets elsewhere. A rise in the index means a loss of competitiveness.

#### **MAIN FINDINGS**

The relative price levels of private household consumption vary significantly between the Member States. With the average for the EU-27 being defined as 100, comparative price levels within the Member States ranged in 2006 from 44.1 in Bulgaria to 139.4 in Denmark.

Price levels have converged in the EU-27 over the last decade. The pace at which price convergence was taking place slowed somewhat from 2000, but accelerated again after 2003. Price levels in the country with the highest prices were almost five times as high as for the country with the lowest price levels in 1996 – by 2006 this ratio had been reduced to 3.2 times as high. A more reliable measure for looking at the convergence of prices is to study the coefficient of variation of comparative price levels. This indicator shows a reduction from 40.9 % in 1996 to 28.5 % by 2006.



# SOURCES

Pocketbooks EU economic data pocketbook – Quarterly

Methodologies and working papers Eurostat-OECD Methodological manual on purchasing power parities

#### Website data

#### Main economic indicators

Economy – Structural Indicators Economy – Euro-Indicators

Prices

Correction coefficients

Purchasing power parities

#### Monetary and other financial statistics

Index of purchasing power of the euro/ECU

#### Table 1.13: Comparative price levels

(final consumption by private households including indirect taxes, EU-27=100)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
EU-27	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Euro area	107.2	104.0	102.8	102.2	100.5	101.0	101.1	103.5	103.7	102.7	102.6
Belgium	109.9	105.8	107.5	106.8	102.0	103.2	101.5	106.5	105.7	105.1	105.2
Bulgaria	27.3	34.0	37.5	37.9	38.7	41.0	40.8	40.7	41.7	42.4	44.1
Czech Republic	43.8	44.4	47.4	46.4	48.1	50.0	57.1	54.5	54.9	58.1	60.7
Denmark	135.8	131.6	129.4	131.5	130.3	135.2	133.8	141.1	139.6	140.1	139.4
Germany	114.0	109.6	108.7	107.3	106.6	107.0	106.6	106.1	104.7	103.8	103.3
Estonia	49.6	50.8	54.1	56.9	57.3	61.1	60.8	62.0	62.8	64.3	67.0
Ireland	103.3	113.0	108.1	111.6	114.9	119.3	125.2	126.4	125.6	124.9	125.4
Greece	85.8	87.6	85.7	88.3	84.8	82.3	80.2	85.9	87.3	88.3	89.2
Spain	90.7	86.9	85.5	86.0	85.0	85.4	84.6	88.3	90.9	92.0	93.2
France	117.1	112.0	110.7	109.3	105.9	104.1	103.5	110.0	110.5	107.6	107.1
Italy	99.2	99.7	97.9	98.2	97.5	99.7	102.7	103.6	105.2	104.4	104.4
Cyprus	86.2	86.6	87.1	87.4	88.1	88.9	89.1	90.9	90.6	89.1	89.5
Latvia	42.8	47.8	49.2	52.3	58.8	59.0	57.0	54.4	55.5	56.3	58.8
Lithuania	36.4	43.2	45.6	46.8	52.7	54.1	54.2	52.3	53.1	54.6	56.4
Luxembourg	108.9	106.6	104.2	102.9	101.5	103.5	102.1	103.2	105.1	104.6	105.1
Hungary	44.3	46.4	45.7	47.1	49.2	52.9	57.4	58.2	61.6	63.2	60.0
Malta	67.0	68.7	69.4	70.5	73.3	74.8	74.6	72.0	72.8	72.8	73.5
Netherlands	107.3	103.4	102.1	102.7	100.0	103.0	102.9	107.8	106.0	104.6	104.2
Austria	111.7	107.1	105.3	104.9	101.9	104.8	103.4	103.3	103.1	101.9	101.3
Poland	50.6	51.8	53.5	51.9	57.9	64.8	61.2	54.4	53.2	61.7	62.9
Portugal	83.0	82.5	84.0	83.4	83.0	84.4	86.3	86.0	86.7	85.0	85.5
Romania	30.0	34.7	43.2	37.9	42.5	41.7	43.0	43.4	44.3	55.5	58.5
Slovenia	72.5	72.4	74.1	74.1	72.9	73.9	74.4	76.2	75.4	75.6	75.8
Slovakia	40.3	41.6	41.9	40.5	44.4	43.4	44.8	50.7	54.9	55.8	58.2
Finland	127.9	125.0	123.0	122.3	120.9	124.8	123.9	126.6	123.8	123.5	122.5
Sweden	134.7	131.6	127.0	126.4	127.6	119.9	121.7	123.5	121.8	118.5	117.9
United Kingdom	92.6	107.6	112.2	115.6	120.0	116.8	117.1	107.8	107.9	109.2	110.2
Croatia	:	:	:	:	:	:	:	64.8	65.9	68.3	71.4
FYR of Macedonia	:	:	:	:	:	:	:	43.9	44.1	43.9	43.9
Turkey	:	:	:	56.0	62.5	47.7	51.6	57.2	59.0	68.1	68.0
Iceland	117.9	120.8	124.7	126.7	144.0	127.9	134.6	138.4	138.0	153.4	141.8
Norway	133.0	136.6	131.0	134.3	137.7	141.8	151.2	142.1	134.9	140.8	140.5
Switzerland	146.5	135.8	136.4	139.7	142.6	146.3	146.7	143.8	139.9	137.0	133.3

Source: Eurostat (tsier011)

Comparative price levels are the ratio between purchasing power parities (PPPs) and market exchange rate for each country. PPPs are currency conversion rates that convert economic indicators expressed in national currencies to a common currency, called purchasing power standard (PPS), which equalises the purchasing power of different national currencies and thus allows meaningful comparison. The ratio is shown in relation to the EU average (EU-27=100). If the index of the comparative price levels shown for a country is higher/lower than 100, the country concerned is relatively expensive/cheap as compared with the EU average.
## Figure 1.35: Price convergence between EU Member States

(%, coefficient of variation of comparative price levels of final consumption by private households including indirect taxes)



Source: Eurostat (tsier012)

Comparative price levels are the ratio between purchasing power parities (PPPs) and market exchange rate for each country. PPPs are currency conversion rates that convert economic indicators expressed in national currencies to a common currency, called purchasing power standard (PPS), which equalises the purchasing power of different national currencies and thus allows meaningful comparison. If the coefficient of variation of the comparative price levels for the EU decreases/increases over time, the national price levels in the Member States are converging/diverging.

Table 1.14: International price competitiveness (real effective exchange rate)(1999=100)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
EU-27	112.7	106.9	108.0	100.0	89.3	91.4	97.1	109.1	115.7	114.1	114.8
Euro area	119.5	107.7	105.0	100.0	89.3	90.2	93.6	103.8	106.7	104.2	103.3
Belgium (1)	107.0	101.3	101.4	100.0	95.0	97.3	98.4	101.3	101.1	101.9	101.5
Bulgaria	66.5	73.2	102.4	100.0	85.8	94.1	93.5	97.2	97.2	96.2	98.8
Czech Republic	91.8	95.1	100.5	100.0	101.6	110.0	127.7	129.7	131.4	137.9	143.6
Denmark	101.3	98.2	100.6	100.0	94.0	97.0	99.8	105.1	106.3	105.4	107.0
Germany	112.7	104.1	102.9	100.0	93.7	92.2	92.5	96.7	97.1	93.8	91.4
Estonia	86.3	87.8	93.8	100.0	93.8	94.6	96.1	104.0	108.5	109.0	114.0
Ireland	109.4	108.3	105.1	100.0	94.8	97.5	99.0	106.9	114.2	116.9	119.4
Greece	97.5	101.7	98.9	100.0	93.0	90.6	95.5	98.3	102.1	103.5	105.0
Spain	105.5	101.0	101.2	100.0	97.4	98.4	100.2	105.2	107.8	108.0	109.6
France	109.2	103.4	102.4	100.0	94.6	94.9	97.3	101.9	103.3	103.3	104.8
Italy	105.6	106.9	102.4	100.0	94.1	95.3	98.7	106.7	110.0	110.7	112.0
Cyprus	106.7	106.3	102.5	100.0	97.3	97.7	101.8	113.6	114.5	114.3	115.0
Latvia	87.2	96.8	95.7	100.0	102.5	98.2	92.7	90.3	92.3	99.7	111.6
Lithuania	73.3	90.9	96.6	100.0	100.6	98.1	102.8	106.3	109.9	110.5	116.1
Luxembourg (2)	:	:	:	:	:	:	:	:	:	:	:
Hungary	103.1	107.8	103.5	100.0	103.4	114.9	129.9	133.9	142.5	145.0	136.6
Malta	101.0	100.1	102.2	100.0	95.1	102.2	103.2	112.2	115.0	112.8	111.4
Netherlands	103.4	99.4	100.9	100.0	98.0	101.2	105.2	110.2	110.5	108.4	106.5
Austria	107.0	102.4	101.8	100.0	95.2	93.9	93.6	96.1	95.8	94.9	94.6
Poland	99.0	102.6	106.6	100.0	106.1	121.0	110.7	94.3	89.4	99.9	104.8
Portugal	100.1	99.7	100.3	100.0	100.0	102.9	105.4	110.2	110.4	110.3	109.9
Romania	79.1	78.5	124.2	100.0	137.9	141.4	135.2	131.7	132.0	165.6	186.6
Slovenia	103.5	102.1	103.3	100.0	98.8	99.9	101.1	101.8	103.0	102.2	102.0
Slovakia	98.2	106.3	109.6	100.0	108.8	107.0	110.8	121.3	130.0	132.8	138.8
Finland	110.6	104.0	102.7	100.0	94.3	96.3	97.2	101.7	102.7	103.2	101.6
Sweden	113.0	108.1	104.4	100.0	103.0	97.0	98.6	103.9	104.1	100.7	99.1
United Kingdom	79.1	93.1	98.9	100.0	103.8	103.3	104.3	101.4	107.1	108.1	109.8
Turkey	72.6	77.9	79.3	100.0	96.0	78.0	73.9	76.2	80.5	88.3	90.3
Norway	97.7	97.7	97.9	100.0	97.2	100.2	110.4	108.8	105.0	110.6	113.8
Switzerland	111.3	102.2	101.9	100.0	96.9	103.0	109.0	109.4	107.1	106.4	104.5

(1) Value covers Belgium and Luxembourg.

(2) See footnote (1)

Source: Eurostat (ert\_eff\_ic\_a)

Economy

## INTRODUCTION

1 Economy

The balance of payments is a statistical statement that summarises the transactions of an economy with the rest of the world. Transactions are organized in two different accounts, the current account and the capital and financial account, whose sum, in principle, should be zero, as for each credit transaction there is a corresponding one on the debit side. Thus, the current account balance determines the exposure of an economy vis-à-vis the rest of the world, whereas the capital and financial account explains how it is financed.

#### **DEFINITIONS AND DATA AVAILABILITY**

The current account gauges a country's economic position in the world, covering all transactions that occur between resident and non-resident entities and refer to trade in goods and services, income and current transfers. More specifically, the four main components of the current account are defined as follows:

- Trade in goods covers general merchandise, goods for processing, repairs on goods, goods procured in ports by carriers, and non-monetary gold. Exports and imports of goods are recorded on a fob/fob basis, i.e. at market value at the customs frontiers of exporting economies, including charges for insurance and transport services up to the frontier of the exporting country.
- Trade in services consists of the following items: transportation services performed by EU residents for non-EU residents, or vice versa, involving the carriage of passengers, the movement of goods, rentals of carriers with crew and related supporting and auxiliary services; travel, which includes primarily the goods and services EU travellers acquire from non-EU residents, or vice versa; and other services, which include communication services, construction services, insurance services, financial services, computer and information services, royalties and licence fees, other business services (which comprise merchanting and other trade-related services, professional leasing services and miscellaneous business, professional and technical services), personal, cultural and recreational services and government services not included elsewhere.
- Income covers two types of transactions: compensation of employees paid to non-resident workers or received from non-resident employers, and investment income accrued on external financial assets and liabilities.
- Current transfers include general government current transfers, for example transfers related to international cooperation between governments, payments of current taxes on income and wealth, etc., and other current transfers, for example workers' remittances, insurance premiums (less service charges), and claims on non-life insurance companies.

Under the balance of payment conventions, transactions which represent an inflow or real resources, an increase in assets or a decrease in liabilities (such as, for instance exports of goods) are recorded as credits, and transactions representing an outflow of real resources, a decrease in assets or an increase in liabilities (such as, for instance imports of goods) are recorded as debits.

#### **MAIN FINDINGS**

In 2006, the current account deficit of the EU-27 was -0.8 % of GDP, that is EUR 76 171 million, resulting from a deficit in the current account for goods (-1.5 % of GDP) and for current transfers (-0.5 %), while there were positive balances for the income account (0.5 %) and for services (0.6 %).

Most of the EU-27's current account transactions took place with the United States (28.1 % of credits and 22.5 % of debits), while all other partners recorded shares of less than 10 %. The second most important country was Switzerland (8.8 % credits, 8.1 % debits), followed by China (3.7 % and 8.7 %, respectively), the Russian Federation (4.7 % and 6.7 %) and Japan (4.0 % and 5.0 %).

Accordingly, in 2006 the EU-27 recorded a surplus of just over EUR 100 000 million vis-à-vis the United States, and a deficit with China (EUR 117 700 million), the Russian Federation (EUR 50 200 million) and Japan (EUR 25 400 million).

Economy

SOURCES Pocketbooks EU economic data pocketbook – Quarterly

## Methodologies and working papers

Asymmetries in EU current account data Differences between Balance of Payments and Foreign Trade Statistics IMF Balance of payments manual, fifth edition

## Website data

## Main economic indicators

Main economic indicators Economy overview Economy – Structural Indicators Economy – Euro-Indicators

## Balance of payments – International transactions

Balance of payments statistics International trade in services, geographical breakdown Balance of payments of the EU institutions

## Figure 1.36: Current account transactions, EU-27 (1)

(EUR 1 000 million)



(1) EU-25: for 2001-2003.

Source: Eurostat (tec00038)

The balance of payments is a record of a country's international transactions with the rest of the world. It is composed of the current account and the capital and financial account. The current account is itself subdivided into goods, services, income and current transfers; it registers the value of exports (credits) and imports (debits).



 Table 1.15: Current account balance for EU Member States with the rest of the world

 (EUR million)

(1) EU-25: for 2002-2003; EU vis-à-vis extra-EU.

(2) EA-12; euro area vis-à-vis extra euro area.

Source: Eurostat (tec00038)

Economy



Table 1.16: Current account, balance by components, 2006 (% of GDP)

	Current				Current
	account	Goods	Services	Income	transfers
EU-27	-0.8	-1.5	0.6	0.5	-0.5
Euro area (1)	-0.1	0.3	0.4	0.1	-0.9
Belgium	2.7	0.8	1.6	1.9	-1.7
Bulgaria	-15.7	-22.2	3.9	0.0	2.6
Czech Republic	-3.3	1.9	1.1	-5.7	-0.6
Denmark	2.6	1.0	2.4	0.9	-1.6
Germany	5.0	6.8	-1.5	1.0	-1.2
Estonia	-15.5	-17.7	6.1	-4.5	0.7
Ireland	-4.2	14.5	-4.2	-14.2	-0.3
Greece	:	:	:	:	:
Spain	-8.6	-8.2	2.3	-2.1	-0.6
France	-1.3	-1.7	0.5	1.2	-1.2
Italy	-2.6	-0.6	-0.1	-0.9	-0.9
Cyprus	-5.9	-27.5	23.4	-2.8	1.1
Latvia	-22.3	-25.4	3.3	-2.6	2.4
Lithuania	-10.8	-14.1	3.6	-2.8	2.4
Luxembourg	10.3	-10.4	48.9	-24.4	-3.8
Hungary	-6.6	-1.0	1.4	-7.4	0.4
Malta	-6.7	-18.9	15.0	-2.7	-0.1
Netherlands	8.3	6.7	0.4	3.0	-1.9
Austria	2.8	0.1	4.3	-1.2	-0.4
Poland	-3.2	-2.0	0.6	-4.2	2.4
Portugal	-9.4	-10.7	3.2	-3.5	1.6
Romania	-10.4	-12.2	0.0	-3.2	4.9
Slovenia	-2.8	-3.8	2.8	-1.3	-0.6
Slovakia	-8.3	-5.6	1.2	-3.8	-0.1
Finland	5.2	5.3	0.2	0.4	-0.8
Sweden	7.4	5.6	2.8	0.3	-1.2
United Kingdom	-3.2	-6.0	2.2	1.4	-0.9

(1) EA-12.

Source: Eurostat (tec00038, tec00039, tec00040, tec00041, tec00042 and tec00001)



## Figure 1.37: International trade for services, EU-27 (1)

(EUR 1 000 million)



(1) EU-25: for 2001-2003. Source: Eurostat (tec00040)

## Figure 1.38: Income, EU-27 (1)

(EUR 1 000 million)



(1) EU-25: for 2001-2003. Source: Eurostat (tec00041)

## Figure 1.39: Current transfers, EU-27 (1)

(EUR 1 000 million)



Source: Eurostat (tec00042)

## Figure 1.40: Current account, credit by partner country, EU-27, 2006

(% of total credits)



Source: Eurostat (bop\_q\_eu)







Source: Eurostat (bop\_q\_eu)





Source: Eurostat (bop\_q\_eu)

## 1.10 BALANCE OF PAYMENTS – FOREIGN DIRECT INVESTMENT

### **INTRODUCTION**

In a world of increasing globalisation, where political, economic and technological barriers are rapidly disappearing, the ability of a country to participate in global activity is an important indicator of its performance and competitiveness.

In order to remain competitive, modern day business relationships extend well beyond the traditional foreign exchange of goods and services, as witnessed by the increasing reliance of firms on mergers, partnerships, joint ventures, licensing agreements, and other forms of business cooperation.

External trade may be complemented or substituted by producing (and often selling) goods and services in countries other than where an enterprise was first established: this approach is known as foreign direct investment (FDI), whereby the enterprise concerned either invests to establish a new plant/office, or alternatively, purchases existing assets of a foreign enterprise. FDI is a type of international investment where an entity that is resident in one economy (the direct investor) acquires a lasting interest (at least 10 % of the voting power) in an enterprise operating in another economy.

Conventional trade is less important for services than for goods and while trade in services has been growing, the share of services in total intra-EU trade has changed little during the last decade. However, FDI is expanding more rapidly for services than for goods, as FDI in services has increased at a more rapid pace than conventional trade in services. As a result, the share of services in total FDI flows and positions has increased substantially, with European services becoming increasingly international.

### **DEFINITIONS AND DATA AVAILABILITY**

Annual EU foreign direct investment statistics give a detailed presentation of FDI flows and stocks, showing which Member State invests in which countries and in which sectors. Eurostat collects FDI statistics for quarterly and annual flows as well as for stocks at the end of the year. FDI stocks (assets and liabilities) are a part of the international investment position of an economy at the end of the year.

Outward flows and stocks of FDI (or FDI abroad) report investment by entities resident in the reporting economy in an affiliated enterprise abroad. Inward flows and stocks of FDI report investment by foreigners in enterprises resident in the reporting economy. FDI flows are new investment made during the reference period, whereas FDI stocks provide information on the position, in terms of value, of all previous investments at the end of the reference period. The intensity of FDI can be measured by averaging the value of inward and outward flows during a particular reference period and expressing this in relation to GDP. The financial account of the balance of payments (BoP) records all financial transactions; it includes foreign direct investment, portfolio investment, other investment and reserve asset flows. There are two kinds of FDI:

- the creation of productive assets by foreigners (greenfield investment);
- the purchase of existing assets by foreigners (acquisitions, mergers, takeovers, etc.).

FDI differs from portfolio investments because it is made with the purpose of having control or an effective voice in management and a lasting interest in the enterprise. Direct investment not only includes the initial acquisition of equity capital, but also subsequent capital transactions between the foreign investor and domestic and affiliated enterprises.

The sign convention adopted for the data shown in this section, for both flows and stocks, is that investment is always recorded with a positive sign, and a disinvestment with a negative sign.

#### **MAIN FINDINGS**

Flows of FDI fluctuate considerably from one year to the next – partly as a function of economic fortunes, with FDI flows generally increasing during times of rapid growth, while disinvestment is more likely during periods of recession as companies focus on core activities in their domestic market. Inflows of FDI from non-Community countries into the EU-25 were valued at EUR 145 022 million in 2006, which was 54 % more than in 2005. Outward flows of FDI from the EU-25 to non-Community countries were valued at EUR 202 223 million. Despite the rapid increase in inward flows of FDI, the EU-25 remained a net investor abroad with net outflows of EUR 57 201 million in 2006 (down from EUR 91 810 in 2005).

Stocks of FDI show the value of all previous investments at the end of the reference period. Inward FDI stocks for the EU-25 accounted for 16.1 % of GDP in 2005, while outward FDI stocks were valued at 21.9 % of GDP. Stocks of EU-25 FDI abroad were largely concentrated in North America, which accounted for 39.1 % of the total in 2004. North America was an even more important partner in terms of stocks of FDI within the EU-25, accounting for 51.7 % of all FDI made by non-member countries. The share of Asian countries in outward stocks rose from 14.7 % to 15.4 % and inward stocks of FDI rose from 9.0 % to 9.4 % between 2003 and 2004.

It should be noted that the relatively high importance of FDI in Luxembourg should be interpreted with caution, and results mainly from the role of Luxembourg-based holding companies.



## **SOURCES**

## **Pocketbooks**

European Union foreign direct investment yearbook 2007 – Data 2001-2005

Methodologies and working papers OECD Benchmark Definition of Foreign Direct Investment

### Website data

#### Balance of payments – International transactions

European Union direct investments

## Figure 1.43: Foreign direct investment intensity

(average value of inward and outward flows, % of GDP)



(3) Not available for 1996-2000; broken y-axis for 2001-2005, 353.2 %.

(4) Excluding special purpose entities.

(5) Not available for 2001-2005.

(6) Not available.

Source: Eurostat (tsier066), Bank of Japan, Bureau of Economic Analysis

Average of inward and outward foreign direct investment (FDI) flows divided by gross domestic product (GDP). The index measures the intensity of investment integration within the international economy. The direct investment refers to the international investment made by a resident entity (direct investor) to acquire a lasting interest in an entity operating in an economy other than that of the investor (direct investment enterprise). Direct investment involves both the initial transactions between the two entities and all subsequent capital transactions between them and among affiliated enterprises, both incorporated and unincorporated. Data are expressed as percentage of GDP to remove the effect of differences in the size of the economies of the reporting countries.



Table 1.17: Foreign direct investment (1)

	FDI flows, 2006 (EUR million) (2)			FDI flows, 2006 (% of GDP) (3)			FDI stocks, 2005 (% of GDP) (4)		
			Net			Net			Net FDI
	Inward	Outward	outflows	Inward	Outward	outflows	Inward	Outward	assets
EU-25	145 022	202 223	57 201	1.3	1.8	0.5	16.1	21.9	-5.8
Euro area (5)	91 712	294 007	202 295	1.1	3.7	2.6	29.8	33.9	-4.1
Belgium	56 975	49 860	-7 115	18.1	15.9	-2.2	:	:	:
Bulgaria	4 105	122	-3 983	16.4	0.5	-15.9	88.4	1.4	87.0
Czech Republic	4 760	1 073	-3 687	9.4	0.0	-9.4	52.9	3.1	49.8
Denmark	5 602	6 513	911	2.6	3.0	0.4	46.9	51.5	-4.6
Germany	34 173	63 311	29 138	1.5	2.7	1.2	25.0	30.3	-5.3
Estonia	1 282	823	-459	9.8	6.3	-3.5	97.2	15.1	82.1
Ireland	10 212	17618	7 406	-15.5	6.8	22.3	87.4	54.1	33.3
Greece	:	:	:	:	:	:	11.4	6.3	5.1
Spain	15 954	71 486	55 532	1.6	7.3	5.7	34.4	34.9	-0.5
France	57 972	86 664	28 692	3.0	5.4	2.4	31.1	44.2	-13.1
Italy	29 934	<i>32</i> 967	3 033	2.0	2.2	0.2	13.1	17.5	-4.4
Cyprus	1 189	583	-606	8.2	4.0	-4.2	53.9	20.2	33.7
Latvia	1 316	116	-1 200	8.1	0.7	-7.4	32.7	1.9	30.8
Lithuania	1 426	221	-1 205	6.0	0.9	-5.1	33.6	2.9	30.7
Luxembourg (6)	77 290	64 973	-12 317	233.8	196.6	-37.2	150.8	79.8	71.0
Hungary	8 352	5 930	-2 422	9.4	6.7	-2.7	58.3	7.0	51.3
Malta	1 336	-4	-1 340	27.3	-0.1	-27.4	74.0	17.2	56.8
Netherlands (7)	3 484	18 089	14 605	0.7	3.4	2.7	75.0	105.6	-30.6
Austria	198	3 258	3 060	0.1	1.3	1.2	18.8	19.6	-0.8
Poland	11 091	3 318	-7 773	4.1	1.2	-2.9	31.0	2.2	28.8
Portugal	5 875	2 796	-3 079	3.8	1.8	-2.0	36.7	25.3	11.4
Romania	9 1 5 8	31	-9 127	9.4	0.0	-9.4	27.5	0.3	27.2
Slovenia	301	590	289	1.0	2.0	1.0	21.6	10.7	10.9
Slovakia	3 311	292	-3 019	7.5	0.7	-6.8	35.0	2.2	32.8
Finland	2 954	7	-2 947	1.8	0.0	-1.8	28.0	43.5	-15.5
Sweden	22 094	19 179	-2 915	7.2	6.3	-0.9	50.5	61.3	-10.8
United Kingdom	110 893	63 640	-47 253	5.9	3.4	-2.5	39.3	58.1	-18.8
Croatia	1 396	183	-1 213	4.5	0.6	-3.9	38.5	5.6	32.9
Turkey	7 880	866	-7 014	2.7	0.3	-2.4	18.8	2.4	16.4
Switzerland	-1 018	-43 677	-42 659	-0.3	-14.8	-14.5	48.5	122.4	-73.9
Japan	2 2 3 5	36 872	34 637	0.1	1.0	0.9	2.3	9.0	-6.7
United States	79 932	-10 219	-90 151	0.8	-0.1	-0.9	13.8	17.5	-3.7

(1) EU-25, FDI with extra EU-25 partners; all other countries, FDI with the rest of the world.

(2) Euro area, Croatia, Turkey, Switzerland, Japan and the United States, 2005.

(3) Euro area, the Czech Republic, Ireland and France, Croatia, Turkey, Switzerland, Japan and the United States, 2005.

(4) Greece and Austria, 2003.(5) EA-12.

(6) Special purpose entities excluded from FDI stocks.

(7) Excluding special purpose entities.

Source: Eurostat (tec00053, tec00049, tec00046 and tec00047), Bank of Japan, Bureau of Economic Analysis

For all reporters, outward FDI flows are broken down by main destination of the investment. Destination countries or zones are highlighted in grey. Foreign direct investment (FDI) is the category of international investment made by a resident entity (direct investor) to acquire a lasting interest in an entity operating in an economy other than that of the investor (direct investment enterprise). The lasting interest is deemed to exist if the investor acquires at least 10 % of the equity capital of the enterprise.

For all reporters, inward FDI flows are broken down by main origin of the investment. Foreign direct investment (FDI) is the category of international investment made by a resident entity (direct investor) to acquire a lasting interest in an entity operating in an economy other than that of the investor (direct investment enterprise). The lasting interest is deemed to exist if the investor acquires at least 10 % of the equity capital of the enterprise.

Foreign direct investment (FDI) is the category of international investment made by a resident entity (direct investor) to acquire a lasting interest in an entity operating in an economy other than that of the investor (direct investment enterprise). The lasting interest is deemed to exist if the investor acquires at least 10 % of the equity capital of the enterprise. Data are expressed as percentage of GDP to remove the effect of differences in the size of the economies of the reporting countries.



## Figure 1.44: Foreign direct investment flows, EU-25

(% of GDP)



# Figure 1.45: Foreign direct investment stocks, EU-25 (% of GDP)



= = = EU-25 inward stocks owned by non-EU-25 member countries

Source: Eurostat (tec00047)

# **Figure 1.46: Stocks of foreign direct investment abroad, EU-25, 2004 (1)** (% of extra EU-25 FDI)



(1) Figures do not sum to 100 % due to rounding. Source: Eurostat (tec00094)

**Figure 1.47: Stocks of foreign direct investment in the EU-25, 2004 (1)** (% of extra EU-25 FDI)



(1) Figures do not sum to 100 % due to rounding. Source: Eurostat (tec00095)



		Outw	ard			Inwa	ard		Net assets abroad (2)			2)
	Total	EU-25	JP	US	Total	EU-25	JP	US	Total	EU-25	JP	US
EU-25	6 2 5 9	3 879	79	856	5 487	3 742	90	769	772	:	-11	86
Euro area (3)	:	:	69	558	:	:	64	560	:	:	5	-2
Belgium	:	:	:	:	:	:	:	:	:	:	:	:
Bulgaria	0	0	:	0	19	9	0	0	-19	-9	:	0
Czech Republic	3	2	0	0	53	47	1	3	-50	-45	-1	-3
Denmark	107	68	1	11	98	65	0	10	9	4	1	2
Germany	679	404	6	156	560	407	11	83	119	-3	-5	73
Estonia	2	1	0	0	11	10	0	0	-9	-8	0	0
Ireland	87	57	:	7	141	108	3	12	-54	-51	:	-5
Greece (4)	10	5	0	1	18	15	0	1	-8	-9	0	0
Spain	316	170	2	21	312	229	2	52	4	-60	0	-30
France	756	465	26	143	531	386	11	69	225	79	15	74
Italy	249	187	1	18	186	138	3	18	62	49	-2	0
Cyprus	3	2	0	0	7	4	0	0	-5	-2	0	0
Latvia	0	0	0	0	4	3	0	0	-4	-3	0	0
Lithuania	1	0	0	0	7	5	0	0	-6	-4	0	0
Luxembourg (5)	23	:	:	:	44	29	:	:	-21	:	:	:
Hungary	6	4	0	0	52	35	1	2	-46	-32	-1	-2
Malta	1	0	:	:	3	3	:	0	-3	-2	:	:
Netherlands (5)	534	327	1	78	379	229	10	69	155	97	-9	9
Austria (4)	44	28	0	2	43	31	1	4	2	-3	-1	-2
Poland	5	2	0	0	76	64	1	6	-70	-62	-1	-6
Portugal (6)	35	11	0	0	52	15	0	2	-17	-4	0	-2
Romania	0	0	0	0	22	18	0	1	-22	-18	0	-1
Slovenia	3	1	0	0	6	4	0	0	-3	-4	0	0
Slovakia	1	1	0	0	13	12	0	1	-13	-11	0	-1
Finland	68	52	0	6	44	41	0	1	24	12	0	5
Sweden	176	114	0	27	145	97	2	26	31	17	-1	1
United Kingdom	1 0 4 1	539	9	239	705	349	20	218	336	190	-11	21
Croatia	2	1	:	0	12	10	:	1	-10	-10	:	0
Turkey	7	4	0	0	55	40	1	4	-48	-36	-1	-4
Switzerland	360	152	6	72	143	97	1	39	217	55	5	33
Japan	328	78	-	127	86	30	-	37	243	48	-	90
United States	1 7 5 5	804	64	-	1 386	:	161	-	368	:	-97	-

Table 1.18: Foreign direct investment stocks for selected partner countries, 2005 (1) (EUR 1 000 million)

(1) EU-25: FDI stocks in extra-EU-25 partners; all other countries: FDI stocks in the rest of the world.
(2) Outward stocks - inward stocks.
(3) EA-12.
(4) 2003.
(5) Excluding special purpose entities.
(6) 2004.

Source: Eurostat (tec00052 and tec00051)

Economy Second 1

## **1.11 DEVELOPMENT AID**

## **INTRODUCTION**

More than half the money spent throughout the world on helping developing countries comes from the EU and its Member States. The ultimate objective of the EU is to give disadvantaged people in the third world control over their own development, through attacking the main sources of their vulnerability, such as access to food, clean water, education, health, employment, land and social services.

The EU's development strategy focuses on financial and technical assistance to improve basic physical and social infrastructures and the productive potential of poor nations, including their administrative and institutional capacities. This support has the potential to help third world countries benefit from international trade opportunities and secure more inward investment to broaden their economic bases.

The EU's activities also extend to trade policy, which is used to drive development through the opening-up of markets. Since the 1970s, the EU has reduced or removed tariffs and eliminated quotas on imports from developing countries, a policy that was further extended in 2001 to cover the complete removal of tariffs on all exports (except arms) from the 49 least-developed countries (LDCs) of the world.

The EU promotes self-help and poverty eradication through policies that focus on consolidating the democratic process, expanding social programmes, strengthening institutional frameworks, and reinforcing the respect for human rights, including equality between men and women. Indeed, all trade or cooperation agreements with the third world include a human rights clause as a matter of routine, and failure to comply with these entails automatic penalties, frozen or cancelled aid.

Aside from long-term strategic development aid, the EU also plays an important role in rapidly alleviating human suffering – as a result of natural disaster or military conflict. Such relief operations have included the Asian tsunami in December 2004 or the effects of hurricane Katrina in August 2005, and at the time of writing stretch from Afghanistan and Iraq, to the northern Caucasus (especially Chechnya), Kashmir and Nepal, or from the Western Sahara to Colombia. Most of this EU aid is in the form of nonrepayable grants.

The EU's relief activities are global and have, since 1992, been handled by ECHO, its humanitarian aid office. It has an annual budget of more than EUR 600 million each year, with around three quarters of this destined for Africa and Asia. ECHO considers its first duty to be towards the victims of disaster, through the emergency provision of supplies including: tents, blankets, food, medicines, water purification systems and fuel.

## **DEFINITIONS AND DATA AVAILABILITY**

Official development assistance (ODA) consists of grants or loans that are undertaken by the official sector with the promotion of economic development and welfare in the recipient countries as the main objective. In addition to ODA, total financing for development refers to net disbursements, other official flows, and private flows. Other official flows are transactions which do not meet the conditions for eligibility as ODA (or official aid), either because they are not primarily aimed at development, or because they have a grant element of less than 25 %. Private flows include private export credits, direct investment and financing to multilateral institutions. Foreign direct investment includes significant investments by foreign companies of production facilities or ownership stakes taken in the national companies.

Commitments include both bilateral commitments and commitments to regional banks. Bilateral commitments are recorded as the full amount of the expected transfer, irrespective of the time required for the completion of disbursements. Disbursements are the release of funds to, or the purchase of goods or services for a recipient. Disbursements record the actual international transfer of financial resources, or of goods or services valued at the cost of the donor.

DAC (Development Assistance Committee) countries refer to 'developing countries and territories' within Part I of the OECD DAC List of Aid Recipients.

#### **MAIN FINDINGS**

The EU-15 Member States paid almost EUR 45 000 million in official development assistance to DAC countries in 2005. There was a considerable disparity in official development assistance and foreign direct investment (FDI) between countries from different income groups. Official development assistance was relatively high among the least developed countries and other low income countries, whereas a relatively higher proportion of FDI was destined for low middle income countries.

There is a long-standing United Nations target of reaching a level of aid equivalent to 0.7 % of donors' gross national income (GNI). While EU members, like other industrialised countries, have accepted this 0.7 % target for spending, currently only Denmark, Luxembourg, the Netherlands and Sweden have reached this goal. EU ministers agreed in May 2005 to set a collective target of 0.56 % of GNI for 2010, rising to 0.7 % by 2015.



An alternative measure for studying the relative contributions of Member States is official development assistance per capita. Between 1996 and 2006 the average for the EU-15 almost doubled, reaching EUR 120.08 per inhabitant. Luxembourg reported ODA per capita (EUR 503.86) that was almost 4.2 times as high as the EU-15 average, followed by Sweden and Denmark – the only other countries to record ODA per capita above the threshold of EUR 300.

SOURCES

#### **Statistical books**

Measuring progress towards a more sustainable Europe: 2007 monitoring report on the EU sustainable development strategy

## Website data

Key indicators on EU policy (predefined tables)

Sustainable Development Indicators Global partnership

#### Table 1.19: Official development assistance

(% of gross national income)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Belgium	0.34	0.31	0.35	0.30	0.36	0.37	0.43	0.60	0.41	0.53	0.50
Bulgaria	:	:	:	:	:	:	:	:	:	:	:
Czech Republic	:	:	0.03	0.03	0.03	0.05	0.07	0.11	0.11	0.11	0.12
Denmark	1.04	0.97	0.99	1.01	1.06	1.03	0.96	0.84	0.85	0.81	0.80
Germany	0.32	0.28	0.26	0.26	0.27	0.27	0.27	0.28	0.28	0.36	0.36
Estonia	:	:	:	:	:	:	:	:	:	:	:
Ireland	0.31	0.31	0.30	0.31	0.29	0.33	0.40	0.39	0.39	0.42	0.53
Greece	0.15	0.14	0.15	0.15	0.20	0.17	0.21	0.21	0.16	0.17	0.16
Spain	0.22	0.24	0.24	0.23	0.22	0.30	0.26	0.23	0.24	0.27	0.32
France	0.48	0.44	0.38	0.38	0.30	0.31	0.37	0.40	0.41	0.47	0.47
Italy	0.20	0.11	0.20	0.15	0.13	0.15	0.20	0.17	0.15	0.29	0.20
Cyprus	:	:	:	:	:	:	:	:	:	:	:
Latvia	:	:	:	:	:	:	:	:	:	:	:
Lithuania	:	:	:	:	:	:	:	:	:	:	:
Luxembourg	0.44	0.55	0.65	0.66	0.71	0.76	0.77	0.81	0.83	0.82	0.89
Hungary	:	:	:	:	:	:	:	0.03	0.07	0.11	0.11
Malta	:	:	:	:	:	:	:	:	:	:	:
Netherlands	0.81	0.81	0.80	0.79	0.84	0.82	0.81	0.80	0.73	0.82	0.81
Austria	0.23	0.24	0.22	0.24	0.23	0.34	0.26	0.20	0.23	0.52	0.48
Poland	:	:	0.01	0.01	0.02	0.02	:	0.01	0.05	0.07	0.09
Portugal	0.21	0.25	0.24	0.26	0.26	0.25	0.27	0.22	0.63	0.21	0.21
Romania	:	:	:	:	:	:	:	:	:	:	:
Slovenia	:	:	:	:	:	:	:	:	:	:	:
Slovakia	:	:	:	0.04	0.03	0.04	:	0.05	0.07	0.12	0.10
Finland	0.33	0.32	0.31	0.33	0.31	0.32	0.35	0.35	0.37	0.46	0.39
Sweden	0.84	0.79	0.72	0.70	0.80	0.77	0.84	0.79	0.78	0.94	1.03
United Kingdom	0.27	0.26	0.27	0.24	0.32	0.32	0.31	0.34	0.36	0.47	0.52
Turkey	0.05	0.04	0.03	0.06	0.04	0.04	0.04	0.04	0.11	0.17	:
Iceland	:	:	:	0.09	0.10	0.13	0.15	0.17	0.18	0.18	:
Norway	0.83	0.84	0.89	0.88	0.76	0.80	0.89	0.92	0.87	0.94	:
Switzerland	0.34	0.34	0.32	0.35	0.34	0.34	0.32	0.39	0.41	0.44	:

Source: Eurostat (tsdgp100), OECD (DAC database)

Official development assistance (ODA) consists of grants or loans that are undertaken by the official sector with promotion of economic development and welfare in the recipient countries as the main objective. Disbursements are the release of funds to, or the purchase of goods or services for a recipient; by extension, the amount thus spent. Disbursements record the actual international transfer of financial resources, or of goods or services valued at the cost of the donor. DAC (Development Assistance Committee) countries refer to developing countries and territories on Part I of the OECD DAC List of Aid Recipients for which there is a long-standing United Nations target of 0.7 % of donors' gross national product. GNI (gross national income) at market prices equals GDP minus primary income payable by resident units from the rest of the world.

For more information on the activities of the Development Assistance Committee, refer to the OECD website at:

http://www.oecd.org/dac.

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
TOTAL	17 906	18 132	16 905	17 637	17 508	18 829	19 448	25 331	25 057	25 240	35 040
Social infrastructure	6 298	6 500	6 038	6 067	6 321	6 253	6 663	8 316	8 316	9 379	9 108
Education services	2 724	2 904	2 891	2 880	2 876	2 333	2 498	2 865	3 128	3 497	2 937
Health services	854	1 052	799	731	886	840	804	1 273	1 147	1 175	1 2 4 1
Population programmes	139	86	128	181	180	266	223	345	331	455	562
Water supply and sanitation	857	988	848	833	797	814	886	766	814	1 004	995
Government and civil society	627	632	479	655	733	1 033	1 251	1 910	1 838	2 324	2 526
Other	1 095	837	894	788	848	967	999	1 157	1 057	925	847
Economic infrastructure	2 466	2 943	2 109	1 636	1 986	1 479	1 905	1 858	2 053	2 681	2 878
Production sectors	1 756	1 843	1 583	1 542	1 181	1 375	1 296	1 245	989	1 253	1 340
Multisector / crosscutting	1 155	1 289	1 583	1 460	1 324	1 542	1 735	1 664	1 677	1 955	2 946
Administrative costs of donors	800	844	829	904	952	992	1 1 1 7	1 171	1 482	1 344	1 181
Commodity aid /											
general program assistance	1 197	904	464	517	613	1 060	919	629	473	679	727
Action relating to debt	2 109	1 479	2 279	3 141	2 204	2 046	2 490	5 036	5 904	4 206	12 377
Emergency assistance	1 190	1 066	904	931	1 541	1 781	1 462	1 804	1 891	2 097	2 741
Support to NGO's	88	67	411	456	546	1 022	1 018	2 362	1 066	739	662
Unallocated / unspecified	847	1 197	705	984	841	1 2 7 9	842	1 245	1 205	907	1 080

 Table 1.20: Bilateral official development assistance, EU-15

 (EUR million)

Source: Eurostat (tsdgp350), OECD (DAC database)

Official development assistance (ODA) consists of grants or loans that are undertaken by the official sector with promotion of economic development and welfare in the recipient countries as the main objective. Untied ODA is ODA for which the associated goods and services may be fully and freely procured in substantially all countries. DAC (Development Assistance Committee) countries refer to developing countries and territories on Part I of the OECD DAC List of Aid Recipients for which there is a long-standing United Nations target of 0.7 % of donors' gross national product. The shares of untied ODA are calculated based on total bilateral ODA figures that vary from those presented in the table on bilateral ODA by category.

**Figure 1.48: Total financing for developing countries, EU-15** (EUR million)



Source: Eurostat (tsdgp310), OECD (DAC database)

Total financing for development refers to net disbursements of official development assistance (ODA), other official flows (OOF) and private flows (mainly foreign direct investment, or FDI). ODA consists of grants or loans that are undertaken by the official sector with promotion of economic development and welfare in the recipient countries as the main objective. Private flows include private export credits, direct investment and financing to multilateral institutions. OOF are transactions which do not meet the conditions for eligibility as ODA (or official aid), either because they are not primarily aimed at development, or because they have a grant element of less than 25 %. Disbursements are the release of funds to, or the purchase of goods or services for a recipient; by extension, the amount thus spent. Disbursements record the actual international transfer of financial resources, or of goods or services valued at the cost of the donor. DAC (Development Assistance Committee) countries refer to developing countries and territories on Part I of the OECD DAC List of Aid Recipients for which there is a long-standing United Nations target of 0.7 % of donors' gross national product.

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## **Figure 1.49: Official development assistance and direct investment, EU-15, 2005** (EUR million)

Source: Eurostat (tsdgp320), OECD

Official development assistance (ODA) consists of grants or loans to countries and territories on Part I of the DAC List of Aid Recipients (developing countries) that are undertaken by the official sector with promotion of economic development and welfare in the recipient countries as the main objective. Foreign direct investment (FDI) includes significant investments by foreign companies of production facilities or ownership stakes taken in the national companies. DAC (Development Assistance Committee) countries refer to developing countries and territories on Part I of the OECD DAC List of Aid Recipients for which there is a long-standing United Nations target of 0.7 % of donors' gross national product. The EU-15 average for FDI excludes Ireland and Luxembourg.

Table	1.21:	Official	development	assistance	per	capita
(EUR)						

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
EU-15	66.46	63.14	65.93	67.04	72.83	78.08	83.48	85.99	89.17	116.21	120.08
Belgium	70.72	66.16	77.19	69.68	86.58	94.20	109.81	158.00	113.11	151.31	148.68
Bulgaria	:	:	:	:	:	:	:	:	:	:	:
Czech Republic	:	:	1.40	1.40	1.70	2.90	4.70	7.80	:	:	:
Denmark	265.38	273.33	286.83	305.70	337.42	340.47	323.01	286.19	302.72	312.18	326.46
Germany	73.09	62.94	60.68	63.04	66.25	67.68	68.25	72.69	73.43	98.24	100.08
Estonia	:	:	:	:	:	:	:	:	:	:	:
Ireland	38.74	45.09	47.75	61.39	66.85	83.32	108.41	111.29	122.08	144.47	187.31
Greece	13.80	14.50	15.23	17.28	22.41	20.53	26.67	29.05	23.36	27.85	27.53
Spain	25.10	27.68	31.17	32.28	32.40	48.16	43.97	40.59	45.35	56.15	67.71
France	100.52	94.88	87.70	90.26	75.47	79.19	97.61	107.28	109.86	132.68	131.25
Italy	33.47	19.60	35.63	29.68	26.06	31.68	42.58	37.42	34.39	69.91	49.70
Cyprus	:	:	:	:	:	:	:	:	:	:	:
Latvia	:	:	:	:	:	:	0.70	0.30	:	:	:
Lithuania	:	:	:	:	:	0.60	:	0.50	:	:	:
Luxembourg	154.32	198.43	231.90	258.92	302.60	352.58	352.73	380.78	420.88	457.97	503.86
Hungary	:	:	:	:	:	:	:	1.90	:	:	:
Malta	:	:	:	:	:	:	:	:	:	:	:
Netherlands	164.73	166.46	172.70	185.99	213.06	221.53	218.71	216.09	207.46	251.60	265.39
Austria	51.46	54.07	50.68	57.09	58.70	86.95	68.50	55.43	66.92	153.66	145.50
Poland	:	:	0.40	0.50	0.80	1.00	0.40	0.60	:	:	:
Portugal	17.28	22.18	23.13	25.39	28.56	28.99	32.99	27.32	80.16	29.32	30.12
Romania	:	:	:	:	:	:	:	:	:	:	:
Slovenia	:	:	:	:	:	:	:	:	:	:	:
Slovakia	:	:	:	1.30	1.20	1.70	1.30	2.50	:	:	:
Finland	62.66	65.00	68.65	75.59	77.51	83.53	93.82	94.76	104.31	137.83	125.08
Sweden	178.09	172.43	158.51	172.60	219.59	208.96	237.95	236.27	242.87	298.57	346.84
United Kingdom	42.84	51.30	58.17	54.91	83.08	86.97	88.29	93.81	105.62	144.24	166.79
Turkey	1.10	1.10	0.90	1.70	1.30	1.00	1.10	:	:	:	:
Iceland	0.00	25.40	23.30	25.60	33.20	38.10	46.50	53.90	:	:	:
Norway	235.70	261.45	266.00	288.04	304.63	332.94	395.24	395.48	384.93	484.38	:

Source: Eurostat (tsdgp520), OECD (DAC database)

# Education





## 2.1 SCHOOL ENROLMENT AND LEVELS OF EDUCATION 162 2.2 FOREIGN LANGUAGE LEARNING 170 2.3 TERTIARY EDUCATION 173 2.4 LIFELONG LEARNING 180 2.5 EDUCATIONAL EXPENDITURE 182

Education, vocational training and lifelong learning play a vital role in both an economic and social context. The opportunities which the EU offers its citizens for living, studying and working in other countries make a major contribution to cross-cultural understanding, personal development and the realisation of the EU's full economic potential. Each year, well over a million EU citizens of all ages benefit from EU-funded educational, vocational and citizenship-building programmes.

The Treaty establishing the European Community <sup>(27)</sup> acknowledged the importance of these areas by stating that 'the Community shall contribute to the development of quality education by encouraging cooperation between Member States and, if necessary, by supporting and supplementing their action ... The Community shall implement a vocational training policy which shall support and supplement the action of the Member States'. As such, the European Commission follows up on policy cooperation and work with the Member States, while funding programmes, such as the Lifelong Learning Programme.

The European Council adopted in 2001 a set of goals and objectives for education and training systems that are to be attained by  $2010^{(28)}$ , with education ministers agreeing on three goals:

- to improve the quality and effectiveness of education and training systems;
- to ensure that they are accessible to all;
- to open up education and training to the wider world.

These ambitious goals were subsequently subdivided into specific objectives covering the various types and levels of education and training, including areas such as: teacher training; basic skills; the integration of information and communication technologies (ICTs); efficiency of investments; language learning; lifelong guidance; flexibility to make learning accessible to all; mobility; and citizenship education.

<sup>(27)</sup> Consolidated version of the Treaty establishing the European Community, Chapter 3, Articles 149(1) and 150(1) (OJ C 352, 24.12.2002, p. 33); for more information: http://eur-lex.europa.eu/en/treaties/dat/12002E/pdf/ 12002E\_EN.pdf.

<sup>(28)</sup> For more information: http://ec.europa.eu/education/policies/2010/doc/ rep\_fut\_obj\_en.pdf.

Under the principle of subsidiarity every Member State retains responsibility for organising their education system and deciding its content. The EU does however promote cooperation in this field through a variety of funding and action programmes – such as Socrates (for education) or Leonardo da Vinci (for vocational training), while making policy recommendations and communications on issues such as lifelong learning. The Lifelong Learning Programme (LLP) has recently become the flagship programme in the field of education and training and covers all learning opportunities from childhood to old age. Over the period 2007 to 2013, this successor to the Socrates, Leonardo da Vinci and eLearning programmes has a budget of EUR 7 000 million in order to support projects and activities that foster interchange, cooperation and mobility between education and training systems within the EU.

The measurement of progress towards objectives within the field of education policy requires a range of comparable statistics on enrolment in education and training, numbers of graduates and teachers, language learning, student and researcher mobility, educational expenditure, as well as data on educational attainment and adult learning. The standards on international education statistics are set by the three international organisations jointly administering the UOE data collection:

- the United Nations Educational, scientific, and Cultural Organisation Institute for Statistics (UNESCO-UIS);
- the Organisation for Economic Co-operation and Development (OECD), and;
- the Statistical Office of the European Union (Eurostat).

The UNESCO/OECD/Eurostat (UOE) questionnaire on education statistics constitutes the main source of information and is the basis for the core components of the Eurostat database on education statistics; Eurostat also collects data on regional enrolments and foreign language learning. The definitions and methodological requirements for the joint UOE data collection and for the Eurostat data collection on regional enrolments and foreign language learning are available at: http://circa.europa.eu/Public/irc/dsis/edtcs/library?l=/public/unesco\_collection.

Data on educational attainment and adult learning are provided by household surveys, mainly the EU Labour Force Survey, which will soon be complemented by the Adult Education Survey.

EUROSTAT DATA IN THIS DOMAIN: Population and social conditions

**Education and training** Education Training

# 2.1 SCHOOL ENROLMENT AND LEVELS OF EDUCATION

#### **INTRODUCTION**

Demographic trends in the last three decades reflect reductions in birth rates, that have resulted in the structure of the EU's population ageing and the proportion of those aged under 30 decreasing in the majority of Member States. These changes can have a significant impact on human and material resources required for the sound functioning of education systems – such as average class sizes or teacher recruitment strategies.

According to Eurydice <sup>(29)</sup>, Spain, France, Ireland and Portugal are the only Member States where there will not be a decrease in the number of pupils at ISCED level 1 by 2015. Some of the expected reductions are likely to be considerable, with Lithuania, Poland, Slovakia and Bulgaria forecast to record falls of at least 30 % in their number of primary school pupils aged between 5 and 9 between 2000 and 2015. Demographic changes will not result exclusively in smaller numbers of pupils, as Spain, France, Ireland and Italy are expected to see increases in secondary education enrolments between 2010 and 2015, such that the number of pupils aged between 10 and 14 will be higher in 2015 than in 2000. Most Europeans spend significantly longer in education than the legal minimum requirement. This reflects the choice to enrol in higher education, as well as increased enrolment in pre-primary education and wider participation in lifelong learning initiatives, such as mature (adult) students returning to education – often in order to retrain or equip themselves for a career change.

At the age of 4, a high proportion of children in the EU are already enrolled in pre-primary educational institutions. The general objectives for pre-primary education are fairly similar across countries, focusing on the development of children's independence, well-being, self-confidence, citizenship, and preparation for life and learning at school.

<sup>(29)</sup> For more information: http://www.eurydice.org.

On average, compulsory education lasts 9 or 10 years in the EU: lasting longest in Hungary, the Netherlands and the United Kingdom. Age is the sole criterion for admission to compulsory primary education, which starts at the age of 5 or 6 in most countries, although the Nordic countries, as well as Bulgaria and Estonia have a compulsory starting age of 7.

While national curricula include broadly the same subjects across the Member States, the amount of time allocated to each subject varies considerably. In addition, there are wide-ranging differences in the freedoms that teachers have to shape the content of their classes or follow a strict curriculum. The most significant differences between countries tend to relate to the degree of instruction given in foreign languages, information and communication technology, or religion. In contrast, all countries allocate a considerable amount of time to teach their mother tongue and mathematics.

Teaching time tends to be more evenly spread across subjects in compulsory secondary education, with more emphasis given to natural and social sciences, as well as foreign languages. Pupils from a particular country follow the same common curriculum throughout their full-time compulsory education in most Member States, although in Germany, Luxembourg, the Netherlands and Austria parents have to choose a particular type of education for their child at the end of primary school.

### **DEFINITIONS AND DATA AVAILABILITY**

The International Standard Classification of Education (ISCED) is the basis for international education statistics, describing different levels of education, as well as fields of education and training  $(^{30})$ . The current version, ISCED 97 distinguishes seven levels of education:

- ISCED level 0: pre-primary education defined as the initial stage of organised instruction; it is school- or centre-based and is designed for children aged at least 3 years;
- ISCED level 1: primary education begins between 5 and 7 years of age, is compulsory in all countries and generally lasts from four to six years;
- ISCED level 2: lower secondary education continues the basic programmes of the primary level, although teaching is typically more subject-focused; usually, the end of this level coincides with the end of compulsory education;
- ISCED level 3: upper secondary education generally begins at the end of compulsory education; the entrance age is typically 15 or 16 years and entrance qualifications and other minimum entry requirements are usually needed; instruction is often more subject-oriented and typical duration varies from two to five years;

- ISCED level 4: post-secondary non-tertiary education straddles the boundary between upper secondary and tertiary education; typical examples are programmes designed to prepare pupils for studies at level 5 or programmes designed to prepare pupils for direct labour market entry;
- ISCED level 5: tertiary education (first stage) entry normally requires the successful completion of level 3 or 4; includes tertiary programmes with academic orientation which are largely theoretically based and occupation orientation which are typically shorter and geared for entry into the labour market;
- ISCED level 6: tertiary education (second stage) leads to an advanced research qualification (Ph.D. or doctorate).

ISCED is used for indicators on enrolments and graduates in specific fields; note that the ratios presented exclude the number of students classified as 'unknown' from the denominator of any calculation.

The indicator for four-year-olds in education presents the percentage of four-year-olds who are enrolled in educationoriented pre-primary institutions. These institutions provide education-oriented care for young children. They must recruit staff with specialised qualifications in education. Day nurseries, playgroups and day care centres, where the staff are not required to hold a qualification in education, are not included.

Pupil-teacher ratios are calculated by dividing the number of fulltime-equivalent pupils and students in the specific level of education by the number of full-time-equivalent teachers at the same level. All institutions, both public and private, are included. This ratio should not be confused with average class-size, as: there can be a difference between the number of hours of teaching provided by teachers and the number of hours of instruction prescribed for pupils; more than one teacher can be teaching in a class at the same time; or teachers for special education needs can work with small groups or on a one-to-one basis.

Youth education attainment is defined as the proportion of the population aged 20 to 24 having completed at least upper secondary education. The denominator consists of the total population of the same age group, excluding non-response. Note that this indicator has recently been changed so that it reflects annual averages instead of the spring reference period.

The indicator for early school leavers is defined as the proportion of the population aged 18 to 24 with at most a lower secondary level of education, who are no longer in further education or training (respondents declared not having received any education or training in the four weeks preceding the survey). The denominator consists of the total population of the same age group, excluding non-response.

<sup>(30)</sup> For more information: http://www.unesco.org/education/information/ nfsunesco/doc/isced\_1997.htm.

#### **MAIN FINDINGS**

There were about 98.3 million pupils and students enrolled in educational establishments in the EU-27 in 2005, almost 2.5 million more than in 2000. The highest share of pupils and students in the EU-27 total was accounted for by the United Kingdom, where 16.7 million pupils and students attended education establishments in 2005; this figure was 2.2 million higher than the next largest student population that was registered in Germany.

The proportion of students found in each level of education varied considerably and reflects, to some degree, the demographic structure of populations. The high proportion of pupils in primary education in Luxembourg (48.1 %) reflects the lack of a developed tertiary education sector in this country. Ireland, Cyprus and Portugal also reported a relatively high proportion of students within primary education – reflecting relatively high birth rates in these countries. At the other end of the spectrum, Greece, Latvia, Slovenia and Finland had relatively high proportions of their student populations within the tertiary education sector.

The figures above exclude pre-primary education – with an average of 85.7 % of all four-year olds attending such establishments in the EU-27 in 2005. Enrolment rates in pre-primary education ranged from 100 % in Belgium, France and Italy, to less than one child in two across Finland, Ireland and Poland.

Pupil/teacher ratios within primary education ranged from an average of less than 11 pupils per teacher in Italy, Luxembourg (2004), Hungary and Portugal in 2005, to almost double that rate in the United Kingdom. Between 2000 and 2005 there was a general reduction in most Member States as regards the average number of pupil per teacher.

Data on educational attainment show that, in 2006, just over three quarters (77.8 %) of the EU-27's population aged 20 to 24 had completed at least an upper secondary level of education. However, 15.3 % of those aged 18 to 24 (17.5 % of men and 13.2 % of women) were early school leavers, with at most a lower secondary education. In general, higher education qualifications would appear to reduce the risk of unemployment – offering protection against unemployment (see Figure 5.14 on page 263 for more details on unemployment rates by level of educational attainment). A gender breakdown would tend to suggest that women find themselves unemployed more frequently than men with the same qualifications, while men with fewer qualifications were more seriously affected by unemployment than women.

### **SOURCES**

Statistical books Key Data on Education in Europe 2005

#### Methodologies and working papers

UOE data collection on education systems – volume1 – concepts, definitions and classifications Development of a methodology for the collection of harmonised statistics on childcare Classification of learning activities – manual

#### Website data

#### Education

Thematic indicators – Progress towards the Lisbon objectives in education and training Education indicators – non-finance Enrolments, graduates, entrants, personnel and language learning – absolute numbers

## Table 2.1: Pupils and students (excluding pre-primary education) (1)

			Breakdown of total number of pupils and students (% of total)								
	T (ISC (1	otal ED 1-6) 000)	Prim leve educa (ISCE	ary l of tion D 1)	Lov seco leve educ (ISC	wer ndary el of ation ED 2)	Upper post-sec non-te educ (ISCEI	r and ondary ertiary ation 0 3-4)	Tert educ (ISCE	iary ation D 5-6)	
	2000	2005	2000	2005	2000	2005	2000	2005	2000	2005	
EU-27	95 840	98318	32.5	29.3	23./	23.8	27.2	27.9	16.6	18.8	
Euro area	20002	27 282	24.6	30.4	16.7	10.0	23.2	23.4	17.0	19.3	
Belgium	2 2 3 3 1 3 5 7	2 380	34.0 20.0	31.U 727	10.7	10.1	32.8 24.7	34.3 21.0	10.9	10.4	
Buigaria Croch Bonublic	1 006	1 2 2 0	29.0	23.7	27.0 27 E	25.9	24.7	31.U 20.2	19.5	19.4	
Czech Republic	1 900	1 9 1 2	0.cc 202	20.5	27.5	20.9 20.5	20.0	20.Z	10.0	17.0	
Cormony	14 540	1 144	30.3 2E 1	30.Z	20.0	20.5 7 7	22.2	23.0	10.9	20.3	
Ectonia	202	280	20.1	22.9	20.2	22.0	22.0	22.5	14.1	13.7	
Iroland	202	1 0 2 7	40.7	129.0	10.2	16.0	10.6	24.9	16.2	120	
Grooco	1 000	2 052	45.4 24.2	43.0	10.0 10 E	10.9 16 E	22.0	21.5	10.Z	215	
Spain	1 000	Z UDD 7 5 2 7	24.2 22.7	2/ 9	19.5	10.5	25.9 17 4	20.4	22.4	24.0	
Franco	11 02/	12 215	22.7	22.6	20.4	20.5	17.4		16.0	17.0	
Italice	0.040	0 100	21.2	20.7	27.7	27.Z 10.5	22.2	22.5	10.9	71.0	
Cuprus	120	1/17	16.2	29.7 11 Q	20.0	22.2	29.1	29.5	75	127	
Latvia	100	/01	40.5 27.1	41.0	23.7	33.0	21.6	วรว	7.J 18.3	26.6	
Latvia	499	905	27.1	17.2	12.1	40.2	125	2J.2 15 0	15.0	20.0	
Luxembourg	69	73	20.J 17.2	19.0	73.1	40.2 24.5	26.1	13.5 27 /	35	24.5	
Hundary	1 906	1 976	26.3	40.1 21.8	25.1	24.5	31.0	27.4	16.1	221	
Malta	78	80	20.5	21.0	20.0	24.9	10.5	15.7	10.1 Q 1	11.8	
Netherlands	70 3 171	3 2 8 9	44.2	38.0	22.8	24.0	20.5	20.0	15 /	17.2	
Austria	1 / 59	1 / 62	26.9	24.8	25.0	24.0	20.5	20.0	17.9	16.7	
Poland	9 07/	8 887	13.7	24.0	6.8	18.7	22.1	26.8	17.5	23.8	
Portugal	2 0 3 2	1 913	40.2	20.0 20.2	20.9	19.9		19.8	18.4	19.9	
Romania	3 962	3 8/17	30.0	25.2	20.5	26.7	25.5	28.9	10.4 11 /	19.5	
Slovenia	389	409	223	23.2	26.0	20.7	30.1	20.5	21.5	27.4	
Slovakia	1 1 2 3	1 101	27.6	22.0	36.4	32.7	23.9	28.8	12.1	16.5	
Finland	1 1 5 2	1 2 4 0	33.7	30.8	17.2	16.2	25.7	28.3	23.4	24.7	
Sweden	2 089	2 1 1 4	37.1	34.0	17.0	19.8	28.3	26.0	16.6	20.2	
United Kingdom	14 955	16 7 1 4	31.0	27.7	15.3	14.0	:	:	13.5	13.7	
Croatia	:	736	:	26.7	:	28.3	:	:	:	18.3	
FYR of Macedonia	<b>a</b> 386	374	32.8	29.4	33.6	31.7	24.0	25.7	9.6	13.2	
Turkey	13 169	16 021	75.3	65.9	:	:	:	:	7.7	13.1	
Iceland	73	83	42.6	37.1	16.0	16.5	28.3	28.1	13.2	18.3	
Liechtenstein	5	6	46.6	37.1	34.8	26.7	:	27.4	10.8	8.7	
Norway	989	1 052	42.4	40.8	16.0	17.7	22.3	21.2	19.3	20.3	
Switzerland	:	1 334	:	39.3	:	22.3	:	22.7	:	15.0	
Japan	20 583	19 2 18	36.6	37.6	20.7	19.2	22.0	21.0	19.3	21.0	
<b>United States</b>	62 323	66 597	40.1	36.7	19.8	19.8	19.0	17.6	21.2	25.9	

(1) Refer to the Internet metadata file (http://europa.eu.int/estatref/info/sdds/en/educ/educ\_base.htm).

Source: Eurostat (tps00051 and educ\_enrl1tl)

This table includes the total number of persons who are enrolled in the regular education system in each country. It covers all levels of education from primary education to postgraduate studies. It corresponds to the target population for education policy.

 Table 2.2: Pupil / teacher ratio in primary, lower and upper secondary education (1)

 (average number of pupils per teacher)

			Lower se	econdary		
			or se	cond		
	Prima	y level	stag	ge of	Upper se	econdary
	of edu	ucation	basic ed	ucation	educ	ation
	(ISCI	ED 1)	(ISC	ED 2)	(ISC	ED 3)
	2000	2005	2000	2005	2000	2005
Belgium	:	12.8	:	9.4	:	9.9
Bulgaria	16.8	16.3	12.1	12.6	11.6	11.9
Czech Republic	21.0	17.5	15.6	13.5	13.4	12.8
Denmark	10.7	:	10.6	11.9	12.1	:
Germany	19.8	18.8	15.7	15.5	13.9	19.2
Estonia	15.0	:	11.2	:	10.1	:
Ireland	21.5	17.9	15.8	:	15.8	15.6
Greece	13.4	11.1	10.8	7.9	10.5	8.8
Spain	14.9	14.3	13.7	12.5	9.7	8.1
France	19.5	19.4	14.5	14.2	10.6	10.3
Italy	11.0	10.6	10.4	10.1	10.5	11.0
Cyprus	18.1	17.9	:	11.9	12.7	11.5
Latvia	18.0	12.2	12.7	11.2	13.3	12.1
Lithuania	16.7	11.3	11.4	8.8	:	:
Luxembourg (2)	:	10.7	:	:	:	9.0
Hungary	10.9	10.6	10.9	10.4	9.9	12.2
Malta	19.1	12.1	9.0	8.4	16.2	17.4
Netherlands	16.8	15.9	:	:	17.1	16.2
Austria	:	14.1	:	10.6	:	11.3
Poland	12.7	11.7	11.5	12.7	16.9	12.9
Portugal	12.4	10.8	10.4	8.2	8.5	:
Romania	:	17.4	15.0	12.4	12.8	16.0
Slovenia	13.4	15.0	13.8	11.1	13.1	14.5
Slovakia	18.3	18.9	13.5	14.1	12.8	14.3
Finland	16.9	15.9	10.7	10.0	17.0	18.0
Sweden	12.8	12.2	12.8	12.0	15.2	14.0
United Kingdom	21.2	20.7	17.6	17.0	19.3	7.9
Croatia	:	18.1	:	12.8	:	10.7
FYR of Macedonia	21.2	:	11.1	:	18.4	17.5
Turkey	30.5	25.8	:	-	14.0	16.2
Iceland (2)	12.7	:	:	11.4	9.7	11.1
Liechtenstein	:	10.3	:	7.0	:	9.8
Norway (2)	:	11.9	11.6	10.5	9.7	9.6
Japan	:	19.4	:	15.1	:	13.0
United States	:	14.9	:	15.1	:	16.0

(1) Refer to the Internet metadata file (http://europa.eu.int/estatref/info/sdds/en/educ/educ\_base.htm).

(2) 2004 instead of 2005.

Source: Eurostat (tps00054 and educ\_iste)

The pupil-teacher ratio is calculated by dividing the number of full-time equivalent pupils by the number of full-time equivalent teachers. Only teachers in service (including special education teachers) are taken into account. The pupil-teacher ratio should not be confused with average class size as it does not take into account special cases, like the small size of groups of special needs pupils or specialised/minority subject areas, or the difference between the number of hours of teaching provided by teachers and the number of hours of instruction prescribed for pupils for example in the case a teacher is working in a shift system.

	Vouth odu	cation	Early school leavers (%)						
	attainment l	evel (%)	-	Total	I	Male	F	emale	
	2001	2006	2001	2006	2001	2006	2001	2006	
EU-27	76.6	77.8	17.3	15.3	19.4	17.5	15.2	13.2	
Euro area	72.7	73.8	19.5	17.8	22.2	20.4	16.9	15.1	
Belgium	81.7	82.4	13.6	12.6	15.0	14.9	12.3	10.2	
Bulgaria	78.1	80.5	20.3	18.0	21.1	18.2	19.5	17.9	
Czech Republic	90.6	91.8	:	5.5	:	5.7	:	5.4	
Denmark	78.4	77.4	9.0	10.9	9.8	12.8	8.2	9.1	
Germany	73.6	71.6	12.5	13.8	12.2	13.9	12.8	13.6	
Estonia	79.8	82.0	14.1	13.2	17.1	19.6	11.0	:	
Ireland	83.9	85.4	:	12.3	:	15.6	:	9.0	
Greece	80.2	81.0	17.3	15.9	21.3	20.7	13.4	11.0	
Spain	65.0	61.6	29.2	29.9	35.6	35.8	22.7	23.8	
France	81.8	82.1	13.5	13.1	15.0	15.1	12.0	11.2	
Italy	67.9	75.5	26.4	20.8	30.2	24.3	22.6	17.3	
Cyprus	80.5	83.7	17.9	16.0	23.9	23.5	13.1	9.2	
Latvia	71.7	81.0	:	19.0	:	21.6	:	16.1	
Lithuania	80.5	88.2	13.7	10.3	18.4	13.3	9.3	7.0	
Luxembourg	68.0	69.3	18.1	17.4	19.0	20.9	17.2	14.0	
Hungary	84.7	82.9	12.9	12.4	13.3	14.0	12.6	10.7	
Malta	40.1	50.4	54.4	41.7	55.3	44.6	53.5	38.8	
Netherlands	72.7	74.7	15.3	12.9	16.5	15.1	14.1	10.7	
Austria	85.1	85.8	10.2	9.6	9.7	9.3	10.7	9.8	
Poland	89.7	91.7	7.9	5.6	9.7	7.2	6.0	3.8	
Portugal	44.4	49.6	44.0	39.2	51.2	46.4	36.7	31.8	
Romania	77.3	77.2	21.3	19.0	21.4	19.1	21.3	18.9	
Slovenia	88.2	89.4	7.5	5.2	9.3	6.9	5.6	3.3	
Slovakia	94.4	91.5	:	6.4	:	7.3	:	5.5	
Finland	86.1	84.7	10.3	8.3	13.0	10.4	7.7	6.4	
Sweden	85.5	86.5	10.5	12.0	11.3	13.3	9.7	10.7	
United Kingdom	76.9	78.8	17.7	13.0	18.7	14.6	16.7	11.4	
Croatia	:	94.6	:	5.3	:	5.3	:	5.3	
Turkey	39.6	44.7	57.3	50.0	65.4	56.6	48.8	42.7	
Iceland	46.1	49.3	30.9	26.3	35.0	30.5	26.5	22.0	
Norway	96.2	93.3	9.2	5.9	10.0	7.4	8.4	4.3	
Switzerland	80.4	76.0	4.7	7.8	5.7	8.7	3.7	6.9	

 Table 2.3: Youth education attainment and early school leavers (1)

(1) Refer to the Internet metadata file (http://europa.eu.int/estatref/info/sdds/en/educ/educ\_base.htm).

Source: Eurostat (tsiir091, tsisc051, tsisc053 and tsisc052)

The indicator youth education attainment level is defined as the percentage of young people aged 20-24 years having attained at least upper secondary education attainment level, i.e. with an education level ISCED 3a, 3b or 3c long minimum (numerator). The denominator consists of the total population of the same age group, excluding no answers to the question highest level of education or training attained. Both the numerators and the denominators come from the EU Labour Force Survey (LFS). From 27 October 2006, this indicator is based on annual averages of quarterly data instead of one unique reference quarter in spring. See footnotes for further details.

Early school leavers refers to persons aged 18 to 24 in the following two conditions: the highest level of education or training attained is ISCED 0, 1, 2 or 3c short and respondents declared not having received any education or training in the four weeks preceding the survey (numerator). The denominator consists of the total population of the same age group, excluding no answers to the questions highest level of education or training attained and participation to education and training. Both the numerators and the denominators come from the EU Labour Force Survey.

## Figure 2.1: Four-year-olds in education, 2005 (1)

(% of all four-year-olds)



(1) Refer to the Internet metadata file (http://europa.eu.int/estatref/info/sdds/en/educ/educ\_base.htm).

#### Source: Eurostat (tps00053)

This indicator presents the percentage of the 4 year olds who are enrolled in education-oriented pre-primary institutions. These institutions provide education-oriented care for young children. They can either be schools or non-school settings, which generally come under authorities or ministries other than those responsible for education. They must recruit staff with specialised qualifications in education. Day nurseries, playgroups and day care centres, where the staff are not required to hold a qualification in education, are not included.

## Figure 2.2: 18-year-olds in education, 2005 (1)

(% of all 18-year-olds) 100 75 50 25 0 Greece France Bulgaria Cyprus Norway Croatia Poland Latvia Austria Spain United Kingdom Malta Iceland FYR of Macedonia EU-27 Sweden Finland -ithuania Ireland Slovenia Czech Republic Germany Estonia Denmark Slovakia Italy Hungary Netherlands Luxembourg Portugal Romania Liechtenstein Switzerland United States Turkey Euro area Belgium

(1) Refer to the Internet metadata file (http://europa.eu.int/estatref/info/sdds/en/educ/educ\_base.htm).

#### Source: Eurostat (tps00060)

This indicator gives the percentage of all 18-year-olds who are still in any kind of school (all ISCED levels). It gives an indication of the number of young people who have not abandoned their efforts to improve their skills through initial education and it includes both those who had a regular education career without any delays as well as those who are continuing even if they had to repeat some steps in the past.

## Figure 2.3: Youth education attainment level, 2006

(% of the population aged 20 to 24 having completed at least upper secondary education)



## Figure 2.4: Early school leavers, 2006

(% of the population aged 18-24 with at most lower secondary education and not in further education or training)



(1) Estimates; 2005 for female early school leavers. Source: Eurostat (tsisc053 and tsisc052)

## 2.2 FOREIGN LANGUAGE LEARNING

## **INTRODUCTION**

The EU recognises 23 official languages, in addition to which there are regional, minority languages, and languages spoken by migrant populations. School is the main opportunity for the vast majority of people to learn these languages – although linguistic diversity is actively encouraged within schools, universities, adult education centres and the workplace.

For several decades it has been mandatory for most European children to learn at least one foreign language during their compulsory education, with the time devoted to foreign language instruction generally increasing in recent years as the importance of languages has been increasingly recognised.

In 2002, the Barcelona European Council recommended that at least two foreign languages should be learnt from a very early age by each pupil. This recommendation has been implemented to varying degrees, usually for compulsory secondary education, either by making it mandatory to learn a second language, or ensuring that pupils have the possibility to study a second foreign language as part of their curriculum.

The European Commission has financed many projects in this area, notably through the Socrates and Leonardo da Vinci programmes, which have promoted language teaching and learning in the fields of education and vocational training. On 27 July 2003 the European Commission adopted an action plan for the promotion of language learning and linguistic diversity <sup>(31)</sup>, which focused on: extending the benefits of language learning to all citizens as a lifelong activity; improving the quality of language teaching, and; building an environment favourable to languages.

## **DEFINITIONS AND DATA AVAILABILITY**

Data on the number of pupils studying foreign languages are related to the corresponding numbers of students enrolled; mentally handicapped students enrolled in special schools are excluded.

The average number of foreign languages learned per pupil is collected for different ISCED levels. The data refer to all pupils, even if teaching languages does not start in the first years of instruction for the particular ISCED level considered. This indicator is defined as the sum of language students divided by the total number of students enrolled in the educational level considered. Each student studying a foreign language is counted once for each language he or she is studying, i.e. students studying more than one language are counted as many times as the number of languages studied.

#### **MAIN FINDINGS**

Within secondary education establishments across the EU, English, French, German, Spanish and Russian account for 95 % of all languages that are learnt. There is a clear pre-eminence in terms of the proportion of pupils that (choose to) study English and this trend would appear to be steadily increasing, as the proportion of pupils learning English was usually increasing between 2000 and 2005, often to the detriment of the share of pupils choosing to learn German or French.

Learning English is mandatory in a number of countries, as witnessed by the (near) 100 % shares of pupils learning this language in a majority of the Member States. The relative importance of English as a foreign language is further magnified because pupils tend to receive more tuition in their first foreign language than they do for any subsequent languages they may choose to study.

The 12 new Member States that have joined the EU since 2004 are in a particular position with respect to language teaching, as many of them used to make it compulsory to study Russian. This situation has since changed and now most pupils have a free choice as to the language(s) they wish to study. In these countries too there has also been a marked increase in the proportion of pupils learning English. Luxembourg is also of particular interest, insofar as this country has three official languages, with pupils receiving tuition in Luxembourgish, German and French, while also having to study English.

<sup>(31)</sup> For more information: http://ec.europa.eu/education/doc/official/keydoc/actlang/act\_lang\_en.pdf.

Education

## SOURCES

Statistical books Key Data on Education in Europe 2005

#### Methodologies and working papers

UOE data collection on education systems – volume1 – concepts, definitions and classifications Classification of learning activities – manual

#### Website data

#### Education

Thematic indicators – Progress towards the Lisbon objectives in education and training Foreign language learning

Education indicators – non-finance

Languages

Enrolments, graduates, entrants, personnel and language learning - absolute numbers

Students in ISCED 1-3 by modern foreign language studied

Students in ISCED 1-3 by number of modern foreign languages studied

## Figure 2.5: Proportion of pupils learning foreign languages in secondary education, by language, 2005 (1)

(%)



Refer to the Internet metadata file (http://europa.eu.int/estatref/info/sdds/en/educ/educ\_base.htm).
 2004.

Source: Eurostat (tps00057, tps00058 and tps00059), Unesco, OECD

This indicator presents the percentage of all pupils in upper secondary education (ISCED level 3) who are learning English/French/German as a foreign language. It only covers general and not vocational education in countries where English/French/German is described as a foreign language in the curriculum or other official document relating to education in the country.

	Average n	umber of						
	foreign la learnt j (nur	nguages oer pupil nber)	English in program	earning i general imes (%)	French in program	earning general mes (%)	German ir program	arning 1 general mes (%)
	2000	2005	2000	2005	2000	2005	2000	2005
Belgium	1.3	1.7	92.4	94.4	48.2	47.8	30.8	28.4
Bulgaria	1.2	1.4	80.3	83.1	22.0	15.4	36.9	40.3
Czech Republic	1.3	1.4	100.0	98.1	15.1	22.4	75.4	72.2
Denmark	1.3	1.5	100.0	96.4	31.2	21.9	79.6	69.3
Germany	0.7	0.9	90.9	93.8	30.9	30.0	-	-
Estonia	2.1	2.2	88.3	92.6	4.4	6.1	45.1	44.1
Ireland	0.9	0.9	-	-	65.4	61.7	20.0	19.1
Greece	:	1.2	:	94.5	:	8.6	:	2.4
Spain	1.1	1.2	95.3	95.3	18.2	28.0	0.9	1.3
France (2)	1.6	1.7	99.3	99.4	-	-	32.6	26.8
Italy	1.2	1.3	84.4	85.1	29.6	18.1	8.0	6.5
Cyprus	1.9	1.6	100.0	89.1	100.0	34.5	-	3.4
Latvia	:	:	88.7	93.7	4.1	3.6	55.5	38.8
Lithuania	1.8	1.4	72.1	80.2	8.2	5.9	37.4	28.4
Luxembourg	2.2	2.3	92.7	96.7	88.2	96.7	86.9	96.7
Hungary	1.2	1.2	57.6	73.0	6.1	6.0	47.1	51.4
Malta	0.8	0.6	64.8	65.6	11.2	6.6	1.8	1.7
Netherlands	:	:	:	100.0	:	69.5	:	86.2
Austria	1.3	1.4	96.9	96.9	44.1	54.1	-	-
Poland	1.4	1.7	88.6	96.3	15.8	12.1	62.2	72.5
Portugal	:	0.8	:	49.9	:	19.1	:	2.5
Romania	1.3	1.5	82.6	94.2	85.0	84.2	10.5	11.9
Slovenia	1.5	1.6	97.7	98.8	9.5	10.9	84.2	78.2
Slovakia	1.4	1.5	96.2	97.3	12.2	14.4	80.6	75.2
Finland	:	:	99.4	99.7	22.6	19.3	44.6	37.9
Sweden	1.7	1.6	99.8	100.0	26.4	24.2	54.5	34.5
United Kingdom	:	0.1	:	-	:	6.1	:	2.5
Croatia	:	1.4	:	98.4	:	3.8	:	66.2
FYR of Macedonia	1.3	1.5	:	:	:	:	:	:
Turkey (3)	:	0.7	:	66.1	:	0.8	:	3.8
Iceland	1.3	1.5	67.4	77.2	16.8	16.4	35.6	32.4
Norway	:	0.8		:	:	:	:	:

## Table 2.4: Foreign languages learnt per pupil in upper secondary education (ISCED level 3) (1)

(1) Refer to the Internet metadata file (http://europa.eu.int/estatref/info/sdds/en/educ/educ\_base.htm).

(2) English and German, 2004 instead of 2005.

(3) 2004 instead of 2005.

Source: Eurostat (tps00056, tps00057, tps00058 and tps00059), Unesco, OECD

The average number of foreign languages learned per pupil in upper secondary education (ISCED 3) is obtained by dividing the total number of pupils learning foreign languages by the number of pupils at that level. A foreign language is recognised as such in the curriculum or other official document relating to education in the country. Irish, Luxembourgish and regional languages are excluded, although provision may be made for them in certain Member States. Allowing for exceptions, when one of the national languages is taught in schools where it is not the teaching language, it is not considered as a foreign language.

Education

## **2.3 TERTIARY EDUCATION**

## **INTRODUCTION**

The proportion of the population that has attained qualifications at the tertiary level is one indicator of a country's ability to profit from technological and scientific progress. More generally higher education plays a central role in the development of human beings and modern societies, enhancing social, cultural and economic development, as well as active citizenship and ethical values.

While the Member States retain full responsibility for organising their tertiary education systems there are a number of pan-European initiatives within this domain. The Bologna Declaration <sup>(32)</sup> set out plans to create a European area for higher education by 2010, facilitating student mobility, the transparency and recognition of qualifications, while promoting a European dimension within higher education and the attractiveness of European institutions to non-Community students.

Apart from Socrates and Erasmus, a range of programmes have been on offer to higher education institutions, such as Tempus (covering inter-university cooperation with the Balkans, Community of Independent States and southern Mediterranean countries), the Community framework programmes for research and technological development, or Jean Monnet (that promotes studies on European integration). These programmes have enabled more than a million students, teachers and trainees to pursue their studies and training in another European country.

To facilitate this movement still further, a recommendation <sup>(33)</sup> was adopted by the Council and the Parliament regarding the mobility of students and teachers within the EU. There are a number of initiatives that cover the recognition of studies abroad, for both academic and professional purposes, including:

- the European Qualifications Framework (EQF) <sup>(34)</sup>, designed to allow employers and individuals to compare qualifications across diverse education and training systems;
- the European Credit Transfer and Accumulation System (ECTS) <sup>(35)</sup>, and;
- the Diploma Supplement (in cooperation with the Council of Europe and UNESCO) <sup>(36)</sup>.

(32) For more information: http://ec.europa.eu/education/policies/educ/bologna/ bologna\_en.html.

- (33) Recommendation 2001/613/EC on mobility within the Community for students, persons undergoing training, volunteers, teachers and trainers; for more information: http://eur-lex.eur/pa.eu/LexUriServ/site/en/oj/2001/ I\_215/I\_21520010809en00300037.pdf.
- (34) For more information: http://ec.europa.eu/education/policies/educ/eqf/ index\_en.html.
- (35) For more information: http://ec.europa.eu/education/programmes/ socrates/ects/index\_en.html.
- (36) For more information: http://ec.europa.eu/education/policies/rec\_qual/ recognition/diploma\_en.html.

## **DEFINITIONS AND DATA AVAILABILITY**

The International Standard Classification of Education (ISCED-97) is used to define the levels of education. Tertiary education includes both programmes which are largely theoretically-based and designed to provide qualifications for entry to advanced research programmes and professions with high skill requirements, as well as programmes which are classified at the same level of competencies but are more occupationally-oriented and lead to direct labour market access.

Indicators that are based on shares and ratios of particular student subpopulations exclude the number of graduates in fields of study that are unknown from their denominator, although these students are included when counting the total population of students.

It is rare for countries to have details concerning numbers of students studying abroad. Instead, these statistics are usually collected by summing the numbers of students studying in receiving countries. A general lack of data on the distribution of students according to their nationality is likely to lead to underestimation. Note however that as foreign student statistics generally relate to citizenship, students who are permanent residents in one country with the citizenship of another are generally reported as foreign students.

#### **MAIN FINDINGS**

There were more than 16 million students active within tertiary education in the EU in 2005 (excluding France and Luxembourg). Proportionally more young men than women opt for a vocational education, while women outnumber men within tertiary education. This may reflect the desire of some young men to enter a vocational profession as rapidly as possible, as well as changing social attitudes and professional activity concerning the position of women. As the emphasis placed on qualifications grows in relation to entering further education or obtaining a job, it is important to note that the participation rate of girls in education after the completion of compulsory education is higher than that for boys in most Member States, and that girls obtain more upper secondary education qualifications than boys.

The highest number of students in tertiary education was recorded in Germany and the United Kingdom – 2.3 million, equivalent to almost 14 % of the EU total, while there were close to 2 million students studying in Poland, Italy and Spain.

Gender disparities in educational enrolment and attainment at a tertiary level have been reversed in many Member States during the last couple of decades, with women accounting for 54.9 % of the total number of tertiary students in 2005 in the EU-27; Germany was the only country where the proportion of male tertiary students was higher than the share accounted for by women.

Educational policies have increasingly shifted to promote particular subject areas, where take-up among female students remains relatively low (for example, science, mathematics and computing, or engineering, manufacturing and constructionrelated studies). Women have a higher propensity to study health and welfare, humanities and arts, social sciences, business and law, while a higher proportion of men chose to study science and technology related subjects, as well as agriculture and veterinary related subjects. Some 36.9 % of tertiary students in science, mathematics and computing disciplines in the EU-27 were female in 2005, while the proportion of female students among those studying engineering, manufacturing and construction-related studies was 24.3 %. Some 2.3 % of the tertiary education student population in the EU-27 in 2005 was found to be studying in another EU-27, EEA or candidate country. With the exception of Cyprus, where a majority of students went abroad to study at a tertiary level, the proportion of students studying abroad in the remaining Member States never reached more than 9 %. The lowest proportion of students studying in another EU-27, EEA or candidate country was lowest in the United Kingdom (0.4 %).

## SOURCES

Statistical books Key Data on Education in Europe 2005

#### Methodologies and working papers

UOE data collection on education systems – volume1 – concepts, definitions and classifications Classification of learning activities – manual Task force report on adult education survey

## Website data

## Education

Thematic indicators – Progress towards the Lisbon objectives in education and training Education indicators – non-finance Enrolments, graduates, entrants, personnel and language learning – absolute numbers

	Total	of which, studying (%)						
	number of							
	students in		Social					
	tertiary		sciences,	Science,	Engineering,	Agriculture	Health	
	education	Humanities	business	math. and	manuf. and	and	and	
	(1 000)	and arts	and law	computing	construction	veterinary	welfare	Services
EU-27	16 342	12.4	33.5	10.5	14.4	2.1	11.9	3.7
Euro area	8 924	13.1	32.1	11.3	15.9	2.3	12.6	3.5
Belgium	390	10.4	31.7	6.2	10.4	2.5	16.7	1.1
Bulgaria	238	8.4	42.3	5.4	21.2	2.3	6.0	6.9
Czech Republic	336	9.5	28.1	9.5	19.7	3.8	9.8	4.5
Denmark	232	15.0	29.8	8.2	10.3	1.4	22.0	2.0
Germany	2 269	15.7	27.5	15.0	15.7	1.4	14.7	2.5
Estonia	68	11.3	38.1	10.4	12.2	2.6	8.8	8.6
Ireland	186	16.9	21.8	12.3	10.3	1.3	11.5	4.2
Greece	647	11.6	31.9	15.7	16.5	5.9	6.9	5.0
Spain	1 809	10.5	32.2	12.2	17.6	2.3	10.9	5.4
France	:	:	:	:	:	:	:	:
Italy	2 015	15.7	36.7	7.7	15.9	2.3	12.5	2.5
Cyprus	20	8.7	43.9	12.8	5.0	0.1	4.7	13.8
Latvia	131	6.6	54.5	5.2	9.5	1.5	4.7	4.4
Lithuania	195	7.0	41.2	6.2	18.6	2.3	8.9	2.9
Luxembourg	:	:	:	:	:	:	:	:
Hungary	436	7.8	42.7	5.5	12.4	3.1	7.6	7.9
Malta	9	13.5	41.6	5.9	7.8	0.8	14.5	0.2
Netherlands	565	7.9	39.8	7.6	7.9	1.6	15.8	3.0
Austria	244	13.7	35.9	12.0	12.1	1.5	9.4	2.0
Poland	2 118	8.5	39.9	8.3	11.7	2.1	3.9	6.5
Portugal	381	8.6	31.4	7.6	21.8	2.0	14.5	5.5
Romania	739	10.6	47.1	4.7	20.3	3.0	6.3	3.1
Slovenia	112	7.6	43.8	5.4	15.8	3.2	7.2	7.9
Slovakia	181	5.7	27.5	9.1	17.4	3.2	14.0	6.8
Finland	306	14.5	22.3	11.6	26.4	2.3	12.9	4.7
Sweden	427	12.9	26.5	9.5	16.4	0.8	16.9	1.7
United Kingdom	2 288	16.7	26.9	14.2	8.1	0.9	18.5	0.6
Croatia	135	9.3	37.4	7.6	16.3	3.6	7.5	13.5
FYR of Macedonia	49	10.9	32.8	7.4	18.1	4.0	9.0	4.5
Turkey	2 106	4.8	17.8	7.5	13.9	2.7	5.4	3.1
Iceland	15	14.3	35.5	8.7	6.7	0.6	12.6	1.8
Liechtenstein	1	5.3	69.1	0.0	25.6	0.0	0.0	0.0
Norway	214	11.5	32.2	9.4	6.9	0.9	19.0	3.8
Switzerland	200	12.7	37.8	11.1	13.2	1.4	9.8	3.6
Japan	4 038	16.2	28.7	2.9	16.6	2.2	11.9	6.8
United States	17 272	10.6	27.3	8.9	6.7	0.6	13.9	5.1
1) Defer to the Interret	atadata fila /kttai	louropp ou int/c-t-t-	of lip to lod de la	/	la tura \			

## Table 2.5: Students in tertiary education, 2005 (1)

(1) Refer to the Internet metadata file (http://europa.eu.int/estatref/info/sdds/en/educ/educ\_base.htm).

Source: Eurostat (tps00062 and educ\_enrl5)

This table includes the total number of persons who are enrolled in tertiary education (including university and nonuniversity studies) in the regular education system in each country. It corresponds to the target population for policy in higher education. It provides an indication of the number of persons who had access to tertiary education and are expected to complete their studies, contributing to an increase of the educational attainment level of the population in the country in case they continue to live and work in the country at the end of their studies.



# Figure 2.6: Median age in tertiary education, 2005 (1) (years)

(1) Refer to the Internet metadata file (http://europa.eu.int/estatref/info/sdds/en/educ/educ\_base.htm).

#### (2) Not available.

#### Source: Eurostat (tps00061)

The median age of a given population is the age separating the group into two halves of equal size. In the case of this indicator it means that half of the student population, i.e. persons enrolled in tertiary education (ISCED levels 5 and 6), is younger than the median age and the other half is older.

## Figure 2.7: Gender breakdown of tertiary students, 2005 (1)

(% of total number of tertiary students)



Refer to the Internet metadata file (http://europa.eu.int/estatref/info/sdds/en/educ/educ\_base.htm).
 2003.

#### Source: Eurostat (tps00063)

This indicator presents the percentage of women among all students in tertiary education irrespective of field of education and among all students in the fields of mathematics, science and computing and in the fields of engineering, manufacturing and construction. The levels and fields of education and training used, follow the 1997 version of the International Standard Classification of Education (ISCED97) and the Eurostat manual of fields of education and training (1999).
Education



Figure 2.8: Gender breakdown of tertiary students in science, mathematics and computing, 2005 (1) (% of total number of tertiary students in the field)

(2)

Not available. (3)

(4) 2003.

Source: Eurostat (tps00063)

# Figure 2.9: Gender breakdown of tertiary students in engineering, manufacturing and construction, 2005 (1)

(% of total number of tertiary students in the field)



Male (1) Refer to the Internet metadata file (http://europa.eu.int/estatref/info/sdds/en/educ/educ\_base.htm)

(2) Not available.

(3) 1999.

Source: Eurostat (tps00063)

Table 2.6: Graduates from tertiary education, by field of education, 2005 (1) (1 000)

			Social					
			sciences,	Science,	Engineering,	Agriculture	Health	
	ŀ	lumanities	business	math. and	manuf. and	and	and	
	Total	and arts	and law	computing	construction	veterinary	welfare	Services
EU-27	3 753	430	1 359	376	478	60	535	148
Euro area	2 058	247	711	219	309	33	312	88
Belgium	80	8	23	7	8	2	14	1
Bulgaria	46	4	22	2	7	1	3	3
Czech Republic	55	5	18	4	9	2	6	3
Denmark	50	7	15	4	5	1	12	2
Germany	344	36	83	37	56	8	83	13
Estonia	12	1	4	1	1	0	1	1
Ireland	60	14	18	10	7	0	6	1
Greece	60	8	17	9	7	2	6	5
Spain	288	26	84	30	48	6	41	22
France	665	83	280	82	97	4	81	25
Italy	298	48	118	20	49	5	36	8
Cyprus	4	0	2	0	0	0	0	1
Latvia	26	2	14	1	2	0	1	1
Lithuania	41	3	17	2	7	1	4	1
Luxembourg	:	:	:	:	:	:	:	:
Hungary	74	5	33	3	5	2	6	8
Malta	3	0	1	0	0	0	0	0
Netherlands	107	8	40	8	9	2	18	3
Austria	33	3	10	3	/	1	3	1
Poland	501	37	231	34	37	8	36	29
Portugal	/0	/	21	8	11	2	15	5
Romania	157	16	/2	8	28	4	18	4
Slovenia	16	1	/	1	2	0	2	1
Slovakia	36	2	10	3	6	1	5	2
Finland	39	5	9	3	8	1	/	2
Sweden	58	4	14	5	11	1	14	1
United Kingdom	633	97	194	89	51	6	116	4
Croatia	20	2	/	1	2	1	2	3
FYR of Macedonia	6	1	2	0	1	0	1	0
Turkey	272	18	/6	25	51	11	23	12
liceland	3	0	1	0	0	0	0	0
Liechtenstein	0	0	0	0	0	0	0	0
Norway	32	2	8	3	2	0	8	2
Switzeriand (2)	6U	4	24	6	/	1	122	110
Japan United States	1059	164	267	31	196	23	132	118
United States	2 558	33/	983	240	190	29	326	158

Refer to the Internet metadata file (http://europa.eu.int/estatref/info/sdds/en/educ/educ\_base.htm).
 2004.

Source: Eurostat (educ\_grad5)

Education



**Figure 2.10: Graduates from tertiary education, by field of education and gender, EU-27, 2005 (1)** (1 000)

(1) Estimates. Source: Eurostat (educ\_grad5)

**Figure 2.11: Student mobility in tertiary education (ISCED 5-6), 2005 (1)** (% of all students)



(1) Refer to the Internet metadata file (http://europa.eu.int/estatref/info/sdds/en/educ/educ\_base.htm).

(2) Inflow of students, 2004.

(3) Not available.

Source: Eurostat (educ\_thmob)

# 2.4 LIFELONG LEARNING

# **INTRODUCTION**

Lifelong learning encompasses learning for personal, civic and social purposes as well as for employment-related purposes. It takes place in a variety of environments in and outside the formal education and training systems. Lifelong learning implies raising investment in people and knowledge; promoting the acquisition of basic skills, including digital literacy and broadening opportunities for innovative, more flexible forms of learning. The aim is to provide people of all ages with equal and open access to high-quality learning opportunities, and to a variety of learning experiences, throughout Europe.

The EC Treaty recognised the importance of vocational training in Article 150 by stating that 'Community action shall aim to ... facilitate access to vocational training ...; stimulate cooperation on training between educational or training establishments and firms' <sup>(37)</sup>.

A European Commission communication of November 2001 entitled 'Making a European area of lifelong learning a reality' <sup>(38)</sup> underlines in paragraph 1.1 that the 'Lisbon European Council confirmed lifelong learning as a basic component of the European social model'. As such, learning is no longer given weight only in the area of education; it is also seen as a critical factor in the areas of employment and social security, economic performance and competitiveness.

The European employment strategy (EES) <sup>(39)</sup>, agreed on 22 July 2003, introduced two guidelines to tackle the need for improved skills levels through lifelong learning. These guidelines called upon the Member States to address labour shortages and skills bottlenecks and also encourage them to implement comprehensive lifelong learning strategies in order to equip all individuals with the skills required of a modern workforce. The guidelines stated that policies should aim to increase investment in human resources, in particular through the training of adults by enterprises. At the beginning of 2005, the European Commission made a proposal for a revision of the Lisbon strategy, completely revising the EES, by publishing employment guidelines in conjunction with macro-economic and micro-economic guidelines.

The Lifelong Learning Programme (LLP) for Community Action in the Field of Lifelong Learning was established by Decision 1720/2006/EC of the European Parliament and of the Council on 15 November 2006 (OJ L327 of 24/11/2006) <sup>(40)</sup>. The general

(39) For more information: http://ec.europa.eu/employment\_social/employment\_strategy/index\_en.ht m.

(40) For more information: http://eur-lex.europa.eu/LexUriServ/ site/en/oj/2006/l\_327/l\_32720061124en00450068.pdf. objective of the LLP is to contribute through lifelong learning to the development of the Community as an advanced knowledgebased society, with sustainable economic development, more and better jobs and greater social cohesion, while ensuring good protection of the environment for future generations. In particular, it aims to foster interchange, co-operation and mobility between education and training systems within the Community so that they become a world quality reference. The LLP will run for 7 years (2007-2013) and has a total budget for this period of almost EUR 7 000 million.

# **DEFINITIONS AND DATA AVAILABILITY**

Lifelong learning encompasses all purposeful learning activity, whether formal, non-formal or informal, undertaken on an ongoing basis with the aim of improving knowledge, skills and competence. The intention or aim to learn is the critical point that distinguishes these learning activities from non-learning activities such as cultural activities or sports activities.

Within the domain of lifelong learning statistics, formal education corresponds to education and training in the regular system of schools, universities and colleges. Non-formal education and training includes all types of taught learning activities which are not part of a formal education programme. The information collected relates to all education or training whether or not relevant to the respondent's current or possible future job.

The target population of the lifelong learning statistics refers to all persons in private households aged between 25 and 64 years old. Data are collected through the EU Labour Force Survey (LFS).

Note that the statistics presented do not cover informal learning, which corresponds to self-learning (through the use of printed material, computer-based learning/training, online Internet-based web education, visiting libraries, etc).

#### **MAIN FINDINGS**

In 2006, the proportion of persons aged 25 to 64 within the EU-27 receiving some form of education or training in the four weeks preceding the survey was 9.6 %. This figure was 2.5 points higher than the corresponding share for 2001. The proportion of the population who had participated in lifelong learning activities was higher among women (10.4 % in 2006) than among men (8.8 %).

Denmark, the United Kingdom and Finland stood out as they reported considerably higher proportions of population participating in lifelong learning (between 29 % and 23 %); in contrast, Bulgaria, Greece and Romania reported lifelong learning participation rates of less than 2 %.

<sup>(37)</sup> Consolidated version of the Treaty establishing the European Community, Chapter 3, Article 150(2) (OJ C 352, 24.12.2002, p. 33); for more information: http://eur-lex.europa.eu/en/treaties/dat/ 12002E/pdf/12002E\_EN.pdf.

<sup>(38) &#</sup>x27;Making a European area of lifelong learning a reality', COM(2001) 678 final of 21 November 2001; for more information: http://ec.europa.eu/education/policies/III/life/communication/ com\_en.pdf.

# SOURCES

Statistical books Key Data on Education in Europe 2005

Methodologies and working papers Classification of learning activities – manual Task force report on adult education survey

#### Website data

#### Training

Lifelong learning Any training activities Formal education Non formal education and training Informal learning

# Table 2.7: Lifelong learning (1)

(% of the population aged 25 to 64 participating in education and training)

	То	tal	Ma	ale	Ferr	nale
	2001	2006	2001	2006	2001	2006
EU-27	7.1	9.6	6.6	8.8	7.6	10.4
Euro area	5.2	8.2	5.2	7.9	5.2	8.6
Belgium	6.4	7.5	6.9	7.4	5.9	7.6
Bulgaria	1.4	1.3	1.3	1.3	1.4	1.3
Czech Republic	:	5.6	:	5.4	:	5.9
Denmark	18.4	29.2	16.1	24.6	20.7	33.8
Germany	5.2	7.5	5.7	7.8	4.8	7.3
Estonia	5.4	6.5	3.8	4.2	6.9	8.6
Ireland	:	7.5	:	6.1	:	8.9
Greece	1.2	1.9	1.2	2.0	1.1	1.8
Spain	4.4	10.4	4.0	9.3	4.9	11.5
France	2.7	7.5	2.5	7.2	3.0	7.8
Italy	4.5	6.1	4.4	5.7	4.6	6.5
Cyprus	3.4	7.1	3.4	6.5	3.4	7.8
Latvia	:	6.9	:	4.1	:	9.3
Lithuania	3.5	4.9	2.3	2.9	4.6	6.6
Luxembourg	5.3	8.2	5.9	7.6	4.7	8.7
Hungary	2.7	3.8	2.2	3.1	3.1	4.4
Malta	4.6	5.5	5.8	5.5	3.4	5.6
Netherlands	15.9	15.6	16.5	15.3	15.2	15.9
Austria	8.2	13.1	8.7	12.2	7.7	14.0
Poland	4.3	4.7	3.7	4.3	4.9	5.1
Portugal	3.3	3.8	2.9	3.7	3.6	4.0
Romania	1.0	1.3	1.1	1.3	1.0	1.3
Slovenia	7.3	15.0	6.7	13.8	7.9	16.3
Slovakia	:	4.3	:	4.0	:	4.6
Finland	17.2	23.1	14.7	19.3	19.7	27.0
Sweden (2, 3)	17.5	32.1	15.4	27.9	19.7	36.5
United Kingdom	20.9	26.6	17.5	22.0	24.4	31.2
Croatia (3)	:	2.1	:	2.0	:	2.4
Turkey	1.0	2.0	0.7	1.6	1.2	2.4
Iceland (3)	23.5	25.7	19.0	21.6	28.1	29.8
Norway	14.2	18.7	13.8	17.2	14.5	20.2
Switzerland (3)	36.0	26.9	41.8	27.4	30.2	26.5

(1) Refer to the Internet metadata file (http://europa.eu.int/estatref/info/sdds/en/educ/educ\_base.htm).

(2) Break in series, 2001.(3) 2005 instead of 2006.

(5) 2005 mistead of 2000.

Source: Eurostat (tsiem051, tsiem053 and tsiem052)

Lifelong learning refers to persons aged 25 to 64 who stated that they received education or training in the four weeks preceding the survey (numerator). The denominator consists of the total population of the same age group, excluding those who did not answer to the question participation to education and training. Both the numerator and the denominator come from the EU Labour Force Survey. The information collected relates to all education or training whether or not relevant to the respondent's current or possible future job. From 27 October 2006, this indicator is based on annual averages of quarterly data instead of one unique reference quarter in spring. See footnotes for further details.

# **2.5 EDUCATIONAL EXPENDITURE**

# **INTRODUCTION**

Expenditure on education is an investment that can help to foster economic growth, enhance productivity, contribute to personal and social development, and reduce social inequality. The proportion of total financial resources devoted to education is one of the key choices made in each country by governments, enterprises and individual students and their families.

The increasing demands on education systems to meet the challenges set by the revised Lisbon strategy are likely to require additional sources of funding. As a result, there is an ongoing debate in many Member States as to how to increase education funding, improve efficiency and promote equity. Possible approaches include charging tuition fees, administrative or examination charges, the introduction of grants, or incomecontingent loans to try to stimulate enrolment rates in higher education, in particular among the less well-off members of society. Another possible area for raising funds is through promoting partnerships between business and higher educational establishments.

Education accounts for a significant proportion of public expenditure in all of the Member States – the most important budget item being expenditure on staff. The cost of teaching increases significantly as a child moves through the education system, with expenditure per pupil/student considerably higher across universities than within primary schools. Although tertiary education costs the most per head, the highest proportion of education spending is devoted to secondary education systems, as these teach a higher share of the total number of pupils/students.

### **DEFINITIONS AND DATA AVAILABILITY**

Indicators on education expenditure cover schools, universities and other public and private institutions involved in delivering or supporting educational services. Expenditure on institutions is not limited to expenditure on instructional services but also includes public and private expenditure on ancillary services for students and families, where these services are provided through educational institutions. At the tertiary level, spending on research and development can also be significant and is included, to the extent that the research is performed by educational institutions.

Total public expenditure on education includes direct public funding for educational institutions and transfers to households and firms. In general, the public sector finances educational expenditure by assuming direct responsibility for the current and capital expenditure of schools (direct public financing of schools), or by offering financial support to pupils/students and their families (public-sector grants and loans) and by subsidising the education or training activities of the private business sector or non-profit organisations (transfers to households and firms). Expenditure on educational institutions from private sources comprises school fees; materials such as textbooks and teaching equipment; transport to school (if organised by the school); meals (if provided by the school); boarding fees; and expenditure by employers on initial vocational training.

Expenditure per pupil/student in public and private institutions measures how much central, regional and local levels of government, private households, religious institutions and firms spent per pupil/student. It includes expenditure for personnel, other current and capital expenditure.

Public-sector schools/institutions are defined as those which are directly or indirectly administered by a public education authority. Private schools/institutions are directly or indirectly administered by a non-governmental organisation (such as a church, trade union, a private business concern or another body) and are considered to be independent if they get less than 50 % of their funding from the public sector.

#### **MAIN FINDINGS**

Public expenditure on education in the EU-27 in 2004 was equivalent to 5.1 % of GDP, while the expenditure of both public and private sources of funds on educational institutions amounted to 5.4 % of GDP.

The highest public spending on education was observed in Denmark (8.5 % of GDP), while Sweden (7.4 %), Cyprus (6.7 %) and Finland (6.4 %) also recorded relatively high rates. Most Member States reported that public expenditure on education accounted for between 4 and 6 % of their GDP, although the proportion of public expenditure on education fell to below 4 % of GDP in Luxembourg and Romania; note that the tertiary education system in Luxembourg is underdeveloped and that the majority of tertiary students attend courses in another Member State.

It should be noted that GDP growth can mask significant increases that have been made in terms of education spending over the last decade within the majority of Member States. Note also that declining birth rates will result in reduced school age populations, which will have an effect on ratios such as the average expenditure per pupil (given that expenditure is held constant).

Annual expenditure on public and private educational institutions per pupil/student shows that an average of PPS 5 535 was spent per pupil/student in 2004 in the EU-27. Average expenditure per pupil/student generally rose with the level of education, with the PPS 7 966 spent on each tertiary student in the EU-27 in 2004, which was some 1.8 times as high as per capita spending within primary education (PPS 4 418).

Education

SOURCES
Statistical books
Key Data on Education in Europe 2005
Methodologies and working papers UOE data collection on education systems – volume1 – concepts, definitions and classifications A guide to educational expenditure statistics
Website data
Education
Thematic indicators – Progress towards the Lisbon objectives in education and training
Investments in education and training
Indicators on education finance
Expenditure on education in current prices
Expenditure on education in constant prices
Expenditure on education as % of GDP or public expenditure
Expenditure on public educational institutions
Expenditure on public and private educational institutions
Financial aid to students
Funding of education

Figure 2.12: Total public expenditure on education, 2004 (1) (% of GDP)



(1) Refer to the Internet metadata file (http://europa.eu.int/estatref/info/sdds/en/educ/educ\_base.htm).

(2) Estimate.(3) 2003.

Source: Eurostat (tsiir010), Unesco, OECD

Generally the public sector funds the education either by bearing directly the current and capital expenses of educational institutions (direct expenditure for educational institutions) or by supporting students and their families with scholarships and public loans as well as by transferring public subsidies for educational activities to private firms or non-profit organisations (transfers to private households and firms). Both types of transaction together are reported as total public expenditure on education.

# Table 2.8: Expenditure on educational institutions (1)

	Public expenditure (% of GDP)	Private expenditure (% of GDP) (2)	educational institutions per pupil/student (PPS for full-time equivalents)			
	2004	2004	1999	2004		
EU-27	4.8	0.6	4 453	5 535		
Euro area	4.7	0.6	5 022	5 991		
Belgium	5.7	0.3	5 023	6 489		
Bulgaria	3.9	0.6	1 150	1 821		
Czech Republic	4.2	0.6	2 535	3 736		
Denmark	6.9	0.3	6 802	7 658		
Germany	4.2	0.9	5 479	6 207		
Estonia	4.9	:	:	:		
Ireland	4.2	0.3	3 958	5 792		
Greece	4.1	0.2	2 717	4 158		
Spain	4.1	0.6	3 899	5 283		
France	5.6	0.5	5 438	6 2 1 4		
Italy	4.4	0.5	5 234	6 007		
Cyprus	5.9	1.2	4 439	6 097		
Latvia	4.7	0.8	1 671	2 412		
Lithuania	4.8	0.5	1 764	2 403		
Luxembourg	3.8	:	:	:		
Hungary	5.1	0.5	2 378	3 712		
Malta	5.0	0.5	2 801	4 094		
Netherlands	4.6	0.5	4 821	6 567		
Austria	5.0	0.4	6 903	7 870		
Poland	5.4	0.6	1 773	2 747		
Portugal	5.2	0.1	3 702	4 292		
Romania	3.2	0.2	:	:		
Slovenia	5.4	0.9	:	5 552		
Slovakia	4.0	0.8	1 641	2 606		
Finland	6.0	0.1	5 228	6 255		
Sweden	6.5	0.2	5 632	7 081		
United Kingdom	5.0	1.0	4 406	6 195		
Croatia	4.5	0.2	:	2 681		
Turkey		0.1	:	:		
Iceland	7.2	0.7	6 241	7 476		
Norway	6.2	0.0	6 974	8 695		
Switzerland	5.6	0.6	:	:		
Japan	3.5	1.2	5 738	6 910		
United States	5.1	2.4	8 756	9 960		

(1) Refer to the Internet metadata file (http://europa.eu.int/estatref/info/sdds/en/educ/educ\_base.htm).

(2) Turkey, 2003; Romania and Croatia, 2002.

Source: Eurostat (educ\_figdp, tps00068 and tps00067), Unesco, OECD

Expenditure on educational institutions from private sources comprises school fees; materials such as textbooks and teaching equipment; transport to school (if organised by the school); meals (if provided by the school); boarding fees; and expenditure by employers on initial vocational training.

The annual expenditure on public and private educational institutions per pupil/student compared to GDP per capita relates the resources (e.g. expenditure for personnel, other current and capital expenditure) being devoted to education in public and private educational institutions to the overall economic welfare of a country. It is based on full-time equivalent enrolment. The use of GDP per capita allows the comparison of levels of economic activity of different sized economies (per capita) irrespective of their price levels (in PPS).

Education



**Figure 2.13: Public and private expenditure on educational institutions per pupil / student, 2004 (1)** (PPS for full-time equivalents)

Source: Eurostat (tps00067), Unesco, OECD





(1) Refer to the Internet metadata file (http://europa.eu/estatref/info/sdds/en/educ/educ\_list\_of\_indic.htm).

(2) Estimates.

(3) Not available.

Source: Eurostat (tps00067), Unesco, OECD

# Health





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Health is an important priority for Europeans, who expect to be protected against illness and disease – at home, in the workplace and when travelling across the EU. Health issues cut across a range of topics – including consumer protection (food safety issues), workplace safety, environmental or social policies – and thus have a considerable impact on the EU's revised Lisbon strategy.

Competence for the organisation and delivery of health services and healthcare is largely held by the Member States, although the EU has the responsibility to give added value through launching actions such as those in relation to cross-border health threats and patient mobility, as well as reducing health inequalities and addressing key health determinants. Gathering and assessing accurate, detailed information on health issues is vital for the EU to effectively design policies and target future actions. A programme for Community action in the field of public health  $^{\rm (41)}$  for the period 2003 to 2008 focuses on three main areas, namely:

- to improve health information and knowledge for the development of public health;
- to enhance the capability of responding rapidly and in a coordinated fashion to threats to health, and;
- to promote health and prevent disease through addressing health determinants across all policies and activities.

More recently – on 23 October 2007 – the European Commission adopted a new strategy 'Together for Health: A Strategic Approach for the EU 2008-2013' to set objectives that will guide future work on health at a European level; a discussion document <sup>(42)</sup> was made available for comment with more than 150 contributions received. Within the European Commission, the strategy is supported by the Second Programme of Community Action in the field of Heath 2008-2013. This programme has been adopted with three broad objectives that align future health actions more closely to the objectives of prosperity, solidarity and security, namely through:

- improving citizens' health security;
- promoting health to improve prosperity and solidarity, and;
- generating and disseminating health knowledge.

<sup>(41)</sup> Decision No 1786/2002/EC of the European Parliament and of the Council of 23 September 2002 adopting a programme of Community action in the field of public health (2003-2008) (OJ L 271, 9.10.2002, p. 1); for more information: http://europa.eu/eurlex/pri/en/oj/dat/2002/L\_271/ I\_27120021009en00010011.pdf.

<sup>(42)</sup> For more information: http://ec.europa.eu/health/ph\_overview/Documents/ strategy\_discussion\_en.pdf.

# EUROSTAT DATA IN THIS DOMAIN: Population and social conditions

### Population

Demography Demography – National data Mortality

Health

Public health Health and safety at work

# **3.1 HEALTHY LIFE YEARS**

### **INTRODUCTION**

Life expectancy at birth remains one of the most frequently quoted indicators of health status and economic development. While most people are aware that successive generations are living longer, less is known about the condition of health of Europe's ageing population. Life expectancy at birth has risen rapidly in the last century due to a number of important factors, including reductions in infant mortality, rising living standards, improved lifestyles and better education, as well as advances in healthcare and medicine.

The health status of a population is difficult to measure because it is hard to define among individuals, populations, cultures, or even across time periods. As a result, the demographic measure of life expectancy has often been used as a measure of a nation's health status because it is based on a simple and easy to understand characteristic – namely, that of death. However, the use of life expectancy is limited insofar as it does not provide any information on a population's health status.

Healthy life years (HLY) introduce the concept of the quality of life, by focusing on those years that may be enjoyed by individuals free from the limitations of illness or disability. Chronic disease, frailty, mental disorders and physical disability tend to become more prevalent in older age, and the burden of these conditions may impact on healthcare and pension provisions, while resulting in a low quality of life for those who suffer from such conditions.

HLY also monitor health as a productive or economic factor: these indicators form part of the structural indicators that are used to analyse progress being made in the EU with respect to the revised Lisbon criteria. Within this context, HLY can be used to help study issues such as the potential costs and benefits that may be associated with raising the retirement age.

An improvement in HLY is one of the main goals for European health policy, given that it not only improves the situation of individuals (as good health and a long life are fundamental objectives of human activity) but also results in lower levels of public healthcare expenditure. If HLY are increasing more rapidly than life expectancy, then not only are people living longer, but they are also living a greater proportion of their lives free from health problems.

#### **DEFINITIONS AND DATA AVAILABILITY**

The structural indicator, healthy life years, measures the number of remaining years that a person of a specific age is still expected to live without any severe or moderate health problems or acquired disabilities. The HLY indicator (also called disability-free life expectancy) measures the number of remaining years that a person of a certain age can be expected to live without disability; in other words, this is a health expectancy indicator.

There are two components to the calculation of HLY, namely, mortality statistics and data on self-perceived disability. Mortality data comes from Eurostat's demographic database, while selfperceived disability data has come from the European Union Statistics on Income and Living Conditions survey (EU-SILC).

The implementation of the EU-SILC question used for the calculation of the HLY indicator (see below) is not yet fully harmonised, which limits the comparability of the results. New guidelines for this question were provided by Eurostat in October 2007 to the Member States, in order to improve the data comparability for the coming years. The EU-SILC question is:

For at least the past 6 months, to what extent have you been limited because of a health problem in activities people usually do? Would you say you have been:

- strongly limited?
- limited?
- not limited at all?

Examples of some of the problems raised at a national level during the implementation of this question include:

- the 6 months period is considered as a reference period and not as the minimum duration of the limitation;
- the reference is to the respondent's own daily activities and not to the ones that people usually do;
- the use of two answer categories instead of three (yes/no);
- only persons who answer with 'yes' to the previous question in the survey answer to this question instead of all persons.

#### **MAIN FINDINGS**

The values of healthy life years at birth in the EU-25 Member States varied in 2005 from 48.0 years to 68.5 years for men and from 52.2 years to 70.1 years for women, the lowest values being recorded in Estonia and the highest in Malta. Men in Denmark, Malta, Poland, Greece, Italy and the Netherlands were likely to spend the largest proportion of their lives free from disability.

Women could expect to live a slightly lower proportion of their lives free from disability; although their overall life expectancy at birth was higher than for men. The countries where women were likely to spend the largest proportion of their lives free from disability were broadly similar to those reported for men (except for the Czech Republic and Germany).

SOURCES

**Statistical books** Work and health in the European Union – A statistical portrait

Pocketbooks Health in Europe – Data 1998-2003

Methodologies and working papers Methodology for the calculation of Eurostat's demographic indicators

# Website data

Public health Structural indicators on health The HLY indicator is calculated at two ages: birth and the age of 65. Turning attention to those persons of retirement age, the highest figure for both men and women was recorded in Denmark where men were expected to have an additional 13.1 years of healthy life at the age of 65 and women an additional 14.1 years. Women aged 65 in Estonia recorded the lowest number of healthy life years among men and women across the Member States, at 3.4 years in both cases.



# Table 3.1: Healthy life years at birth (years)

	Mal	e	Fema	le
	2004	2005	2004	2005
Belgium	58.4	61.7	58.1	61.9
Bulgaria	:	:	:	:
Czech Republic	:	57.9	:	59.9
Denmark	68.3	68.4	68.8	68.2
Germany	:	55.0	:	55.1
Estonia	49.8	48.0	53.3	52.2
Ireland	62.5	62.9	64.3	64.1
Greece	63.7	65.7	65.2	67.2
Spain	62.5	63.2	62.5	63.1
France	61.2	62.0	64.1	64.3
Italy	67.9	65.8	70.2	67.0
Cyprus	:	59.5	:	57.9
Latvia	:	50.6	:	53.1
Lithuania	:	51.2	:	54.3
Luxembourg	59.1	62.2	60.2	62.1
Hungary	:	52.0	:	53.9
Malta	:	68.5	:	70.1
Netherlands	:	65.0	:	63.1
Austria	58.1	57.8	60.2	59.6
Poland	:	61.0	:	66.6
Portugal	55.1	58.4	52.0	56.7
Romania	:	:	:	:
Slovenia	:	56.3	:	59.9
Slovakia	:	54.9	:	56.4
Finland	53.1	51.7	52.9	52.4
Sweden	62.0	64.2	60.9	63.1
United Kingdom	:	63.2	:	65.0
Iceland	:	66.9	:	64.5
Norway	65.5	65.5	64.7	63.6

Source: Eurostat (tsien081 and tsien082)

Healthy life years (HLY) is a health expectancy indicator which combines information on mortality and morbidity. The data required are the age-specific prevalence (proportions) of the population in healthy and unhealthy conditions and age-specific mortality information. A healthy condition is defined by the absence of limitations in functioning/disability. The indicator is calculated separately for males and females. The indicator is also called disability-free life expectancy (DFLE).

# Figure 3.1: Healthy life years at birth, 2005 (1)

(% of total life expectancy)



Source: Eurostat (tps00025)

Source. Eurostat (tps00025)

The mean number of years that a newborn child can expect to live if subjected throughout his life to the current mortality conditions (age specific probabilities of dying).

# Figure 3.2: Healthy life years at age 65, 2005 (1)

(years)



Provisional data
 Not available.

Source: Eurostat (tsdph220)

The indicator healthy life years (HLY) at age 65 measures the number of years that a person at age 65 is still expected to live in a healthy condition. HLY is a health expectancy indicator which combines information on mortality and morbidity. The data required are the age-specific prevalence (proportions) of the population in healthy and unhealthy conditions and age-specific mortality information. A healthy condition is defined by the absence of limitations in functioning/disability. The indicator is calculated separately for males and females. The indicator is also called disability-free life expectancy (DFLE).

# **INTRODUCTION**

**२** Mealth

According to the Directorate-General for Health and Consumer Protection <sup>(43)</sup>, the promotion of health and lifestyle choices can play an important role in reducing disease and death. On average, Europeans with better jobs, more education or higher incomes have better health and longer life expectancy. Actions to reduce health inequalities aim:

- to improve everyone's level of health closer to that of the most advantaged;
- to ensure that the health needs of the most disadvantaged are fully addressed;
- to help the health of people in countries and regions with lower levels of health to improve faster.

Health problems linked to lifestyle related health determinants can be age specific (in childhood or in old age), as well as resulting from socio-economic factors. Health promotion in various settings, such as schools, workplaces, families or local communities has proven to be efficient in addressing health issues across communities, focusing on specific diseases or target groups.

Smoking is the single largest cause of avoidable death in the EU accounting for over half a million deaths each year. The Directorate-General for Health and Consumer Protection estimates that 25 % of all cancer deaths and 15 % of all deaths in the EU can be attributed to smoking. Smoking legislation has been adopted by an increasing number of Member States, restricting or forbidding smoking in public places and/or workplaces, as well as offering protection to passive smokers. The European Commission is developing a tobacco control policy, focused on:

- legislative measures;
- support for Europe-wide smoking prevention and cessation activities;
- mainstreaming tobacco control into a range of other Community policies (such as agricultural, taxation or development policy);
- making sure that the pioneering role played by the European Community in many tobacco control areas has an impact at a global level.

(43) For more information: http://ec.europa.eu/health/ph\_determinants/ healthdeterminants\_en.htm. Nutrition is another important health determinant, which together with smoking and physical inactivity, forms one of the main determinants for cardiovascular disease and cancer. Obesity is a known risk in relation to diseases such as diabetes, hypertension, cardiovascular disease, respiratory problems (asthma) and musculoskeletal disease (arthritis). Many different factors can lead to obesity, including excessive calorie consumption, a lack of physical activity, a genetic predisposition, or disorders of the endocrine system.

# **DEFINITIONS AND DATA AVAILABILITY**

Health Interview Surveys (HIS) are the source of information for describing the health status and the health-related behaviours of the European population. The following topics are usually covered in a HIS:

- height and weight which form the basis for the calculation of the body mass index (BMI);
- self-perceived health;
- activities that have been reduced because of health problems;
- long-standing illnesses or health problems;
- smoking behaviour;
- alcohol consumption.

The indicators are expressed as percentages within different population cohorts on the basis of background variables covering gender, age, activity status, and educational level. Note that the information in this publication comes from non-harmonised national surveys and that the Member States were asked to postharmonise the data according to a set of common guidelines. Member States have joined efforts on a harmonised EU survey (EHIS) which is, at the time of writing, being implemented (2007-2008).

The body mass index (BMI) is a measure of a person's weight relative to his or her height that correlates fairly well with body fat. The BMI is accepted as the most useful measure of obesity for adults when only weight and height data are available. It is calculated as the result of dividing body weight (in kilograms) by body height (in metres) squared. The following subdivisions are used to categorise the BMI into four categories:

- < 18.5: underweight;</p>
- >= 18.5 and < 25: normal weight;</p>
- >= 25 and < 30: overweight;</p>
- >= 30: obese.

Note that the BMI may not be suitable for children.

#### **MAIN FINDINGS**

Obesity is a serious public health problem that increases the risk of death and disability; it may be associated primarily with poor dietary habits and a lack of physical activity. Obesity rates have increased considerably in most Member States during the last decade. Approximately half of the EU's population was overweight or obese in 2003, a share that rose to as high as 61.0 % in England and 59.7 % in Germany, while Italy and France were the only Member States to report that less than 40 % of their population were either overweight or obese.

The proportion of daily smokers was close to 50 % of the male population in Latvia and Estonia in 2003; Sweden (16.5 %) and Finland (21.6 %) reported the lowest proportions of men smoking. Daily smoking rates were lower among women (compared with men) in each of the Member States, with the exception of Sweden where there was a slightly higher proportion of female daily smokers. Austria and Denmark recorded the highest incidence of daily smoking among women, at just over 30 % of the female population, while Portugal (6.8 %) was the

only Member State where the proportion of female daily smokers was in single figures. The largest absolute differences in smoking habits between the sexes were reported for the Baltic States, where the proportion of men smoking daily was upwards of 30 points more than the corresponding share for women. In relative terms, four times as many men (as women) smoked on a daily basis in Portugal, while between three and four times as many men smoked on daily basis in Cyprus, Lithuania, Romania and Latvia.

There would appear to be a shift in smoking patterns across Europe between the sexes. There was a much smaller difference between the proportion of men and women smoking when studying the population aged between 15 and 24. Young females in Sweden and the United Kingdom were more likely to smoke than young males. Furthermore, in the majority of Member States the proportion of young women smoking was often above that for all women; this was particularly the case in the United Kingdom, Spain, Ireland and Germany.

# SOURCES

**Statistical books** Work and health in the European Union – A statistical portrait

Pocketbooks Health in Europe – Data 1998-2003

#### Methodologies and working papers

Health Interview Surveys – guidelines for the collection of data on 18 HIS items Statistical analysis on health-related longitudinal data from the ECHP Guidelines for the development and criteria for the adoption of health survey instruments

# Website data

#### **Public health**

Health status: indicators from surveys (SILC, HIS, LFS) Health status: indicators from the national Health Interview Surveys (HIS round 2004: period 1999-2003)



# Figure 3.3: Overweight people, 2003 (1)

(% of total population)



(1) National health interview survey (HIS) data, 1996-2003 depending on the country.

(2) Only England.(3) European Community Household Panel data, 2001

(4) Not available.

Source: Eurostat (hlth\_ls\_bmia)

# Figure 3.4: Daily smokers, 2003 (1)

(% of male / female population)



(1) National health interview survey (HIS) data, 1996-2003 depending on the country.

(2) No distinction between daily and occasional smoking(3) Not available.

Source: Eurostat (tps00169)

Tobacco use remains the leading preventable cause of death and disease in our society. It is a major risk factor for diseases of the heart and blood vessels, chronic bronchitis and emphysema, cancers of the lung and other diseases. The indicator is defined as the number of current tobacco smokers among the population, expressed as a percentage of population. A person is a present smoker if he/she declares smoking tobacco daily or occasionally. The data come from non-harmonised national Health Interview Surveys (HIS) and the countries were asked to post-harmonise the data according to guidelines issued by Eurostat. The HIS data were collected in different years (between 1996 and 2003) depending on the country.



# Figure 3.5: Daily smokers among the population aged 15-24, 2003 (1)

(% of male / female population aged 15-24)

Source: Eurostat (tps00170)

# Figure 3.6: Resistance to antibiotics, 2005 (1)

(% of streptococcus pneumoniae isolates showing resistance either to erythromycin or penicillin)



Bulgaria, the Czech Republic, Germany, Estonia, Latvia, Malta, Sweden, Croatia and Norway, provisional data for 2006.
 Not available.

Source: Directorate-General for Health and Consumer Protection, EARSS (European Antimicrobial Resistance Surveillance System) project

The indicator shows the trends of erythromycin or penicillin resistance among invasive streptococcus pneumoniae, the single most important cause of infections of the lower respiratory tract (such as pneumonia) in adults and children. On average, around 62.4 % of the population of the countries covered by the indicator are considered for its calculation.



# Figure 3.7: Persons strongly limited in activities people usually do because of health problems for at least the past 6 months, 2005 (1)

(% of male / female population aged 15 years and over)



(1) Provisional data.

(2) No distinction between strongly limited and limited.(3) Not available.

Source: Eurostat (tps00030)

Statistics on Income and Living Conditions (SILC) contains several questions on health, including a general question on restrictions on everyday activities caused by a health problem. Therefore, while such a question is not exactly measuring disability levels in the population, it does allow for an overview of the situation regarding difficulties faced in daily life and the potential need for assistance as perceived by the population.



# **3.3 HEALTHCARE**

# **INTRODUCTION**

Most Europeans agree that there is a basic need for universal access to healthcare, as the cost of many modern-day health treatments can often be prohibitive to the average person. The provision of healthcare systems varies considerably between the Member States, although widespread use is made of public provision (national or regional health services) and comprehensive healthcare insurance. Healthcare schemes generally cover their entire resident population; nevertheless, an increasing proportion of individuals choose to adhere to private insurance schemes (usually on top of the national provision for care).

Public regulation of the healthcare sector is a complex task, as the healthcare market is characterised by numerous market imperfections. Member States generally aim to balance the efficient use of resources with ensuring that healthcare provisions are available to all. There is no simple answer to the question of how much a country should spend on healthcare, as each of the Member States faces a different burden of disease, while populations have different expectations of what services their national healthcare systems should offer. Indeed, the amount of money needed to fund a healthcare system is a function of a large number of variables, the most obvious being the burden of disease requiring treatment – although there is no simple linear relationship between the burden of disease and the need for resources, as some conditions can be treated simply and at low cost while others may require a complex and expensive care.

The main consumers of healthcare are older people – a section of the European population that is growing rapidly, partly as a result of the baby-boom cohort reaching older age, but also because of continued increases in life expectancy. The likely increase in numbers of elderly persons will probably drive demand for more healthcare provision in the future, while medical advances are also likely to result in more and better treatments being available. Demand for healthcare is also likely to rise in the coming years in relation to long-term care provision (nursing and convalescence homes). In addition, more patients are travelling across borders to receive treatment, to avoid waiting lists or seek specialist treatment that may only be available abroad. The EU works towards ensuring that people who move across borders have access to healthcare anywhere within the Union.

# **DEFINITIONS AND DATA AVAILABILITY**

Information on healthcare can be divided into two broad groups of data: resource-related healthcare data on human and technical resources and output-related data that focuses on hospital patients and the treatment they receive.

Healthcare data on resources and patients are largely based on administrative data sources. These may vary across countries, and to a large degree they reflect country-specific ways of organising healthcare; as such, the information collected may not always be completely comparable.

Data on healthcare staff, in the form of human resources available for providing healthcare services, is provided irrespective of the sector of employment (i.e. whether the personnel are independent, employed by a hospital, or any other healthcare provider). These statistics cover healthcare professionals such as physicians, dentists, nurses, pharmacists and physiotherapists. In the context of comparing healthcare services across Member States, Eurostat gives preference to the concept practising professionals, as this best describes the availability of healthcare resources.

Output-related data collection focuses on hospital patients and covers the interaction between patients and healthcare systems, namely in the form of the treatment received. Data in this domain are available for a range of indicators including hospital discharges of in-patients and day cases by age, sex, and selected (groups of) diseases; the average length of stay of in-patients; or the medical procedures performed in hospitals. The number of hospital discharges is the most commonly used measure of the utilisation of hospital services. Discharges, rather than admissions, are used because hospital abstracts for in-patient care are based on information gathered at the time of discharge. A hospital discharge is the formal release of a patient from a hospital after a procedure or course of treatment. A discharge occurs whenever a patient leaves because of finalisation of treatment, signs out against medical advice, transfers to another healthcare institution or on death; healthy newborn babies should be included.

Healthcare data presented in this section relate to absolute numbers and density rates that describe the availability of resources or the frequency of services rendered, as expressed by population-standardised rates per 100 000 inhabitants.



#### **MAIN FINDINGS**

Healthcare expenditure – defined here as expenditure on sickness/healthcare according to the European system of integrated social protection statistics (ESSPS) – was 7.4 % of GDP in the EU-25 in 2004. These expenditures cover: cash benefits that replace in whole or in part the loss of earnings during temporary inability to work due to sickness or injury; as well as medical care provided in the framework of social protection to maintain, restore or improve health. Across the Member States, healthcare expenditure reached more than 8 % of GDP in France, the Netherlands and Sweden, while it was less than 4 % in Latvia, Lithuania or Poland.

In 2005 there was an average of 590 hospital beds per 100 000 inhabitants within the EU-27, compared with 695 beds in 1997 (an overall reduction of 15 %). This fall in hospital bed numbers may result from a more efficient use of resources, with an increasing number of operations being dealt with in outpatient treatment, and shorter periods being spent in hospital following an operation.

Lithuania (401) and Belgium (400) reported the highest numbers of physicians per 100 000 inhabitants in 2005; note that data for Lithuania refers to professionally active physicians and not to practising physicians and is therefore overestimated. At the other end of the range, there was an average of less than 250 practising physicians per 100 000 inhabitants in Poland, Romania, Slovenia, Finland, the United Kingdom and the former Yugoslav Republic of Macedonia.

# SOURCES

Pocketbooks Health in Europe – Data 1998-2003

# Website data

# Public health

Health care: resources and patients (non-expenditure data) Health care staff Health care facilities Hospital patients



(per 100 000 inhabitants)

	Practi physic	ising cians	Ho b	Hospital beds		discharges batients ng healthy rn babies)
	1995	2005	1995	2005	2000	2005
EU-27 (1)	:	:	694.8	590.4	:	:
Belgium	344.6	399.5	741.8	744.8	16 252	16 084
Bulgaria (2, 3)	344.9	365.3	1 034.1	611.6	14 456	20 857
Czech Republic	299.8	354.9	938.7	850.3	:	23 030
Denmark (1, 4)	250.0	308.4	459.8	398.0	16 316	15 936
Germany	307.0	341.2	969.8	846.4	19 586	:
Estonia (5)	307.4	319.3	804.1	548.4	19 826	18 544
Ireland (6)	210.2	352.3	699.6	559.6	13 805	13 505
Greece	393.0	:	518.5	:	:	:
Spain	268.2	379.9	394.7	339.0	11 243	10 780
France (7, 8)	322.6	338.6	894.1	742.5	18 397	16 445
ltaly (7, 9)	385.9	383.2	622.1	400.9	:	14 928
Cyprus	220.2	257.8	451.9	380.0	6 795	6 617
Latvia	277.8	291.5	1 099.3	766.4	:	:
Lithuania (7)	404.5	401.1	1 083.0	814.7	23 454	22 411
Luxembourg (10)	204.4	327.7	1 095.8	644.3	18 481	17 242
Hungary	302.8	278.4	909.1	786.2	:	:
Malta (6, 9, 11)	247.4	349.4	544.9	743.7	:	6 871
Netherlands	186.1	:	528.0	437.2	:	10 135
Austria (10)	265.7	346.7	755.1	770.9	:	26 809
Poland	231.8	213.6	768.7	652.2	:	17 955
Portugal (2, 10)	253.8	267.8	392.4	365.1	:	:
Romania	181.2	217.4	783.0	661.8	:	:
Slovenia (10)	:	229.9	573.6	483.9	:	15 358
Slovakia (5)	291.5	303.7	829.4	677.1	19 876	19 124
Finland (9)	207.3	244.5	801.0	704.2	:	20 514
Sweden (5)	288.2	348.1	609.0	:	15 272	14 751
United Kingdom (1, 5)	:	235.6	433.4	388.7	:	13 064
Croatia	203.6	:	407.3	545.0	12 710	13 307
FYR of Macedonia (3, 7)	230.7	245.2	543.9	470.2	9 444	9 881
Turkey (2)	:	:	246.5	241.2	:	:
Iceland	303.0	368.1	910.9	:	17 085	16 084
Norway	279.3	362.8	407.3	405.9	15 409	17 424
Switzerland	175.6	:	700.8	555.6	:	15 656

(1) 1997 instead of 1995 for hospital beds.
 (2) 2004 instead of 2005 for hospital beds.
 (3) Including healthy newborn babies for hospital discharges of in-patients.

(4) 2003 instead of 2005 for hospital beds. (5) 2003 instead of 2005 for hospital beds.
(6) Licensed physicians.
(7) Professionally active physicians.

(8) Metropolitan France for hospital beds.

(9) 2004 instead of 2005 for hospital discharges.
 (10)2004 instead of 2005 for practising physicians.
 (11)1997 instead of 1995 for practising physicians.

Source: Eurostat (tps00044, tps00046 and hlth\_co\_disch2)

Physicians may be counted as licensed, economically active or practising. Data for two or more concepts are available in the majority of Member States. Practising physicians are those seeing patients either in a hospital, practice or elsewhere.

Beds accommodating patients who are formally admitted (or hospitalised) to an institution for treatment and/or care and who stay for a minimum of one night in the hospital or other institution providing in-patient care. In-patient care is delivered in hospitals, other nursing and residential care facilities or in establishments, which are classified according to their focus of care under the ambulatory care industry but perform in-patient care as a secondary activity.

Health

(per 100 000 inhabitants)

Realth

	be	Curative car ds in hospita	e als	Ps be	sychiatric car ds in hospita	ire als
	1995	2000	2005	1995	2000	2005
EU-27 (1)	487.2	450.7	406.3	78.0	69.4	60.4
Belgium	503.3	472.6	441.1	195.3	259.5	250.8
Bulgaria (2)	:	583.1	469.0	88.7	63.8	64.4
Czech Republic	728.7	609.6	568.6	100.8	98.0	96.2
Denmark (1, 3)	380.2	349.5	327.8	79.6	75.6	70.2
Germany	744.5	680.3	634.9	:	:	:
Estonia	638.8	528.1	382.2	102.4	75.3	53.8
Ireland	306.3	281.1	279.8	185.4	142.1	96.7
Greece	389.7	387.3	:	110.4	100.7	:
Spain	303.9	287.2	259.9	60.3	52.6	44.5
France (4)	460.8	416.0	372.1	139.0	110.9	95.2
Italy	552.6	407.0	331.7	48.2	14.8	13.3
Cyprus	366.4	370.4	349.1	85.5	46.5	31.0
Latvia	903.9	609.0	531.8	195.4	165.1	136.7
Lithuania	871.4	625.0	529.9	130.6	120.9	103.7
Luxembourg (5)	618.8	572.2	549.4	129.9	84.9	:
Hungary	627.3	563.7	552.0	51.1	100.2	39.4
Malta (1)	387.7	372.7	280.4	178.1	171.5	170.4
Netherlands	331.7	306.5	287.6	171.3	163.8	131.0
Austria	665.4	628.7	606.6	81.7	62.1	61.7
Poland	576.4	509.9	463.2	84.3	73.4	67.4
Portugal (6)	:	:	:	71.8	66.2	63.4
Romania	569.2	551.5	456.3	90.7	83.6	79.7
Slovenia	475.4	446.1	388.2	80.1	76.7	73.7
Slovakia (7)	620.5	566.5	501.1	91.8	93.4	83.5
Finland	295.8	241.2	223.7	126.0	102.9	93.1
Sweden	304.5	245.2	:	95.0	62.8	:
United Kingdom (1)	321.0	315.0	309.7	103.0	90.9	73.7
Croatia	390.0	378.1	340.2	103.0	102.8	94.4
FYR of Macedonia	354.2	329.8	312.6	77.9	70.9	60.7
Turkey (2)	190.6	218.0	231.1	13.1	12.4	12.1
Iceland	375.7	:	:	118.0	:	:
Norway	334.2	311.4	292.4	73.0	69.4	100.2
Switzerland	551.4	412.3	365.9	138.0	119.9	106.1

(1) 1997 instead of 1995.

(2) 2004 instead of 2005. (3) 2003 instead of 2005.

(d) Metropolitan France.
(5) 2004 instead of 2005 for curative care beds.
(6) 2003 instead of 2005 for psychiatric care beds.

(7) 1996 instead of 1995.

Source: Eurostat (tps00168 and tps00047)

Hospital beds provide information on health care capacities, i.e. on the maximum number of patients who can be treated by hospitals. Curative care (or acute care) beds in hospitals are beds that are available for curative care. These beds are a subgroup of total hospital beds which are defined as all hospital beds which are regularly maintained and staffed and immediately available for the care of admitted patients; both occupied and unoccupied beds are covered. Hospitals are defined according to the classification of health care providers of the System of Health Accounts (SHA); all public and private hospitals should be covered.

# Figure 3.8: Hospital beds, 2005

(per 100 000 inhabitants)



Source: Eurostat (tps00046)

# Figure 3.9: Number of practising physicians, 2005

(per 100 000 inhabitants)



- (1) 2001.
   (2) Professionally active physicians
   (3) Licensed physicians.
- (4) 2004.
- (5) Not available.
- (6) 2002.(7) 2003.

Source: Eurostat (tps00044)

Table 3.4: Hospital discharges of in-patients by diagnosis (ISHMT – international shortlist for hospital morbidity tabulation), 2005 (per 100 000 inhabitants)

					Injury, poisoning and certain	
		Diseases	Diseases	Diseases	other	Pregnancy,
		of the	of the	of the	consequences	childbirth
	Neoplasms	circulatory	digestive	respiratory	of external	and the
	(cancers)	system	system	system	causes	puerperium
Belgium	1 2 4 4	2 135	1 698	1 441	1 634	1 362
Bulgaria	1 7 1 5	3 003	1 637	3 180	1 317	1 949
Czech Republic	2 061	3 703	2 079	1 598	1 956	1 512
Denmark (1)	1 563	2 228	1 378	1 424	1 552	1 281
Germany (2)	2 270	3 300	2 079	1 258	1 987	1 179
Estonia	1 572	3 243	1 624	2 025	1 191	1 832
Ireland	869	1 255	1 230	1 401	1 370	2 422
Greece	:	:	:	:	:	:
Spain	916	1 339	1 270	1 147	898	1 386
France	1 277	1 973	1 697	1 005	1 461	1 567
Italy (3)	1 331	2 481	1 462	1 144	1 324	1 336
Cyprus	428	780	684	657	861	435
Latvia	:	:	:	:	:	:
Lithuania	1 648	4 475	1 943	2 404	1 982	1 671
Luxembourg	1 744	2 275	1 665	1 436	1 263	1 330
Hungary	:	:	:	:	:	:
Malta	183	694	592	541	580	972
Netherlands	997	1 528	916	731	848	858
Austria	2 779	3 696	2 439	1 796	2 853	1 353
Poland	1 908	3 024	1 766	1 557	1 615	1 577
Portugal	:	:	:	:	:	:
Romania	1 275	2 588	2 071	2 785	1 279	1 697
Slovenia	1 791	1 863	1 377	1 265	1 515	1 242
Slovakia	1 764	3 054	1 889	1 660	1 586	1 631
Finland (3)	1 859	3 229	1 517	1 616	1 972	1 335
Sweden (1)	1 465	2 442	1 183	957	1 396	1 249
United Kingdom (1)	1 032	1 452	1 177	1 197	1 238	1 349
Croatia	1 828	1 849	1 179	1 147	1 042	223
FYR of Macedonia	1 164	1 554	1 039	1 424	579	754
Iceland	1 394	1 825	1 347	980	1 020	2 114
Norway	1 795	2 467	1 2 3 8	1 531	1 854	1 487
Switzerland	1 124	1 735	1 353	869	1 846	1 182
(1)	1 12 1	1,55	1 3 3 3	005	1 8 10	1 1 5 2

(1) 2003.
(2) 2002.
(3) 2004.

Source: Eurostat (hlth\_co\_disch2)



Table 3.5: Hospital discharges of in-patients by diagnosis

(ISHMT – international shortlist for hospital morbidity tabulation), average length of stay, 2005 (days)

	Neoplasms (cancers)	Diseases of the circulatory system	Diseases of the digestive system	Diseases of the respiratory system	Injury, poisoning and certain other consequences of external causes	Pregnancy, childbirth and the puerperium
Belgium	9.4	8.4	6.1	8.4	8.5	5.0
Bulgaria	7.9	7.6	6.4	8.5	6.6	4.8
Czech Republic	9.4	12.6	7.1	9.1	9.2	5.6
Denmark (1)	7.1	6.6	5.3	5.6	5.9	3.8
Germany (2)	10.0	10.0	8.3	8.5	9.5	5.5
Estonia	8.0	10.6	5.2	5.0	8.8	3.1
Ireland	11.8	10.5	6.4	6.9	5.6	3.0
Greece	:	:	:	:	:	:
Spain	9.8	8.5	6.0	7.4	8.5	3.2
France	7.8	7.1	5.3	7.1	5.8	4.9
Italy (3)	9.7	8.7	6.8	8.1	7.8	4.0
Cyprus	9.1	6.0	5.3	5.0	5.3	5.3
Latvia	:	:	:	:	:	:
Lithuania	10.8	12.9	6.8	8.1	8.3	4.9
Luxembourg	8.9	7.9	5.9	6.0	7.7	4.8
Hungary	:	:	:	:	:	:
Malta	9.3	6.9	4.0	5.0	7.5	3.6
Netherlands	8.5	7.8	6.8	7.6	7.7	3.8
Austria	7.9	11.1	7.1	8.1	8.8	5.5
Poland	6.6	7.9	5.8	8.1	5.3	5.1
Portugal	:	:	:	:	:	:
Romania	7.7	8.5	6.9	7.5	6.5	5.4
Slovenia	8.0	8.8	6.4	7.5	7.2	4.7
Slovakia	9.1	9.0	6.5	8.2	7.1	5.8
Finland (3)	8.7	14.9	6.0	14.2	10.9	3.8
Sweden (1)	8.1	6.8	5.0	5.5	6.3	3.2
United Kingdom (1)	9.3	11.5	6.8	8.0	8.8	2.8
Croatia	10.4	10.9	9.0	9.6	9.1	8.3
FYR of Macedonia	8.5	10.9	6.3	8.2	9.1	4.4
Iceland	7.2	6.4	4.0	6.2	6.4	2.4
Norway	7.2	5.4	4.9	6.1	4.8	3.7
Switzerland	10.6	9.3	7.4	8.8	8.0	6.1

(1) 2003.
 (2) 2002.
 (3) 2004.

Source: Eurostat (hlth\_co\_inpst)

# **3.4 SAFETY AT WORK**

# **INTRODUCTION**

A high proportion of people spend 8 hours a day, 5 days a week at work. While there have been many studies concerning the benefits of work as a source of wealth (for both the individual and the enterprise) there has until recently been less interest in the negative effects that work can have on human and public health, in other words the costs and not just the benefits of work.

Health at work is not restricted to accidents or occupational illnesses, but also involves physical, moral and social well-being (issues such as intimidation and violence in the workplace), which are considered especially important determinants regarding the quality of work and the productivity of the workforce. A strategic health and safety policy is therefore not just crucial to ensuring the well-being of Europe's workers; it is also a key issue in competitiveness.

#### **DEFINITIONS AND DATA AVAILABILITY**

European statistics on accidents at work and occupational diseases respond to the requirements of the Community strategy on health and safety at work 2002-06, as well as the new strategy for the period 2007-2012 <sup>(44)</sup>. Harmonised data on accidents at work are collected in the framework of the European Statistics on Accidents at Work (ESAW). The ESAW methodology is in accordance with the International Labour Office (ILO) Resolution of 1998 concerning 'Statistics of Occupational Injuries: resulting from Occupational Accidents'.

National sources are typically declarations of accidents at work, either to the public (social security) or private insurance systems, or to other relevant national authorities. Data are typically presented in numbers or as incidence rates. Incidence rates are calculated as follows: (number of accidents (or fatal accidents) at work / number of persons in employment in the reference population) x 100 000.

The data on accidents at work refer to accidents that result in more than three days absence from work. An accident at work is a discrete occurrence during the course of work which leads to physical or mental harm. This includes accidents in the course of work outside the premises of his business, even if caused by a third party (on clients' premises, on another company's premises, in a public place or during transport, including road traffic accidents) and cases of acute poisoning. It excludes accidents on the way to or from work (commuting accidents), occurrences having only a medical origin (such as a heart attack at work) and occupational diseases.

A fatal accident at work is defined as an accident which leads to the death of a victim generally within one year of the accident. In practice the notification of an accident as fatal ranges from national registration procedures where the accident is registered as fatal when the victim died the same day (the Netherlands) to cases where no time limits are laid down (Belgium, Greece, France, Italy, Luxemburg, Austria, Sweden and Norway).

#### **MAIN FINDINGS**

According to the European Agency for Safety and Health at Work in Bilbao <sup>(45)</sup>, every three and a half minutes, somebody in the EU dies from work-related causes. Of the 150 000 deaths in a year, the vast majority are from occupational diseases (142 000), while the remainder are classified as work-related accidents.

In recent years the incidence rate of serious accidents at work has fallen, such that by 2004 it had decreased by 21 % in relation to 1998 for the EU-25. During the same period there was a 24 % reduction in fatal accidents at work in the EU-25. Note that these figures may in part reflect the structural shift of the European economy towards services, where the risks of accident and death at work are usually less than within agriculture, industry or construction.

There were only three Member States that reported a higher incidence of serious accidents at work in 2004 when compared with 1998: Estonia (24 % higher), Cyprus (3 % higher) and Romania (also 3 % higher). At the other end of the scale, the incidence of serious accidents in Bulgaria and Slovakia was almost halved between 1998 and 2004. The majority of the Member States also reported a reduction in the incidence of fatal accidents at work, although this was not the case in Lithuania (13 % increase), Austria (7 % increase), Romania (3 % increase), Finland (2 % increase) and Germany (no change). Italy, Denmark and Luxembourg all reduced their incidence of fatal accidents at work by at least half over the period considered.

(45) For more information: http://osha.europa.eu/index\_html.

<sup>(44)</sup> Council Resolution 2002/C 161/01 of 3 June 2002 on a new Community strategy on health and safety at work (2002–06) (OJ C 161, 5.7.2002, p. 1); for more information: http://eur-lex.europa.eu/LexUriServ/ site/en/oj/2002/c\_161/c\_16120020705en00010004.pdf. Council Resolution 2007/C 145/01 of 25 June 2007 on a new Community strategy on health and safety at work (2007-2012) (OJ C 145, 30.6.2007, p. 1); for more information: http://eur-lex.europa.eu/LexUriServ/site/ en/oj/2007/c\_145/c\_14520070630en00010004.pdf.



In absolute terms the highest incidence of serious and fatal accidents at work was recorded within the construction sector, with agriculture and transport also recording relatively high values. Men are considerably more likely to have an accident or to die at work. This is due, at least in part, to a higher proportion of men working in higher risk sectors and occupations, while men are also more likely to work on a full-time basis. These characteristics may also explain why the incidence of accidents has tended to fall at a more rapid pace for men than for women. Across different age groups, the incidence rate for accidents at work is considerably higher among those aged between 18 and 24 years, while fatal accidents at work are more common among those aged between 55 and 64 years.

# SOURCES

**Statistical books** Work and health in the European Union – A statistical portrait

Pocketbooks Health in Europe – Data 1998-2003

#### Methodologies and working papers

Statistical analysis of socio-economic costs of accidents at work in the European Union

#### Website data

#### Health and safety at work

Structural indicators on health and safety at work Accidents at work Commuting accidents Occupational diseases Work related health problems and accidental injuries



(1998=100, based on the number of serious accidents per 100 000 persons employed)



(1) EA-12, estimate.

The index shows the evolution of the incidence rate of serious accidents at work in comparison to 1998 (=100). The incidence rate = (number of accidents at work with more than 3 days' absence that occurred during the year/number of persons in employment in the reference population) x 100 000. An accident at work is a discrete occurrence in the course of work that leads to physical or mental harm. This includes accidents in the course of work outside the premises of his/her business, even if caused by a third party, and cases of acute poisoning. It excludes accidents on the way to or from work, occurrences having only a medical origin, and occupational diseases.

Source: Eurostat (tsiem0611)





# Figure 3.11: Incidence of serious accidents at work, by gender, 2004

(1998=100, based on the number of serious accidents per 100 000 persons employed)

(2) Not available.

Source: Eurostat (tsiem0613)

# Figure 3.12: Incidence of fatal accidents at work, 2004

(1998=100, based on the number of fatal accidents per 100 000 persons employed)



(1) EA-12, estimate.

Source: Eurostat (tsiem0612)

# 3.5 CAUSES OF DEATH AND INFANT MORTALITY

# **INTRODUCTION**

Broadly speaking, the EU has witnessed a very significant reduction in mortality during the last century or so – both in terms of reduced infant mortality and as a result of declines in infectious and degenerative diseases. Cancer and cardiovascular diseases are currently by far the most important causes of death in the EU among both men and women.

Mortality during the first year of life has decreased considerably in all Member States, such that current levels are among the lowest in the world. There however remain persistent differences in rates across different social groups or across geographical regions.

# **DEFINITIONS AND DATA AVAILABILITY**

The infant mortality rate represents the ratio between deaths of children under one year and the number of live births in a given year; the value is expressed per 1 000 live births. Note that some countries use different definitions for spontaneous abortion, early foetal death and late foetal death (or stillbirth).

Eurostat began collecting and disseminating mortality data in 1994; data are currently available from 1994 to 2006 broken down by:

- a shortlist of 65 causes of death based on the International Statistical Classification of Diseases and Related Health Problems (ICD), that is developed and maintained by the World Health Organisation (WHO);
- gender;
- age;
- geographical region (NUTS level 2).

Causes of death (COD) statistics are based on information derived from medical certificates; the medical certification of death is an obligation in all Member States. They target the underlying cause of death, in other words, 'the disease or injury which initiated the train of morbid events leading directly to death, or the circumstances of the accident or violence which produced the fatal injury' (a definition adopted by the World Health Assembly). Annual data are provided in absolute numbers, as crude death rates and as standardised death rate. The crude death rate (CDR) is a weighted average of the age-specific mortality rates. The weights are the age distribution of the population whose mortality experience is being observed, and therefore CDRs are influenced by the age structure of the population. The standardised death rate (SDR) is the death rate of a population of a standard age distribution. Since most causes of death vary significantly by age and sex, the use of standardised death rates improves comparability over time and between countries. These indicators aim at measuring death rates independently of different age structures across populations.

#### **MAIN FINDINGS**

The progress made in medical care services is reflected in a decreasing infant mortality rate. In the course of the last four decades the infant mortality rate in the EU-25 fell from almost 28 deaths per 1 000 live births in 1965 to 4.6 deaths in 2004. Among the Member States there were some considerable reductions in infant mortality rates: for example, in Greece, Italy (to 2003), Luxembourg and Portugal infant mortality rates were reduced by over 90 % between 1960 and 2005, resulting in some of the lowest infant mortality rates in the world. In contrast, infant mortality rates have levelled-off in some countries in recent years; this may in part be due to factors such as, an increasing number of women deferring childbirth, or a higher number of multiple births as a result of the more common use of fertility treatments.

The most important causes of death among men and women in the EU-27 in 2004 were cancer (malignant neoplasm) and ischaemic heart diseases; there were, however, large differences between standardised death rates for men and women.

Deaths from cancer among men had an incidence of 241 per 100 000, while the corresponding rate for women was 136. Standardised death rates for ischaemic heart diseases were about twice as high for men (at 138 per 100 000) as for women (71). Indeed, men reported higher standardised death rates for all of the main causes of death, with rates as much as four or five times as high as those recorded for women for drug dependence and alcohol abuse, and between three and four times as high for AIDS (HIV) and suicide and intentional self-harm.



Realth

Statistical books Health statistics – Atlas on mortality in the European Union

Pocketbooks Health in Europe – Data 1998-2003

Methodologies and working papers Methodology for the calculation of Eurostat's demographic indicators

### Website data

Public health

Causes of death

Mortality Infant mortality

Infant mortality rates

# Figure 3.13: Infant mortality (1)

(per 1 000 live births)



(1) All data (excluding EU-25) are averages of the five-year period up to and including the reference period referred to in the figure.

Source: Eurostat (tps00027), United Nations, Population Division of the Department of Economic and Social Affairs

The ratio of the number of deaths of children under one year of age during the year to the number of live births in that year. The value is expressed per 1 000 live births.

# Table 3.6: Infant mortality

(per 1 000 live births)

	1960	1965	1970	1975	1980	1985	1990	1995	2000	2005
EU-25 (1)	:	27.8	23.9	19.7	14.8	11.9	9.2	6.7	5.2	4.6
Euro area (1, 2)	35.9	28.4	23.7	18.8	12.7	9.6	7.6	5.6	4.5	4.1
Belgium	23.9	23.7	21.1	16.1	12.1	9.8	6.5	5.9	4.8	3.7
Bulgaria	45.1	30.8	27.3	23.0	20.2	15.4	14.8	14.8	13.3	10.4
Czech Republic	20.0	23.7	20.2	19.4	16.9	12.5	10.8	7.7	4.1	3.4
Denmark	21.5	18.7	14.2	10.3	8.4	8.0	7.5	5.1	5.3	4.4
Germany	35.0	24.1	22.5	18.9	12.4	9.1	7.0	5.3	4.4	3.9
Estonia	31.1	20.3	17.6	18.1	17.1	14.1	12.3	14.9	8.4	5.4
Ireland	29.3	25.3	19.5	17.5	11.1	8.8	8.2	6.4	6.2	4.0
Greece	40.1	34.3	29.6	24.0	17.9	14.1	9.7	8.1	5.9	3.8
Spain	35.4	29.3	20.7	18.9	12.3	8.9	7.6	5.5	4.4	3.8
France (1)	:	:	:	:	:	:	:	:	4.5	4.0
Italy (3)	43.3	35.0	29.0	20.8	14.6	10.5	8.2	6.2	4.5	3.9
Cyprus	:	32.0	26.0	18.3	14.4	14.3	12.9	9.7	5.6	4.0
Latvia	26.9	18.9	17.8	20.3	15.4	13.0	13.7	18.8	10.4	7.8
Lithuania	38.0	24.7	19.3	19.6	14.5	14.2	10.2	12.5	8.6	6.8
Luxembourg	31.6	24.0	25.0	14.8	11.4	9.0	7.3	5.5	5.1	2.6
Hungary	47.6	38.8	35.9	32.9	23.2	20.4	14.8	10.7	9.2	6.2
Malta	38.1	35.0	27.9	18.4	15.2	14.6	9.1	8.9	5.9	6.0
Netherlands	16.5	14.4	12.7	10.6	8.6	8.0	7.1	5.5	5.1	4.9
Austria	37.5	28.3	25.9	20.5	14.3	11.2	7.8	5.4	4.8	4.2
Poland	56.1	41.6	36.4	24.8	25.4	22.1	19.4	13.6	8.1	6.4
Portugal	77.5	64.9	55.5	38.9	24.2	17.8	11.0	7.5	5.5	3.5
Romania	75.8	44.1	49.4	34.7	29.3	25.6	26.9	21.2	18.6	15.0
Slovenia	35.1	29.6	24.6	17.2	15.3	13.1	8.3	5.5	4.9	4.1
Slovakia	28.6	28.5	25.7	23.7	20.9	16.3	12.0	11.0	8.6	7.2
Finland	21.0	17.6	13.2	9.6	7.6	6.3	5.6	3.9	3.8	3.0
Sweden	16.6	13.3	11.0	8.6	6.9	6.8	6.0	4.1	3.4	2.4
United Kingdom	22.5	19.6	18.5	18.9	13.9	11.1	7.9	6.2	5.6	5.1
Croatia	70.4	49.5	34.2	23.0	20.6	16.6	10.7	8.9	7.4	5.7
FYR of Macedonia	:	:	:	:	:	:	:	22.7	11.8	12.8
Turkey (1)	:	:	:	:	:	:	:	:	:	24.6
Iceland	13.1	15.1	13.3	12.5	7.8	5.6	5.8	6.1	3.0	2.3
Liechtenstein	20.0	22.5	12.5	6.7	7.5	10.0	0.0	:	:	2.6
Norway	15.9	14.6	11.3	9.5	8.1	8.5	6.9	4.0	3.8	3.1
Switzerland	21.1	17.9	15.1	10.7	9.1	6.9	6.8	5.0	4.9	4.2

(1) 2004 instead of 2005.
 (2) EA-12.
 (3) 2003 instead of 2005.

Source: Eurostat (tps00027)



# Table 3.7: Causes of death - standardised death rate, 2005 (per 100 000 inhabitants)

			Diseases									
		Heart	of the		Chronic			Sui-		Homi-		Drug
	Cancer	disease	nervous	Pneu-	liver	Diabetes	Acci-	cide	Alcohol	cide,	AIDS	depen-
	(1)	(2)	system	monia	disease	mellitus	dents	(3)	abuse	assault	(HIV)	dence
EU-27 (4)	180.2	100.4	16.3	16.1	14.6	13.9	27.6	11.3	2.8	1.2	1.1	0.6
Belgium (5)	205.3	81.4	22.4	20.5	11.7	11.1	30.8	19.5	1.9	1.7	:	0.7
Bulgaria	171.0	163.1	8.4	18.0	17.4	16.5	29.5	10.7	0.6	2.2	0.0	0.0
Czech Republic (4)	229.9	163.5	15.9	18.9	15.7	10.3	40.8	14.0	1.5	1.1	:	0.0
Denmark (6)	218.8	111.5	16.6	13.4	13.9	17.9	29.0	12.2	8.6	0.9	0.6	0.6
Germany	168.0	104.2	13.9	14.7	15.0	17.0	17.9	10.4	5.1	0.5	0.5	0.9
Estonia	196.9	264.2	16.3	11.3	21.7	12.2	77.7	18.7	13.5	8.8	2.4	0.1
Ireland	179.7	112.3	16.3	39.6	5.3	10.1	18.5	9.5	2.0	0.3	0.2	2.5
Greece	160.3	77.8	7.4	4.4	5.0	6.1	27.7	3.1	0.2	0.9	0.2	0.0
Spain	159.7	56.3	21.3	12.1	9.4	13.8	23.2	6.6	0.6	0.8	3.1	0.3
France	176.0	40.4	25.4	10.2	11.2	11.7	29.6	15.8	4.7	0.8	1.4	0.3
ltaly (7)	175.3	72.4	14.3	8.3	12.7	17.0	26.1	6.0	0.3	0.9	1.5	0.7
Cyprus	120.4	83.5	12.8	12.0	5.7	39.5	45.0	2.9	0.1	1.7	0.4	1.0
Latvia	193.8	287.0	14.5	19.9	15.3	7.2	90.4	22.6	3.2	10.0	1.1	:
Lithuania	194.7	355.0	11.3	17.2	26.0	8.1	98.1	37.0	0.6	8.8	0.1	0.2
Luxembourg	162.2	67.1	22.8	14.0	11.3	7.6	29.0	9.9	4.5	1.5	0.2	0.4
Hungary	237.4	261.3	13.4	6.6	44.5	25.5	41.8	23.2	4.9	1.8	0.1	0.0
Malta	145.3	149.5	18.1	14.7	6.4	22.1	19.9	4.2	0.4	0.5	0.3	:
Netherlands	189.5	59.5	15.9	23.1	4.4	16.6	15.8	9.0	1.2	1.1	0.5	0.1
Austria	165.8	111.6	14.6	10.8	16.7	27.9	25.7	14.7	3.5	0.8	0.8	2.4
Poland	211.3	114.2	11.2	20.3	15.0	12.2	38.9	15.0	4.0	1.4	0.3	0.0
Portugal	156.0	53.4	15.9	27.5	12.2	27.2	19.9	7.2	0.8	1.3	7.8	0.1
Romania (8)	177.7	229.0	8.2	29.0	46.5	8.2	45.1	12.8	4.4	3.8	1.2	:
Slovenia	196.8	79.9	8.7	26.8	21.9	18.6	32.0	22.0	3.7	1.1	0.1	0.0
Slovakia	210.1	272.3	12.2	32.9	24.9	12.4	37.7	12.0	:	1.6	:	:
Finland (4)	143.8	145.4	30.9	19.8	16.0	7.4	47.5	19.3	4.0	2.4	0.2	0.6
Sweden (4)	155.7	104.7	17.4	11.2	5.4	12.1	27.1	11.8	4.1	1.1	0.2	0.5
United Kingdom	181.5	107.3	18.9	33.0	10.9	7.0	16.8	6.4	1.6	0.4	0.4	1.8
Croatia	212.6	167.9	10.7	27.3	22.4	17.0	37.1	17.0	3.7	1.3	0.1	1.3
FYR of Macedonia	160.3	104.9	6.2	5.4	6.0	35.8	20.3	7.1	1.8	2.5	:	0.1
Iceland	159.3	92.3	36.0	14.5	4.0	5.6	19.9	11.5	1.2	1.0	:	0.3
Norway	166.6	79.1	18.5	21.2	3.3	10.7	29.3	11.3	3.3	0.6	0.5	0.6
Switzerland	146.1	72.4	21.8	11.3	7.0	11.3	19.2	15.0	2.4	0.9	0.9	3.0

Malignant neoplasms.
 Ischaemic heart diseases.

(3) Suicide and intentional self-harm.

(4) 2004.
(5) 1997.
(6) 2001.

(7) 2002.

(8) 2003.

Source: Eurostat (tps00116, tps00119, tps00134, tps00128, tps00131, tps00137, tps00125, tps00122, tps00140, tps00146, tps00143 and tps00149)

Death rate of a population adjusted to a standard age distribution. As most causes of death vary significantly with people's age and sex, the use of standard death rates improves comparability over time and between countries, as they aim at measuring death rates independently of different age structures of populations. The standard death rates used here are calculated on the basis of a standard European population (defined by the World Health Organization). Detailed data for 65 causes of death are available in the database.
Health

#### **Figure 3.14: Causes of death – standardised death rate, EU-27, 2004 (1)** (per 100 000 inhabitants)



(1) Note the differences in the scales employed between the two parts of the graph. Source: Eurostat (tps00116, tps00119, tps00125, tps00131, tps00128, tps00134, tps00122, tps00137, tps00140, tps00143, tps00146 and tps00149)

### **Figure 3.15: Causes of death for males – standardised death rate, EU-25** (per 100 000 inhabitants)



Source: Eurostat (tps00116, tps00119, tps00122 and tps00125)





**Figure 3.16: Causes of death for females – standardised death rate, EU-25** (per 100 000 inhabitants)

Source: Eurostat (tps00116, tps00119, tps00122 and tps00125)



**Figure 3.17: Deaths from cancer (malignant neoplasms) – standardised death rate, 2005** (per 100 000 inhabitants)

Health



#### **Figure 3.18: Deaths from ischaemic heart diseases – standardised death rate, 2005** (per 100 000 inhabitants)

#### Figure 3.19: Deaths from suicide – standardised death rate, 2005

(per 100 000 inhabitants)



Source: Eurostat (tps00122)





#### Figure 3.20: Deaths from accidents – standardised death rate, 2005

(per 100 000 inhabitants)

### Living conditions and welfare



4



# 4.1 LIVING CONDITIONS 220 4.2 HOUSEHOLD CONSUMPTION EXPENDITURE 229 4.3 HOUSING 233 4.4 SOCIAL PROTECTION 236 4.5 GOOD GOVERNANCE 242

Eurostat data on living conditions and welfare aims to show a comprehensive picture of the current living conditions in the EU, covering variables related to income, poverty, social exclusion and other living conditions. All social exclusion and housing condition information is collected at household level.

The demand for information on living conditions and welfare received a new impetus following the social chapter of the Amsterdam Treaty (1997) which became the driving force for EU social statistics. This impetus was reinforced by successive European Councils that have kept the social dimension high on the political agenda.

Income, poverty and social exclusion are multidimensional problems. To monitor them effectively at a European level, a subset of so-called 'social cohesion indicators' has been developed within the structural indicators; these are selected from the portfolio of social inclusion indicators calculated under the open method of coordination on social inclusion and social protection  $^{(46)}$ .

(46) For more information, see http://ec.europa.eu/employment\_social/ soc-prot/soc-incl/indicator\_en.htm.

#### EUROSTAT DATA IN THIS DOMAIN: Population and social conditions

Living conditions and welfare

Consumption expenditure of private households Income and living conditions Social protection Key indicators on EU policy (predefined tables)

Sustainable development indicators

#### **4.1 LIVING CONDITIONS**

#### **INTRODUCTION**

To calculate living condition indicators, Eurostat initially used micro-data <sup>(47)</sup> from the European Community Household Panel (ECHP) survey which was launched in 1994. However, after eight years of using this source, a new instrument was introduced in 2003, namely, data collection under a framework regulation on EU statistics of income and living conditions (EU-SILC). One of the main reasons for this change was the need to adapt the content and timeliness of data production to reflect current political and research needs. EU-SILC is now Eurostat's main reference source for comparative income distribution and social exclusion statistics. It comprises both a cross-sectional dimension and a longitudinal dimension.

Analysis of the distribution of incomes within a country enables us to get a picture of inequalities. Indeed, on the one hand inequalities may create incentives for people to improve their situation through work, innovation or acquiring new skills, while on the other, crime, poverty and social exclusion are often seen as linked to inequalities of income distribution.

#### **DEFINITIONS AND DATA AVAILABILITY**

Eurostat statistical indicators within the ILC (Income and Living Conditions) domain cover a range of topics relating to income poverty and social exclusion. One group of indicators relate to monetary (income) poverty analysed in various ways (for example, age, gender, activity status), across space and over time. Another group of indicators relate to non-monetary poverty and social exclusion (for example, material deprivation, social participation) across space and over time.

While comparisons between countries of standards of living are frequently based on GDP per capita, such figures say little about the distribution of income within a country. In this section, indicators measuring the distribution of income and relative poverty are presented.

Household disposable income is established by summing all monetary income received from any source by each member of the household (including income from work, investment and social benefits) plus income received at household level and deducting taxes and social contributions paid and certain unavoidable expenditures. In order to reflect differences in household size and composition, this total is divided by the number of 'equivalent adults' using a standard scale (the so-called 'modified OECD' scale, which attributes a weight of 1 to the first adult in the household, a weight of 0.5 to each subsequent member of the household aged 14 and over and a weight of 0.3 to household members ages less than 14), and the resulting figure is called equivalised disposable income and is attributed to each member of the household.

The S80/S20 income quintile share ratio is a measure of the inequality of income distribution and is calculated as the ratio of total income received by the 20 % of the population with the highest income (the top quintile) to that received by the 20 % of the population with the lowest income (the bottom quintile); all incomes are compiled as equivalised disposable income. Note that the final chapter at the end of this publication presents regional data for the disposable income per habitant.

To measure the proportion of people that are at risk of poverty, a threshold is set at 60 % of the median equivalised income. Below that threshold, a person is considered to be at risk of poverty.

For the purpose of poverty indicators, the personal equivalised income is calculated from the total disposable income of each household (income received by all members of a household) divided by the equivalised household size whereby weights are assigned to each member of the household. Consequently, each person in the household is considered to have the same equivalised income. The at-risk-of-poverty rate is defined as the share of persons with an equivalised income that is below the at-risk-of-poverty threshold, set at 60 % of the national median disposable income. This rate may be expressed before or after social transfers, with the difference measuring the hypothetical impact of national social transfers in reducing poverty risk. Retirement and survivor's pensions are counted as income before transfers and not as social transfers.

The indicators described above are calculated from EU-SILC (Community Statistics on Income and Living Conditions) data. EU-SILC is an instrument which aims at collecting timely and comparable cross-sectional and longitudinal data on income poverty and social exclusion. From 2005 onwards, EU-SILC covers the EU-25 Member States as well as Norway and Iceland. Bulgaria, Romania, Turkey and Switzerland launched EU-SILC in 2006.

The indicators related to jobless households are calculated simply as the proportion of persons of the specified age who live in households where no one is working. Students aged 18 -24 who live in households composed solely of students of the same age class are not counted in either the numerator or the denominator of the ratio. The data comes from the EU Labour force survey.

<sup>(47)</sup> Data gathered at the micro level, for example, from individuals, households or enterprises, rather than aggregate data compiled at the level of the economy.

#### **MAIN FINDINGS**

In 2005 the 20 % of the EU-25 population with the highest equivalised disposable income received almost five times as much income as the 20 % of the population with the lowest income. The widest inequalities were recorded in Portugal and Lithuania (ratios of 6.9), while the Nordic Member States, Slovenia and the Czech Republic reported the lowest S80/S20 income quintile share ratios (between 3.3 and 3.7).

In 2005 the at-risk-of-poverty rate after social transfers in the EU-25 population was 15 % (persons aged 18 years or over), a figure which rose by 25 percentage points to 40% for those that were unemployed. Among the Member States, unemployed people had the highest risk of poverty in the Baltic States, where roughly three fifths of the unemployed population was at risk of poverty in 2005.

A comparison of the number of people on low incomes before social benefits other than pensions and those on low incomes after social benefits (in other words, old age pensions and survivors' benefits are included in income both 'before' and 'after'), illustrates one of the main purposes of such benefits: their redistributive effect and, in particular, their ability to alleviate the risk of poverty and reduce the percentage of population having to manage with a low income.

Social transfers reduced the at-risk-of-poverty rate from 26 % before transfers for the EU-25 population to 16 % after transfers in 2005. As such, social transfers lifted 38 % of persons with a low income above the poverty line. Social benefits other than pensions reduced the percentage of people at risk of poverty in all countries, but to very disparate degrees. The reduction was smallest (less than 25 %) in some Mediterranean Member States (Greece, Spain, Italy, Cyprus, Malta and Portugal), Latvia, Estonia, Bulgaria and Turkey. The reduction was greatest in Sweden (69 %). The Czech Republic, Denmark, France, Hungary, the Netherlands, Austria, Slovenia and Finland also recorded reductions due to social transfers of 50 % or more. In the absence of social benefits other than pensions, four Member States (Denmark, Ireland, Poland and the United Kingdom) reported that 30 % or more of the population would have been at-risk-ofpoverty.

In 2005, about 10 % of the EU-25 population aged between 18 and 59 years lived in jobless households; the proportion of children (up to 17 years) living in jobless households was almost at the same level. The highest proportion of children living in jobless households was recorded in the United Kingdom (16 %), followed by Bulgaria (15 %) and Belgium (14 %), while these two latter Member States also recorded the highest shares of adults aged 18 to 59 living in jobless households, alongside with Poland. Note these statistics may be affected by a number of factors, including differences in average numbers of children and inactivity rates between different socioeconomic groups.

#### **SOURCES**

#### **Statistical books**

The social situation in the European Union 2005-2006/2007 The life of women and men in Europe – a statistical portrait

#### **Pocketbooks**

Living conditions in Europe – Statistical pocketbook

#### Methodologies and working papers

Comparative EU Statistics on Income and Living Conditions: Issues and Challenges The continuity of indicators during the transition between ECHP and EU-SILC

#### Website data

Living conditions and welfare Income and living conditions Main indicators Income distribution and monetary poverty Non-monetary poverty and social exclusion



#### Figure 4.1: Inequality of income distribution (\$80/\$20 income quintile share ratio), 2005

(1) Eurostat estimates based on population-weighted averages of national data.

- (2) Break in series
- (3) National HBS, 2005.
- (4) National HBS, 2004 (5) National HICE, 2004

Source: Eurostat (tsisc010)

The ratio of total income received by the 20 % of the population with the highest income (top quintile) to that received by the 20 % of the population with the lowest income (lowest quintile). Income must be understood as equivalised disposable income.



#### Figure 4.2: Income of elderly people in relation to different population groups, 2005

(1) The ratio of the median equivalised disposable income of persons aged above 65 to the median equivalised disposable income of persons aged below 65.

(2)

The ratio of the median personal (non-equivalised) income from pensions of retired persons aged 65-74 to the median personal (non-equivalised) income from earnings of persons aged 50-59.

(3) Eurostat estimates based on population-weighted averages of national data; for the relative median income ratio, EU-25 instead of EU-27

(4) National HBS, 2004

(5) Not available

Source: Eurostat (ilc\_di03 and ilc\_pnp3)



						Inactive
	Total	Persons	Not			population,
	population	employed	employed	Unemployed	Retired	others
EU-25 (2)	15	8	22	40	16	25
Euro area (2)	15	7	22	37	16	25
Belgium	14	4	23	31	18	26
Bulgaria (3)	14	7	19	34	15	17
Czech Republic (4)	8	3	15	51	6	16
Denmark	12	5	22	26	16	31
Germany (4)	12	5	19	42	14	18
Estonia	17	7	31	60	23	31
Ireland	18	6	34	47	30	34
Greece	19	13	26	32	25	25
Spain	19	10	28	35	25	28
France	13	6	20	29	13	27
Italy	18	9	25	44	16	28
Cyprus (4)	17	7	32	37	49	19
Latvia (4)	19	9	31	59	24	31
Lithuania (4)	19	10	29	63	17	29
Luxembourg	11	9	13	46	6	14
Hungary (4)	12	10	15	48	10	17
Malta (4)	13	5	19	48	17	18
Netherlands (4)	9	6	14	27	5	19
Austria	12	7	18	48	12	22
Poland (4)	18	14	22	46	11	26
Portugal	18	12	27	28	25	28
Romania	:	:	:	:	:	:
Slovenia (4)	12	5	19	25	17	22
Slovakia (4)	12	9	16	39	7	19
Finland	12	4	22	36	17	27
Sweden	9	5	15	26	10	26
United Kingdom (4)	15	8	30	50	28	30
Croatia (3)	18	10	23	34	23	21
Turkey (5)	22	23	21	30	5	23
Iceland	9	8	14	26	10	18
Norway	12	5	26	27	20	36

Persons aged 18 years and over, except Bulgaria, Romania, Croatia and Turkey: persons aged 16 years and over.
 Eurostat estimates based on population-weighted averages of national data; for the relative median income ratio, EU-25 instead of EU-27.

(3) National HBS, 2004.

(4) Break in series.(5) National HICE, 2004.

Source: Eurostat (ilc\_li04)

#### Table 4.2: At-risk-of-poverty rate

(%)

_	Before social transfers (1)						After social transfers					
	Total		М	Vale Ferr		nale	nale Total		Male		Fer	nale
	2000	2005	2000	2005	2000	2005	2000	2005	2000	2005	2000	2005
EU-25 (2)	23	26	22	25	24	27	16	16	15	15	17	17
Euro area (2)	:	24	:	23	:	26	:	15	:	14	:	17
Belgium	23	28	22	27	25	29	13	15	12	14	14	15
Bulgaria (3)	18	18	16	15	19	20	14	15	13	13	15	17
Czech Republic (4)	:	21	:	20	:	22	:	10	:	10	:	11
Denmark	:	30	:	28	:	31	:	12	:	12	:	12
Germany (4)	20	24	19	22	22	25	10	13	10	12	11	14
Estonia	26	24	25	23	26	25	18	18	17	17	19	19
Ireland	31	32	29	30	33	34	20	20	19	19	21	21
Greece	22	23	22	21	23	24	20	20	19	18	20	21
Spain	22	24	21	23	23	25	18	20	17	19	19	21
France	24	26	24	25	25	27	16	13	15	12	16	14
Italy	21	23	20	22	21	25	18	19	18	17	19	21
Cyprus (4)	:	22	:	20	:	23	:	16	:	15	:	18
Latvia (4)	22	26	23	24	21	27	16	19	17	18	16	20
Lithuania (4)	23	26	23	25	24	27	17	21	17	20	17	21
Luxembourg	23	23	23	23	22	23	12	13	12	13	12	13
Hungary (4)	17	29	16	30	17	29	11	13	11	14	12	13
Malta (4)	19	21	18	20	20	22	15	15	15	14	15	16
Netherlands (4)	22	22	21	21	23	22	11	11	10	11	11	11
Austria	22	24	20	23	25	25	12	12	9	11	14	13
Poland (4)	30	30	31	31	30	29	16	21	16	21	16	20
Portugal	27	26	26	25	28	26	21	19	19	19	22	20
Romania (5)	21	24	21	23	22	24	17	18	17	18	18	18
Slovenia (4)	18	26	17	25	18	27	11	12	11	11	12	14
Slovakia (4)	:	22	:	22	:	22	:	13	:	13	:	13
Finland	19	28	18	27	21	29	11	12	9	11	13	13
Sweden	:	29	:	27	:	30	:	9	:	9	:	10
United Kingdom (6)	29	31	26	29	32	32	19	18	16	18	21	19
Croatia (3)	:	31	:	29	:	34	:	18	:	16	:	20
Turkey (7)	:	28	:	26	:	29	:	26	:	26	:	27
Iceland	:	20	:	20	:	20	:	10	:	10	:	9
Norway	24	29	:	27	:	30	:	11	:	10	:	13

(1) Pensions are excluded from social transfers and counted as income before transfers.

(2) Eurostat estimates based on population-weighted averages of national data.

(3) National HBS, 2004.

(4) Break in series, 2005.
(5) National HBS, 2005.
(6) Break in series, 2000 and 2005.

(7) National HICE, 2004.

Source: Eurostat (tsisc021, tsisc025, tsisc023, tsisc022, tsisc026 and tsisc024)

The share of persons with an equivalised disposable income, before social transfers, below the risk-of-poverty threshold, which is set at 60 % of the national median equivalised disposable income (after social transfers). Retirement and survivor's pensions are counted as income before transfers and not as social transfers.

The share of men with an equivalised disposable income, before social transfers, below the risk-of-poverty threshold, which is set at 60 % of the national median equivalised disposable income (after social transfers). Retirement and survivor's pensions are counted as income before transfers and not as social transfers.

#### Figure 4.3: At-risk-of-poverty rate, 2005



(6) National HICE, 2004.

Source: Eurostat (tsisc021 and tsisc022)

#### Figure 4.4: Relative median at-risk-of-poverty gap, 2005



(1) Eurostat estimates based on population-weighted averages of national data.

(3) National HBS, 2005

(4) National HBS, 2004.(5) National HICE, 2004.

Source: Eurostat (tsdsc250)

<sup>(2)</sup> Break in series.

Figure 4.5: At-risk-of-poverty rate after social transfers, by household type, EU-25, 2005 (1) (%)



(1) Eurostat estimates based on population-weighted averages of national data.

Source: Eurostat (tsdsc240)

The share of persons with an equivalised disposable income below the risk-of-poverty threshold, which is set at 60 % of the national median equivalised disposable income (after social transfers).



### Figure 4.6: At-risk-of-poverty rate after social transfers, by age, EU-25, 2005 (1) (%)

(1) Eurostat estimates based on population-weighted averages of national data. Source: Eurostat (tsdsc230)





(1) Eurostat estimate based on population-weighted averages of national data.

- (2) Break in series
- (3) National HBS, 2005.(4) National HBS, 2004.
- (5) National HICE, 2004.

Source: Eurostat (tsdsc230)

#### Figure 4.8: Persons living in jobless households, by age, 2006

(% of respective age group living in households where no-one works)



(1) Estimates.

(2) Not available.

Source: Eurostat (tsisc071 and tsisc072)

The indicator children aged 0-17 years living in jobless households is calculated as a share of children aged 0-17 who are living in households where no one is working. Both the numerators and the denominators come from the EU Labour Force Survey (LFS).

The indicator people aged 18-59 years living in jobless households is calculated as a share of persons aged 18-59 who are living in households where no one works. Students aged 18-24 who live in households composed solely of students of the same age class are not counted in either numerator nor denominator. Both the numerators and the denominators come from the EU Labour Force Survey (LFS).

#### Figure 4.9: Persons living in jobless households, by gender, EU-27 (1)

(% of respective gender aged 18-59 who are living in households where no-one works)



#### (1) Estimates.

Source: Eurostat (tsisc073 and tsisc074)

The indicator women aged 18-59 years living in jobless households is calculated as a share of women aged 18-59 who are living in households where no one works. Students aged 18-24 who live in households composed solely of students of the same age class are not counted in either numerator nor denominator. Both the numerators and the denominators come from the EU Labour Force Survey (LFS).

The indicator men aged 18-59 years living in jobless households is calculated as a share of men aged 18-59 who are living in households where no one works. Students aged 18-24 who live in households composed solely of students of the same age class are not counted in either numerator nor denominator. Both the numerators and the denominators come from the EU Labour Force Survey (LFS).



#### Figure 4.10: Persons living in jobless households, by gender, 2006

(% of respective gender aged 18-59 who are living in households where no-one works)

(1) Estimates.(2) Not available

Source: Eurostat (tsisc073 and tsisc074)

#### 4.2 HOUSEHOLD CONSUMPTION EXPENDITURE

#### **INTRODUCTION**

The final consumption expenditure of households is the biggest component of the expenditure approach of GDP. Its evolution allows an assessment of purchases made by households, reflecting changes in wages and other incomes, but also in employment and in the behaviour towards savings. Therefore, the growth of household consumption can be somewhat different from the growth of wages and incomes.

#### **DEFINITIONS AND DATA AVAILABILITY**

Final consumption expenditure of households refers to expenditure incurred on the domestic territory (by residents and non-residents) on goods and services used for the direct satisfaction of individual needs. It covers the purchase of goods and services, the consumption of own production (such as garden produce) and the imputed rent of owner-occupied dwellings. The data on consumption expenditure may be broken down according to the Classification of Individual Consumption by Purpose (COICOP), which identifies 12 different headings at its most aggregated level (COICOP offers additional detail within each of these headings at the three-digit level, with 41 sub-categories). The Council regulation for the European system of accounts 1995 (48) provides the underlying basis for the collection of data on household consumption expenditure referred to within this section; the data is provided by Eurostat's national accounts statistics.

(48) Council Regulation (EC) No 2223/96 (see http://forum.europa.eu.int/irc/dsis/ nfaccount/info/data/esa95/esa95-new.htm for a consolidated version that takes account of subsequent changes).

#### **SOURCES**

Methodologies and working papers

COICOP-HBS 1997 (Classification of Individual Consumption by Purpose) European system of accounts ESA 1995

#### Website data

**Economy and finance** 

#### National accounts (including GDP)

Annual national accounts

National Accounts detailed breakdowns (by industry, by product, by consumption purpose) Final consumption aggregates

Final consumption aggrega

Final consumption expenditure of households by consumption purpose

The consumption habits of households vary substantially among the 27 Member States. Factors such as culture, income, weather, household composition, economic structure and degree of urbanisation can influence habits in each country. Household consumption expenditure averaged PPS 12 700 per capita in the EU-27 in 2005.

Household consumption represented 57 % of GDP in the EU-27 in 2005. In most of the Member States, this percentage lay between 50 and 70 %, while in Greece, Malta and Cyprus it was more than 70 %, which could be mainly explained by the importance of expenditure by non-residents.

Housing, water, electricity, gas and other fuels was the most important category of household consumption expenditure in the EU-27 in 2005, accounting for more than one fifth of total expenditure; transport, and food and non-alcoholic beverages were the two next most important categories.

The proportion of household expenditure devoted to each of the consumption categories varies greatly between Member States. The highest proportion of total expenditure on housing, water, electricity, gas and other fuels in 2005 was recorded in Sweden (28.3 %), which was around 2.5 times as high as in Malta (10.9 %).



**Figure 4.11: Consumption expenditure of households on goods and services, EU-27, 2005 (1)** (% of total household consumption expenditure)

(1) Figures do not sum to 100 % due to rounding.

*Source:* Eurostat (tps00079, tps00080, tps00081, tps00082, tps00083, tps00084, tps00085, tps00086, tps00087, tps00088, tps00089 and tps00090)

Household final consumption expenditure consists of the expenditure, including imputed expenditure, incurred by resident households on individual consumption goods and services, including those sold at prices that are not economically significant.

### Figure 4.12: Consumption expenditure of households on housing, water, electricity, gas and other fuels, 2005

(% of total household consumption expenditure)



(1) 2004.

(2) Not available.

Source: Eurostat (tps00083)



#### Figure 4.13: Consumption expenditure of households on transport, 2005

(% of total household consumption expenditure)



Source: Eurostat (tps00086)

**Figure 4.14: Consumption expenditure of households on restaurants and hotels, 2005** (% of total household consumption expenditure)



(1) 2004.

(2) Not available.

Source: Eurostat (tps00088)

-	As a proportion of GDP (%)			Per capita (PPS)				
	1995	2000	2005	1995	2000	2005		
EU-27	56.8	57.6	57.0	8 300	10 900	12 700		
Euro area	56.5	57.0	56.6	9 600	12 300	14 000		
Belgium	52.3	52.1	51.1	9 900	12 500	14 000		
Bulgaria	70.3	73.0	:	3 300	3 900	:		
Czech Republic	51.8	54.5	50.7	5 600	7 100	8 700		
Denmark (1)	50.6	47.0	47.7	9 800	11 800	12 800		
Germany	54.8	55.7	56.1	10 400	12 600	14 300		
Estonia	60.3	59.6	54.3	3 200	5 100	7 500		
Ireland	52.2	45.7	42.1	7 900	11 400	13 500		
Greece (1)	76.6	71.8	70.4	8 400	10 500	12 900		
Spain	62.9	63.1	60.1	8 500	11 700	13 700		
France	56.0	55.4	56.1	9 500	12 200	14 300		
Italy	59.6	61.1	59.7	10 600	13 600	14 100		
Cyprus	82.4	83.4	76.3	10 700	14 100	16 000		
Latvia	62.7	60.7	60.3	2 900	4 200	6 800		
Lithuania	65.7	66.1	66.1	3 300	4 900	7 900		
Luxembourg	47.6	46.6	44.8	15 600	21 600	26 200		
Hungary	56.4	55.6	54.8	4 200	5 900	7 900		
Malta	78.1	76.5	73.5	9 900	12 200	12 600		
Netherlands	48.4	49.2	47.8	8 800	12 600	14 000		
Austria	57.3	57.0	57.1	11 400	14 500	16 400		
Poland	59.5	63.0	61.8	3 700	5 800	7 000		
Portugal (1)	65.6	64.6	64.8	7 200	9 600	10 500		
Romania	:	69.1	68.5	:	3 400	5 300		
Slovenia	61.6	59.1	56.9	6 500	8 700	10 800		
Slovakia	53.9	56.3	57.3	3 800	5 400	7 700		
Finland	50.1	47.5	49.6	7 900	10 600	12 700		
Sweden	48.3	47.3	46.5	8 800	11 300	12 400		
United Kingdom	60.9	61.9	60.6	10 000	13 800	16 200		
Turkey	70.3	71.5	67.4	3 000	4 100	4 300		
Iceland	54.5	55.7	54.1	10 600	13 900	16 400		
Norway (1)	47.3	40.9	42.1	9 400	12 800	14 900		

#### Table 4.3: Total consumption expenditure of households (domestic concept)

(1) 2004 instead of 2005.

Source: Eurostat (tec00092 and tec00093)

Total household consumption expenditure refers to expenditure incurred on the domestic territory, by residents and nonresidents, on goods and services used for the direct satisfaction of individual needs. It covers the purchase of goods and services, the consumption of own production and the imputed rent of owner-occupied dwellings. The figures are expressed as a proportion of GDP in %. The figures are expressed per capita and in purchasing power standards (PPS), i.e. a common currency that eliminates the differences in price levels between countries allowing meaningful volume comparisons of household consumption between countries. This presentation is intended for cross-country comparisons rather than for temporal comparisons.

#### 4.3 HOUSING

#### INTRODUCTION

Given that housing, water, electricity, gas and other fuels were the main components of consumption expenditure for EU-27's households in 2005 (see Subchapter 4.2 on household consumption expenditure), indicators related to housing enable a better knowledge of certain aspects of social exclusion.

The data used in this section are primarily derived from micro-data from the new Community Statistics on Income and Living Conditions (EU-SILC) survey. From 2005 onwards, EU-SILC covers the EU-25 Member States as well as Norway and Iceland. Bulgaria, Romania, Turkey and Switzerland launched EU-SILC in 2006.

#### **DEFINITIONS AND DATA AVAILABILITY**

The reference population of EU-SILC is all private households and their current members residing in the territory of the Member State at the time of data collection. Persons living in collective households and in institutions are generally excluded from the target population. A household is defined in terms of shared household expenses. If household expenses are not shared, then the person(s) constitute separate household(s) at the same address.

#### **MAIN FINDINGS**

The average number of persons living in a household in the EU-25 was 2.4 in 2005, with the highest average being recorded in Cyprus (equal to 3.0) where there was on average one person more living in household compared with Denmark (2.0), the lowest average size among the Member States.

The most recent periodic census (2001) identifies wide ranging differences across the EU-25 as regards the ownership status: in Estonia, Lithuania, Hungary, Spain and Slovenia there was a high proportion of households that owned their house, while there was a tendency for lower levels of ownership in Germany, Austria and the Netherlands. It is difficult to pinpoint the reasons for such differences, as the distribution of households may be related to the degree of urbanisation, the quality of accommodation, and the supply of new or renovated housing.

Around one quarter of the EU-25's population faced problem of noise from neighbours or from street in 2005, while some 18 % had problems with pollution, grime or other environmental problems. The first category of problems (noise) appeared to be particularly prevalent in the Netherlands, where more than one third of the population considered that they suffer from it. In Malta, more than 35 % of the population declared to suffer from pollution, grime or other environmental problems. It was in Sweden, that the lowest proportion of the population declared to suffer of each of these problems.

#### SOURCES

Methodologies and working papers

The continuity of indicators during the transition between ECHP and EU-SILC The production of data on homelessness and housing deprivation in the European Union: survey and proposals

#### Website data

#### Living conditions and welfare

Income and living conditions Income distribution and monetary poverty Non-monetary poverty and social exclusion Households and living conditions





(1) Date of extraction: 14.11.2007

Source: Eurostat (tps00091)

Number of persons living in private households divided by the number of private households. Collective households such as boarding houses, halls of residence and hospitals and the persons living in them are excluded.



### Figure 4.16: Tenure status of households, 2005 (1) (%)

(1) Date of extraction: 14.11.2007.

(2) Not available.

Source: Eurostat (EU-SILC)

1A



Figure 4.17: Population living in households considering that they suffer from noise and from pollution, 2005 (1) (%)

(1) Date of extraction: 14.11.2007.

(2) Not available.

Source: Eurostat (ilc\_ho\_problemb)

The indicator shows the percentage of total population who declare to be affected either by noise from neighbours or outside or by pollution caused by traffic or industry.

#### **4.4 SOCIAL PROTECTION**

#### **INTRODUCTION**

Social protection systems are highly developed in the EU: they are designed to protect people against the risks associated with unemployment, parental responsibilities, ill health and invalidity, the loss of a spouse or parent, old age, housing and social exclusion. The model used in each Member State is somewhat different and some social protection benefits are provided by private social protection schemes, although they continue to be financed by government (at least partially).

Data on expenditure and receipts of social protection are drawn up according to the European System of integrated Social Protection Statistics (ESSPROS) methodology. This system has been designed to allow a comparison of social protection flows between Member States.

#### **DEFINITIONS AND DATA AVAILABILITY**

Social protection encompasses all action by public or private bodies to relieve households and individuals of the burden of a defined set of risks or needs associated with old age, sickness, childbearing and family, disability, unemployment, etc.

Social protection expenditure includes the provision of social benefits, administration costs and other expenditure.

Social benefits are direct transfers in cash or kind by social protection schemes to households and individuals to relieve them of the burden of distinct risks or needs; benefits via the fiscal system are excluded.

Administration costs represent the costs charged to the scheme for its management and administration; other expenditure consists of miscellaneous expenditure by social protection schemes (payment of property income and other).

Benefits are classified according to eight social protection functions (which represent a set of risks or needs):

- sickness/healthcare benefits including paid sick leave, medical care and provision of pharmaceutical products;
- disability benefits including disability pensions and the provision of goods and services (other than medical care) to the disabled;
- old age benefits including old age pensions and the provision of goods and services (other than medical care) to the elderly;
- survivors' benefits including income maintenance and support in connection with the death of a family member, such as survivors' pensions;

- family/children benefits including support (except healthcare) in connection with the costs of pregnancy, childbirth, childbearing and caring for other family members;
- unemployment benefits including vocational training financed by public agencies;
- housing benefits including interventions by public authorities to help households meet the cost of housing;
- social exclusion benefits including income support, rehabilitation of alcohol and drug abusers and other miscellaneous benefits (except healthcare).

The 'pensions' aggregate comprises part of periodic cash benefits under the disability, old age, survivors and unemployment functions. It is defined as the sum of the following social benefits: disability pension, early-retirement benefit due to reduced capacity to work, old age pension, anticipated old age pension, partial pension, survivors' pension, early-retirement benefit for labour market reasons.

The units responsible for providing social protection (social protection schemes) are financed in different ways, as their receipts comprise social security contributions paid by employers and protected persons, contributions by general government, and other receipts from a variety of sources (for example, interest, dividends, rent and claims against third parties).

Social contributions by employers are all costs incurred by employers to secure entitlement to social benefits for their employees, former employees and their dependants. They can be paid by resident or non-resident employers. They include all payments by employers to social protection institutions (actual contributions) and social benefits paid directly by employers to employees (imputed contributions).

Social contributions made by protected persons comprise contributions paid by employees, by the self-employed and by pensioners and other persons.

#### **MAIN FINDINGS**

Social protection expenditure in the EU-25 represented about 27 % of GDP in 2004, a proportion that grew by 2.6 % compared with the equivalent share recorded in 2000. The largest proportion was recorded in Sweden, where slightly less than one third of the GDP was spent on social protection in 2004. At the other end of the spectrum, the Baltic countries accounted with the lowest proportion of GDP dedicated to social protection.

The use of a purchasing power standard (PPS) allows an unbiased comparison of social protection expenditure per capita between countries, taking account of differences in price levels. Hence, the highest level of expenditure on social protection per capita was registered in Luxembourg <sup>(49)</sup> (PPS 12 180 per capita), while Sweden, Denmark, Austria and the Netherlands all accounted with more than PPS 8 000 per capita. The Baltic countries stood at the other end of the spectrum, with less than PPS 1 700 in 2004. The disparities between countries are partly related to differing levels of wealth and also reflect differences in social protection systems, demographic trends, unemployment rates and other social, institutional and economic factors.

Still based on PPS, old age represented the largest social benefit function (more than 40 % of total social benefits) in the EU-25 in 2004, followed by Sickness and healthcare (28 %).

(49) Luxembourg is a special case insofar as a significant proportion of benefits (primarily expenditure on healthcare, pensions and family benefits) are paid to persons living outside the country; if this particular feature is left out of the calculation, expenditure falls to approximately PPS 10 200 per capita.

#### SOURCES

Statistical books

European social statistics - Social protection - Expenditure and receipts

Methodologies and working papers ESSPROS Manual 1996

#### Website data

Living conditions and welfare

Social protection Social protection expenditure Social protection receipts EU-25 expenditure on pensions was equivalent to 12.3 % of GDP in 2004, ranging from a high of 14.7 % in Italy to a low of 4.1 % in Ireland. Expenditure on care for elderly in EU-25 was equivalent to 0.5 % of GDP in the same year, while this share reached 2.6 % in Sweden and was of 0.1 % or less in the Baltic countries, in three Southern Member States (Greece, Italy and Cyprus) and in Belgium and Luxembourg.

Social protection was mainly financed by employers' social contribution (for some 39 %) and general government contributions (for some 37 %) in the EU-25 in 2004.

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
EU-25	:	:	:	:	:	:	26.6	26.8	27.0	27.4	27.3
Euro area (1)	28.0	27.3	27.6	27.3	27.0	27.0	26.7	26.8	27.4	27.8	27.7
Belgium	28.7	27.4	28.0	27.4	27.1	27.0	26.5	27.3	28.0	29.1	29.3
Bulgaria	:	:	:	:	:	:	:	:	:	:	:
Czech Republic	:	17.4	17.6	18.6	18.5	19.2	19.5	19.4	20.2	20.2	19.6
Denmark	32.5	31.9	31.2	30.1	30.0	29.8	28.9	29.2	29.7	30.7	30.7
Germany	27.7	28.2	29.3	28.9	28.8	29.2	29.2	29.3	29.9	30.2	29.5
Estonia	:	:	:	:	:	:	14.0	13.1	12.7	12.9	13.4
Ireland	19.7	18.8	17.6	16.4	15.2	14.6	14.1	15.0	16.0	16.5	17.0
Greece	22.1	22.3	22.9	23.3	24.2	25.5	25.7	26.7	26.2	26.0	26.0
Spain	22.8	21.6	21.5	20.8	20.2	19.8	19.7	19.5	19.8	19.9	20.0
France	30.2	30.3	30.6	30.4	30.0	29.9	29.5	29.6	30.4	30.9	31.2
Italy	25.3	24.2	24.3	24.9	24.6	24.8	24.7	24.9	25.3	25.8	26.1
Cyprus	:	:	:	:	:	:	14.8	14.9	16.3	18.5	17.8
Latvia	:	:	:	15.3	16.1	17.2	15.3	14.3	13.9	13.4	12.6
Lithuania	:	:	13.4	13.8	15.2	16.4	15.8	14.7	14.1	13.6	13.3
Luxembourg	22.9	20.7	21.2	21.5	21.2	20.5	19.6	20.8	21.4	22.2	22.6
Hungary	:	:	:	:	:	20.7	19.3	19.3	20.3	21.1	20.7
Malta	:	:	16.5	17.2	17.1	17.0	16.3	17.1	17.1	17.9	18.8
Netherlands	31.7	30.6	29.6	28.7	27.8	27.1	26.4	26.5	27.6	28.3	28.5
Austria	28.8	28.7	28.6	28.6	28.3	28.7	28.2	28.6	29.1	29.5	29.1
Poland	:	:	:	:	:	:	19.5	20.8	21.2	20.9	20.0
Portugal	21.3	21.0	20.2	20.3	20.9	21.4	21.7	22.7	23.7	24.2	24.9
Romania	:	:	:	:	:	:	:	:	:	:	:
Slovenia	:	:	24.0	24.5	24.8	24.7	24.9	25.3	25.3	24.6	24.3
Slovakia	:	18.4	19.3	19.6	20.0	20.0	19.3	18.9	19.0	18.2	17.2
Finland	33.7	31.5	31.4	29.1	27.0	26.2	25.1	24.9	25.6	26.5	26.7
Sweden	36.5	34.3	33.6	32.7	32.0	31.7	30.7	31.3	32.3	33.3	32.9
United Kingdom	28.6	28.2	28.0	27.5	26.9	26.4	27.1	27.5	26.4	26.4	26.3
Iceland	18.4	18.9	18.7	18.5	18.4	19.0	19.3	19.6	21.6	23.3	23.0
Norway	27.6	26.7	26.0	25.3	27.1	27.1	24.6	25.6	26.2	27.5	26.3
Switzerland	25.0	25.7	26.6	27.5	27.7	27.6	27.4	28.1	28.7	29.3	29.5

### Table 4.4: Total expenditure on social protection(% of GDP)

(1) EA-12.

Source: Eurostat (tps00098)

Expenditure on social protection contains: social benefits, which consist of transfers, in cash or in kind, to households and individuals to relieve them of the burden of a defined set of risks or needs; administration costs, which represent the costs charged to the scheme for its management and administration; other expenditure, which consists of miscellaneous expenditure by social protection schemes (payment of property income and other).



### **Figure 4.18: Total expenditure on social protection per capita** (PPS)

Luxembourg, the Netherlands, Poland, Portugal, Slovenia, Slovakia and Sweden, provisional.

Source: Eurostat (tps00100)

#### Figure 4.19: Social benefits, EU-25, 2004 (1)

(%, based on PPS)



(1) Estimates; figures do not sum to 100 % due to rounding.

Source: Eurostat (tps00107)

Social benefits consist of transfers, in cash or in kind, by social protection schemes to households and individuals to relieve them of the burden of a defined set of risks or needs.

#### Figure 4.20: Expenditure on pensions, 2004 (1)

(% of GDP)



(1) EU-25 and the United Kingdom, estimates; euro area, the Czech Republic, Germany, Spain, France, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Poland, Portugal, Slovenia, Slovakia and Sweden, provisional.

(2) EA-12.(3) Not available

Source: Eurostat (tps00103)

The pensions aggregate comprises part of periodic cash benefits under the disability, old age, survivors and unemployment functions. It is defined as the sum of the following social benefits: disability pension, early-retirement due to reduced capacity to work, old age pension, anticipated old-age pension, partial pension, survivors' pension, early-retirement benefit for labour market reasons.

### Figure 4.21: Expenditure on care for elderly, 2004 (1) (% of GDP)



(1) EU-25 and the United Kingdom, estimates; all other countries except Belgium, Denmark, Estonia, Ireland, Greece, Cyprus, Hungary, Malta, Austria and Finland, provisional.

(2) Not available.

Source: Eurostat (tsdde530)

The indicator is defined as the percentage share of social protection expenditure devoted to old age care in GDP. These expenditures cover care allowance, accommodation, and assistance in carrying out daily tasks.

Δ

#### Figure 4.22: Social protection receipts, EU-25, 2004 (1)

(% of total receipts)



#### (1) Estimates.

Source: Eurostat (tps00108)

Receipts of social protection schemes comprise social contributions, general government contributions and other receipts. Employers' social contributions are the costs incurred by employers to secure entitlement to social benefits for their employees, former employees and their dependants. Employers' social contributions may be actual or imputed; they can be paid by resident or non-resident employers.

#### **4.5 GOOD GOVERNANCE**

#### **INTRODUCTION**

The term 'governance' covers a wide range of concepts. Indeed, it is used in connection with several contemporary social sciences, especially economics and political science. It originates from the need of economics (enterprise governance for instance) and political science (State governance) for a broad concept and meanings that could not be covered by the traditional term 'government'.

Referring to the exercise of power overall, the term 'governance', in both corporate and State contexts, embraces action by executive bodies, assemblies (such as national parliaments) and judicial bodies (national courts and tribunals for example).

In July 2001, the European Commission adopted the White Paper on European Governance. This White Paper contains a series of recommendations on how to enhance democracy in Europe and boost the legitimacy of the institutions. The aim is to modernise European public action in order to increase the accountability of European executive bodies to the elected assemblies and open up the EU's decision-making procedures to allow citizens to participate in making decisions which concern them.

#### **DEFINITIONS AND DATA AVAILABILITY**

Voter turnout is the percentage of persons who cast a vote or 'turn out' at an election as a share of the total population entitled to vote. It includes those who cast blank or invalid votes. In Belgium, Luxembourg and Greece, voting is compulsory. In Italy, voting is a civic obligation (no penalty).

The level of citizens' confidence in each EU institution (the European Parliament, the European Commission and the Council of the European Union) is expressed as the share of positive opinions (people who declare that they 'tend to trust') about this institution. The remaining categories, not shown in the table, include the percentage of negative opinions (people who declare that they 'tend not to trust'), as well as 'don't know' and/or 'no answer'. The data are based on the twice-yearly EuroBarometer, a survey which has been used, since 1973, to monitor the evolution of public opinion in the Member States.

#### **MAIN FINDINGS**

Voter turnout at EU parliamentary elections in June 2004 ranged from 90.8 % in Belgium (where voting is compulsory) to 17.0 % in Slovakia. Note that Bulgaria and Romania joined the EU at the start of 2007 and are electing their members this year. The next parliamentary elections are in 2009.

A survey on public opinion conducted in May 2006 showed that somewhat more than half of all citizens declared they tended to trust the European Parliament, while less than one half tended to trust either the Council of the European Union or the European Commission.

#### SOURCES

**Statistical books** 

Measuring progress towards a more sustainable Europe: 2007 monitoring report on the EU sustainable development strategy

#### Pocketbooks

EU economic data pocketbook – Quarterly

#### Methodologies and working papers

European system of accounts ESA 1995 Handbook on quarterly national accounts Handbook on price and volume measures in national accounts Eurostat-OECD Methodological manual on purchasing power parities NACE Rev. 1 – Statistical classification of economic activities in the European Community

#### Website data

Key indicators on EU policy (predefined tables)

Sustainable Development Indicators Good governance

#### Figure 4.23: Voter turnout





- (1) Latest elections: Bulgaria, Denmark, Germany, Poland, Portugal, the United Kingdom and Norway, 2005; Greece, Spain, Lithuania, Luxembourg, Romania and Slovenia, 2004; Belgium, Estonia, Malta, the Netherlands, Finland, Croatia, Iceland and Switzerland, 2003; the Czech Republic, Ireland, France, Latvia, Hungary, Austria, Slovakia, Sweden and Turkey, 2002; Italy and Cyprus, 2001.
- (2) National parliamentary elections, not applicable.

(3) EU parliamentary elections, not applicable.

Source: Eurostat (tsdgo310), International Institute for Democracy and Electoral Assistance, European Parliament

The number of those who cast a vote or turnout at an election includes those who cast blank or invalid votes. In Belgium, Luxembourg and Greece, voting is compulsory. In Italy, voting is a civic obligation (no penalty). The EU average was estimated by Eurostat on the basis of the trends observed in each of the Member States.

The indicator measures the percentage of the population who cast a vote or turnout at an election in the total population which has got the right to vote. The turnout includes those who cast blank or invalid votes. In Belgium, Luxembourg and Greece, voting is compulsory. In Italy, voting is a civic obligation (no penalty).

### Table 4.5: Level of citizens' confidence in EU institutions (1) (%)

	Council of the European Union		Euro Parlia	pean ament	Commission of the European Communities		
	2001	2006	2001	2006	2001	2006	
EU-27	:	43	:	52	:	47	
Belgium	43	54	63	65	59	63	
Bulgaria	:	41	:	51	:	44	
Czech Republic	:	51	:	57	:	53	
Denmark	46	49	53	62	63	55	
Germany	33	38	47	49	36	42	
Estonia	:	47	:	52	:	52	
Ireland	51	47	65	62	61	57	
Greece	45	61	60	63	51	61	
Spain	49	43	59	47	54	45	
France	40	38	57	50	53	44	
Italy	41	56	66	65	56	60	
Cyprus	:	57	:	60	:	57	
Latvia	:	36	:	40	:	38	
Lithuania	:	44	:	54	:	50	
Luxembourg	61	51	70	64	64	59	
Hungary	:	60	:	71	:	63	
Malta	:	50	:	52	:	51	
Netherlands	48	42	58	54	55	51	
Austria	35	40	46	44	39	43	
Poland	:	49	:	56	:	53	
Portugal	45	53	55	59	51	55	
Romania	:	55	:	59	:	54	
Slovenia	:	60	:	65	:	65	
Slovakia	:	50	:	62	:	56	
Finland	41	46	51	53	46	51	
Sweden	39	28	44	49	37	44	
United Kingdom	17	23	28	31	25	28	
Croatia	:	40	:	43	:	39	
Turkey	:	29	:	34	:	29	

(1) Survey conducted in May of each year.

Source: Eurostat (tsdgo510), European Commission, Eurobarometer survey

The level of citizens' confidence in each EU institution (European Parliament, European Commission and Council of Ministers of the European Union) is expressed as the share of positive opinions (people who declare that they tend to trust) about this institution. The remaining categories, not shown in the table, include the percentage of negative opinions (people who declare that they tend not to trust), as well as don't know and/or no answer. The data are based on the bi-yearly EuroBarometer, a survey which has been used, since 1973, to monitor the evolution of public opinion in the Member States.

### Labour market





## 5.1 PEOPLE IN THE LABOUR MARKET — EMPLOYMENT2485.2 PEOPLE IN THE LABOUR MARKET — UNEMPLOYMENT2595.3 LABOUR MARKET FLEXIBILITY2645.4 LABOUR MARKET POLICY AND PUBLIC EXPENDITURE269

Labour market statistics are at the heart of many EU policies following the introduction of an employment chapter into the Amsterdam Treaty in 1997. The extraordinary European Council of Luxembourg in November 1997 endorsed an ambitious European employment strategy (EES) aimed at reducing unemployment and gender gaps, while promoting sustainable increases of employment rates. The Lisbon summit in the spring of 2000 put full employment with more and better jobs on the European agenda, setting ambitious targets for the year 2010, namely:

- 70 % for the total employment rate;
- 60 % for the female employment rate.

The Stockholm Council in the spring of 2001 subsequently added an employment rate target for persons aged between 55 and 64 years to reach 50 % by 2010. It also fixed intermediate objectives for 2005, namely 67 % for the total employment rate and 57 % for the female employment rate. In its mid-term review of the EES in 2005, the European Commission made a set of new proposals concerning employment guidelines for the period 2005-08, reflecting a switch of emphasis in favour of growth and employment. To create more and better jobs, the Commission wishes to:

- attract and retain more people in employment, increase labour supply and modernise social protection systems;
- improve the adaptability of the workforce and business sector;
- increase investment in human capital through better education and skills.

#### EUROSTAT DATA IN THIS DOMAIN: Population and social conditions

#### Labour market

Employment and unemployment (Labour Force Survey) Job vacancy statistics Earnings Labour costs Labour market policy Industrial disputes

### 5.1 PEOPLE IN THE LABOUR MARKET — EMPLOYMENT

#### **INTRODUCTION**

Flexible working conditions are thought to stimulate employment and activity rates, as the possibility to work, for example, parttime or from home, is likely to encourage more persons into the labour force. Other initiatives, such as improving the availability of childcare facilities or providing opportunities for lifelong learning may also encourage a higher proportion of persons into work.

Given the considerable interest in labour market policies post-Lisbon, the EU's Labour Force Survey (LFS) has grown in importance and has become Eurostat's key tool for observing labour market developments.

The LFS primarily reports on the EU's population of working age (15 years and more) which is composed of persons in employment, unemployed persons and economically inactive persons. It provides comprehensive information on these three categories, describing the employment situation of employed persons through reporting on, for example, their education level, the branches in which they work, their occupations, as well as their propensity to engage in part-time work, the duration of their work contracts, and their search for a new job. The complete list of LFS variables is more than 100.

#### **DEFINITIONS AND DATA AVAILABILITY**

Employed persons are persons aged 15 and over who during the reference week performed work, even for just one hour per week, for pay, profit or family gain or were not at work but had a job or business from which they were temporarily absent because of, e.g., illness, holidays, industrial dispute and education or training.

Employment rates represent employed persons as a percentage of same age total population.

Employees with temporary contracts are those who declare themselves as having an employment contract or a job which will terminate either after a period fixed in advance, or after a period not known in advance, but nevertheless defined by objective criteria, such as the completion of an assignment or the period of absence of an employee temporarily replaced.

#### **MAIN FINDINGS**

The employment rate among the EU-27's population aged between 15 and 64 years old was 64.4 % in 2006. Although this represented a further rise in the employment rate since the relative low of 60.7 % recorded in 1997, it remains below the target rate of 70% for the EU set for 2010. Indeed, employment rates above 70 % were only achieved in five Member States (Denmark, the Netherlands, Austria, Sweden and the United Kingdom). In contrast, employment rates below 60 % were recorded in Bulgaria, Italy, Hungary, Malta, Poland, Romania and Slovakia.

The same employment policy guidelines set a target employment rate for women of 60 % as an average across the EU as a whole. Across the EU-27 in 2006, the employment rate for women was 57.2 %, a significantly higher rate than that recorded (54.3 %) in 2001, although considerably lower than the corresponding rate (71.6 %) for men in 2006. Thirteen Member States recorded employment rates for women above the target 60 % in 2006, with the rates recorded in Denmark and Sweden exceeding 70 %.

The guidelines also set a target employment rate for older workers (aged between 55 and 64 years) of 50 % by 2010. The employment rate for older workers across the EU-27 was 43.5 % in 2006, much higher than the corresponding rate (37.7 %) recorded in 2001. The employment rate for older workers was higher than 50 % in nine Member States, with the highest rates being recorded for Denmark (about 60 %) and Sweden (almost 70 %).

There were considerable differences between the employment rates of people, according to their level of educational attainment. The employment rate of those who had completed tertiary education was 83.1 % across the EU-27 in 2006, much higher than the rate (47.9 %) for those who had only attained a low educational level (primary or lower secondary education).

A little less than one-third (31.2 %) of the women employed in the EU-27 did so on a part-time basis in 2006, a much higher proportion (7.7 %) than the men employed on a part-time basis. Almost three-quarters (74.7 %) of women in the Netherlands worked part-time in 2006, by far the highest rate among the Member States.
# **SOURCES**

**Pocketbooks** Living conditions in Europe - Statistical pocketbook - Data 2002-2005

# **Statistical books**

The social situation in the European Union 2005-2006

#### Methodologies and working papers

LFS – Methods and Definitions (description of the continuous survey since 2001) The European Union Labour Force Survey: main characteristics of the national surveys

## Website data

## **Employment and unemployment (Labour Force Survey)**

- LFS main indicators
- LFS series Detailed quarterly survey results (from 1998)
- LFS series Detailed annual survey results
- LFS series Specific topics

# Figure 5.1: Employment rate, 2006

(%)



Provisional.
 2005.

The employment rate is calculated by dividing the number of persons aged 15 to 64 in employment by the total population of the same age group. The indicator is based on the EU Labour Force Survey (LFS). The survey covers the entire population living in private households and excludes those in collective households such as boarding houses, halls of residence and hospitals. Employed population consists of those persons who during the reference week did any work for pay or profit for at least one hour, or were not working but had jobs from which they were temporarily absent.

Source: Eurostat (tsiem011)

5 Labour market

# Table 5.1: Employment rate

(%)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
			(1)		(2)		(3)		(4)	(5)	
EU-27	:	60.7	61.2	61.8	62.2	62.5	62.3	62.5	62.9	63.4	64.4
Euro area	58.1	58.5	59.3	60.5	61.5	62.2	62.4	62.6	63.0	63.7	64.6
Belgium	56.2	56.8	57.4	59.3	60.5	59.9	59.9	59.6	60.3	61.1	61.0
Bulgaria	:	:	:	:	50.4	49.7	50.6	52.5	54.2	55.8	58.6
Czech Republic	:	:	67.3	65.6	65.0	65.0	65.4	64.7	64.2	64.8	65.3
Denmark	73.8	74.9	75.1	76.0	76.3	76.2	75.9	75.1	75.7	75.9	77.4
Germany	64.1	63.7	63.9	65.2	65.6	65.8	65.4	65.0	65.0	66.0	67.5
Estonia	:	:	64.6	61.5	60.4	61.0	62.0	62.9	63.0	64.4	68.1
Ireland	55.4	57.6	60.6	63.3	65.2	65.8	65.5	65.5	66.3	67.6	68.6
Greece	55.0	55.1	56.0	55.9	56.5	56.3	57.5	58.7	59.4	60.1	61.0
Spain	47.9	49.5	51.3	53.8	56.3	57.8	58.5	59.8	61.1	63.3	64.8
France	59.5	59.6	60.2	60.9	62.1	62.8	63.0	63.3	63.1	63.1	63.0
Italy	51.2	51.3	51.9	52.7	53.7	54.8	55.5	56.1	57.6	57.6	58.4
Cyprus	:	:	:	:	65.7	67.8	68.6	69.2	68.9	68.5	69.6
Latvia	:	:	59.9	58.8	57.5	58.6	60.4	61.8	62.3	63.3	66.3
Lithuania	:	:	62.3	61.7	59.1	57.5	59.9	61.1	61.2	62.6	63.6
Luxembourg	59.2	59.9	60.5	61.7	62.7	63.1	63.4	62.2	62.5	63.6	63.6
Hungary	52.1	52.4	53.7	55.6	56.3	56.2	56.2	57.0	56.8	56.9	57.3
Malta	:	:	:	:	54.2	54.3	54.4	54.2	54.0	53.9	54.8
Netherlands	66.3	68.5	70.2	71.7	72.9	74.1	74.4	73.6	73.1	73.2	74.3
Austria	67.8	67.8	67.9	68.6	68.5	68.5	68.7	68.9	67.8	68.6	70.2
Poland	:	58.9	59.0	57.6	55.0	53.4	51.5	51.2	51.7	52.8	54.5
Portugal	64.1	65.7	66.8	67.4	68.4	69.0	68.8	68.1	67.8	67.5	67.9
Romania	:	65.4	64.2	63.2	63.0	62.4	57.6	57.6	57.7	57.6	58.8
Slovenia	61.6	62.6	62.9	62.2	62.8	63.8	63.4	62.6	65.3	66.0	66.6
Slovakia	:	:	60.6	58.1	56.8	56.8	56.8	57.7	57.0	57.7	59.4
Finland	62.4	63.3	64.6	66.4	67.2	68.1	68.1	67.7	67.6	68.4	69.3
Sweden	70.3	69.5	70.3	71.7	73.0	74.0	73.6	72.9	72.1	72.5	73.1
United Kingdom	69.0	69.9	70.5	71.0	71.2	71.4	71.3	71.5	71.6	71.7	71.5
Croatia	:	:	:	:	:	:	53.4	53.4	54.7	55.0	55.6
Turkey	:	:	:	:	48.8	47.8	46.9	45.8	46.1	46.0	45.9
Iceland	:	:	:	:	:	:	:	83.3	82.3	83.8	:
Norway	:	:	:	:	77.5	77.2	76.8	75.5	75.1	74.8	75.4

Norway

Break in series, Portugal.
 Break in series, the United Kingdom.
 Break in series, Romania.
 Break in series, Italy and Austria.
 Break in series, Germany, Spain and Sweden.

Source: Eurostat (tsiem011)

Labour market

# Figure 5.2: Employment rate

(%)



Not available for 1996; provisional for 20
 Provisional, 2006.

Source: Eurostat (tsiem011)

# Figure 5.3: Dispersion of regional employment rates (1)

(coefficient of variation of employment rates (of the age group 15-64) across regions (NUTS 2 level))



At the NUTS 2 level: Denmark, Estonia, Cyprus, Latvia, Lithuania, Luxembourg, Malta, Slovenia and Iceland are treated as one region; Ireland has two regions.
 EA-12.

#### Source: Eurostat (tsisc041)

The dispersion of regional (NUTS level 2) employment rates of the age group 15-64 shows the regional differences in employment within countries and groups of countries (EU-25, euro area). The employment rate of the age group 15-64 represents employed persons aged 15-64 as a percentage of the population of the same age group. The dispersion of regional employment rates is zero when the employment rates in all regions are identical, and it will rise if there is an increase in the differences between employment rates among regions. The indicator is not applicable for DK, IE, LU, CY, EE, LT, LV, MT, SI or IS as these countries comprise only one or (in the case of IE) two NUTS level 2 regions. However, the employment rates of these countries and of the two Irish regions are used to compute the dispersion of regional employment rates for groups of countries. Regional employment rates represent annual average figures and are taken from the EU Labour Force Survey (LFS).



## Figure 5.4: Dispersion of regional employment rates, 2005 (1)

(coefficient of variation of employment rates (of the age group 15-64) across regions (NUTS 2 level))

(1) At the NUTS 2 level: Denmark, Estonia, Cyprus, Latvia, Lithuania, Luxembourg, Malta, Slovenia and Iceland are treated as one region; Ireland has two regions.

(2) EA-12.

Source: Eurostat (tsisc043 and tsisc042)



# Figure 5.5: Employment rate by gender, 2006

(1) Provisional.

(2) 2005.

Source: Eurostat (tsiem013 and tsiem012)

The male employment rate is calculated by dividing the number of men aged 15 to 64 in employment by the total male population of the same age group. The indicator is based on the EU Labour Force Survey (LFS). The survey covers the entire population living in private households and excludes those in collective households such as boarding houses, halls of residence and hospitals. Employed population consists of those persons who during the reference week did any work for pay or profit for at least one hour, or were not working but had jobs from which they were temporarily absent.

The female employment rate is calculated by dividing the number of women aged 15 to 64 in employment by the total female population of the same age group. The indicator is based on the EU Labour Force Survey (LFS). The survey covers the entire population living in private households and excludes those in collective households such as boarding houses, halls of residence and hospitals. Employed population consists of those persons who during the reference week did any work for pay or profit for at least one hour, or were not working but had jobs from which they were temporarily absent.

Table 5.2: Employment rates for selected population groups (%)

	M	lale	Fen	nale	Older v	vorkers
	2001	2006	2001	2006	2001	2006
EU-27	70.9	71.6	54.3	57.2	37.7	43.5
Euro area	72.0	72.6	52.4	56.7	35.1	41.7
Belgium	68.8	67.9	51.0	54.0	25.1	32.0
Bulgaria	52.7	62.8	46.8	54.6	24.0	39.6
Czech Republic	73.2	73.7	56.9	56.8	37.1	45.2
Denmark	80.2	81.2	72.0	73.4	58.0	60.7
Germany	72.8	72.8	58.7	62.2	37.9	48.4
Estonia	65.0	71.0	57.4	65.3	48.5	58.5
Ireland	76.6	77.7	54.9	59.3	46.8	53.1
Greece	71.4	74.6	41.5	47.4	38.2	42.3
Spain	72.5	76.1	43.1	53.2	39.2	44.1
France	69.7	68.5	56.0	57.7	31.9	37.6
Italy	68.5	70.5	41.1	46.3	28.0	32.5
Cyprus	79.3	79.4	57.2	60.3	49.1	53.6
Latvia	61.9	70.4	55.7	62.4	36.9	53.3
Lithuania	58.9	66.3	56.2	61.0	38.9	49.6
Luxembourg	75.0	72.6	50.9	54.6	25.6	33.2
Hungary	62.9	63.8	49.8	51.1	23.5	33.6
Malta	76.2	74.5	32.1	34.9	29.4	30.0
Netherlands	82.8	80.9	65.2	67.7	39.6	47.7
Austria	76.4	76.9	60.7	63.5	28.9	35.5
Poland	59.2	60.9	47.7	48.2	27.4	28.1
Portugal	77.0	73.9	61.3	62.0	50.2	50.1
Romania	67.8	64.6	57.1	53.0	48.2	41.7
Slovenia	68.6	71.1	58.8	61.8	25.5	32.6
Slovakia	62.0	67.0	51.8	51.9	22.4	33.1
Finland	70.8	71.4	65.4	67.3	45.7	54.5
Sweden	75.7	75.5	72.3	70.7	66.7	69.6
United Kingdom	78.0	77.3	65.0	65.8	52.2	57.4
Croatia	:	62.0	:	49.4	:	34.3
Turkey	69.4	68.1	26.3	23.9	35.8	30.1
Iceland (1)	:	86.9	:	80.5	:	84.3
Norway	80.7	78.4	73.6	72.2	65.9	67.4
Switzerland	87.6	84.7	70.6	71.1	67.1	65.7
Japan	80.5	81.0	57.0	58.8	62.0	64.7
United States	79.4	78.1	67.1	66.1	58.6	61.8

(1) 2005 instead of 2006.

Source: Eurostat (tsiem013 and tsiem012)

	Pre-primary, primary and lower secondary education -	Upper secondary and post- secondary non-tertiary education -	Tertiary education -
511.27	ISCED levels 0-2	ISCED levels 3-4	ISECD levels 5-6
EU-27	47.9	09.3 CF 1	83.1
Belgium	40.1	65.1	82.4
Bulgaria	28.9	68.1	82.1
Czech Republic	23.2	/1.9	83.9
Denmark	61.1	80.2	8/.1
Germany	44.3	71.7	84.7
Estonia	32.2	72.8	86.9
Ireland	49.6	74.0	85.6
Greece	51.9	60.5	82.2
Spain	56.9	67.7	81.3
France	47.2	68.4	77.6
Italy	46.4	67.9	78.2
Cyprus	53.3	72.4	85.6
Latvia	35.6	72.7	86.9
Lithuania	24.5	68.0	87.8
Luxembourg	48.1	68.1	84.3
Hungary	27.6	65.1	81.2
Malta	46.2	73.2	83.3
Netherlands	59.4	78.7	86.2
Austria	49.6	74.8	85.5
Poland	23.3	58.3	81.7
Portugal	65.9	64.5	84.5
Romania	39.6	64.9	86.1
Slovenia	41.9	69.7	87.8
Slovakia	14.5	67.5	83.9
Finland	46.0	72.9	85.0
Sweden	53.3	79.2	86.2
United Kingdom	60.5	76.8	87.3
Norway	46.7	78.0	88.6

# Table 5.3: Total employment rate, by highest level of education, 2006

(% of age group 25-64 years)

Source: Eurostat (tsdec430)

The indicator is calculated by dividing the number of employed people within age group 25-64 years having attained a specific level of education, by the total population of the same age group. Level is coded according to the International Standard Classification of Education (ISCED, 1997): pre-primary, primary and lower secondary education: levels 0-2; upper secondary and post-secondary non-tertiary education: levels 3-4; tertiary education: levels 5-6. The indicator is based on the EU Labour Force Survey (LFS), covering the entire population living in private households and excluding those in collective households such as boarding houses, halls of residence and hospitals. The data refers to the second quarter of each year, except France and Austria (quarter 1 all years) and Italy (quarter 4 in 1992).



# Figure 5.6: Employment rate by age group, 2006 (%)

Provisional
 2005.

Source: Eurostat (lfsi\_emp\_a)

# Figure 5.7: Employment rate of older workers, 2006



(1) Provisional

(2) 2005.

Source: Eurostat (tsiem016 and tsiem015)

The employment rate of older male workers is calculated by dividing the number of men aged 55 to 64 in employment by the total male population in the same age group. The indicator is based on the EU Labour Force Survey (LFS). The survey covers the entire population living in private households and excludes those in collective households such as boarding houses, halls of residence and hospitals. Employed population consists of those persons who during the reference week did any work for pay or profit for at least one hour, or were not working but had jobs from which they were temporarily absent.

The employment rate of older female workers is calculated by dividing the number of women aged 55 to 64 in employment by the total female population in the same age group. The indicator is based on the EU Labour Force Survey (LFS). The survey covers the entire population living in private households and excludes those in collective households such as boarding houses, halls of residence and hospitals. Employed population consists of those persons who during the reference week did any work for pay or profit for at least one hour, or were not working but had jobs from which they were temporarily absent.



# Figure 5.8: Annual employment growth





(1) Estimate, 2006.

Source: Eurostat (tsieb031)

The indicator employment growth gives the change in percentage from one year to another of the total number of employed persons on the economic territory of the country or the geographical area. The indicator is based on the European System of Accounts. The Labour Force Survey breakdowns are applied to provide results by gender.

# Figure 5.9: Annual employment growth, EU-27 (1)

(% change compared with previous year)



Provisional for 2005 and 2006.
 Source: Eurostat (tsieb033 and tsieb032)

# Table 5.4: Annual employment growth

(% change compared with previous year)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
EU-27	0.5	0.6	1.4	1.0	1.6	0.9	-0.3	0.4	0.7	0.9	1.6
Euro area	0.5	0.9	1.9	2.0	2.4	1.5	0.6	0.4	0.9	0.8	1.4
Belgium	0.3	0.5	1.6	1.3	2.0	1.4	-0.1	0.0	0.6	1.0	1.1
Bulgaria	:	-3.9	-0.2	-2.1	4.9	-0.8	0.2	3.0	2.6	2.7	2.4
Czech Republic	0.9	0.2	-1.5	-3.4	-0.2	0.5	0.6	-1.3	0.4	1.0	1.6
Denmark	1.0	1.2	1.5	1.0	0.4	0.8	-0.1	-1.3	0.0	0.7	2.0
Germany	-0.3	-0.1	1.2	1.4	1.9	0.4	-0.6	-0.9	0.4	-0.1	0.7
Estonia	-2.3	0.0	-1.9	-4.4	-1.5	0.9	1.3	1.4	0.0	2.0	5.4
Ireland	3.6	5.6	8.6	6.2	4.6	3.0	1.8	2.0	3.1	4.7	4.3
Greece	-0.4	-0.5	2.9	0.3	0.5	0.3	0.2	1.5	3.4	0.9	1.5
Spain	1.7	3.6	4.5	4.6	5.1	3.2	2.4	3.1	3.5	3.8	3.3
France	0.4	0.4	1.5	2.0	2.7	1.8	0.6	0.1	0.1	0.4	0.8
Italy	0.6	0.3	1.0	1.1	1.9	2.2	1.6	1.5	0.4	0.3	1.7
Cyprus	:	0.6	1.6	1.9	1.7	2.2	2.1	3.8	3.8	3.6	1.7
Latvia	-1.9	4.4	-0.3	-1.8	-2.9	2.2	2.3	1.0	1.1	1.5	4.8
Lithuania	0.9	0.6	-0.8	-2.2	-4.0	-3.8	3.6	2.2	0.0	2.5	1.7
Luxembourg	2.6	3.1	4.5	5.0	5.5	5.6	2.9	1.8	2.3	3.0	3.6
Hungary	-0.5	0.2	1.8	3.4	1.3	0.3	0.0	1.3	-0.7	0.0	0.7
Malta	1.5	0.0	0.0	0.7	8.4	1.8	0.6	1.0	-0.8	1.8	0.9
Netherlands	2.2	3.1	2.6	2.6	2.2	2.1	0.5	-0.5	-0.9	0.0	1.2
Austria	0.4	0.9	1.3	1.6	1.0	0.6	-0.1	0.0	0.0	0.5	1.0
Poland	1.2	1.4	1.2	-3.9	-1.6	-2.2	-3.0	-1.2	1.3	2.3	3.3
Portugal	:	:	:	1.9	1.7	1.6	0.5	-0.4	2.3	0.0	0.7
Romania	-1.2	-3.8	-2.3	-4.5	2.5	-0.8	-13.8	-0.7	-1.5	0.2	2.8
Slovenia	-2.0	-1.9	-0.2	1.4	0.8	0.5	1.5	-0.4	0.5	0.3	1.2
Slovakia	2.3	-1.2	-0.4	-2.7	-1.8	0.6	-0.5	1.8	-0.3	1.4	2.3
Finland	1.4	3.3	2.0	2.5	2.2	1.5	1.0	0.1	0.4	1.4	1.4
Sweden	-0.8	-1.3	1.6	2.1	2.4	1.9	0.2	-0.3	-0.6	0.4	1.8
United Kingdom	0.9	1.8	1.0	1.4	1.2	0.8	0.8	1.0	1.0	0.9	0.8
Croatia	:	3.2	-3.0	-3.3	4.0	-5.4	4.2	0.6	1.7	0.8	2.0
Turkey	2.1	-2.5	2.8	2.1	-0.4	-1.0	-1.8	-1.0	3.0	1.4	1.2
Norway	2.0	2.9	2.7	0.9	0.6	0.4	0.4	-1.0	0.5	1.0	3.1
United States	1.8	2.3	2.1	1.9	2.0	-0.7	-0.3	0.9	1.1	1.7	1.9

Source: Eurostat (tsieb031)



# Figure 5.10: Persons employed part-time, 2006

(% of total employment)



Source: Eurostat (tps00159)

Persons in employment are those who, during the reference week, did any work for pay or profit for at least one hour, or were not working but had jobs from which they were temporarily absent. Family workers are included. The distinction between full-time and part-time work is made on the basis of a spontaneous answer given by the respondent. It is impossible to establish a more exact distinction between part-time and full-time work, due to variations in working hours between Member States and branches of industry.



# **Figure 5.11: Proportion of employees with a contract of limited duration, 2006** (% of total employees)

(1) Provisional

(2) 2005.

Source: Eurostat (tps00073)

A job may be considered temporary if employer and employee agree that its end is determined by objective conditions such as a specific date, the completion of a task or the return of another employee who has been temporarily replaced (usually stated in a work contract of limited duration). Typical cases are: a) persons with seasonal employment; b) persons engaged by an agency or employment exchange and hired to a third party to perform a specific task (unless there is a written work contract of unlimited duration); c) persons with specific training contracts.

# 5.2 PEOPLE IN THE LABOUR MARKET — UNEMPLOYMENT

## **INTRODUCTION**

An integrated set of guidelines for growth and jobs was adopted by the Council in July 2005 <sup>(50)</sup>, covering recommendations on broad economy policy guidelines (BEPGs) and proposals on employment guidelines for the period 2005-08. Among the initiatives mentioned, three integrated guidelines covered unemployment issues, namely:

- to attract more people to employment and modernise social protection systems, via a new lifecycle approach to work (through a renewed endeavour to build employment pathways for young people and reduce youth unemployment; and through resolute action to eliminate gender gaps in employment, unemployment and pay);
- to ensure inclusive labour markets for job-seekers and disadvantaged people (through active and preventive labour market measures; through early identification of needs, jobsearch assistance, guidance and training as part of personalised action plans; and through continuous review of tax and benefit systems);
- to improve matching of labour market needs (through the modernisation and strengthening of labour market institutions, notably employment services; through greater transparency of employment and training opportunities at national and European levels to facilitate mobility across Europe; through better anticipation of skills needs and of labour market shortages and bottlenecks; and through appropriate management of economic migration).

#### **DEFINITIONS AND DATA AVAILABILITY**

Unemployment figures are mainly based on the results of the European Labour Force Survey (EU LFS). The survey's target population are all persons in private households aged 15 years or older.

Eurostat calculates harmonised unemployment rates for Member states. These rates are based on definitions recommended by the International Labour Organisation (ILO). The Eurostat definition of unemployed people is those aged 15 to 74  $^{(51)}$  who are without work, are available to start work within two weeks, and have actively sought employment at some time during the previous four weeks <sup>(52)</sup>.

The unemployment rate is the number of people unemployed as a percentage of the labour force. The labour force is the total number of people employed and unemployed.

(50) Council Decision 2005/600 EC.

#### **MAIN FINDINGS**

The average unemployment rate across the EU-27 in 2006 was 8.2 %, which represented a further fall away from the relative peak level of 9.1 % that was recorded in 2004. Nevertheless, there remained considerable differences in the unemployment rate between Member States, the highest rates of 13.4 % and 13.8 % being recorded in Slovakia and Poland respectively, and the lowest rates of 3.9 % in both Denmark and the Netherlands.

Long-term unemployment is one of the main concerns of governments and social planners. Besides its effects on personal life, long-term unemployment limits social cohesion and, ultimately, economic growth (as resources are not efficiently deployed). Some 3.7 % of those actively seeking work in the EU-27 in 2006 had been unemployed for more than one year and 2.2 % for more than two years.

The unemployment rate for women (8.9 %) in the EU-27 in 2006 was higher than that for men (7.6 %); this pattern was reflected in the majority of Member States, with exceptions limited to the Baltic Member States, the United Kingdom, Ireland, Germany and Romania. The difference in unemployment rates between the sexes was particularly marked in countries where the overall unemployment rate was high, as well as in a number of the southern Member States.

Unemployment rates by age group show clearly that those aged 15 to 24 tend to face the most difficulty in securing a job. The average unemployment rate among the 15-24 year olds who were actively seeking employment was 17.2 % across the EU-27 as a whole. The highest rate of unemployment for this youth age group was in Poland (29.8 %). Although this was the Member State with the highest overall rate of unemployment, it was also where there was the widest difference in rates between those over and below 25 years old (18.1 percentage points). This measure of the relative difficulty facing young job seekers was also notable in Greece (17.7 percentage points difference), Sweden (16.2 percentage points difference) and Italy (16.1 percentage points difference). In contrast, the Member States in which youth unemployment rates were closest to the overall unemployment rate were the Netherlands, Denmark, Lithuania, Ireland and Austria (all between 3.2 and 5.1 percentage points difference).

Qualifications can be another discriminating factor, as unemployment rates tended to decrease according to the level of education attained. This was a characteristic noted in almost every Member State. The average unemployment rate in the EU-27 for those having attained at most lower secondary education was 10.1 % in 2006, more than twice the rate of unemployment (4.1 %) for those that had had a tertiary education. This differentiation in unemployment rates by level of education was widest in Slovakia (44.0 % and 2.7 % respectively).

<sup>(51)</sup> In Spain and the United Kingdom this is restricted to persons aged 16-74 years old.

<sup>(52)</sup> In the Netherlands, persons without a job, who are available for work and looking for a job are only included in unemployment if they express that they would like to work.

# SOURCES

## Pocketbooks

Living conditions in Europe – Statistical pocketbook – Data 2002-2005

#### **Statistical books**

The social situation in the European Union 2005-2006

#### Methodologies and working papers

LFS – Methods and Definitions (description of the continuous survey since 2001) The European Union Labour Force Survey: main characteristics of the national surveys

## Website data

# Employment and unemployment (Labour Force Survey)

LFS main indicators

LFS series - Detailed quarterly survey results (from 1998)

LFS series – Detailed annual survey results

LFS series – Specific topics

## Table 5.5: Unemployment rate

(%)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
EU-27	:	:	:	:	8.7	8.5	8.9	9.0	9.1	8.9	8.2
Euro area	10.7	10.6	10.0	9.1	8.2	7.8	8.3	8.8	8.9	8.9	8.3
Belgium	9.5	9.2	9.3	8.5	6.9	6.6	7.5	8.2	8.4	8.4	8.2
Bulgaria	:	:	:	:	16.4	19.5	18.1	13.7	12.0	10.1	9.0
Czech Republic	:	:	6.4	8.6	8.7	8.0	7.3	7.8	8.3	7.9	7.1
Denmark	6.3	5.2	4.9	5.2	4.3	4.5	4.6	5.4	5.5	4.8	3.9
Germany	8.7	9.3	9.1	8.2	7.5	7.6	8.4	9.3	9.7	10.7	9.8
Estonia	:	9.6	9.2	11.3	12.8	12.4	10.3	10.0	9.7	7.9	5.9
Ireland	11.7	9.9	7.5	5.7	4.2	4.0	4.5	4.7	4.5	4.3	4.4
Greece	9.6	9.8	10.8	12.0	11.2	10.7	10.3	9.7	10.5	9.8	8.9
Spain	17.8	16.7	15.0	12.5	11.1	10.3	11.1	11.1	10.6	9.2	8.5
France	11.6	11.5	11.1	10.5	9.1	8.4	8.7	9.5	9.6	9.7	9.5
Italy	11.2	11.3	11.3	10.9	10.1	9.1	8.6	8.4	8.0	7.7	6.8
Cyprus	:	:	:	:	4.9	3.8	3.6	4.1	4.6	5.2	4.6
Latvia	:	:	14.3	14.0	13.7	12.9	12.2	10.5	10.4	8.9	6.8
Lithuania	:	:	13.2	13.7	16.4	16.5	13.5	12.4	11.4	8.3	5.6
Luxembourg	2.9	2.7	2.7	2.4	2.3	2.0	2.7	3.7	5.1	4.5	4.7
Hungary	9.6	9.0	8.4	6.9	6.4	5.7	5.8	5.9	6.1	7.2	7.5
Malta	:	:	:	:	6.7	7.6	7.5	7.6	7.4	7.3	7.3
Netherlands	6.0	4.9	3.8	3.2	2.8	2.2	2.8	3.7	4.6	4.7	3.9
Austria	4.3	4.4	4.5	3.9	3.6	3.6	4.2	4.3	4.8	5.2	4.7
Poland	:	10.9	10.2	13.4	16.1	18.2	19.9	19.6	19.0	17.7	13.8
Portugal	7.3	6.8	5.1	4.5	4.0	4.0	5.0	6.3	6.7	7.6	7.7
Romania	:	5.3	5.4	6.6	7.2	6.6	8.4	7.0	8.1	7.2	7.3
Slovenia	6.9	6.9	7.4	7.3	6.7	6.2	6.3	6.7	6.3	6.5	6.0
Slovakia	:	:	12.6	16.4	18.8	19.3	18.7	17.6	18.2	16.3	13.4
Finland	14.6	12.7	11.4	10.2	9.8	9.1	9.1	9.0	8.8	8.4	7.7
Sweden (1)	9.6	9.9	8.2	6.7	5.6	4.9	4.9	5.6	6.3	7.4	7.1
United Kingdom	7.9	6.8	6.1	5.9	5.3	5.0	5.1	4.9	4.7	4.8	5.3
Croatia	:	:	:	:	:	:	14.7	14.1	13.6	12.6	11.1
Turkey	:	:	:	:	5.2	6.8	8.9	9.3	9.0	8.8	8.4
Norway	4.7	4.0	3.2	3.2	3.4	3.6	3.9	4.5	4.4	4.6	3.5
Japan	3.4	3.4	4.1	4.7	4.7	5.0	5.4	5.3	4.7	4.4	4.1
United States	5.4	4.9	4.5	4.2	4.0	4.8	5.8	6.0	5.5	5.1	4.6

(1) Break in series, 2005.

Source: Eurostat (tsiem071)

Unemployment rates represent unemployed persons as a percentage of the labour force. The labour force is the total number of people employed and unemployed. Unemployed persons comprise persons aged 15 to 74 who were: a) without work during the reference week; b) currently available for work, i.e. were available for paid employment or self-employment before the end of the two weeks following the reference week; c) actively seeking work, i.e. had taken specific steps in the four weeks period ending with the reference week to seek paid employment or self-employment or who found a job to start later, i.e. within a period of, at most, three months.



# Figure 5.12: Unemployment rates by duration, 2006 (%)

#### (1) Provisional.

#### Source: Eurostat (tsisc061 and tsiem071)

Long-term unemployed (12 months and more) persons are those aged at least 15 years not living in collective households who are without work within the next two weeks, are available to start work within the next two weeks and who are seeking work (have actively sought employment at some time during the previous four weeks or are not seeking a job because they have already found a job to start later). The total active population (labour force) is the total number of the employed and unemployed population. The duration of unemployment is defined as the duration of a search for a job or as the length of the period since the last job was held (if this period is shorter than the duration of the search for a job).



# Figure 5.13: Unemployment rates, 2006

(%)

(1) Provisional.

Source: Eurostat (tsiem073 and tsiem072)

# Table 5.6: Unemployment rates, 2006 (%)

	Long-term	Unemployment rate						
	rate	Male	Female	< 25 years	> 25 years			
EU-27	3.7	7.6	8.9	17.2	7.0			
Euro area	3.8	7.5	9.4	16.3	7.3			
Belgium	4.2	7.4	9.3	20.5	7.0			
Bulgaria	5.0	8.6	9.3	19.5	7.9			
Czech Republic	3.9	5.8	8.8	17.5	6.2			
Denmark	0.8	3.3	4.5	7.7	3.2			
Germany	5.5	10.2	9.4	12.5	9.4			
Estonia	2.8	6.2	5.6	12.0	5.2			
Ireland	1.4	4.6	4.1	8.6	3.5			
Greece	4.8	5.6	13.6	25.2	7.5			
Spain	1.8	6.3	11.6	17.9	7.3			
France	4.0	8.7	10.4	23.2	7.9			
Italy	3.4	5.4	8.8	21.6	5.5			
Cyprus	0.9	4.0	5.4	10.4	3.9			
Latvia	2.5	7.4	6.2	12.2	6.0			
Lithuania	2.5	5.8	5.4	9.8	5.2			
Luxembourg	1.4	3.5	6.2	16.2	3.9			
Hungary	3.4	7.2	7.8	19.1	6.5			
Malta	2.9	6.5	8.9	16.3	5.0			
Netherlands	1.7	3.5	4.4	6.6	3.4			
Austria	1.3	4.4	5.2	9.1	4.0			
Poland	7.8	13.0	14.9	29.8	11.7			
Portugal	3.8	6.5	9.0	16.3	6.7			
Romania	4.2	8.2	6.1	21.4	5.7			
Slovenia	2.9	4.9	7.2	13.9	5.0			
Slovakia	10.2	12.3	14.7	26.6	11.7			
Finland	1.9	7.4	8.1	18.7	6.2			
Sweden	1.1	6.9	7.2	21.3	5.1			
United Kingdom	1.2	5.7	4.9	14.1	3.8			
Croatia	6.7	9.8	12.7	28.9	9.0			
Turkey	2.5	8.4	8.4	16.0	6.7			
Norway	0.8	3.6	3.4	8.8	2.7			

Source: Eurostat (tsisc061, tsiem073, tsiem072 and tsdec460)

# Table 5.7: Unemployment rates, EU-27

(%)

	2000	2001	2002	2003	2004	2005	2006
Male	7.8	7.7	8.2	8.4	8.5	8.3	7.6
Female	9.8	9.4	9.7	9.8	9.8	9.7	8.9
< 25 years	17.4	17.3	18.0	18.2	18.6	18.5	17.2
> 25 years	7.4	7.2	7.6	7.7	7.8	7.7	7.0
Long-term unemployment rate	4.0	3.9	4.0	4.1	4.2	4.1	3.7
Male	3.5	3.5	3.6	3.8	3.9	3.8	3.5
Female	4.6	4.4	4.5	4.6	4.6	4.5	4.0
Very long-term unemployment rate	2.4	2.3	2.3	2.4	2.4	2.4	2.2

Source: Eurostat (tsiem073, tsiem072, tsdec460, tsisc061, tsisc063, tsisc062 and une\_ltu\_a)

Very long-term unemployment rates represent very lont-term unemployed persons as a percentage of the labour force. Very long-term unemployed (24 months and more) persons are those aged at least 15 years not living in collective households who are without work within the next two weeks, are available to start work within the next two weeks and who are seeking work (have actively sought employment at some time during the previous four weeks or are not seeking a job because they have already found a job to start later). The duration of unemployment is defined as the duration of a search for a job or as the length of the period since the last job was held (if this period is shorter than the duration of the search for a job). The total active population (labour force) is the total number of the employed and unemployed population.

Figure 5.14: Unemployment rates (among persons aged 25-59 years) by level of educational attainment, 2006



(1) Provisional.

(3) Upper secondary and post secondary non-tertiary education, and tertiary education, not available.

(4) Tertiary education, not available.

The indicators focus on the 25 to 64 years old. They show the probability of being without a job for those who would like to have one, broken-down by level of education. The indicators provide a measure of difficulties that people with different levels of education have to face in the labour market and offer a first idea of the impact of education in reducing the chances of being unemployed.

<sup>(2)</sup> Pre-primary, primary and lower secondary, 2004; tertiary education, 2005.

Source: Eurostat (tps00066)

# **5.3 LABOUR MARKET FLEXIBILITY**

#### **INTRODUCTION**

The Employment Guidelines for Growth and Jobs for 2005-2008 recognise, among other things, that labour market flexibility needs to be combined with employment security. Being able to offer a range of flexible working arrangements, whilst improving employment security, is thought to meet the needs of people in their search for a suitable work / family balance and are mentioned under the guideline 'Reconciling work and family life'.

If individuals and couples are unable to achieve their desired work/family life balance, not only is their welfare lower but economic development is also curtailed through reduced labour supply by parents. In this way, flexible working arrangements can be viewed as encouraging more people into work, whilst liberating individuals to make family choices such as whether to try to have a family or spend more time with children. In contrast, an inflexible labour market can be one reason behind a reduction in birth rates, which has clear repercussions for future labour supply as well as the knock-on effects regarding the financial sustainability of social protection systems. Parenting is crucial to child development, so the flexibility of labour markets has some impact on the shape of future societies, making it a key policy matter.

#### **DEFINITIONS AND DATA AVAILABILITY**

A job vacancy is defined as a post (newly created, unoccupied or about to become vacant):

- for which the employer is taking active steps to find a suitable candidate from outside the enterprise concerned and is prepared to take more steps; and
- which the employer intends to fill either immediately or in the near future.

Under this definition, a job vacancy should be open to candidates from outside the enterprise. However, this does not exclude the possibility of the employer appointing an internal candidate to the post. A vacant post that is open only to internal candidates is not treated as a job vacancy. Job vacancies and occupied posts are broken down by economic activity and by occupation.

The data for part-time employment, temporary employees and people with a second job are taken from the EU's Labour Force Survey (LFS). All the definitions (given under the tables and graphics) apply to persons aged 15 years and over, living in private households. The concepts and definitions used in the survey follow the guidelines of the International Labour Organisation. Persons carrying out obligatory military service are not included. The LFS detailed annual survey results consist of the spring (quarter 2) results up to 2005 and annual average of quarterly results since 2005 onwards. Even though it would be possible to calculate the annual average for some countries for earlier years, for the sake of the transparency and comparability, a uniform 'cut-off' year 2005 was chosen for all the countries

#### MAIN FINDINGS

The job vacancy rate in part reflects the unmet demand for labour. It is a key indicator used for the assessment of the business cycle and for structural analysis. Job vacancy statistics are used by the European Commission and the European Central Bank to analyse and monitor the evolution of the labour market at national and European level.

There was a broad upward development in the job vacancy rate for both the EU-25 and the euro area between 2003 and 2006. The job vacancy rate in the euro area was slightly higher than for the EU-25 in 2006 (2.1 % compared to 2.0 %), having been a little lower in 2004. Among the Member States for which data are available, the job vacancy rate in 2006 was highest in Germany (3.2 %), followed closely by Estonia (3.0 %), and lowest in Luxembourg, France and Portugal (all at 0.6 %).

A little over one third (34.0 %) of employees in Spain were employed on a temporary basis in 2006, by far the highest rate among the Member States. Indeed, among the five big economies of the EU-27, it was only in the United Kingdom (5.8 %) that the proportion of temporary employees was below 13 %.

The proportion of the workforce working part-time in the EU-27 has increased steadily from 15.9 % in 1996 to 18.1 % in 2006. The highest proportion of people working part-time was in the Netherlands (46.2 %) in 2006, by far the highest share among the Member States, followed by Germany, the United Kingdom and Sweden where they accounted in each case for about a quarter of all workers. In contrast, part-time employment was relatively uncommon in Bulgaria (2.0 % of those working), Slovakia (2.8 %) and Hungary (4.0 %).

The average exit age from the labour force increased by an average of 1 year across the EU-25 between 2001 and 2005. The average age of males leaving the workforce across the EU-25 was 61.4 years in 2005, with the highest rate being in Romania (64.7 years old) and the lowest in France (58.5 years old) among the Member States for which data are available. Across the EU-27 workforce, the exit age of women also rose between 2001 and 2005 (to 60.4 years old), with a slight closing of the gap differential with men. It should be noted, however, that in Ireland, Spain, France and Portugal, the average exit age of women from the workforce was higher than the corresponding national averages for men.

# SOURCES

Pocketbooks Living conditions in Europe – Statistical pocketbook – Data 2002-2005

# Methodologies and working papers Reconciliation between work and family life

The European Union labour force survey

#### Website data

# Job vacancy statistics

Job vacancy statistics, quarterly data

Job vacancy statistics, annual data

# Employment and unemployment (Labour Force Survey)

LFS series – Detailed annual survey results

Temporary employment – LFS series

- Full-time and part-time employment LFS series
- Population in employment having a second job LFS series

# Figure 5.15: Job vacancy rate (1)

(%)



Provisional.
 EA-12.

Source: Eurostat (jvs\_a)

# Figure 5.16: Job vacancy rate, 2006



Source: Eurostat (jvs\_a)

Figure 5.17: Share of temporary employees, 2006

(% of total number of employees)



(1) Provisional.

(2) 2005.

Source: Eurostat (lfsi\_emp\_a)

Table 5.8: Persons working part-time and persons with a second job (% of total)

	Persons em	ployed workin	g part-time	Persons in em	Persons in employment with second job				
	1996 (1)	2001 (2)	2006 (3)	1996 (4)	2001	2006 (5)			
EU-27	15.9	16.2	18.1	:	3.8	3.7			
Euro area	14.1	16.1	19.5	2.8	2.8	3.2			
Belgium	14.5	18.5	22.2	2.6	3.7	3.8			
Bulgaria	:	3.2	2.0	:	1.0	0.8			
Czech Republic	:	4.9	5.0	3.8	2.6	2.1			
Denmark	21.9	20.1	23.6	6.5	10.3	10.1			
Germany	16.7	20.3	25.8	2.4	2.4	3.5			
Estonia	:	8.2	7.8	:	4.5	3.5			
Ireland	11.4	16.5	16.8	1.7	1.9	2.2			
Greece	5.0	4.0	5.7	3.7	3.2	3.0			
Spain	7.6	8.0	12.0	1.5	1.9	2.5			
France	16.3	16.3	17.2	3.4	3.2	3.0			
Italy	6.5	8.4	13.3	1.4	1.3	1.6			
Cyprus	:	8.4	7.7	:	5.3	4.6			
Latvia	:	10.3	6.5	:	4.9	5.7			
Lithuania	:	9.9	9.9	:	7.2	6.0			
Luxembourg	8.0	10.4	17.1	0.9	1.2	1.9			
Hungary	3.7	3.6	4.0	3.9	1.6	1.8			
Malta	:	7.4	10.1	:	5.5	5.2			
Netherlands	38.0	42.2	46.2	5.2	5.9	6.5			
Austria	14.0	18.2	21.8	3.8	5.0	4.3			
Poland	10.6	10.3	9.8	9.2	8.5	7.5			
Portugal	9.2	11.1	11.3	6.1	6.1	5.9			
Romania	14.9	16.6	9.7	7.6	5.0	2.7			
Slovenia	:	6.1	9.2	3.1	2.5	3.3			
Slovakia	:	2.3	2.8	:	0.8	1.2			
Finland	11.4	12.2	14.0	4.6	3.6	4.2			
Sweden	20.2	21.1	25.1	7.8	9.5	7.8			
United Kingdom	24.6	25.1	25.5	5.0	4.3	3.6			
Croatia	:	8.3	9.4	:	:	3.4			
Turkey	:	6.2	7.9	:		:			
Iceland	:	:	22.2	16.9	17.7	10.8			
Norway	:	26.0	28.7	7.9	8.1	7.3			
Switzerland	28.1	31.8	33.3	5.0	6.5	6.4			

(1) EU-27, Hungary, Poland and Romania, 1997.

(2) Croatia, 2002.(3) Iceland, 2005; Ireland, 2004.

(4) Czech Republic, Poland and Romania, 1997.
 (5) Croatia, Iceland and Switzerland, 2005.

Source: Eurostat (tps00159 and tps00074)

Persons in employment are those who, during the reference week, did any work for pay or profit for at least one hour, or were not working but had jobs from which they were temporarily absent. Family workers are included. The distinction between full-time and part-time work is made on the basis of a spontaneous answer given by the respondent. It is impossible to establish a more exact distinction between part-time and full-time work, due to variations in working hours between Member States and branches of industry.



# Table 5.9: Average exit age from the labour force

(years)

	Тс	otal	Ν	/lale	Fe	emale
	2001	2005 (1)	2001	2005 (2)	2001	2005 (2)
EU-25	59.9	60.9	60.4	61.4	59.3	60.4
Euro area (3)	59.9	60.7	60.2	60.9	59.6	60.6
Belgium	56.8	60.6	57.8	61.6	55.9	59.6
Bulgaria	:	60.2	:	62.4	:	58.4
Czech Republic	58.9	60.6	60.7	62.3	57.3	59.1
Denmark	61.6	60.9	62.1	61.2	61.0	60.7
Germany	60.6	61.3	60.9	61.4	60.4	61.1
Estonia	61.1	61.7	:	:	:	:
Ireland	63.2	64.1	63.4	63.6	63.0	64.6
Greece	:	61.7	:	62.5	:	61.0
Spain	60.3	62.4	60.6	62.0	60.0	62.8
France	58.1	58.8	58.2	58.5	58.0	59.1
Italy	59.8	59.7	59.9	60.7	59.8	58.8
Cyprus	62.3	62.7	:	:	:	:
Latvia	62.4	62.1	:	:	:	:
Lithuania	58.9	60.0	:	:	:	:
Luxembourg	56.8	59.4	:	:	:	:
Hungary	57.6	59.8	58.4	61.2	57.0	58.7
Malta	57.6	58.8	:	:	:	:
Netherlands	60.9	61.5	61.1	61.6	60.8	61.4
Austria	59.2	59.8	59.9	60.3	58.5	59.4
Poland	56.6	59.5	57.8	62.0	55.5	57.4
Portugal	61.9	63.1	62.3	62.4	61.6	63.8
Romania	59.8	63.0	60.5	64.7	59.2	61.5
Slovenia	:	58.5	:	:	:	:
Slovakia	57.5	59.2	59.3	61.1	56.0	57.6
Finland	61.4	61.7	61.5	61.8	61.3	61.7
Sweden	61.8	63.7	61.9	64.3	61.6	63.0
United Kingdom	62.0	62.6	63.0	63.4	61.0	61.9
Croatia	:	59.7	:	60.5	:	57.4
Iceland	62.5	66.3	63.3	65.0	60.4	65.5
Norway	63.3	63.1	63.0	63.1	63.6	63.1
Switzerland	63.9	62.5	64.6	63.1	63.3	62.0

(1) Italy and Austria, break in series 2005; Germany and Cyprus, 2004.
 (2) Italy and Austria, break in series 2005; Germany, 2004.
 (3) EA-12.

Source: Eurostat (tsiem021, tsiem023 and tsiem022)

The indicator gives the average age at which active persons definitely withdraw from the labour market. It is based on a probability model considering the relative changes of activity rates from one year to another at a specific age. The activity rate represents the labour force (employed and unemployed population) as a percentage of the total population for a given age. The indicator is based on the EU Labour Force Survey (LFS). The survey covers the entire population living in private households. The definitions used follow the guidelines of the International Labour Office.

# 5.4 LABOUR MARKET POLICY AND PUBLIC EXPENDITURE

## **INTRODUCTION**

Labour market policy (LMPs) interventions are generally targeted at providing assistance to help the unemployed as well as other groups of people with particular difficulties to enter the labour market. The primary target groups in most countries, however, are those people that are registered as unemployed by the public employment services (PES). However, public expenditure on labour market policies should not be interpreted exclusively as demonstrating the strength of the political will to combat unemployment. Other factors such as the demographic situation, or the evolution of GDP per capita also contribute to the differences observed in the statistics presented in this section.

Labour market policy measures and supports are classified into the following categories:

- training programmes which aim to improve the employability of the unemployed and other target groups through training and which are financed by public bodies; measures here should include some evidence of classroom teaching, or, if in the workplace, supervision specifically for the purpose of instruction;
- job rotation and job sharing programmes that facilitate the insertion of an unemployed person or a person from another target group into a work placement by substituting hours worked by an existing employee;
- employment incentives programmes which facilitate the recruitment of unemployed persons and other target groups, or help to ensure the continued employment of persons at risk of involuntary job loss; the majority of the labour cost is normally covered by the employer;
- supported employment and rehabilitation programmes that aim to promote labour market integration among persons with reduced working capacity;
- direct job creation programmes that create additional jobs, usually of community benefit or socially useful, in order to find employment for the long-term unemployed or persons otherwise difficult to place; the majority of the labour cost is normally covered by public finance;
- start-up incentives programmes that promote entrepreneurship by encouraging the unemployed and target groups to start their own business or to become self-employed;
- out-of-work income maintenance and support programmes which aim to compensate individuals for loss of wage or salary through the provision of cash benefits;
- early retirement programmes which facilitate the full or partial early retirement of older workers who are assumed to have little chance of finding a job or whose retirement facilitates the placement of an unemployed person or a person from another target group.

# **DEFINITIONS AND DATA AVAILABILITY**

Expenditure on targeted programmes, including training, job rotation/job sharing, employment incentives, supported employment and rehabilitation, and direct job-creation and startup incentives, are usually considered as labour market policy measures, whereas the two categories of unemployment benefits and early retirement are considered as labour market policy supports.

Labour market policy (LMP) methodology provides guidelines for the collection of data on labour market policy interventions and numbers of participants in these interventions (stocks, entrants and exits). Its scope covers interventions targeted at people who are unemployed and other groups of people with particular difficulties in entering or retaining their position in the labour market. Labour market policy interventions are classified in two ways: by type of action and by type of expenditure. The statistics presented contribute to the monitoring of the European employment strategy (EES).

#### **MAIN FINDINGS**

The relative financial resources that Member States spend on labour market policy interventions to get the unemployed and other target groups into the labour market varies widely; among the Member States for which information is available <sup>(53)</sup>, the highest level of relative expenditure on labour market policy measures and supports in 2005 is estimated to have been in Denmark (accounting for 1.6 % of GDP, of which expenditure on labour market policy measures accounted for 1.4 % of GDP), followed by the Netherlands and Sweden (both 1.3 %, of which expenditure on labour market policy measures accounted for 0.9 % and 1.1 % respectively of GDP), and the lowest in Estonia, Greece and Romania (all 0.1 % of GDP).

The largest share of expenditure on labour market policy measures in the EU <sup>(54)</sup> went on training (38.6 %) to improve the employability of the unemployed and other target groups. Almost one quarter (23.8 %) of EU expenditure was also accounted for by employment incentives, with a little under one third (30.9 %) being relatively equally shared between programmes developed to integrate persons with reduced working capacity and to create additional jobs. The breakdown of expenditure on labour market policy measures across the Member States was extremely varied, however, reflecting the different characteristics and problems faced within the individual labour markets.

(54) Estimate, based on the data available for the Member States (see Figure 5.20 for details of country coverage).

<sup>(53)</sup> Cyprus, Luxembourg, Malta and Slovenia, not available.

# SOURCES

# **Statistical books**

European social statistics – Labour market policy – Expenditure and participants

Methodologies and working papers

Labour market policy seminar Labour market policy database – Methodology – Revision of June 2006 Labour market policy qualitative reports

## Website data

# Labour Market Policy

Public expenditure on labour market policies Expenditure by type of action Expenditure by measure – by Member State Participants on labour market policies Participants by type of action Participants by measure – by Member State

Table 5.10: Labour market policy, participants by type of action, 2005(1 000)

				Supported		
		Job rotation	Employment	employment &	Direct job	Start-up
	Training	& job sharing	incentives	rehabilitation	creation	incentives
EU-27	:	120.7	:	:	:	:
Belgium	125.6	-	67.4	30.0	:	:
Bulgaria	13.6	-	13.8	1.1	58.4	1.9
Czech Republic	6.0	-	23.2	15.8	9.3	5.5
Denmark	51.4	-	36.5	61.7	0.0	-
Germany	964.3	2.7	106.5	160.2	365.3	340.8
Estonia	1.0	-	0.9	-	0.0	0.0
Ireland	:	-	6.2	:	24.4	5.3
Greece	:	-	:	:	-	:
Spain	:	84.7	:	:	:	:
France	546.8	-	:	127.9	265.2	65.3
Italy	:	16.7	663.0	-	43.5	:
Cyprus	:	:	:	:	:	:
Latvia	5.4	-	1.6	0.3	2.4	-
Lithuania	5.4	-	:	:	6.7	0.1
Luxembourg	:	-	:	:	0.4	:
Hungary	14.2	-	:	-	16.5	4.1
Malta	:	:	:	:	:	:
Netherlands	133.9	-	64.8	173.1	-	-
Austria	76.3	0.0	44.8	:	5.7	2.2
Poland	112.4	:	:	:	9.5	2.6
Portugal	50.9	:	:	:	21.2	6.1
Romania	12.9	-	62.9	-	23.6	:
Slovenia	:	:	:	:	:	:
Slovakia	4.4	-	15.6	7.1	106.3	11.2
Finland	48.8	6.8	19.4	8.4	9.6	3.8
Sweden	50.4	9.7	105.5	35.0	-	5.7
United Kingdom	218.8	-	:	:	7.0	:
Norway	39.4	-	5.5	11.2	7.8	0.4

Source: Eurostat (Imp\_partsumm)





Source: Eurostat (Imp\_expsumm)





(1) Estimates; based on data available for the Member States (see Figure 5.20 for details of country coverage).

Source: Eurostat (tps00077)

Total labour market policy expenditure on active measures refers to public expenditure on programmes targeted at unemployed, employed at risk and inactive persons who would like to enter the labour market. The coverage includes six categories of measures: training for unemployed and groups at risk, job rotation/job sharing, employment incentives, supported employment and rehabilitation, direct job creation and start-up incentives.



# Figure 5.20: Expenditure on labour market policy measures, 2005 (%)

Supported employment and rehabilitation, not applicable. (2)

(3) Start-up incentives & job rotation and job sharing, not applicable. (4) Direct job creation and supported employment and rehabilitation, not applicable.

(5) Not available.

(6) Training, not available.

(7) Supported employment and rehabilitation, job rotation and job sharing, not applicable.(8) Direct job creation, not applicable.

Source: Eurostat (tps00077)

# Industry and services





# 6.1 BUSINESS STRUCTURES 276 6.2 INDUSTRY AND CONSTRUCTION 290 6.3 SERVICES 299 6.4 TOURISM 307

The European Commission's enterprise policy aims at creating a favourable environment for enterprises and businesses to thrive within Europe, thus creating the productivity growth, jobs and wealth that are necessary to achieve the objectives set by the revised strategy for growth and jobs that has superseded the Lisbon objectives.

While competitiveness as a macro-economic concept is understood to mean increased standards of living and employment opportunities for those who wish to work, at the level of individual enterprises or industrial sectors, competitiveness is more concerned with the issue of productivity growth. Enterprises have a variety of options to improve their performance, such as increased investment in human capital, research and development, or intangible assets. This latter category covers non-monetary assets created over time in the form of legal assets (such as patents or copyrights, which protect intellectual property) and competitive assets (such as know-how and collaboration), which can play an important role in determining the effectiveness and productivity of an enterprise. Human capital is generally regarded as the primary source of competitiveness in relation to intangibles, re-enforcing the belief that enterprises need to constantly invest in their workforces, attracting qualified staff, improving their skills, and maintaining their motivation.

The legal basis for the European Commission's activities with respect to enterprise policy is Article 157 of the EC Treaty, which ensures that the conditions necessary for the industrial competitiveness exist. It also provides for conditions to encourage entrepreneurial initiatives, particularly among small and medium-sized enterprises (SMEs). The EU seeks to:

- reduce administrative burden;
- facilitate the rapid start-up of new enterprises, and;
- create an environment more supportive of business.

Industry, trade and services Industry, trade and services – horizontal view Industry and construction Distributive trade Services Tourism Statistics on the production of manufactured goods

**EUROSTAT DATA IN THIS DOMAIN:** 

The business environment in which European enterprises operate plays a significant role in their potential success through factors such as access to capital markets (in particular for venture capital), or the openness of markets. Ensuring that businesses can compete openly and fairly is also important with respect to making Europe an attractive place to invest and work in. Creating a positive climate in which entrepreneurs and businesses can flourish is considered by many as the key to generating the growth and jobs that Europe needs. This is all the more important in the globalised economy, where many businesses can select at will where they wish to operate.

# **6.1 BUSINESS STRUCTURES**

#### **INTRODUCTION**

Despite the changing face of the business economy, manufacturing still plays a key role in Europe's prosperity. The European Commission adopted a Communication on fostering structural change: an industrial policy for an enlarged Europe <sup>(55)</sup> which rejected the claim that Europe was experiencing a widespread process of de-industrialisation. However, the combination of a decline in the competitiveness of European industry, and increased international competition, were identified as threats that could impede the process of structural change in Europe. The Communication also examined how structural change could be brought about and fostered through better regulation, synergies between various Community policies, and strengthening the sectoral dimension of industrial policy.

Small and medium-sized enterprises (SMEs) are often referred to as the backbone of the European economy, providing a potential source for jobs and economic growth. The European Commission's new strategy for SMEs aims to apply the 'think small first' principle to make the business environment easier for SMEs. Policy is concentrated in five priority areas, covering the promotion of entrepreneurship and skills, the improvement of SMEs' access to markets, cutting red tape, the improvement of SMEs' growth potential, and strengthening dialogue and consultation with SME stakeholders. A special SME envoy has been set-up in the European Commission Directorate-General for Enterprise and Industry with the objective of better integrating the SME dimension into EU policies. Via the European charter for small enterprises, Member States have also committed themselves to develop an SME-friendly business environment, in particular through learning from each other's experience in designing and implementing policies, so each can apply the best practice to their own situations.

(55) COM(2004) 274 final; for more information: http://eur-lex.europa.eu/ LexUriServ/site/en/com/2004/com2004\_0274en01.pdf. Eurostat's structural business statistics (SBS) describe the structure, conduct and performance of economic activities, down to the most detailed activity level (several hundred sectors). Structural business statistics with a breakdown by size-class is the main source of data for an analysis of SMEs. SBS may be used to answer such questions as: how much wealth and how many jobs are created in an activity?; is there a shift from the industrial sector to the services sector and in which specific activities is this trend most notable?; which countries are relatively specialised in the manufacture of aerospace equipment?; what is the average wage of an employee within the hotels and restaurants sector?; how productive is the chemicals industry and how does it fare in terms of profitability? Without this information, short-term data on the economic cycle would lack background and be hard to interpret.

#### **DEFINITIONS AND DATA AVAILABILITY**

SBS covers the 'business economy', which includes industry, construction and market services (NACE Sections C to K). Note that financial services (NACE Section J) are kept separate because of their specific nature and the limited availability of most types of standard business statistics in this area. SBS does not cover agriculture, forestry and fishing, nor public administration and (largely) non-market services such as education and health. SBS describe the economy through the observation of units engaged in an economic activity, which in SBS is generally the enterprise. An enterprise carries out one or more activities at one or more locations and may comprise one or more legal units. Note that enterprises that are active in more than one economic activity (and the value added and turnover they generate and the persons they employ, etc.) will be classified under the NACE heading (Statistical Classification of Economic Activities in the European Community) which is their principal activity, normally the one that generates the largest amount of value added.

These data are collected within the framework of a Council Regulation on Structural Business Statistics (EC, EURATOM) No. 58/97 of December 1996 (and later amendments); according to the definitions, breakdowns, deadlines for data delivery, and various quality aspects specified in the Commission Regulations implementing it. Note that the breakdown of economic activities is very detailed and that the data included in the SBS domain of Eurostat's dissemination database goes into much more detail than the short set of information which can (given space constraints) be presented in this yearbook.

SBS contain a comprehensive set of basic variables describing business demographic, employment and monetary characteristics, as well as a set of derived indicators based on these, for example in the form of ratios of monetary characteristics or per head values. The variables presented in this section are defined as follows:

- The number of enterprises is a count of the number of enterprises active during at least a part of the reference period; the enterprise is the smallest combination of legal units that is an organisational unit producing goods or services, which benefits from a certain degree of autonomy in decision-making, especially for the allocation of its current resources. An enterprise carries out one or more activities at one or more locations. An enterprise may be a sole legal unit.
- Value added at factor costs is defined as the gross income from operating activities after adjusting for operating subsidies and indirect taxes; value adjustments (such as depreciation) are not subtracted.
- The number of persons employed is defined as the total number of persons who work in the observation unit (inclusive of working proprietors, partners working regularly in the unit and unpaid family workers), as well as persons who work outside the unit who belong to it and are paid by it (for example, sales representatives, delivery personnel, repair and maintenance teams); it excludes manpower supplied to the unit by other enterprises, persons carrying out repair and maintenance work in the enquiry unit on behalf of other enterprises, as well as those on compulsory military service.
- Average personnel cost (or unit labour cost) equals personnel costs divided by the number of employees (paid persons with an employment contract). Personnel costs are defined as the total remuneration, in cash or in kind, payable by an employer to an employee (regular and temporary employees as well as home workers) in return for work done by the latter during the reference period; personnel costs also include taxes and employees' social security contributions retained by the unit as well as the employer's compulsory and voluntary social contributions.
- Apparent labour productivity equals value added divided by the number of persons employed.

The SBS data collection consists of a horizontal module (Annex 1), including a set of basic statistics for all market activities, as well as six sector-specific annexes covering a more extended list of characteristics. The sector-specific annexes are: industry (Annex 2), distributive trades (Annex 3), construction (Annex 4), insurance services (Annex 5), credit institutions (Annex 6) and pension funds (Annex 7). A detailed overview of the availability of characteristics by sector is found in Commission Regulation No 2701/98 <sup>(56)</sup>.

SBS are also available broken down by region or by enterprise size class. In SBS, size classes are defined based on the number of persons employed, except for specific series within retail trade activities where turnover size classes can also be used. A limited set of the standard SBS variables (number of enterprises, turnover, persons employed, value added, etc.) is available mostly down to the 3-digit (group) level of the NACE Rev. 1.1 classification divided by size class. The number of size classes available varies according to the activity under consideration. However, the main groups used for presenting the results are:

- small and medium-sized enterprises (SMEs): with 1-249 persons employed, further divided into
  - micro enterprises: with less than 10 persons employed;
  - small enterprises: with 10 to 49 persons employed;
  - medium-sized enterprises: with 50 to 249 persons employed;
- large enterprises: with 250 or more persons employed.

Structural business statistics also provide information on a number of special topics, of which business demography is one. Business demography statistics present data on the active population of enterprises, their birth, survival (followed up to five years after birth) and death. Special attention is paid to the impact of these demographic events on employment levels. Business demography variables presented in this section are defined as follows:

- an enterprise birth amounts to the creation of a combination of production factors with the restriction that no other enterprises are involved in the event. Births do not include entries into the population due to mergers, break-ups, splitoff or restructuring of a set of enterprises. It does not include entries into a sub-population resulting only from a change of activity.
- an enterprise death amounts to the dissolution of a combination of production factors with the restriction that no other enterprises are involved in the event. An enterprise is included in the count of deaths only if it is not reactivated within two years. Equally, a reactivation within two years is not counted as a birth.
- survival occurs if an enterprise is active in terms of employment and/or turnover in the year of birth and the following year(s). Two types of survival can be distinguished: an enterprise born in year x is considered to have survived in year x+1 if it is active in terms of turnover and/or employment in any part of year x+1 (survival without change); an enterprise is also considered to have survived if the linked legal unit(s) have ceased to be active, but their activity has been taken over by a new legal unit set up specifically to take over the factors of production of that enterprise (survival by take-over). The information presented in this publication focuses on the two-year survival rate.

<sup>(56)</sup> For more information: http://circa.europa.eu/irc/dsis/bmethods/info/data/ new/2701-98en.pdf.



#### **MAIN FINDINGS**

There were just over 19 million active enterprises within the EU-27's non-financial business economy (defined as industry, construction, distributive trades and services, and therefore excluding financial and public services) in 2004. About one third (32.5 %) were active in the distributive trades sector (composed of motor trades, wholesale trade, and retail trade), which were also relatively labour-intensive activities, accounting for almost 25 % of the EU-27's non-financial business economy workforce in 2004. It should be noted, though, that the employment data presented here are head counts and not, for example, full-time equivalents, and there is a significant proportion of persons working part-time in distributive trades. The next largest number of enterprises was found in real estate, renting and business activities (using a breakdown by NACE section) and in construction. However, in terms of wealth, the manufacturing sector generated the largest proportion of the non-financial business economy value added (31.5 %), followed by real estate, renting and business activities (20.5 %).

Average personnel costs reached EUR 37 000 per employee in the EU-27's electricity, gas and water supply sector, a level that was almost 2.5 times that for hotels and restaurants and 1.6 times that for the distributive trades in 2004. The variation in wages and salaries was more marked between high-wage and low-wage countries. In manufacturing, average personnel costs were highest in Belgium at EUR 48 500 per employee, over 20 times the value recorded in the Member State with the lowest ratio, Bulgaria (EUR 2 300 per employee).

Structural business statistics broken down by enterprise size class (defined in terms of the number of persons employed) show that large enterprises were particularly dominant within mining and quarrying, electricity, gas and water supply, and transport, storage and communication. These activities are characterised by relatively high minimum efficient scales of production and/or by (transmission) networks that are rarely duplicated due to their high fixed investment cost. On the other hand, small and medium-sized enterprises (SMEs) were particularly important within the activities of construction and hotels and restaurants, where enterprises with less than 250 persons employed accounted for more than three quarters of the wealth created and the workforce.

The business demography statistics presented here (only a partial data set available) show that there are significant changes in the stock of enterprises, reflecting the level of competition and entrepreneurial spirit of the various economies. At least one out of every 10 enterprises was newly born in the Czech Republic, Hungary, Luxembourg, Bulgaria, Slovakia, Latvia, the United Kingdom, Estonia and Romania in 2004.

# SOURCES

# **Statistical books**

European business – facts and figures – 2007 edition Quarterly panorama of European business statistics

**Pocketbooks** Key figures on European business – with a special feature section on SMEs

# Methodologies and working papers

Structural business statistics – national methodologies Glossary of business statistics Business register – recommendations manual Use of administrative sources for business statistics purposes Handbook on the design and implementation of business surveys

# Dedicated sections on the Eurostat website

European business Short-term business statistics

# Website data

## Industry, trade and services - horizontal view

Short-term business statistics – monthly and quarterly (industry, construction, retail trade and other services) Structural business statistics (industry, construction, trade and services)

Special topics of structural business statistics Business demography Factors of business success Foreign control of enterprises Inter-enterprise relations Business services Demand for services Iron and steel Statistics on environment protection Intangible investment and subcontracting Purchases of energy products Distributive trades: breakdown of turnover by product Trade: other multi-yearly statistics



(%)



(1) Estimate.

Source: Eurostat (tin00050)

The number of enterprises active during at least part of the reference period.

# Table 6.1: Number of enterprises, 2004 (1 000)

							Transport,	
			Electricity,			Hotels	storage	Real estate,
			gas and		Distri-	and	and	renting and
	Mining and	Manu-	water	Con-	butive	restau-	commu-	business
	quarrying	facturing	supply	struction	trades	rants	nication	activities
EU-27	20.0	2 314.9	26.5	2 717.4	6 199.7	1 607.0	1 191.4	4 972.6
Belgium	0.2	36.9	0.1	58.8	134.8	41.9	17.6	104.8
Bulgaria	0.2	28.7	0.2	14.3	125.5	23.1	22.9	25.5
Czech Republic	0.4	151.3	1.1	150.5	227.4	50.3	46.9	251.9
Denmark	0.2	18.6	3.9	28.9	48.7	13.4	14.6	64.0
Germany	1.8	199.8	3.3	227.1	444.8	163.8	91.5	563.2
Estonia	0.1	5.0	0.3	3.1	13.7	1.5	3.0	9.1
Ireland (1)	0.1	4.5	:	0.7	30.8	14.4	7.1	29.7
Greece	0.7	87.6	0.1	107.8	305.4	95.4	70.0	145.0
Spain	2.7	222.7	3.3	377.1	809.1	279.4	225.6	534.9
France	2.8	258.4	2.4	381.5	694.5	224.5	99.5	563.1
Italy	3.5	524.4	2.5	563.1	1 260.1	259.3	157.2	969.9
Cyprus	0.1	6.2	0.0	5.2	19.7	7.2	4.0	:
Latvia	0.1	7.5	0.3	3.5	22.2	2.5	3.9	18.3
Lithuania	0.1	8.6	0.3	3.4	23.8	2.9	5.9	8.5
Luxembourg	0.0	0.9	0.2	2.0	6.9	2.7	1.0	8.4
Hungary	0.5	68.0	0.6	72.0	161.1	33.6	38.2	189.9
Malta (2)	0.1	3.8	0.0	3.9	12.9	2.8	2.5	7.2
Netherlands	0.2	46.6	0.5	72.4	158.3	36.3	27.1	143.6
Austria	0.4	28.6	1.0	24.2	76.9	44.2	14.7	74.7
Poland	1.2	207.2	1.9	160.0	611.0	56.6	142.1	277.1
Portugal	1.3	80.6	0.4	113.0	235.2	65.6	26.2	61.6
Romania	0.6	55.3	0.5	25.4	191.2	17.2	25.1	61.2
Slovenia	0.1	17.9	0.3	13.5	22.2	6.7	9.1	19.2
Slovakia	0.1	6.4	0.2	3.3	13.9	1.3	1.5	9.1
Finland	1.1	25.4	1.1	32.5	46.4	10.0	23.1	46.5
Sweden	0.6	59.0	1.3	61.0	121.3	24.1	32.0	204.8
United Kingdom	1.2	155.1	0.4	209.3	382.1	126.1	79.1	576.9
Norway	0.8	20.0	:	36.7	57.2	10.1	23.1	89.2
Switzerland (3)				34 5	71.6	16.2		29.8

Mining and quarrying, 2002.
 2002.
 Construction and distributive trades, 2001; hotels and restaurants and real estate, renting and business activities, 2003.

Source: Eurostat (tin00050)

# Table 6.2: Value added, 2004 (EUR million)

							Transport,	
			Electricity,			Hotels	storage	Real estate,
	Mining		gas and		Distri-	and	and	renting and
	and	Manu-	water	Con-	butive	restau-	commu-	business
	quarrying	facturing	supply	struction	trades	rants	nication	activities
EU-27	69 000	1 604 835	170 000	433 357	999 711	163 521	613 137	1 043 731
Belgium	294	46 461	5 540	9 898	29 901	3 372	19 140	24 513
Bulgaria	307	2 730	930	479	1 348	224	1 758	513
Czech Republic	1 054	21 151	3 058	4 081	8 957	1 037	6 313	6 844
Denmark	4 2 1 9	25 482	2 990	8 052	20 020	2 055	15 022	24 329
Germany	6 486	426 680	40 098	56 563	185 079	20 852	117 999	214 702
Estonia	78	1 393	271	399	1 148	114	827	846
Ireland (1)	403	35 651	:	5 351	14 252	2 952	9 841	13 435
Greece	808	14 171	3 231	7 150	23 695	3 060	9 533	7 554
Spain	2 329	117 954	13 389	74 871	93 427	22 254	51 954	82 535
France	3 227	209 892	23 698	59 979	143 082	25 620	91 713	160 910
Italy	6 408	207 570	16 485	52 870	102 928	18 666	71 001	91 277
Cyprus	39	1 058	261	973	1 497	811	975	:
Latvia	23	1 336	329	394	1 595	101	974	590
Lithuania	77	2 238	553	633	1 585	97	1 143	648
Luxembourg	30	2 596	237	1 359	2 138	477	2 382	2 942
Hungary	148	14 997	2 264	1 958	6 044	579	5 067	5 047
Malta (2)	7	808	86	148	524	281	743	330
Netherlands	5 367	56 568	4 644	22 127	53 182	6 035	31 372	54 706
Austria	844	39 364	5 034	11 646	24 326	5 705	14 727	21 149
Poland	4 997	42 459	7 669	5 709	20 477	1 068	12 044	10 356
Portugal	635	19 002	3 450	7 101	15 508	2 739	8 621	7 425
Romania	1 782	7 814	1 437	1 258	3 786	311	3 396	1 800
Slovenia	112	5 816	576	1 083	2 659	370	1 446	1 450
Slovakia	153	5 326	2 021	598	2 259	120	1 497	1 2 2 2
Finland	288	29 799	3 042	6 065	12 525	1 633	8 767	10 643
Sweden	846	50 805	6 299	10 369	26 959	3 002	15 560	34 202
United Kingdom	28 411	215 805	24 596	82 281	200 811	40 152	109 755	263 282
Norway	42 42 1	18 075	:	7 660	16 678	2 031	14 707	17 727
Switzerland (3)	:	:	:	15 062	34 447	6 577	:	26 928

Mining and quarrying, 2002.
 2002.
 Construction and distributive trades, 2001; hotels and restaurants and real estate, renting and business activities, 2003.

Source: Eurostat (tin00002)

Value added represents the difference between the value of what is produced and intermediate consumption entering the production, less subsidies on production and costs, taxes and levies.

# Table 6.3: Number of persons employed, 2004 (1 000)

							Transport,	
			Electricity,			Hotels	storage	Real estate,
	Mining		gas and		Distri-	and	and	renting and
	and	Manu-	water	Con-	butive	restau-	commu-	business
	quarrying	facturing	supply	struction	trades	rants	nication	activities
EU-27	800	35 262	1 700	13 178	30 592	8 677	11 724	22 911
Belgium	4	623	25	245	606	154	275	451
Bulgaria	31	644	60	135	442	106	215	138
Czech Republic	48	1 363	65	395	709	172	349	472
Denmark	3	417	17	176	430	95	188	333
Germany	96	7 228	284	1 624	4 464	1 164	1 849	3 979
Estonia	6	130	9	37	93	16	43	51
Ireland (1)	6	221	:	47	280	141	93	186
Greece	13	402	25	296	892	278	253	276
Spain	42	2 584	65	2 456	3 208	1 161	990	2 334
France	39	3 888	196	1 548	3 255	884	1 571	2 905
Italy	41	4 673	118	1 748	3 329	1 036	1 196	2 545
Cyprus	1	40	2	33	56	32	22	:
Latvia	3	168	17	54	171	24	79	77
Lithuania	3	264	28	90	224	30	91	65
Luxembourg	0	38	1	33	42	15	23	52
Hungary	6	835	59	238	590	125	277	443
Malta (2)	0	32	3	13	28	18	14	13
Netherlands	9	786	28	455	1 326	303	462	1 2 3 9
Austria	6	621	32	252	598	227	250	369
Poland	193	2 482	213	614	2 126	212	733	910
Portugal	14	866	25	459	800	236	184	359
Romania	145	1 689	163	382	841	104	357	319
Slovenia	4	240	12	64	106	28	52	62
Slovakia	10	401	42	63	164	19	104	91
Finland	4	410	15	129	253	52	157	194
Sweden	8	807	30	241	572	119	297	506
United Kingdom	65	3 409	134	1 347	4 989	1 923	1 602	4 523
Norway	33	259	:	143	349	80	162	227
Switzerland (3)	:	:	:	274	522	172	:	323

Mining and quarrying, 2002.
 2002.
 Construction and distributive trades, 2001; hotels and restaurants and real estate, renting and business activities, 2003.

Source: Eurostat (tin00004)

The number of persons employed is defined as the total number of persons working in the various industries: employees, non employees (e.g. family workers, delivery personnel) with the exception of agency workers.

# Table 6.4: Average personnel costs, 2004

(EUR 1 000 per employee)

							Transport,	
		I	Electricity,			Hotels	storage	Real estate,
			gas and		Distri-	and	and	renting and
	Mining and	Manu-	water	Con-	butive	restau-	commu-	business
	quarrying	facturing	supply	struction	trades	rants	nication	activities
EU-27	26.0	31.0	37.0	26.6	22.8	14.9	31.7	30.1
Belgium	44.3	48.5	83.8	36.3	37.3	18.2	45.2	42.4
Bulgaria	4.7	2.3	5.6	2.2	1.7	1.3	3.8	2.4
Czech Republic	11.6	8.8	12.2	8.9	8.6	5.2	10.0	10.7
Denmark	59.9	43.1	45.5	39.0	33.5	16.6	43.1	37.7
Germany	48.4	45.2	60.2	32.1	27.3	12.9	34.3	29.9
Estonia	8.2	6.8	9.2	7.1	6.7	4.5	8.1	7.5
Ireland (1)	43.5	39.1	:	43.7	25.9	16.2	51.1	34.7
Greece	39.9	23.2	41.9	17.4	17.9	14.3	31.7	29.0
Spain	31.8	28.7	48.2	24.6	21.3	16.4	30.1	22.0
France	42.7	40.7	63.7	35.2	33.1	24.8	40.5	41.5
Italy	45.3	32.2	48.7	26.0	27.2	18.0	36.6	27.0
Cyprus	25.6	17.3	37.0	21.2	18.5	17.8	29.2	:
Latvia	4.7	3.9	7.2	3.4	3.2	2.3	5.0	4.4
Lithuania	7.3	4.7	7.7	4.8	3.9	2.6	5.6	5.1
Luxembourg	42.0	44.9	70.6	33.6	35.9	24.6	50.3	35.4
Hungary	11.7	9.2	14.9	6.0	7.0	4.6	11.0	8.3
Malta (2)	10.2	14.2	17.8	9.2	10.4	7.6	15.2	11.5
Netherlands	68.7	44.9	54.7	45.0	26.6	15.0	39.3	30.5
Austria	55.6	41.6	64.8	35.5	30.5	21.5	39.0	36.1
Poland	14.1	6.6	11.0	5.8	5.3	3.9	8.2	6.7
Portugal	17.1	13.9	36.5	12.6	13.7	9.4	24.4	15.5
Romania	5.6	2.6	4.4	2.4	2.0	1.8	4.0	2.7
Slovenia	24.7	16.2	22.5	13.9	15.8	11.4	18.8	18.2
Slovakia	7.3	6.9	10.0	6.3	6.6	4.4	7.8	8.0
Finland	38.5	41.8	46.2	35.7	32.7	25.3	37.3	38.2
Sweden	52.1	47.3	59.5	39.2	38.6	24.3	42.3	47.3
United Kingdom	63.1	38.1	48.6	36.4	22.8	12.6	39.7	35.3
Norway	97.9	49.0	:	45.6	34.5	22.4	46.4	47.4

Mining and quarrying, 2002.
 2002.

Source: Eurostat (tin00049)

Personnel costs are the total remuneration, in cash or in kind, payable by an employer to an employee for work carried out. This is divided by the number of employees (paid workers), which includes part-time workers, seasonal workers etc, but excludes persons on long-term leave.

# **Figure 6.2: Average personnel costs, EU-27, 2004** (EUR 1 000 per employee)



Estimate.
 Source: Eurostat (tin00049)

# Figure 6.3: Value added by enterprise size class, EU-27, 2004 (1) (% of sectoral total)



(1) Mining and quarrying, not available due to incomplete data. Source: Eurostat (tin00053)
## Figure 6.4: Employment by enterprise size class, EU-27, 2004 (1)

(% of sectoral total)



(1) Mining and quarrying, not available due to incomplete data. Source: Eurostat (tin00052)

#### **Figure 6.5: Apparent labour productivity by enterprise size class, EU-27, 2004 (1)** (EUR 1 000 per person employed)



(1) Mining and quarrying, not available.

Source: Eurostat (tin00054)

This is a simple indicator of productivity calculated as value added at factor cost divided by persons employed.

	Share in total value added (%)							
	Value added (EUR million)	Micro (1 to 9 persons employed)	Small (10 to 49 persons employed)	Medium-sized (50 to 249 persons employed)	Large (250+ persons emploved)			
EU-27 (1)	5 100 000	20.2	18.8	17.8	43.1			
Belgium	139 118	18.8	:	18.9	:			
Bulgaria	8 288	14.3	15.8	19.3	50.5			
Czech Republic	52 495	19.8	16.7	20.2	43.3			
Denmark	102 168	23.4	:	20.9	:			
Germany	1 068 460	15.2	17.7	:	:			
Estonia	5 076	21.5	23.7	:	:			
Ireland	:	:	:	:	:			
Greece	69 200	38.6	:	:	:			
Spain	458 712	27.3	23.6	17.2	31.9			
France	718 122	19.4	18.3	16.0	46.3			
Italy	567 204	30.8	23.3	16.3	29.7			
Cyprus	:	:	:	:	:			
Latvia	5 340	14.3	:	:	:			
Lithuania	6 973	9.3	21.7	25.7	43.3			
Luxembourg	12 160	21.8	:	:	:			
Hungary	35 333	16.7	:	:	48.1			
Malta	:	:	:	:	:			
Netherlands	234 001	17.9	:	21.3	39.6			
Austria	122 795	18.4	20.5	:	:			
Poland	104 778	16.5	10.7	20.6	52.2			
Portugal	64 481	:	:	:	:			
Romania	21 583	12.3	13.1	19.1	55.5			
Slovenia	13 511	19.5	:	21.6	:			
Slovakia	13 195	:	:	17.3	57.6			
Finland	72 762	18.6	:	:	:			
Sweden	147 878	21.1	17.5	17.9	43.5			
United Kingdom	965 093	17.8	16.1	16.8	49.3			

Table 6.5: Value added by enterprise size class, non-financial business economy, 2004

(1) Rounded estimates based on non-confidential data.

Source: Eurostat (tin00053)

# Table 6.6: Number of persons employed by enterprise size class, non-financial business economy, 2004

	_	Share in total employment (%)							
	Number of	Micro (1 to 9	Small (10 to 49	Medium-sized (50 to 249	Large (250+				
	persons employed	persons	persons	persons	persons				
	(1 000)	employed)	employed)	employed)	employed)				
EU-27 (1)	125 000	29.5	20.8	16.8	33.0				
Belgium	2 383	29.6	:	15.5	:				
Bulgaria	1 771	29.3	21.3	21.0	28.3				
Czech Republic	3 573	31.8	18.4	18.7	31.1				
Denmark	1 660	20.0	:	21.1	:				
Germany	20 687	19.2	21.9	19.0	39.9				
Estonia	384	23.2	27.7	:	:				
Ireland	:	:	:	:	:				
Greece	2 435	59.6	:	:	:				
Spain	12 839	38.9	25.5	14.7	20.9				
France	14 287	23.6	20.6	16.7	39.1				
Italy	14 687	46.9	21.9	12.4	18.8				
Cyprus	:	:	:	:	:				
Latvia	593	22.6	26.2	26.3	25.0				
Lithuania	794	17.0	26.4	27.9	28.7				
Luxembourg	204	19.7	:	:	:				
Hungary	2 474	37.3	:	:	27.8				
Malta	:	:	:	:	:				
Netherlands	4 609	29.2	20.9	17.3	32.6				
Austria	2 354	25.2	23.4	:	:				
Poland	7 484	40.1	11.7	18.5	29.7				
Portugal	2 944	:	:	:	:				
Romania	4 00 1	18.5	17.2	22.5	41.8				
Slovenia	568	:	:	:	:				
Slovakia	895	:	:	22.5	48.8				
Finland	1 2 1 4	22.3	:	:	:				
Sweden	2 578	26.3	20.3	17.7	35.8				
United Kingdom	17 993	21.1	18.0	14.8	46.1				

(1) Rounded estimates based on non-confidential data.

Source: Eurostat (tin00052)



#### Figure 6.6: Enterprise birth rates in the business economy, 2004

(% of enterprise births among active enterprises)

(1) Estimate.

- (2) 2003.
- (3) Not available.(4) 2001.

Source: Eurostat (tsier081)

A birth amounts to the creation of a combination of production factors with the restriction that no other enterprises are involved in the event. Births do not include entries into the population due to mergers, break-ups, split-off or restructuring of a set of enterprises. It does not include entries into a sub-population resulting only from a change of activity. A birth occurs when an enterprise starts from scratch and actually starts activity. An enterprise creation can be considered an enterprise birth if new production factors, in particular new jobs, are created. If a dormant unit is reactivated within two years, this event is not considered a birth.



#### Figure 6.7: Enterprise death rates in the business economy, 2004

(% of enterprise deaths among active enterprises)

(1) Estimate.

(2) Estimate, 2003(3) 2002.

(4) 2003

(5) Not available

Source: Eurostat (tsier083)

A death amounts to the dissolution of a combination of production factors with the restriction that no other enterprises are involved in the event. Deaths do not include exits from the population due to mergers, take-overs, break-ups or restructuring of a set of enterprises. It does not include exits from a sub-population resulting only from a change of activity. An enterprise is included in the count of deaths only if it is not reactivated within two years. Equally, a reactivation within two years is not counted as a birth.

1 -



(% of all enterprise births of year n-2 which are still active in year n)



(1) Estimate.

- (2) 2003.
- (3) Not available

Source: Eurostat (tsier082)

In the business demography context, survival occurs if an enterprise is active in terms of employment and/or turnover in the year of birth and the following year(s). Two types of survival can be distinguished: a) an enterprise born in year nn is considered to have survived in year nn + 1 if it is active in terms of turnover and/or employment in any part of year nn + 1 (= survival without changes); b) an enterprise is also considered to have survived if the linked legal unit(s) have ceased to be active, but their activity has been taken over by a new legal unit set up specifically to take over the factors of production of that enterprise (= survival by take-over).



# Figure 6.9: Venture capital investments, early stage, 2006 (% of GDP)

(1) Estimate.

(2) EA-12; estimate, 2005.

(3) 2005.(4) Not available.

Source: Eurostat (tsiir061), EVCA, PriceWaterhouseCoopers

Venture capital investment is defined as private equity raised for investment in companies; management buyouts, management buyins and venture purchase of quoted shares are excluded. Data are broken down into two investment stages: a) early stage (seed + start-up); and b) expansion and replacement (expansion and replacement capital). n.b.: GDP = gross domestic product at market prices.

<sup>(4) 2001.</sup> 



#### Figure 6.10: Venture capital investments, expansion and replacement, 2006 (% of GDP)

(1) EA-12; estimate, 2005

(2) 2005.

(3) Not available

Source: Eurostat (tsiir062), EVCA, PriceWaterhouseCoopers

#### 6.2 INDUSTRY AND CONSTRUCTION

#### **INTRODUCTION**

In its mid-term review of industrial policy (57), the European Commission identified globalisation and technological change as key challenges for European industry. Industrial policy within the EU is designed to complement measures taken by the Member States. Whether or not a business succeeds depends ultimately on the vitality and strength of the business itself, but the environment in which it operates can help or harm its prospects, in particular when faced with the challenges of globalisation and intense international competition.

A Communication on industrial policy in 2005 was based for the first time on an integrated approach; addressing sector-specific as well as horizontal issues. Since this date, the overall performance of European industry continued to develop favourably against a background of an increasingly integrated world and an accelerating pace of technological change. The Commission's new industrial policy includes seven new initiatives on competitiveness, energy and the environment, intellectual property rights, better regulation, industrial research and innovation, market access, skills, and managing structural change. Seven additional initiatives are targeted at key strategic sectors, including pharmaceuticals, defence-related industries, and information and communication technologies.

#### **DEFINITIONS AND DATA AVAILABILITY**

For background information relating to structural business statistics (SBS), including definitions of value added and persons employed, refer to the section entitled 'definitions and data availability' in the previous section (6.1 Business structures). Additional variables presented in this section are defined as follows:

- The wage adjusted labour productivity ratio is defined as: (value added at factor cost/personnel costs) \* (number of employees/number of persons employed); expressed as a percentage. It can also be calculated by dividing apparent labour productivity by average personnel costs.
- The gross operating rate is defined as: the share of the gross operating surplus in turnover (it is one measure of profitability); the gross operating surplus is the surplus generated by operating activities after the labour factor input has been recompensed (it can be calculated from value added at factor cost less personnel costs); turnover (often referred to as sales) is used to remunerate production factors, capital in the form of the gross operating surplus, and labour in the form of the personnel costs; capital-intensive activities will tend to report higher shares of the gross operating surplus in turnover.

<sup>(57)</sup> COM(2007)374; for more information: http://ec.europa.eu/enterprise/ enterprise\_policy/industry/doc/mtr\_in\_pol\_en.pdf.

PRODCOM is a system for the collection and dissemination of statistics on the production of manufactured goods, both in value and volume terms. It is based on a product classification called the Prodcom List which consists of about 4 500 headings relating to manufactured products. These products are detailed at an 8-digit level, with 1 to 4-digits referring to the NACE classification in which the producing enterprise is normally classified, while most headings correspond to one or more combined nomenclature (CN) codes.

Aside from SBS and PRODCOM, a large proportion of the statistics presented in this section are derived from short-term business statistics (STS). Among these, some of the most important indicators are a set of principal European economic indicators (PEEIs) that are essential to the European Central Bank (ECB) for reviewing monetary policy within the euro area. These short-term statistics give information on a wide range of economic activities according to the NACE Rev. 1.1 classification. They are based on surveys and administrative sources. The Member States are encouraged to transmit seasonally adjusted data and trend-cycle indices. If they do not, Eurostat calculates the seasonal adjustment using the methods TRAMO (Time Series Regression with ARIMA Noise, Missing Observations, and Outliers) and SEATS (Signal Extraction in ARIMA Time Series). The national statistical institutes are responsible for data collection and the calculation of national indices, in accordance with EC Regulations. Eurostat is responsible for euro area and EU aggregations.

Short-term business statistics are collected within the scope of the STS regulation <sup>(58)</sup>. Despite major changes brought in by the STS regulation, and improvements in the availability and timeliness of indicators that followed its implementation, strong demands for further development were voiced even as the STS regulation was being adopted. The emergence of the ECB fundamentally changed expectations as regards STS. As a result, the STS regulation was amended by Regulation (EC) No 1158/2005 of the European Parliament and of the Council of 6 July 2005 amending Council Regulation (EC) No 1165/98 concerning short-term statistics. Among the main changes introduced were:

- new indicators for the purpose of analysis, namely the introduction of industrial import prices, services output prices, and the division of non-domestic turnover, new orders and industrial output prices between euro area and non-euro area countries;
- more timely data, by shortening deadlines for the delivery of the industrial and construction production indices, the retail trade and services turnover (and volume of sales) indices, and employment indices for all activities;
- more frequent data, increasing the frequency of the index of production for construction to monthly from quarterly.

The production index provides a measure of the volume trend in value added at factor cost over a given reference period. The index of production should take account of:

- variations in type and quality of the commodities and of the input materials;
- changes in stocks of finished goods and services and work in progress;
- changes in technical input-output relations (processing techniques);
- services such as the assembling of production units, mounting, installations, repairs, planning, engineering, creation of software.

The data necessary for the compilation of such an index are generally not available on a sub-annual basis. In practice, suitable proxy values for the compilation of the indices are needed. Within industry these may include gross production values (deflated), volume data, turnover (deflated), work input, raw material input, or energy input, while within construction they may include input data (consumption of typical raw materials, energy or labour) or output data (production quantities, deflated production values, or deflated sales values).

The building construction production index and the civil engineering production index is a split of construction production between building construction and civil engineering according to the Classification of types of Construction (CC); the aim of the indices is to show the evaluation of value added for each of the two main parts of construction.

The output price index (sometimes referred to as the producer price index) shows monthly price changes in the industrial sector, which can be an indicator of inflationary pressure before it reaches the consumer. The appropriate price is the basic price that excludes VAT and similar deductible taxes directly linked to turnover, as well as all duties and taxes on the goods and services invoiced by the unit, whereas subsidies on products received by the producer, if there are any, should be added. The price should refer to the moment when the order is made, not the moment when the commodities leave the factory gates. Output price indices are compiled for the total, domestic and non-domestic market, with the latter further split between euro area and noneuro area markets (the information presented in this publication refers only to price developments within the domestic market). All price-determining characteristics should be taken into account, including the quantity of units sold, transport provided, rebates, service conditions, guarantee conditions and destination.

<sup>(58)</sup> Council Regulation (EC) No 1165/98 of 19 May 1998 concerning short-term statistics.



#### **MAIN FINDINGS**

The EU-27's basic metals and fabricated metal products sector generated almost 12% of the industrial (mining and quarrying, manufacturing and energy activities) value added in 2004, while food products, beverages and tobacco and electrical and optical equipment generated respectively around 11 % and 10 % of the total. The same three industrial activities were the largest employers as basic metals and fabricated metal products and food products, beverages and tobacco each employed around 13 % of total industrial workforce, while machinery and equipment and electrical and optical equipment each accounted for another 10 % of the total.

Based on PRODCOM data, transport equipment products dominated the list of the most sold manufacturing products in value terms in the EU-27 in 2006, occupying the first two places, with a further five products among the top 20.

Industrial production and domestic output prices both followed an upward path during most of the last 10 years, although there was a decline in activity evident for the EU-27's index of production during 2001. Otherwise, there was a marked increase in prices from 2004 onwards, largely resulting from increases in the price of oil and associated energy-related and intermediate products. Industrial price increases in 2006 were most apparent in Luxembourg, Romania, Bulgaria and the United Kingdom.

#### SOURCES

#### **Statistical books**

European business – facts and figures – 2007 edition Quarterly panorama of European business statistics

#### **Pocketbooks**

Key figures on European business – with a special feature section on SMEs 50 years of the ECSC treaty – coal and steel statistics

#### Methodologies and working papers

Structural business statistics – national methodologies Glossary of business statistics Methodology of industrial short-term statistics – rules and recommendations Methodology of short-term business statistics – associated documents Methodology of short-term business statistics – interpretation and guidelines National PRODCOM methodologies

#### **Dedicated sections on the Eurostat website**

European business Short-term business statistics Statistics by product (Prodcom)

#### Website data

#### Industry, trade and services - horizontal view

Short-term business statistics – monthly and quarterly (industry, construction, retail trade and other services) Structural business statistics (industry, construction, trade and services) Special topics of structural business statistics

#### Industry and construction

Industry (NACE Rev. 1 C-F) Construction (NACE Rev. 1 F) – building and civil engineering Annual enterprise statistics on industry and construction Iron and steel

Statistics on the production of manufactured goods

## Figure 6.11: Breakdown of industrial value added, EU-27, 2004

(% of industrial value added)



(1) Estimate.

Source: Eurostat (ebd\_all)

# Figure 6.12: Breakdown of industrial employment, EU-27, 2004 (1)

(% of industrial employment)



(1) Excluding coke, refined petroleum products and nuclear fuel.

(2) Estimate.

Source: Eurostat (ebd\_all)

# Figure 6.13: Wage adjusted labour productivity ratio for industrial activities, EU-27, 2004 $_{(\%)}$



(1) Estimate.(2) Not available

Source: Eurostat (ebd\_all)

# Figure 6.14: Gross operating rate for industrial activities, EU-27, 2004 (%)



(1) Estimate.

(2) Not available.

Source: Eurostat (ebd\_all)

# Figure 6.15: Industrial value added by enterprise size class, EU-27, 2004 (1)

(% of sectoral total)



 Large (250 or more bersons employed)
(1) Includes rounded estimates based on non-confidential data; coke, refined petroleum products and nuclear fuel and transport equipment, incomplete data.

Source: Eurostat (tin00053)

Table 6.7: Selected manufacturing products sold in value	terms, EU-27, 2006 (1)
--	------------------------

PRODCOM		Value
code	Label	(EUR million)
	Motor vehicles with a petrol engine > 1 500 cm <sup><math>3</math></sup> (including motor caravans of a capacity	
	> 3 000 cm <sup>3</sup> ) (excluding vehicles for transporting >= 10 persons, snowmobiles, golf cars and	
34.10.22.30	similar vehicles)	119 405
	Motor vehicles with a diesel or semi-diesel engine > 1 500 cm <sup>3</sup> but <= 2 500 cm <sup>3</sup> (excluding	
	vehicles for transporting >= 10 persons, motor caravans, snowmobiles, golf cars and similar	
34.10.23.30	vehicles)	96 646
	Beer made from malt (excluding non-alcoholic beer, beer containing <= 0.5 % by volume of	
15.96.10.00	alcohol, alcohol duty)	29 320
32.20.11.70	Radio transmission apparatus with reception apparatus	26 906
	Fresh bread containing by weight in the dry matter state <= 5 % of sugars and <= 5 % of fat	
15.81.11.00	(excluding with added honey; eggs; cheese or fruit)	23 219
26.63.10.00	Ready-mixed concrete	22 686
	Grated; powdered; blue-veined and other non-processed cheese (excluding fresh cheese;	
15.51.40.50	whey cheese and curd)	21 623
21.21.13.00	Cartons; boxes and cases of corrugated paper or paperboard	18 809
15.81.12.00	Cake and pastry products; other baker's wares with added sweetening matter	18 201
15.13.12.15	Sausages not of liver	17 686
	Goods vehicles with a diesel or semi-diesel engine, of a gross vehicle weight <= 5 tonnes	
34.10.41.10	(excluding dumpers for off-highway use)	16 850
	Motor vehicles with a diesel or semi-diesel engine <= 1 500 cm <sup>3</sup> (excluding vehicles for	
34.10.23.10	transporting >= 10 persons, snowmobiles, golf cars and similar vehicles)	16 241
26.51.12.30	Grey Portland cement (including blended cement)	15 226
	Hot rolled flat products in coil (wide strip) of a width of 600 mm or more (of steel other than	
27.10.60.20	of stainless steel or of high speed steel)	14 801
	Vehicle compression-ignition internal combustion piston engines (diesel or semi-diesel)	
34.10.13.00	(excluding for railway or tramway rolling stock)	14 712
26.61.12.00	Prefabricated structural components for building, of cement	13 448
	Cigarettes containing tobacco or mixtures of tobacco and tobacco substitutes (excluding	
16.00.11.50	tobacco duty)	13 198
34.10.12.00	Vehicle reciprocating piston engines of a cylinder capacity > 1 000 cm <sup>3</sup>	12 581
	Motor vehicles with a diesel or semi-diesel engine > 2 500 cm <sup>3</sup> (excluding vehicles for	
34.10.23.40	transporting >= 10 persons, motor caravans, snowmobiles, golf cars and similar vehicles)	12 489
15.11.11.90	Fresh or chilled cuts of beef and veal	12 442
(1) Based on top p	roducts in value terms; excluding products of a generic nature (other), sales of services such as repair,	

 Based on top products in value terms; excluding products of a generic nature (other), sales of services such as repair, maintenance and installation; estimates.

Source: Eurostat (PRODCOM)

PRODCOM		Quantity	
code	Label	(1 000)	Unit
26.51.12.30	Grey Portland cement (including blended cement)	216 023 151	kg
27.10.32.10	Flat semi-finished products (slabs) (of stainless steel)	597 873	kg
15.93.11.30	Champagne (important: excluding alcohol duty)	244 285	litres
24.52.11.50	Perfumes	34 543	litres
24.11.11.70	Oxygen	27 356 790	m³
	Coniferous wood; sawn or chipped lengthwise; sliced or peeled;		
20.10.10.34	of a thickness > 6 mm; planed (excluding end-jointed or sanded)	19 068	m³
	Cigarettes containing tobacco or mixtures of tobacco and		
16.00.11.50	tobacco substitutes (excluding tobacco duty)	795 919 685	number
	Flat panel colour TV receivers, LCD/plasma, etc. excluding television		
	projection equipment, apparatus with video recorder/player,		
32.30.20.60	video monitors, television receivers with integral tube	13 304	number
(1) Illustration; estimate	es.		

#### Table 6.8: Selected manufacturing products sold in volume terms, EU-27, 2006 (1)

Source: Eurostat (PRODCOM)





(1) Trend cycle.
(2) Gross series.

Source: Eurostat (ebt\_inpr\_mtr and ebt\_inpp\_mdm)

#### Table 6.9: Annual growth rates for industry (%)

	Index of production (1)			Domestic output price index (2)				
	2004	2005	2006	2004	2005	2006		
EU-27	2.4	1.2	3.9	3.0	5.3	5.9		
Euro area	2.2	1.3	4.0	2.3	4.1	5.1		
Belgium	3.2	-0.4	5.1	4.5	2.2	4.8		
Bulgaria	17.3	6.8	5.9	6.0	6.9	9.2		
Czech Republic	9.2	6.7	11.4	5.7	3.0	1.6		
Denmark	-0.2	1.8	3.5	3.0	9.4	7.6		
Germany	3.1	3.3	5.9	1.6	4.6	5.5		
Estonia	9.7	11.1	7.5	:	:	:		
Ireland	0.3	3.0	5.1	0.5	2.1	1.8		
Greece	1.2	-0.9	0.5	3.5	5.9	6.9		
Spain	1.6	0.6	3.9	3.4	4.9	5.3		
France	2.0	0.2	0.9	2.0	3.0	3.4		
Italy	-0.3	-0.8	2.6	2.7	4.0	5.6		
Cyprus	1.5	0.8	3.4	5.9	5.1	3.9		
Latvia	6.8	5.6	5.7	:	:	:		
Lithuania	10.8	7.1	7.3	2.4	5.9	6.7		
Luxembourg	4.0	0.7	2.3	9.0	3.9	13.1		
Hungary	6.7	7.2	10.8	8.4	8.3	8.4		
Malta	:	:	:	:	:	:		
Netherlands	4.1	-1.1	1.2	2.6	7.1	8.2		
Austria	6.3	4.2	8.2	1.8	3.3	2.1		
Poland	12.2	4.6	12.2	7.6	2.1	2.5		
Portugal	-2.7	0.3	2.7	2.7	4.1	4.7		
Romania	4.5	2.4	7.7	18.5	12.5	12.0		
Slovenia	4.6	3.9	6.5	4.3	2.7	2.4		
Slovakia	4.1	3.8	9.9	3.4	4.7	8.4		
Finland	4.9	0.3	8.1	-0.5	1.8	5.2		
Sweden	3.9	1.8	4.1	2.0	3.8	5.9		
United Kingdom	0.4	-1.3	0.2	4.3	10.9	9.0		
Croatia	3.0	5.4	4.6	3.5	3.0	2.9		
Turkey	9.8	5.7	5.8	:	:	:		
Norway	2.3	-0.8	-2.4	3.6	6.0	8.8		
Switzerland	4.4	2.7	7.8	:	:	:		
Japan	5.3	1.2	4.6	:	:	:		
United States	2.5	3.3	3.9	:	:	:		

Working day adjusted.
Gross series.

Source: Eurostat (ebt\_inpr\_awd and ebt\_inpp\_a)

Figure 6.17: Average annual growth rate for the industrial index of production, EU-27, 2001-06 (1) (%)



(1) Working day adjusted.

Source: Eurostat (ebt\_inpr\_awd)



Figure 6.18: Index of production, construction, EU-27 (1) (2000=100)

(1) Trend cycle.

(2) Estimates, January to May 2007.(3) Estimates, April and May 2007.

Source: Eurostat (ebt\_copr\_m)



#### **INTRODUCTION**

Services accounted for 71.7 % of gross value added in the EU-27 in 2006, and a similar (and rising) proportion of overall employment. The relative importance of services in total value added ranged from almost 56 % of the economy in Romania (2005) to upwards of 75 % in France, Cyprus and the United Kingdom, rising to a high of 85 % in Luxembourg.

The internal market is one of the EU's most important and continuing priorities. The central principles governing the internal market for services are set out in the EC Treaty, which guarantees EU companies the freedom to establish themselves in other Member States, and the freedom to provide services on the territory of another Member State other than the one in which they are established. The objective of the Services Directive (59) is to eliminate obstacles to trade in services, thus allowing the development of cross-border operations. It is intended to improve the competitiveness not just of service enterprises, but also of European industry as a whole. The directive was adopted by the European Parliament and the Council in December 2006 and will have to be transposed by the Member States by the end of 2009. It is hoped that the directive will help realise potential economic growth and job creation associated with the services sector in Europe. For this reason, the directive is seen as a central element of the renewed Lisbon strategy for growth and jobs. Moreover, by providing for administrative simplification, it also supports the better regulation agenda.

#### **DEFINITIONS AND DATA AVAILABILITY**

For background information relating to structural business statistics (SBS), refer to the section entitled 'definitions and data availability' in section 6.1 (business structures), which includes definitions of value added and persons employed, while definitions of wage adjusted labour productivity and gross operating rate are available in section 6.2 (industry and construction).

For background information relating to short-term business statistics (STS), refer to the section entitled 'definitions and data availability' in section 6.2 on industry and construction.

Turnover comprises the totals invoiced by the observation unit during the reference period, and this corresponds to market sales of goods or services supplied to third parties. Turnover also includes all other charges (transport, packaging, etc.) passed on to the customer, even if these charges are listed separately in the invoice. Turnover excludes VAT and other similar deductible taxes directly linked to turnover as well as all duties and taxes on the goods or services invoiced by the unit. Reductions in prices, rebates and discounts as well as the value of returned packing must be deducted. Price reductions, rebates and bonuses conceded later to clients, for example at the end of the year, are not taken into account.

The retail trade turnover indices are business cycle indicators which show the monthly activity of the retail sector in value and volume. The volume measure of the retail trade turnover index is more commonly referred to as the index of the volume of (retail) sales. Retail trade turnover indices are short-term indicators for final domestic demand. In order to eliminate the price effect on turnover in retail trade, the short-term statistics regulation also requires a deflator of sales. The deflator of sales in retail trade is a deflator not of the service provided but of the goods sold. The prices used to calculate the deflator for an activity are calculated as a weighted average of the relevant goods price indices for that activity. It is essential that all price-determining characteristics of the products are taken into account, including quantity of units sold, transport provided, rebates, guarantee conditions and destination.

#### **MAIN FINDINGS**

Business services play a particularly important role in the services economy. Many of the activities covered by this sector of the economy (computer services and other business activities such as legal, accounting, market research, advertising, industrial cleaning and security services) have benefited from the outsourcing phenomenon, which may explain their rapid growth.

Within the non-financial services, other business activities contributed more than one fifth of the wealth generated in the EU-27 in 2004, in terms of value added. Wholesale trade and retail trade contributed respectively another 16 % and 14 %. However, retail trade and other business activities accounted for similar proportions of the EU-27's total workforce in the non-financial services (23 % each) in 2004.

Over the five years from 2001 to 2006, land, air and water transports had the fastest growing turnover among the non-financial services activities (in terms of NACE divisions), with average growth rates of 5.4 % or more per annum over this period of time.

<sup>(59)</sup> Directive 2006/123/EC of the European Parliament and of the Council of 12 December 2006 on services in the internal market; for more information: http://eur-lex.europa.eu/LexUriServ/ LexUriServ.do?uri=CELEX:32006L0123:EN:NOT.

# 6 Industry and services

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European business – facts and figures – 2007 edition Quarterly panorama of European business statistics Business services – an analysis of structural, foreign affiliates and business demography statistics

#### Pocketbooks

Key figures on European business - with a special feature section on SMEs

#### Methodologies and working papers

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#### Dedicated sections on the Eurostat website

European business Short-term business statistics

#### Website data

#### Industry, trade and services – horizontal view

Short-term business statistics – monthly and quarterly (industry, construction, retail trade and other services) Structural business statistics (industry, construction, trade and services) Special topics of structural business statistics

#### Distributive trade

Trade and other services (NACE Rev. 1 G-K)

Annual enterprise statistics on trade

#### Services

Annual enterprise statistics on services Business services Demand for services Telecommunication services Financial services

## Figure 6.19: Breakdown of non-financial services value added, EU-27, 2004

(% of non-financial services value added)



<sup>(1)</sup> Estimate.

# Figure 6.20: Breakdown of non-financial services employment, EU-27, 2004

(% of non-financial services employment)



(1) Estimate.

Source: Eurostat (ebd\_all)

Source: Eurostat (ebd\_all)





Source: Eurostat (ebd\_all)

Figure 6.22: Gross operating rate for non-financial service activities, EU-27, 2004 (%)



(1) Estimate.

Source: Eurostat (ebd\_all)



# Figure 6.23: Non-financial services value added by enterprise size class, 2004

(% of sectoral total)



(3) Incomplete data.(4) Not available.

Source: Eurostat (tin00053)

Figure 6.24: Average annual growth rate of turnover, selected service activities, EU-27, 2001-2006 (1) (%)



(1) Working day adjusted; estimates for 2006.

Source: Eurostat (ebt\_ts\_othsv , ebt\_ts\_mot , ebt\_ts\_who and ebt\_ts\_ret)

Table 6.10: Annual growth rates for the index of turnover, selected service activities, 2006 (1) (%)

								Auxil-			
				Hotels				iary	Post and	Comp-	
		Whole-		and	Land	Water	Air	trans-	telecom	uter and	Other
	Motor	sale	Retail	restau-	trans-	trans-	trans-	port	municat	related	business
	trades	trade	trade	rants	port	port	port	services	ions	activities	activities
EU-27	5.4	8.7	4.1	5.4	9.5	7.0	12.3	7.1	2.4	7.3	9.3
Euro area	5.0	6.3	3.4	3.8	5.2	1.1	9.2	7.3	2.8	6.4	9.1
Belgium	7.6	5.4	0.2	6.1	8.3	12.7	6.8	17.1	9.5	10.6	13.6
Bulgaria	:	:	20.0	:	:	:	:	:	:	:	:
Czech Republic	7.9	6.1	6.5	2.7	5.8	-10.6	1.6	10.5	3.6	11.7	5.3
Denmark	10.0	9.9	4.2	7.5	8.5	22.1	-20.3	5.9	:	0.0	14.3
Germany	7.2	7.2	3.7	1.2	-1.9	-1.6	6.9	5.7	0.6	4.0	11.1
Estonia	37.4	12.1	20.4	16.6	28.8	35.1	1.3	24.5	13.8	36.1	18.5
Ireland	16.8	17.6	8.9	5.5	11.8	66.2	:	:	18.1	:	-2.2
Greece	:	:	10.8	:	:	:	:	:	:	:	:
Spain	4.4	8.6	5.4	5.1	7.3	9.3	13.3	8.4	4.5	10.7	8.4
France	2.9	5.1	2.6	3.6	5.9	12.1	6.3	5.2	1.7	9.0	7.3
Italy	:	:	1.3	:	:	:	:	:	:	:	:
Cyprus	1.3	8.6	8.5	4.8	-0.2	-1.7	4.0	2.5	7.8	16.7	8.5
Latvia	50.8	30.0	25.2	25.2	23.4	:	:	15.4	14.9	46.4	44.6
Lithuania	28.5	7.2	10.4	11.8	23.7	10.9	5.7	26.5	10.0	25.3	12.2
Luxembourg	7.2	7.4	4.9	1.7	9.8	3.2	2.4	13.7	12.9	5.3	13.4
Hungary	16.2	21.8	6.5	11.9	9.5	-3.5	21.9	55.8	5.6	18.2	15.0
Malta	:	:	:	:	:	:	:	:	:	:	:
Netherlands	:	:	5.6	:	:	:	:	:	:	:	:
Austria	3.1	5.0	2.6	:	:	:	:	:	:	:	:
Poland	12.9	12.4	8.4	16.2	11.6	5.6	:	19.6	4.7	8.0	11.8
Portugal	-1.0	2.0	2.8	0.9	5.4	5.3	12.6	8.0	-0.3	:	:
Romania	20.8	:	32.1	18.7	:	:	:	-7.2	:	:	:
Slovenia	13.1	10.7	2.7	11.1	38.4	:	:	6.0	9.4	7.1	3.3
Slovakia	13.4	14.4	10.2	17.6	:	:	:	:	:	:	:
Finland	9.6	10.2	5.9	6.8	8.2	0.2	:	7.5	-0.9	9.1	9.9
Sweden	7.0	9.2	7.6	7.0	6.7	0.6	:	11.2	:	8.2	9.5
United Kingdom	1.7	13.8	2.8	7.4	22.0	13.7	20.9	3.6	0.3	6.8	8.0
Croatia	:	:	9.5	:	:	:	:	:	:	:	:
Norway	9.4	12.8	5.3	:	:	:	:	:	:	:	:

(1) Working day adjusted.

Source: Eurostat (ebt\_ts\_othsv , ebt\_ts\_mot , ebt\_ts\_who and ebt\_ts\_ret)





(1) Trend cycle; estimates, October 2006 to June 2007.

Source: Eurostat (ebt\_ts\_othsv , ebt\_ts\_mot , ebt\_ts\_who and ebt\_ts\_ret)



Figure 6.26: Breakdown of turnover, retail sales of food, beverages and tobacco, 2004 (% of total turnover)

(2) Incomplete data.

Source: Eurostat (tin00007)

Food products are sold on the retail market, either in non-specialised stores (hypermarkets, supermarkets) or in specialised stores (e.g. fruit and vegetable grocers). A greater proportion of sales in specialised stores is a sign for a more traditional trade pattern.



Figure 6.27: Volume of sales index, selected retail trade activities, EU-27 (1) (2000 = 100)

(1) Trend cycle; estimates, May and June 2007. Source: Eurostat (ebt\_ts\_ret)

#### **6.4 TOURISM**

#### **INTRODUCTION**

The demand for hotel services is split between that for business and that for leisure. Business demand tends to fluctuate with the economic cycle, as during periods of recession businesses try to reduce their expenditure. In a similar way, individuals are also more likely to curb their spending on tourism related activities during periods of low consumer confidence.

Europe remains a major tourism destination and six of the Member States are among the world's top ten destinations for holiday-makers. As a result, it is not surprisingly that the tourism industry plays an important role in terms of offering economic and employment potential, while presenting social and environmental implications. These twin characteristics drive the demand for reliable and harmonised statistics within this field.

Besides its potential for economic growth and job creation, tourism can also be a significant factor in the development of European regions. Infrastructure created for tourism purposes contributes to local development, while jobs that are created or maintained can help counteract industrial or rural decline. Sustainable tourism involves the preservation and enhancement of cultural and natural heritage, ranging from arts to local gastronomy or the preservation of biodiversity.

A new policy approach for tourism is in the process of being developed. The European Commission adopted in 2006 a Communication entitled, 'a renewed EU tourism policy: towards a stronger partnership for European tourism' (60). The document addressed a range of challenges that will shape the tourism industry in the coming years, including: Europe's ageing population; growing external competition; consumer demands for more specialised tourism; and the need to develop more sustainable and environmentally-friendly tourism practices. The document argues that a more competitive tourism industry and sustainable destinations would contribute further to the success of the renewed Lisbon strategy, the satisfaction of tourists, and to securing the position of Europe as the world's leading tourist destination. This was followed in 2007 by a Communication from the European Commission in October 2007 - 'Agenda for a sustainable and competitive European tourism' - which outlines the future steps for promoting the sustainability of European tourism and further contributes to the implementation of the renewed Lisbon strategy for growth and jobs and of the renewed sustainable development strategy, through addressing all stakeholders playing a role in European tourism. The sustainable management of destinations, the integration of sustainability concerns by businesses, and sustainability awareness of tourists form the framework of the actions proposed <sup>(61)</sup>.

#### **DEFINITIONS AND DATA AVAILABILITY**

Tourism can be defined as the activities serving persons travelling to and staying in places outside their usual environment for not more than one consecutive year, for leisure or business purposes. A tourist is any visitor who stays at least one night in collective or private accommodation. A night spent is defined as each night that a guest is registered to stay in a hotel or similar establishment. A breakdown of the nights spent in hotels is provided for residents and non-residents, the former are identified as having lived for most of the past year in a country/place, or having lived in that country/place for a shorter period and intending to return within a year to live there; note that a significant proportion of tourism, using the definitions above, is accounted for by business customers.

Tourism intensity and international tourism receipts relative to GDP both give an indication of the importance of the size of the tourism sector. The former shows the number of nights spent by tourists relative to the population of the host country.

On the supply side, tourism relies on enterprises from a variety of sectors, which can be summarised as the provision of accommodation, food and drink, transport facilities and services, and entertainment. Accommodation services are covered by two NACE groups (Group 55.1 which includes the provision of lodging in hotels, motels and inns, excluding the rental of long-stay accommodation and timeshare operations; and Group 55.2 which covers campsites and other short-stay accommodation, including self-catering holiday chalets or cottages). Travel services carried out by enterprises that are engaged in arranging transport, accommodation and catering on behalf of travellers, are classified within NACE Group 63.3, which encompasses the following activities: furnishing travel information, advice and planning; arranging custom-made tours, accommodation and transportation for travellers and tourists; furnishing tickets; selling package tours; tour operating; and organising tourist guides.

<sup>(60)</sup> For more information: http://ec.europa.eu/enterprise/services/tourism/ communications\_2006.htm.

<sup>(61)</sup> For more information: http://ec.europa.eu/enterprise/services/tourism/doc/ communications/com2007\_0621en01.pdf.

#### **MAIN FINDINGS**

Although the demand for tourism grew rapidly during the latter part of the last century, this trend was reversed from 2001 until 2003 as an economic slowdown, coupled with concerns over terrorist acts, health epidemics, and a series of natural disasters, contributed to a period of reduced demand. This evolution was counter-balanced by the rapid growth in the low-cost airline industry and an increase in the number of short breaks that Europeans offered themselves.

There were 201 055 hotels and similar establishments in the EU-27 in 2006 and 215 001 other collective accommodation establishments. While the number of hotels declined between 2001 and 2006, there was an increase in the capacity of hotels, as measured by the number of bed places made available, which rose to almost 11.5 million by 2006.

Occupancy rates for hotels and similar establishments vary considerably in the main tourist destinations, largely as a function of the season, whereas in business centres demand is more evenly spread across the whole year (although it may be concentrated during the working week and limited during weekends). In total there were just over 1 500 million nights spent in EU-27 hotels and similar establishments during 2006 by residents and nonresidents.

In terms of tourism intensity the most popular holiday destinations in the EU-27 in 2006 included Austria, Ireland, and the traditional Mediterranean destinations of Cyprus, Malta, Spain and Italy (2005). An alternative measure of the importance of tourism is provided by the ratio of international tourism receipts relative to GDP in 2006, which was highest in Cyprus (13.2 %) and Malta (11.9 %) – confirming the importance of tourism to these island nations.

#### SOURCES

Statistical books Panorama on tourism

Pocketbooks Tourism statistics

Methodologies and working papers

Community methodology on tourism statistics Tourism statistics data transmission compendium Methodological work on measuring the sustainable development of tourism

#### Dedicated sections on the Eurostat website Tourism statistics

#### Website data

#### Tourism

Capacity of collective tourist accommodation: establishments, bedrooms and bed places Occupancy in collective accommodation establishments: domestic and inbound tourism Tourism demand: domestic and outbound tourism (excluding day-trips) Employment in the tourism sector

-

#### Figure 6.28: Tourism destinations, 2006

(1 000 nights spent in the country by non-residents)



Source: Eurostat (tour\_occ\_ninrnat)

## Figure 6.29: Country of origin for outbound holidays, 2006

(1 000 nights spent abroad)



(3) 2004.

Source: Eurostat (tour\_dem\_tnw)

#### Table 6.11: Leading tourism indicators

	Hotels and Other collective similar accommodation		ollective	Bed p hote sin	laces in Is and nilar	Nights hotels a	spent in nd similar	Number		
	establi (u	ishments inits)	establis (un	shments its)	establis (1 (	shments 000)	establi (1 00	shments 00) (1)	of to	ourists 000)
	2001	2006	2001	2006	2001	2006	2001	2006	2001	2006 (2)
EU-27	206 069	201 055	:	215 001	10 863	11 478	:	1 523 942	:	:
Euro area	145 075	142 513	141 916	166 559	8 429	8 745	1 099 787	1 104 381	:	:
Belgium	2 034	1 955	1 656	1 530	122	124	14 068	15 370	3 517	3 932
Bulgaria	679	1 348	160	496	117	212	8 978	16 118	:	1 187
Czech Republic	4 112	4 3 1 4	3 591	3 302	219	236	22 162	25 889	:	4 515
Denmark	475	467	624	602	64	69	9 140	10 135	2 711	2 839
Germany	38 529	36 201	17 352	18 592	1 603	1 632	197 073	208 176	55 236	57 111
Estonia	353	341	:	610	17	26	1 912	3 761	:	259
Ireland	5 222	4 296	2 814	4 805	141	148	25 267	26 812	3 218	:
Greece	8 342	9 1 1 1	342	333	608	693	55 105	56 708	4 120	:
Spain	16 369	18 304	5 504	17 895	1 333	1 615	228 682	267 028	17 718	16 702
France	19 928	18 135	9 258	10 643	1 608	1 254	191 228	197 420	28 573	31 515
Italy	33 421	33 768	94 860	100 945	1 891	2 087	238 881	251 946	23 730	24 174
Cyprus	801	753	123	141	88	89	18 793	14 341	:	:
Latvia	199	321	75	72	13	20	1 475	2 600	:	360
Lithuania	231	338	262	177	11	22	965	2 385	:	748
Luxembourg	309	284	282	252	14	14	1 246	1 361	224	190
Hungary	1 994	1 921	1 050	940	148	154	13 726	15 749	:	4 2 3 8
Malta	210	173	4	6	39	40	:	7 291	:	:
Netherlands	2 858	3 099	3 651	4 055	174	192	28 563	29 518	8 841	9 072
Austria	15 293	14 051	5 431	6 406	587	573	72 554	77 391	3 479	4 320
Poland	1 391	2 301	6 222	4 393	118	178	13 215	21 821	:	10 465
Portugal	1 781	2 028	270	296	229	264	33 563	37 566	2 863	2 434
Romania	2 681	4 125	585	585	199	226	16 372	18 098	:	3 152
Slovenia	381	358	466	349	28	31	4 594	5 147	:	1 036
Slovakia	764	922	1 238	1 121	49	58	6 054	7 053	:	4 184
Finland	989	923	496	458	118	118	13 557	15 015	2 297	2 491
Sweden	1 979	1 888	1 692	2 120	195	201	21 664	24 210	:	:
United Kingdom	44 744	39 330	31 413	33 877	1 1 3 0	1 202	184 201	165 033	21 703	30 201
Croatia (3)	694	762	478	881	188	163	19 130	20 693	:	:
FYR of Macedonia	142	:	176	:	16	:	463	:	:	:
Iceland	248	308	402	287	13	17	1 181	1 728	:	:
Liechtenstein	47	46	:	111	1	1	123	118	:	:
Norway	1 160	1 1 1 9	1 197	1 163	144	151	16 416	17 755	2 568	2 779
Switzerland	5 701	:	94 045	:	260	:	33 586	:	:	:

(1) Nights spent by residents and non-residents.

(1) Nights spent by residents(2) Italy and Hungary, 2005.(3) Break in series, 2006.

Source: Eurostat (tin00039, tin00040, tin00041, tin00043 and tin00045)

Hotels and similar establishments include hotels, apartment hotels, motels, roadside inns, beach hotels, residential clubs, rooming and boarding houses, tourist residences and similar accommodation.

Other collective accommodation establishments include holiday dwellings, tourist campsites, youth hostels, tourist dormitories, group accommodation, school dormitories and other similar accommodation.

The number of bed places in an establishment is the number of persons who can stay overnight in the beds set up in the establishment, ignoring any extra beds that may have been set up on customer request.

A night spent by a resident or a non-resident person (overnight stay) is each night that a guest actually spends (sleeps or stays) or is registered (his/her physical presence there is not necessary) in a hotel or similar establishment.

Number of visitors who stay at least one night in a collective or private accommodation in the place/country visited.

1.1 ......



# **Figure 6.30:** Number of tourism nights spent in hotels and similar establishments and other collective accommodation establishments, EU-27 (1) (million)

(1) Excluding Estonia, Hungary, Malta and Romania.

Source: Eurostat (tour\_occ\_nirnat and tour\_occ\_ninrnat)

## Figure 6.31: Tourism intensity, 2006

(ratio of nights spent by residents and non-residents in hotels and similar establishments and other collective accommodation establishments per inhabitant)



(1) 2005.

Source: Eurostat (tour\_occ\_nirnat, tour\_occ\_ninrnat and tps00001), Bureau of the Census





Source: Eurostat (tin00041)



Figure 6.33: Proportion of the population going on holiday abroad for at least four nights, 2006 (%)

(1) 2005.

(2) Estimate.

(3) Not available.(4) 2004.

Source: Eurostat (tour\_dem\_tt1000 and tps00001), Bureau of the Census

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# Figure 6.34: Nights spent by non-residents in hotels and similar establishments and other collective accommodation, 2006

(% share of nights spent by residents and non-residents)



(1) 2005. Source: Eurostat (tin00043 and tin00044)

# Figure 6.35: Tourism receipts and expenditure, 2006 (1)

(% of GDP)



(1) Provisional, except for Croatia, Turkey and Norway.

(2) Extra-EU-27.

(3) Extra euro area.(4) 2005 instead of 2006.

Source: Eurostat (bop\_its\_det and tec00001), Economic and Social Research Institute, Bureau of Economic Analysis

## Table 6.12: Tourism receipts and expenditure

	Rece	eipts (EUR I	million)	International tourism receipts relative to	Expen	Expenditure (EUR million)		
	1996	2001	2006	GDP, 2006 (%)	1996	2001	2006	GDP, 2006 (%)
EU-27 (1)	:	:	75 277	0.7	:	:	87 933	0.8
Euro area (2)	:	:	96 226	1.1	:	:	80 908	1.0
Belgium	:	:	9 187	2.9	:	:	13 710	4.4
Bulgaria	689	1 088	2 063	8.2	368	512	1 171	4.7
Czech Republic	3 2 1 0	3 468	3 993	3.5	2 327	1 550	2 1 1 9	1.9
Denmark	2 698	4 482	4 195	1.9	3 328	5 435	5 541	2.5
Germany	13 955	20 164	26 091	1.1	41 723	57 985	59 596	2.6
Estonia	382	569	820	6.3	79	214	469	3.6
Ireland	1 945	3 144	4 175	2.4	1 730	3 494	5 434	3.1
Greece (3)	3 858	10 246	11 037	6.1	953	4 663	2 446	1.4
Spain	21711	34 222	40 710	4.2	3 880	7 296	13 265	1.4
France	22 343	33 679	34 172	1.9	13 983	20 055	25 626	1.4
Italy	23 609	28 959	30 281	2.1	12 428	16 539	18 229	1.2
Cyprus	1 323	2 240	1 913	13.2	288	478	780	5.4
Latvia	169	134	400	2.5	294	250	576	3.6
Lithuania	249	428	824	3.5	209	244	721	3.0
Luxembourg	:	:	2 883	8.7	:	:	2 491	7.5
Hungary	2 547	4 204	3 601	4.0	756	1 624	2 091	2.3
Malta	500	628	608	11.9	172	202	253	5.0
Netherlands	5 178	7 505	9 1 7 2	1.7	9 109	13 417	13 592	2.6
Austria	10 074	11 455	13 267	5.1	8 687	10 032	7 407	2.9
Poland	2 487	5 190	5 744	2.1	459	3 904	4 542	1.7
Portugal	3 687	6 125	6 648	4.3	1 763	2 363	2 625	1.7
Romania	417	404	1 033	1.1	525	501	1 034	1.1
Slovenia	977	1 102	1 503	5.1	475	600	851	2.9
Slovakia	530	1 051	1 209	2.8	380	658	842	1.9
Finland	1 463	1 609	1 879	1.1	1 824	2 070	2 724	1.6
Sweden	2 872	4 771	7 251	2.4	5 077	7 736	9 181	3.0
United Kingdom	16 824	21 082	26 691	1.4	20 450	42 414	49 876	2.6
Croatia (3)	:	:	5 961	19.1	:	:	604	1.9
Turkey (3)	4 450	9 033	14 590	5.0	996	1 941	2 308	0.8
Norway (3)	1 775	2 157	2 680	1.1	3 532	4 787	8 187	3.4
Japan	3 221	3 699	8 470	0.2	29 205	29 617	26 876	0.8
United States	64 411	99 128	106 667	1.0	39 022	70 142	78 252	0.7

(1) Extra-EU-27.
(2) Extra euro area.
(3) 2005 instead of 2006.

Source: Eurostat (bop\_its\_det and tec00001), Economic and Social Research Institute, Bureau of Economic Analysis

# Agriculture, forestry and fisheries





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Agriculture was one of the first sectors of the economy (following coal and steel) to receive the attention of European policymakers. Article 39 of the Treaty of Rome on the EEC (1957) set out the objectives for the first common agricultural policy (CAP); these were focused on increasing agricultural productivity as a way to ensure a fair standard of living for the agricultural community, stabilising markets and ensuring security of supply at affordable prices to consumers. As the primary objective of producing more food was realised, food surpluses accrued, distorting trade and raising environmental concerns. These were the principal drivers for changes in the CAP, a process that started in the early 1990s and has resulted in a change from support for production towards a market-oriented and a more environment-friendly and sustainable agriculture. Reforms have focused mainly on increasing the competitiveness of agriculture by reducing support prices and compensating farmers by the introduction of direct aid payments. A decisive step came in the 2003/04 CAP reforms with the decoupling of direct aids from production and a move to try to realign the CAP with consumer concerns. The scope of this latest reform of the CAP was widened with the introduction of a comprehensive rural development policy. Together these policies aim to encourage entrepreneurial behaviour so that farm managers can respond better to market signals, introduce new techniques and promote diversified activities such as rural crafts, food processing facilities on farms, tourism, or afforestation, as well as promoting sustainable farming practices and various other rural development measures.

After the enlargements of the EU in 2004 and 2007, the EU has a total area of forests and other wooded land of 177 million hectares, accounting for about 42 % of its land area. Contrary to what is happening in other parts of the world, forest cover in the EU is slowly but steadily increasing at the rate of approximately 0.4 % per year, although the evolution can be quite different between regions. Forests are present in a huge variety of climatic, geographic, ecological and socioeconomic conditions. Ecologically, EU forests belong to numerous vegetation zones, ranging from the coastal plains to the Alpine zone, while socioeconomic management conditions vary from small family holdings to large estates belonging to vertically integrated companies.

Fish are a natural, biological, mobile (sometimes over wide distances) and renewable resource. No one can own fish until they have been caught and the impact of one set of fishermen impacts on others. For this reason, fish stocks continue to be regarded as a common resource, to be managed collectively. This calls for policies that regulate the amount of fishing, as well as the types of fishing techniques and gear used in fish capture, if this heritage is to be passed to future generations.

#### EUROSTAT DATA IN THIS DOMAIN: Agriculture, forestry and fisheries

Agriculture Forestry Fishing Food: from farm to fork statistics

#### 7.1 FARM STRUCTURE AND LAND USE

#### **INTRODUCTION**

The structure of agriculture in the Member States varies considerably, among other factors reflecting differences in geology, topography, climate and natural resources, as well as the diversity in regional activities, infrastructure and social customs. The survey on the Structure of Agricultural Holdings (also known as the Farm Structure Survey) helps assess the agricultural situation across the EU, monitoring trends and transitions in the structure of holdings and modelling the impact of external developments or policy proposals.

Rural development policy aims to ensure the survival of the countryside as we know it. As agriculture has modernised and the EU economy become more service-oriented, agriculture has become much less important as a source of jobs. This means that survival of rural economies can no longer be taken for granted. Consequently, more and more emphasis is being placed on the role farmers can play in rural development, including forestry, biodiversity, diversification of the rural economy to create alternative jobs and environmental protection in rural areas. The Farm Structure Survey (FSS) continues to be adapted to try to provide the necessary data to help analyse and follow these types of development.

#### **DEFINITIONS AND DATA AVAILABILITY**

The basic farm structure survey (FSS) is carried out by Member States every 10 years (the full scope being the agricultural census) and intermediate sample surveys are carried out three times between the basic surveys. The Member States collect information from individual agricultural holdings and, observing strict rules of confidentiality, data are forwarded to Eurostat. The information collected covers land use, livestock numbers, management and farm labour input (including age, gender and relationship to the holder). The survey data can then be aggregated to different geographic levels (Member States, regions, and for basic surveys also districts) and can be arranged by size class, area status, legal status of holding, objective zones and farm type (including by specialised/non-specialised status, using economic criteria).

The basic unit underlying the FSS is the agricultural holding. A holding is defined as a technical-economic unit under single management engaged in agricultural production. The FSS covers all agricultural holdings with a utilised agricultural area (UAA) of at least one ha and those holdings with a UAA of less than 1 ha if their market production exceeds certain natural thresholds.

The utilised agricultural area (UAA) is the total of arable land, permanent pasture and meadow, land used for permanent crops and kitchen gardens. The UAA excludes unutilised agricultural land, woodland and land occupied by buildings, farmyards, tracks, ponds, etc.

The farm labour force includes all persons having completed their compulsory education (i.e. having reached school-leaving age) who carried out farm work on the holding covered by the survey during the 12 months up to the date of the survey. The figures include holders, even when not working on the holding; their spouses, on the other hand, are only accounted for if they are actually engaged in farm work on the holding. Persons of retiring age who continue to work on the holding are also included.

#### **MAIN FINDINGS**

According to the FSS, the equivalent of 12.7 million people worked full-time on the 14.5 million agricultural holdings in the EU-27 in 2005. Among the Member States that joined the EU in 2004 and 2007, there was a period of land restitution in the runup to accession. This led to large State farms being divided up and handed back to private individuals, leading to a substantial rise in numbers of farms and workers. Over a quarter of agricultural holdings (29.4 %) in the EU-27 were located in Romania and one fifth (20.4 %) of the agricultural workforce in 2005.

About two thirds (64.9 %) of the agricultural labour force regularly employed in the EU-27 is male, although in the Baltic Member States this is closer to a half. Over three quarters (80.7 %) of the workforce are the holder or related to him (family workers), although in some of the Member States that joined the EU in 2004 and 2007, this proportion is much lower due to the structure of holding ownership; in the Czech Republic family workforce. There are relatively few (6.7 %) agricultural holders in the EU-27 under the age of 35 years old but a relatively large proportion (33.2 %) over the age of 65 years old.

The utilised agricultural area in the EU declined in the decade through until 2005 to 45.0 % of the total land area (down from 49.5 % in 1995), in part reflecting set-aside policies (the area of arable land falling from 30.6 % to 27.4 % in the same period). In contrast, the proportion of total land area that is wooded increased from 33.2 % to 36.3 % in the ten years through until 2005.



## SOURCES Pocketbooks Agriculture – Main statistics 2005-2006 Methodologies and working papers Farm structure – Methodology of Community surveys The organisation of Community surveys on the structure of agricultural holdings in 2007 List of characteristics the Member States are obliged to survey Community typology for agricultural holdings Community typology for agricultural holdings Website data Agriculture Structure of agricultural holdings Overview of agricultural holdings Land Use Livestock Special interest topics





#### Source: Eurostat (tag00096)

Other gainful activity: is any activity other than one relating to farm work, including activities carried out on the holding itself (camping sites, accommodations for tourists, etc.) or that use its resources (machinery, etc.) or products (such as processing farm products, renewable energy production), and which have an economic impact on the holding. It is carried out by the holder, his/her family members or one or more partners on a group holding.

## Table 7.1: Agricultural holdings

-	Number	of agricultura (1 000)	al holdings	Hold	Holdings with irrigable area (% of UAA)		
	2000	2003 (1)	2005	2000	2003 (1)	2005	2005
EU-27	:	15 021.0	14 478.6	:	3 199.4	2 821.2	16.5
Euro area	:	5 918.6	5 509.4	:	565.3	498.0	39.8
Belgium	61.7	54.9	51.5	18.2	16.6	15.2	4.2
Bulgaria	:	665.6	534.6	:	195.0	152.6	14.5
Czech Republic	:	45.8	42.3	:	8.5	6.8	4.7
Denmark	57.8	48.6	48.3	11.2	8.0	6.5	18.0
Germany	472.0	412.3	389.9	152.7	121.8	110.4	:
Estonia	:	36.9	27.8	:	12.4	9.2	:
Ireland	141.5	135.3	132.7	31.8	28.1	23.8	0.0
Greece (2)	817.1	824.5	833.6	12.1	11.6	9.8	65.2
Spain	1 287.4	1 140.7	1 079.4	77.8	51.0	42.4	46.4
France	:	614.0	567.1	:	113.9	103.9	18.0
Italy	2 153.7	1 963.8	1 728.5	81.6	67.5	61.0	37.6
Cyprus	:	45.2	45.2	:	0.3	0.2	77.3
Latvia	140.8	126.6	128.7	73.9	63.7	50.9	0.3
Lithuania	:	272.1	253.0	:	193.4	170.8	0.1
Luxembourg	2.8	2.5	2.5	1.2	1.0	1.0	:
Hungary	966.9	773.4	714.8	35.2	22.0	16.3	2.5
Malta	:	11.0	11.1	:	0.2	0.2	2.8
Netherlands	101.6	85.5	81.8	35.1	25.0	23.5	23.6
Austria	199.5	173.8	170.6	77.5	65.1	54.6	4.4
Poland	:	2 172.2	2 476.5	:	873.8	727.1	1.0
Portugal	416.0	359.3	323.9	33.0	27.1	15.9	62.2
Romania	:	4 484.9	4 256.2	:	1 204.9	1 134.4	3.5
Slovenia	86.5	77.2	77.2	28.6	17.2	19.7	2.3
Slovakia	71.0	71.7	68.5	17.9	14.2	13.5	10.5
Finland	81.2	75.0	70.6	23.9	19.4	16.9	8.1
Sweden (3)	81.4	67.9	75.8	14.0	9.7	8.6	6.0
United Kingdom (2)	233.3	280.6	286.8	31.9	28.2	26.3	1.4
Norway	70.7	58.2	53.0	22.7	17.5	15.9	16.8

(1) Poland and Romania, 2002.

(2) Methodological changes took place between 2000 and 2003.
(3) The number of overall holdings has been revised upwards due to additional information being made available on the number of subsidy-applications in 2005.

Source: Eurostat (tag00001, tag00015 and ef\_ov\_lusum)

An agricultural holding is a single unit both techically and economically, which has a single management and produces agricultural products. Other supplementary (non-agricultural) products and services may also be provided by the holding.

A dairy cow is a cow kept exclusively or principally for the production of milk for human consumption and/or dairy produce, including cows for slaughter (fattened or not between their last lactation and slaughter).

The irrigable area is the maximum land area that could be irrigated in the reference year using the equipment and the quantity of water normally available on the holding.




# Figure 7.2: Regular farm labour force by gender, 2005

Source: Eurostat (tag00026)

The regular labour force includes everyone (over the legal age limit) having provided agricultural work on and for the holding during the last 12 months; every member of the holder's family working on the holding is taken into account within the regular labour force (holder included), as well as the regularly employed non-family labour force.

# Figure 7.3: Agricultural area by land use, EU (1)

(% of land area)



(1) EU total based on data for Belgium, Bulgaria, the Czech Republic, Denmark, Estonia, Spain, France, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Poland, Portugal, Romania, Slovakia and Sweden.

Source: Eurostat (agr\_is)

# Table 7.2: Farm labour force, 2005

			Work	Work				
		Work	time:	time:	Work	Agri-		
		time:	full-time	female	time:	cultural	Agri-	Agri-
		regular	regular	regular	family	holders	cultural	cultural
	Total farm	farm	farm	farm	farm	being a	holders	holders
	labour force	labour	labour	labour	labour	natural	< 35	>=65
	(1 000 AWU)	force	force	force	force	person	years old	years old
	(1)	(%)	(%)	(%)	(%)	(1 000)	(1 000)	(1 000)
EU-27	12 714	92	33	35	81	14 222	956	4 722
Euro area	5 609	89	44	28	73	5 311	298	1 759
Belgium	70	96	71	29	80	48	3	10
Bulgaria	625	96	41	39	87	531	22	222
Czech Republic	152	94	67	30	25	39	4	7
Denmark	58	96	69	22	62	48	3	9
Germany	643	92	51	29	70	385	35	28
Estonia	37	97	43	46	64	27	2	8
Ireland	152	98	60	22	93	132	11	32
Greece	601	85	21	30	82	833	57	307
Spain	993	81	41	20	65	1 028	54	359
France	855	89	66	25	49	474	42	75
Italy	1 374	90	37	29	82	1 699	56	735
Cyprus	29	89	30	31	73	45	1	12
Latvia	137	98	35	50	86	129	10	37
Lithuania	222	97	8	48	87	252	13	81
Luxembourg	4	97	62	27	83	2	0	0
Hungary	463	98	25	38	79	707	55	195
Malta	4	100	38	13	91	11	1	3
Netherlands	174	92	58	25	63	78	4	13
Austria	166	97	51	41	89	167	18	19
Poland	2 274	97	33	42	94	2 473	313	422
Portugal	398	93	33	41	83	317	7	150
Romania	2 596	93	3	43	91	4 2 3 8	218	1 849
Slovenia	95	95	26	40	91	77	3	26
Slovakia	99	97	43	33	43	67	3	20
Finland	83	94	56	32	84	70	6	4
Sweden	71	96	43	25	75	71	4	15
United Kingdom	339	94	55	24	69	274	9	84
Norway	59	95	35	25	83	53	5	4

(1) AWU: annual work unit.

Source: Eurostat (tag00020, tag00026, tag00022, tag00021, tag00028, tag00029 and tag00030)

Labour force includes everyone (over the legal age limit) having provided agricultural work on and for the holding during the last 12 months. The work time of each person is recorded as percentage of a full-time employee; one AWU equals the work of a full-time employee.

The regular farm labour force includes everyone (over the legal age limit) having provided agricultural work on and for the holding during the last 12 months; every member of the holder's family working on the holding are taken as regular labour force (holder included), and regularly employed, non-family members.

The farm holder is the legal or physical person taking benefit of the agricultural activity. In the table above, they only refer to sole holders and not the holders of group holdings.



#### Table 7.3: Area by land use, 2006

		Utilised	Land under				
	Land area	agricultural	permanent	Permanent	Arable	Wooded	Built-up
	(1 000 ha)	area	crops	grassland	land	area	area
	(1)	(%) (2)	(%) (3)	(%) (4)	(%) (5)	(%) (6)	(%)(7)
Belgium	3 028	45.7	0.7	17.1	27.8	20.4	19.0
Bulgaria	10 863	47.8	1.7	17.3	28.5	34.5	7.4
Czech Republic	7 727	46.2	0.5	11.5	34.1	34.2	10.3
Denmark	4 2 4 0	64.1	0.2	5.4	58.5	11.5	16.9
Germany	34 895	48.8	0.6	14.4	33.8	:	12.8
Estonia	4 2 3 9	18.0	0.3	4.6	13.1	53.9	:
Ireland	6 889	62.5	0.0	45.2	17.2	:	:
Greece	13 065	24.9	8.7	5.7	16.2	30.7	:
Spain	49 959	50.8	10.0	15.3	25.3	38.0	3.8
France	54 255	54.5	2.1	18.3	33.8	28.7	8.0
Italy	29 412	50.0	8.4	15.0	26.3	34.6	:
Cyprus	924	17.2	4.6	0.1	12.5	:	2.2
Latvia	6 229	27.8	0.2	10.1	17.5	46.6	3.3
Lithuania	6 268	44.5	0.6	13.8	29.7	33.5	2.9
Luxembourg	256	50.3	0.6	26.4	23.4	35.1	8.5
Hungary	8 961	65.0	2.3	11.3	50.3	19.8	:
Malta	32	32.4	3.4	:	25.8	:	:
Netherlands	3 379	56.9	1.1	24.1	31.4	10.3	13.9
Austria	8 245	39.3	0.8	21.7	16.7	40.1	4.6
Poland	30 427	52.4	1.1	10.6	40.6	30.2	6.6
Portugal	9 147	41.2	8.4	15.2	17.3	36.3	18.3
Romania	22 998	62.0	1.8	20.4	39.1	29.3	4.3
Slovenia	2 014	24.3	1.4	14.2	8.8	63.7	4.1
Slovakia	4 810	40.3	0.5	11.1	27.9	41.7	7.5
Finland	30 460	7.5	0.0	0.1	7.4	:	2.2
Sweden	40 851	7.8	0.0	1.4	6.5	57.5	2.7
United Kingdom	24 082	69.6	0.1	46.7	22.8	:	:
Croatia	5 659	20.9	1.3	4.6	14.9	35.3	5.6
Turkey	76 963	:	3.6	19.0	:	:	:

 Germany and Portugal, 2001; France, Latvia, Romania and Croatia, 2005.
 Germany and Portugal, 2001; the United Kingdom, 2003; France, Ireland, Italy, Latvia, Sweden, Romania and Croatia, 2005.
 Germany and Portugal, 2001; the United Kingdom, 2003; the Czech Republic, 2004; France, Ireland, Italy, Latvia, Austria, Sweden, Romania, Croatia and Turkey, 2005.

(4) Germany and Portugal, 2001; the United Kingdom, 2003; France, Ireland, Italy, Latvia, Romania, Croatia and Turkey, 2005.
(5) Germany and Portugal, 2001; the United Kingdom, 2003; France, Ireland, Italy, Latvia, Romania and Croatia, 2005.
(6) Germany and Portugal, 2001; Croatia, 2003; the Czech Republic, 2004; France, Ireland, Italy, Latvia, Austria and Romania, 2003; Croatia, 2003; the Czech Republic, 2004; France, Ireland, Italy, Latvia, Austria and Romania, 2005. 2005.

(7) Spain and Luxembourg, 1990; Finland, 1995; Latvia, 1999; Denmark, Germany, Cyprus, the Netherlands, Austria, Poland, Portugal, Sweden and Croatia, 2000; Bulgaria, the Czech Republic, Lithuania, Romania, Slovenia and Slovakia, 2002; Belgium and France, 2003.

Source: Eurostat (agr\_is and tsdnr510), European Environment Agency

Built-up and related land is defined in the Eurostat/OECD joint questionnaire as residential land (3.1), industrial land (3.2), guarries, pits and mines (3.3.), commercial land (3.4), land used by public services (3.5), land of mixed use (3.6), land used for transport and communications (3.7), for technical infrastructure (3.8), recreational and other open land (3.9). Scattered farm buildings, yards and annexes are excluded. Some figures may refer to the closest year for which data is available (limit +/- 1 or 2 years before or after). LU: the total excludes following land categories, 3.5, 3.6, 3.8 and 3.9.

# 7.2 AGRICULTURAL OUTPUT, PRICE INDICES AND INCOME

## **INTRODUCTION**

One of the principal objectives of the Common Agricultural Policy (CAP) remains the aim of providing farmers with a reasonable standard of living. Although this concept is not defined explicitly, one of the measures tracked is the development of incomes from farming activities. The macro-economic Economic Accounts for Agriculture (EAA) are one of the data sources that provide such income measures (see definitions below). This set of data is used to analyse the production process of the agricultural industry and the primary income generated by it. The EAA provide key insights into the economic viability of agriculture, its contribution to a Member State's wealth, the structure and composition of agricultural production and inputs, the remuneration of factors of production, relationships between prices and quantities of both inputs and outputs, and responds to the need to have internationally comparable information.

Eurostat also collects annual absolute agricultural prices (in principle net of VAT) to compare price levels between Member States and study sales channels. Agricultural price indices for agricultural products and the means of agricultural production, on the other hand, are used principally to analyse price developments and their effect on agricultural income.

#### **DEFINITIONS AND DATA AVAILABILITY**

The EAA comprise a production account, a generation of income account, an entrepreneurial income account and some elements of a capital account. For the output items of agricultural, hunting and related service activities, Member States transmit to Eurostat values at basic prices as well as their components (the value at producer prices, subsidies on products and taxes on products). For the items of intermediate consumption, values at purchaser prices are transmitted. The data for the production account and for gross fixed capital formation are transmitted in both current prices and the prices of the previous year.

Three income indicators are calculated from the EAA; these are the index of the real income of factors in agriculture per annual work unit (income indicator A), the index of real net agricultural entrepreneurial income per non-salaried annual work unit (indicator B) and net entrepreneurial income of agriculture (indicator C). Annual data for the EAA and the income indicators are currently available for the EU-27 for 1998 to 2006.

EU agricultural price indices are obtained by a base-weighted Laspeyres calculation (2000=100).

#### **MAIN FINDINGS**

Gross value added at producer prices of the EU-27's agricultural industry (calculated by deducting intermediate consumption from the output at producer prices of the agricultural industry) was 3.5 % higher for 2006 than the level for 2005. This level is slightly higher than the level of 2000 (3.3 %), but 2.1 % lower than the relative peak in 2004. In large part, the development of gross value added at producer prices since 2004 reflected similar developments in the value of crop output at producer prices.

In line with the increase in gross value added at producer prices in 2006, there was an average 3.9 % rise in income from agricultural activity (Indicator A). This increase resulted from a reduction in agricultural labour input (-2.7 %) and growth in real factor income (1.1 %). There were large differences in the development of income from agricultural activity between Member States. All of the Member States that joined the EU in both 2004 (with the exception of Cyprus) and 2007 recorded average incomes from agricultural activity in 2006 that were higher than in 2000, with agricultural income in the Baltic Member States doubling in this period. In contrast, the sharpest declines between 2000 and 2006 were in Greece, Ireland and Italy.

# SOURCES

Pocketbooks Agriculture – Main statistics 2005-2006 Agricultural Statistics – Data 1995-2005

# Methodologies and working papers

Handbook for EU agricultural price statistics (PDF) Regulation No 138/2004 on the economic accounts for agriculture in the Community (PDF)

#### Website data

# Agriculture

- Economic Accounts for Agriculture
- Economic accounts for agriculture values at current prices
- Economic accounts for agriculture Values at n-1 prices
- Economic accounts for agriculture Values at constant prices (2000=100)
- Economic accounts for agriculture indices: volume, price, values
- Economic accounts for agriculture Agricultural income (indicators A, B, C)
- Agricultural prices and price indices
  - Selling prices of agricultural products (absolute prices) Price indices of agricultural products



# Table 7.4: Agricultural output and value added (EUR million)

	Gross value added at producer			(	Crop outpu	ut at	Animal output at			
	prices of a	gricultural	industry	p	oroducer p	rices	p	roducer p	rices	
	1996	2001	2006	1996	2001	2006	1996	2001	2006	
EU-27	:	139 889	134 491	:	155 242	163 123	:	135 765	131 170	
Euro area (1)	106 547	110 819	104 910	118 242	121 772	126 610	93 065	97 751	93 062	
Belgium	2 431	2 289	2 413	2 903	3 035	3 224	4 009	3 869	3 593	
Bulgaria	1 005	1 803	1 548	975	1 5 1 5	1 758	875	1 531	1 109	
Czech Republic	:	1 030	786	:	1 619	1718	:	1 572	1 574	
Denmark	3 091	2 981	2 384	2 829	2 623	2 566	4 918	5 311	4 998	
Germany	13 104	16 104	12 900	19 754	18 949	18 844	19 907	20 739	19 546	
Estonia	112	158	186	157	142	169	186	228	275	
Ireland	2 323	1 988	1 847	1 248	1 312	1 465	3 863	3 778	3 780	
Greece	6 368	6 395	6 050	6 768	6 516	6 403	2 245	2 611	2 741	
Spain	19 225	20 977	20 523	17 449	19 323	20 759	11 316	13 902	13 412	
France	23 812	23 840	23 141	29 903	30 344	31 812	22 471	22 953	21 610	
Italy	24 749	25 330	24 259	24 032	24 960	25 285	13 414	14 326	13 382	
Cyprus	:	365	340	:	:	288	:	:	293	
Latvia	:	218	197	:	217	348	:	278	317	
Lithuania	456	353	321	589	561	555	471	564	720	
Luxembourg	103	95	98	77	72	82	150	149	146	
Hungary	:	1 983	1 920	:	2 587	3 137	:	2 561	1 996	
Malta	:	71	46	:	52	42	:	80	62	
Netherlands	9 061	8 589	8 451	8 697	9 779	11 118	9 302	8 684	8 152	
Austria	1 999	2 2 3 7	2 309	2 176	2 282	2 395	2 547	2 669	2 634	
Poland	:	5 791	5 334	:	7 058	6 667	:	7 137	7 772	
Portugal	2 646	2 305	2 442	3 854	3 821	3 835	2 187	2 284	2 328	
Romania	:	5 612	6 818	:	6 635	8 876	:	3 854	4 024	
Slovenia	400	359	343	513	408	478	472	521	468	
Slovakia	546	395	448	694	658	738	803	695	775	
Finland	724	669	478	1 379	1 380	1 389	1 655	1 786	1 740	
Sweden	1 2 1 0	987	1 034	1 771	1 665	1 569	2 392	2 201	2 056	
United Kingdom	8 601	7 610	7 877	7 939	7 731	7 603	11 635	11 479	11 669	
Norway	943	842	833	1 182	1 208	1 230	1 559	1 518	1 646	
Switzerland	3 324	2 823	2 390	3 448	3 028	2 595	3 433	3 359	3 100	

(1) EA-12.

Source: Eurostat (aact\_eaa01, tag00100 and tag00101)

# **Figure 7.4: Agricultural output and value added, EU-27** (2000=100)



Source: Eurostat (aact\_eaa01, tag00100 and tag00101)



**Figure 7.5: Agricultural producer and purchaser prices, EU-27** (2000=100)

Source: Eurostat (tag00047 and tag00052)

The indices give information on the trends in the producer prices of agricultural production as a whole. The sub-indices were weighted by the values of sales in 2000. Nominal indices are deflated by means of the harmonised indices of consumer prices.

The indices give information on the trends in the purchase prices of the means of agricultural production as a whole. The sub-indices were weighted by the values of purchases in 2000. Nominal indices are deflated by means of the harmonised indices of consumer prices.





# Figure 7.6: Agricultural producer and purchaser prices, 2001-06

(average annual growth rate of deflated price indices, %)

(1) Purchase prices, not available.

(2) Estonia and Cyprus, 2000-05.(3) Cyprus, Poland and Slovakia, 2000-05.

Source: Eurostat (tag00047 and tag00053)

# Figure 7.7: Income from agricultural activity (indicator A), 2001-06

(average annual growth rates, %)



(1) EA-12. Source: Eurostat (tag00057)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
EU-27	:	:	:	:	100.0	109.9	106.8	108.0	116.2	107.9	112.1
Euro area (1)	97.6	99.4	97.3	96.7	100.0	102.2	95.2	95.5	97.6	92.9	95.1
Belgium	95.6	99.7	95.2	88.8	100.0	91.7	81.0	89.5	91.1	86.2	94.1
Bulgaria	:	:	:	:	100.0	111.8	90.5	84.7	92.3	98.1	104.3
Czech Republic	:	:	97.8	82.3	100.0	127.2	99.6	87.3	138.8	143.3	152.3
Denmark	113.0	108.3	81.3	80.2	100.0	115.3	81.6	79.6	91.0	95.8	103.2
Germany	84.6	87.4	78.5	77.7	100.0	127.0	108.9	83.0	125.2	113.8	119.7
Estonia	97.7	97.5	126.3	73.7	100.0	116.7	109.2	154.8	226.5	237.1	224.7
Ireland	94.7	93.2	90.8	86.3	100.0	98.6	93.5	92.9	90.4	104.2	90.3
Greece	107.7	106.4	104.9	103.4	100.0	101.7	98.2	90.4	84.6	85.2	86.2
Spain	104.4	105.2	100.9	94.6	100.0	108.0	104.8	118.3	110.6	96.6	97.4
France	99.0	101.3	105.6	101.3	100.0	100.9	97.7	95.9	93.5	87.4	94.8
Italy	103.3	102.0	99.7	105.1	100.0	98.0	96.6	96.7	90.2	94.0	90.9
Cyprus	:	:	:	102.5	100.0	112.1	112.3	107.5	96.9	94.9	96.8
Latvia	:	:	115.9	83.2	100.0	120.5	115.9	126.2	205.2	212.3	224.2
Lithuania	:	122.8	130.0	105.3	100.0	92.6	86.0	96.6	150.4	191.4	199.5
Luxembourg	104.7	102.1	116.1	104.7	100.0	101.7	104.2	95.7	92.9	91.8	92.5
Hungary	:	:	136.8	104.5	100.0	107.9	91.4	93.4	148.6	153.9	160.5
Malta	:	:	115.0	110.3	100.0	113.7	113.9	109.3	110.7	112.1	109.2
Netherlands	111.1	119.3	106.9	99.1	100.0	93.4	79.6	85.5	80.1	84.4	97.2
Austria	105.8	97.9	94.2	93.8	100.0	114.4	108.0	108.6	110.4	107.9	114.6
Poland	:	:	113.8	98.5	100.0	115.0	103.9	96.0	180.9	163.4	180.7
Portugal	125.6	105.8	95.6	116.6	100.0	106.4	101.4	123.0	142.5	128.8	131.1
Romania	:	:	158.2	120.9	100.0	174.6	159.7	192.1	279.0	155.5	167.4
Slovenia	86.9	101.4	99.3	93.0	100.0	86.3	117.6	89.0	141.3	143.9	141.2
Slovakia	105.9	111.1	98.5	104.1	100.0	113.6	106.7	100.3	129.7	120.9	123.0
Finland	85.1	82.8	66.8	82.1	100.0	98.6	97.5	96.9	95.3	108.5	100.0
Sweden	95.7	101.1	104.5	91.1	100.0	107.8	119.2	118.0	106.4	99.1	99.6
United Kingdom	160.0	123.0	105.4	103.2	100.0	107.0	118.1	137.6	128.1	125.9	133.9

# **Table 7.5: Income from agricultural activity (indicator A)** (2000=100)

(1) EA-12.

Source: Eurostat (tag00057)

Indicator A corresponds to the deflated (real) net value added at factor cost of agriculture, per total annual work unit. The implicit price index of GDP is used as deflator.



# **7.3 AGRICULTURAL PRODUCTS**

# **INTRODUCTION**

Collecting data on agricultural products is important for understanding developments in the markets across Member States, both current (estimated production levels for the current year) and historical (to help distinguish between cycles and changing production patterns for example), for analysing the response to policy actions or testing policy scenarios. As predominantly supply side information, agricultural product data are important for understanding corresponding price developments (being of particular interest to agricultural commodity traders and policy analysts) but also can illustrate the consequences of policy decisions taken within agriculture.

#### **DEFINITIONS AND DATA AVAILABILITY**

Annual statistics on the production of 200 specific crops (principally crop areas, production and yields) are mostly covered by Council regulations (see below under methodologies), although the data for fresh fruit and vegetables are collected under gentlemen's agreements from Member States. Crop production figures relate to harvested production.

Statistics on milk, eggs and meat product are also compiled according to Community legislation. Milk production covers production on the farm of milk from cows, ewes, goats and buffaloes. Data on animals concern the population of animals at the year's end (December).

#### **MAIN FINDINGS**

The EU-27 produced 269.2 million tonnes of cereal in 2006, of which a little under half (47.4 %) was wheat, one fifth (21.0 %) barley and a further one fifth grain maize (20.9 %).

France and Germany were by far the largest cereal, sugar beet and rape producing Member States, together accounting for nearly 40 % of EU-27 cereals and sugar beet production, and almost 60 % of the EU-27's rape production in 2006.

While EU-27 production of cereals, potatoes and sugar beet decreased between 2002 and 2006, the production of rape increased. The increase in crude oil prices and policies to encourage the production and use of biofuels such as bio-diester, which is produced using rapeseed, have (at least in part) led to this development.

In the EU-27, the most important vegetables in terms of production were tomatoes, carrots and onions, while the most important fruits were apples, oranges and pears. Spain and Italy were by far the largest producer countries of fruit and fresh vegetables within the EU-27. Indeed, together these two Member States produce more fruit than all of the other Member States put together.

The principal meat product in the EU is pig meat (21.4 million tonnes for the EU-25 in 2006), significantly more than other types of meat, such as beef/veal (7.9 million tonnes in 2006). A little over one fifth (21.8 %) of pig production in the EU-25 came from Germany, the next highest contributions coming from Spain (15.1 %) and France (10.6 %). A little under one fifth (19.1 %) of beef/veal in the EU-25 was produced in France in 2006, with further significant production coming from Germany (15.1 %), Italy (14.1 %) and the United Kingdom (10.7 %). As well as meat production differences between Member States, there are also large differences in average meat consumption between countries, which are only partly explained by regional sanitary health scares; among the Member States for which data are available, the level of average meat consumption was highest in Spain at 134 kg per head of population, about double the average in the United Kingdom in 2003.

Dairy production is structured guite differently among Member States, both as a result of varying farm and dairy herd sizes as well as yields. However, milk production has been controlled under a system of milk quotas since 1984 that effectively puts a limit on the amount of milk produced. Germany and France have by far the largest quotas, and the 27.4 million tonnes of milk collected in Germany in 2005 was almost double the third highest level that was collected, in the United Kingdom. One third (33.3 %) of the milk collected in the EU in 2005 was converted into cheese, butter accounting for the next highest proportion (29.5 %). Only about one eighth (13.1 %) of the milk collected was used as drinking milk in 2005.

# SOURCES

Pocketbooks Agriculture – Main statistics 2005-2006

## Methodologies and working papers

Council Regulation (EEC) No 837/90 concerns the statistical information to be supplied by the Member States on cereals production and Council Regulation (EEC) No 959/93 concerns statistical information on crop products other than cereals.

Milk statistics are governed by Council Directive 96/16/EC and Directive 2003/107/EC of the European Parliament and of the Council.

For porcine, bovine, ovine and caprine species, the rules for producing statistics are stipulated in Directives 93/23/EEC, 93/24/EEC and 93/25/EEC and in Commission decisions 2004/760/EC, 2004/761/EC and 2004/747/EC.

#### Website data

# Agriculture

Agricultural products Crop production Poultry farming Milk and milk products Animal production

Figure 7.8: Production of cereals, EU-27, 2006 (1) (%)



Figures do not sum to 100 % due to rounding.
 Source: Eurostat (apro\_cpp\_crop)



# Table 7.6: Agricultural production of crops, 2006 (1 000 tonnes)

	Cereals (1)	Potatoes	Sugar beet (2)	Rape	Vegetables (3)	Fruit (4)
EU-27	269 186	56 702	111 905	15 812	63 561	73 914
Euro area (5)	164 504	32 618	79 181	9 861	49 610	56 141
Belgium	2 742	2 593	5 667	34	1 531	572
Bulgaria	5 532	386	27	29	778	561
Czech Republic	6 386	692	3 138	880	296	397
Denmark	8 632	1 361	2 314	342	245	71
Germany	43 475	10 031	20 647	5 337	3 012	2 588
Estonia	619	153	0	85	33	6
Ireland	2 090	404	1 395	18	274	18
Greece	3 574	855	1 600	0	3 623	5 448
Spain	19 363	2 502	6 045	9	13 575	20 038
France	61 726	6 354	29 879	4 145	5 872	10 141
Italy	20 207	1 783	4 770	6	13 495	22 112
Cyprus	67	125	0	0	140	250
Latvia	1 159	551	474	122	155	46
Lithuania	1 856	409	717	170	151	126
Luxembourg	162	16	0	16	1	25
Hungary	14 467	564	2 454	338	1 779	1 386
Malta	:	19	0	0	65	9
Netherlands	1 750	6 240	5 414	12	4 027	708
Austria	4 460	655	2 493	137	528	1 131
Poland	21 776	8 982	11 475	1 652	4 420	3 210
Portugal	1 167	611	320	0	1 671	2 159
Romania	15 759	4 0 1 6	1 152	175	4 674	2 124
Slovenia	494	107	262	5	79	265
Slovakia	2 929	263	1 371	260	140	91
Finland	3 790	576	952	148	230	17
Sweden	4 128	773	2 189	220	227	32
United Kingdom	20 878	5 684	7 150	1 674	2 542	383
Croatia	3 039	:	:	:	240	373
FYR of Macedonia	588	:	:	:	696	:
Turkey	30 427	:	:	:	25 886	14 991
Iceland	3	:	:	:	:	:
Norway	1 229	:	:	:	:	33

Excluding rice; Croatia, 2005; Turkey, 2003; Iceland, 1997.
 Ireland, 2005

(3) Spain, France and Croatia, 2005; Belgium, the Czech Republic, Poland, Portugal and Romania, 2003; Sweden, 2002; the former Yugoslav Republic of Macedonia, 2001; euro area, Germany and Ireland, 2000.

(4) Germany, Italy, Romania and Croatia, 2005; Portugal, 2003; Belgium, Bulgaria, Spain and Sweden, 2002; the Czech Republic, 2001; Ireland and the Netherlands, 2000; euro area, 1998.

(5) EA-12.

Source: Eurostat (tag00031, tag00097 and tag00112)

Cereals include wheat (common wheat and spelt and durum wheat), rye, maslin, barley, oats, mixed grain other than maslin, grain maize, sorghum, triticale, other cereals, and rice.

Vegetables include brassicas (for example, cabbage, cauliflower and broccoli), other leafy or stalked vegetables (for example, celery, leeks, lettuce, spinach and asparagus), vegetables cultivated for fruit (for example, tomatoes, cucumbers, gherkins, melons, egg-plant (aubergine), pumpkins and red pepper), root and tuber vegetables (for example, turnips, carrots, onions, garlic, beetroot and radishes), pulses (for example, peas and beans), cultivated mushrooms, wild products and other fresh vegetables.

Fruit includes apples, pears, stoned fruits (for example, peaches or apricots), nuts (for example, walnuts or hazelnuts), other top fruits (for example, figs or kiwi), berries, citrus fruits, grapes, olives and wild fruits.



# Figure 7.9: Production of cereals, 2006





Source: Eurostat (tag00104, tag00031, tag00108 and tag00106)



# Figure 7.11: Breakdown of production of vegetables, EU-27, 2006 (1)

(% of total, based on tonnes)



(1) Figures do not sum to 100 % due to rounding.

Source: Eurostat (tag00035, tag00110, tag00111 and tag00097)

Vegetable production corresponds to the harvested production of vegetables in the reference year. Harvested production includes marketed quantities, but also quantities consumed directly on the farm, losses and wastage on the holding, and losses during transport, storage and packaging. Vegetable production is the result of the activity of all agricultural holdings, specialised or non-specialised, with the exception of kitchen gardens. This agricultural production is intended for sale or for direct consumption by the producer.

# Figure 7.12: Breakdown of production of fruit, EU-27, 2006

(% of total, based on tonnes)



Source: Eurostat (tag00036, tag00114, tag00113 and tag00112)

# Table 7.7: Agricultural production related to animals

(1 000 tonnes)

	Collection of					Sheep and
	cows' milk, 2005 (1)	Butter, 2005 (2)	Cheese, 2005 (3)	Cattle, 2006 (4)	Pigs, 2006 (4)	goats, 2006
Belgium	2 845	118	64	269	1 006	1
Bulgaria	803	4	86	66	243	:
Czech Republic	2 543	43	121	80	359	2
Denmark	4 451	104	355	129	1 749	2
Germany	27 380	450	1 930	1 193	4 662	44
Estonia	571	8	28	14	35	:
Ireland	5 268	194	118	572	209	70
Greece	660	2	156	61	123	114
Spain	5 899	59	302	671	3 230	238
France	23 388	423	1 828	1 510	2 263	129
Italy	10 127	122	1 103	1 111	1 556	66
Cyprus	145	1	13	4	53	7
Latvia	502	7	32	21	38	0
Lithuania	1 200	12	79	47	106	1
Luxembourg	258	:	3	9	10	0
Hungary	1 594	11	64	34	488	1
Malta	42	:	3	1	8	0
Netherlands	10 479	160	672	355	1 230	5
Austria	2 621	30	140	215	505	0
Poland	8 825	170	536	355	2 071	1
Portugal	1 921	27	66	105	339	13
Romania	1 109	12	66	150	617	:
Slovenia	508	4	22	38	34	0
Slovakia	968	8	43	21	122	1
Finland	2 362	57	97	87	208	1
Sweden	3 163	44	118	137	264	4
United Kingdom	14 038	130	346	847	697	330

(1) Belgium and Ireland, 2004.

(2) Belgium and Ireland, 2004; Slovenia, 2002.
 (3) Belgium, Ireland and Hungary, 2004; Luxembourg, 1997.

(4) Bulgaria, 2000; Romania, 1998.

Source: Eurostat (tag00037, tag00038, tag00040, tag00044, tag00042 and tag00045)

Data covers cows' milk collected in farms by approved dairies. A distinction should be made between milk collected by dairies and milk production on the farm. Milk collection is only a part of the total use of milk production on the farm. The other part of the use of milk produced on the farm generally includes domestic consumption, direct sale and cattle feed

Data concern the total production of butter and other yellow fat dairy products.

Several cheese categories belong to the denomination cheese. They differ mainly from their moisture content. Data presented in this table relate to all cheeses but European statistics also provide information on the production of seven cheese categories with different moisture contents and compositions.

This indicator covers the carcass weight of bovine animals (calves, bullocks, bulls, heifers and cows) slaughtered in slaughterhouses and on the farm, whose meat is declared fit for human consumption.

This indicator expresses the total carcass weight of pigs slaughtered in slaughterhouses and on the farm, whose meat is declared fit for human consumption.

This indicator covers the carcass weight of sheep, including lambs, and goats slaughtered in slaughterhouses or elsewhere whose meat is declared fit for human consumption.







(1) Those Member States that are not shown, not available.

#### (2) 2002. Source: Eurostat

Apparent human consumption per capita is obtained by dividing human consumption by the number of inhabitants (resident population stated in official statistics as at 30 June). Persons normally residing in a country but temporarily absent are included in the total population figure, while foreigners residing temporarily in the country are excluded for the same reasons.

# Figure 7.14: Utilisation of milk, EU, 2005 (1) (%)



(1) Figures do not sum to 100 % due to rounding; figures are based on available data for the Member States. Source: Eurostat (apro\_mk\_farm)

# 7.4 AGRICULTURE AND THE ENVIRONMENT

## **INTRODUCTION**

Around 45 % of the EU's land area is farmed. This fact alone highlights the importance of farming for the EU's natural environment. The links between the two, however, are complex. On the one hand, farming has contributed over the centuries to creating and maintaining a variety of valuable semi-natural habitats and agricultural landscapes. While many of these are maintained by different farming practices and a wide range of wild species rely on this for their survival, agriculture can also have, on the other hand, an adverse impact on natural resources. Pollution of soil, water and air, fragmentation of habitats and loss of wildlife can be the result of agricultural practices and land use. This complex relationship has necessitated the integration of environmental concerns and safeguards into the Common Agricultural Policy (CAP), with particular attention paid to reducing the risks of environmental degradation through crosscompliance criteria (as a condition for benefiting from direct payments, farmers must comply with certain requirements, some related to environmental protection), incentives and targeted environmental measures, while encouraging farmers to continue to play a positive role in enhancing the sustainability of agroecosystems.

The importance attached to assessing the interaction between agriculture and the environment is underlined by the fact that the Commission adopted a list of 28 agri-environmental indicators (62) in 2006.

(62) COM(2006) 508 final; for more information: http://eur-lex.europa.eu/ LexUriServ/LexUriServ.do?uri=COM:2006:0508:FIN:EN:PDF

#### **DEFINITIONS AND DATA AVAILABILITY**

Organic farming is one example of a sustainable farming system. Organic farming can be defined as a method of production which places the highest emphasis on environmental protection and, with regard to livestock production, animal welfare considerations. It avoids or largely reduces the use of synthetic chemical units such as fertilisers, pesticides, additives and medicinal products. Annual data are available for the period from 1997 onwards.

The livestock density index measures the stock of animals per hectare. It is the ratio of the livestock units (converted from the number of animals using standard coefficients) per hectare of utilised agricultural area.

Irrigable area is the area that is equipped for irrigation.

#### **MAIN FINDINGS**

There is increasing consumer awareness and interest in the way that food moves from the farm to the fork. As an example of a sustainable farming system, many agricultural holdings have converted to certified organic production methods. About 11 % of all the utilised agricultural area in Austria was classified for organic agricultural production in 2005, the highest proportion among the Member States, followed by Italy with 8.4 %.

The intensive use of pesticides can have a negative impact on biodiversity and increases the risk of them finding their way into drinking water and the food chain. Total sales of pesticides vary greatly across the Member States, from particularly high levels in Belgium and Italy (above 6 kg per hectare of utilised agricultural area) to relatively low levels in Ireland, Finland and Sweden (less than 0.7 kg per hectare). To some degree, these differences reflect the climatic conditions, the types of farming that are practised, and varying price of pesticides.

# SOURCES

#### Methodologies and working papers

Commission Regulation 204/2006 on the characteristics to be surveyed for the 2007 survey on the structure of agricultural holdings Council Regulation 2092/91 defining organic farming

Food safety statistics – Inventory of data available in the EU Member States, EFTA and candidate countries Building agro environmental indicators – Focussing on the European area frame survey LUCAS

#### Website data

#### Agriculture

Organic farming Organic crop area Organic crop production and yields from fully converted areas Organic livestock Number of registered organic operators Number of registered operators processing and importing products issued from organic farming Production of organic animal products Food: from farm to fork statistics Food consumption From production to distribution - Which quality label and at which price

Inputs to the food chain

Actors involved in the food chain



# Figure 7.15: Area occupied by organic farming, 2005 (% of UAA)



Source: Eurostat (food\_in\_porg1)

# Figure 7.16: Sales of pesticides (1)

(kg of active ingredient per hectare of utilised agricultural area)



(1) Germany, the Netherlands, Austria, Portugal and Sweden, 2005; France, 2004; Ireland, 2003; Belgium, Denmark and Italy, 2002; Spain and Finland, 2001; Greece and Luxembourg, 1999; the United Kingdom, 1998; remaining Member States, not available.

Source: Eurostat (tag00084 and agr\_is )

Total volume of pesticides sold in the Member States. The total is the sum of fungicides, herbicides, insecticides and other pesticides.

# Table 7.8: Environmental and agricultural indicators, 2005

	Utilised agricultural area	Organic crop area	Total organic		Livestock density unit
	(UAA)	(fully converted)	area	Irrigable area	(livestock units
	(1 000 hectares)	(% UAA) (1)	(% UAA) (1, 2)	(% UAA)	per km²)
Belgium	1 386	1.4	1.7	1.6	2.8
Bulgaria	2 729	:	:	4.1	0.5
Czech Republic	3 558	6.4	7.2	1.3	0.6
Denmark	2 590	5.1	5.2	16.7	1.8
Germany	17 035	:	4.7	:	1.1
Estonia	829	4.4	7.2	:	0.4
Ireland	4 2 1 9	0.6	0.8	0.0	1.5
Greece	3 984	5.2	7.2	40.0	0.6
Spain	24 855	1.9	3.2	15.1	0.6
France	27 591	1.5	2.0	9.8	0.8
Italy	12 708	5.8	8.4	31.3	0.8
Cyprus	152	0.2	1.1	30.3	1.6
Latvia	1 702	1.2	7.0	0.0	0.3
Lithuania	2 792	0.5	2.3	0.2	0.5
Luxembourg	129	2.1	2.4	0.0	1.2
Hungary	4 267	2.0	3.0	3.6	0.6
Malta	10	0.0	0.1	29.5	4.5
Netherlands	1 958	2.4	2.5	20.8	3.3
Austria	3 266	:	11.0	3.7	0.8
Poland	14 755	0.3	0.6	0.8	0.7
Portugal	3 680	3.0	6.3	16.8	0.6
Romania	13 907	:	:	5.8	0.5
Slovenia	485	3.3	4.8	0.9	1.1
Slovakia	1 879	1.4	4.8	9.6	0.4
Finland	2 264	6.0	6.5	3.1	0.5
Sweden	3 192	6.3	7.0	5.2	0.6
United Kingdom	15 957	3.3	3.8	1.3	0.9
Norway	1 035	3.5	4.2	11.3	1.2

(1) Data for organic farming: Luxembourg and Poland, 2004.

(2) Data for total organic area: fully converted area and area under conversion.

Source: Eurostat (agr\_is, tag00098, food\_in\_porg1, tag00095 and tsdpc450)

The area which fulfills all the conditions of production established in Regulation (EEC) No 2092/91can be considered to be organic.

Irrigable area is the maximum area which could be irrigated in the reference year using the equipment and the quantity of water normally available on the holding; the total irrigable area may differ from the sum of the areas provided with irrigation equipment since the equipment may be mobile and therefore utilisable on several fields in the course of a harvest year; capacity may also be restricted by the quantity of water available or by the period within which mobility is possible.

The livestock density index provides the number of Livestock Unit (LSU) per hectare of utilised agricultural area. The LSU is a reference unit which facilitates the aggregation of livestock from various species and ages. The Eurofarm LSU coefficients, which are at the basis of this indicator, are established by convention (originally, they were related to the animals' feed requirements, the reference being a dairy cow with an annual yield of 3 000 kg milk, without additional concentrated feedingstuffs). In the interpretation of the livestock density index, the limits of this indicator, are: equidae, cattle, sheep, goats, pigs, poultry and rabbits.

# 7.5 FORESTRY

# **INTRODUCTION**

The EU's major objectives in relation to forestry are:

- the promotion of the sustainable development of the EU forestry sector as a contribution to rural development and, in particular, to the creation and preservation of jobs in rural areas.
- the protection of the natural environment and forest heritage by ensuring the role of forests and forestry in soil protection, erosion control, water regulation, improvement of air quality, carbon sequestration, mitigation and adaptation of climate change effects, and conservation of biodiversity;
- to enhance the sustainable forest management within the framework of the internal market, and in line with the Union's international obligations;
- to contribute to the competitiveness of the EU forest-based industries;
- to improve forest monitoring instruments in accordance with the requirements of existing environmental agreements;
- to increase the use of sustainably produced wood and other forest products, as environment-friendly and climate-neutral sources of materials and energy;
- to promote sustainable and equitable forest management as a means of reducing poverty and thus contribute effectively to the EU's development policy.

In 2006 the Commission underpinned its support for enhancing sustainable forest management and the multifunctional role of forests by adopting an EU forest action plan. The action plan provides a framework for forest-related actions at Community and Member States levels and will serve as an instrument of coordination between Community actions and the forest policies of the Member States.

# **DEFINITIONS AND DATA AVAILABILITY**

For many years, Eurostat has worked in close cooperation with international organisations in the Intersecretariat Working Group (IWG) on Forest Sector Statistics, with the aim of reducing the duplication of work. The IWG brings together Eurostat, the United Nations Economic Commission for Europe (UNECE), the Food and Agriculture Organisation of the United Nations (FAO) and the International Tropical Timber Organisation (ITTO) in collecting forest sector statistics; the European Commission's Directorates-General for Agriculture and Rural Development, for Enterprise and Industry, and for the Environment are also represented.

The primary tool for statistical cooperation is the joint Eurostat/UNECE/FAO/ITTO forest sector questionnaire (JFSQ) on production and trade of roundwood and forest industry products, which is used by all organisations; each agency collects data from the countries for which it is responsible. Within this framework, Eurostat is responsible for the replies of EU and EFTA Member States

# **MAIN FINDINGS**

There was strong growth in the volume of EU-27 roundwood production in 2005 to 426 million cubic metres, underlining the upward trend noted since 2001 when 358 million cubic metres were produced. Most of the growth in roundwood output within the EU-27 in 2005 came from the additional 31.5 million cubic metres produced in Sweden. Almost 80 % of the roundwood production in the EU-27 in 2005 was of coniferous wood, a proportion that appears to be rising. There was also strong growth in the volume of EU-27 sawnwood production in 2005 to 110 million cubic metres (most of which was contributed by the rise in production in Germany), almost 12 million cubic metres more than was produced by the EU-27 in 2001. In the decade through to 2005, the production of paper and paperboard in the EU-27 also increased by a little over one-quarter (28 %).

# SOURCES

**Pocketbooks** Forestry Statistics - 2007 edition

Methodologies and working papers

Manual on the Economic Accounts for Agriculture and Forestry EAA/EAF 97 (Rev.1.1) Joint Forest Sector Questionnaire (JFSQ)

# Website data

Forestry

Economic Accounts for Forestry Forestry statistics

# Table 7.9: Wood production

(1 000 m³)

		Total rou	Indwood	productio	n	Total sawnwood production				
	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
EU-27	358 048	369 122	386 747	393 059	425 693	97 760	99 045	102 100	105 876	109 594
Euro area	189 145	189 894	201 853	207 250	207 364	60 197	60 252	61 280	63 642	64 946
Belgium	4 2 1 5	4 500	4 765	4 850	4 950	1 275	1 175	1 2 1 5	1 2 3 5	1 285
Bulgaria	3 992	4 833	4 833	5 986	5 862	332	332	332	569	569
Czech Republic	14 374	14 541	15 140	15 601	15 510	3 889	3 800	3 805	3 940	4 0 0 3
Denmark	1 613	1 446	1 627	1 516	2 285	283	244	248	196	196
Germany	39 483	42 380	51 182	54 504	56 946	16 131	17 119	17 596	19 538	22 121
Estonia	10 200	10 500	10 500	6 800	6 800	1 623	1 825	1 954	2 029	2 200
Ireland	2 455	2 646	2 683	2 562	2 648	925	818	1 005	939	894
Greece	1 916	1 591	1 673	1 694	1 523	123	196	191	191	191
Spain	15 131	15 839	16 105	16 290	15 532	4 275	3 524	3 630	3 730	3 660
France	39 831	35 449	32 828	33 647	34 420	10 518	9 815	9 539	9 774	9 950
Italy	8 099	7 511	8219	8 697	8 049	1 600	1 605	1 590	1 580	1 590
Cyprus	18	15	12	10	10	9	7	6	5	4
Latvia	12 841	13 466	12 916	12 754	12 843	3 840	3 947	3 951	3 988	4 2 2 7
Lithuania	5 700	6 115	6 2 7 5	6 120	6 045	1 200	1 300	1 400	1 450	1 500
Luxembourg	270	257	257	277	277	133	133	133	133	133
Hungary	5 811	5 836	5 785	5 660	5 940	264	293	299	205	215
Malta	0	0	0	0	0	0	0	0	0	0
Netherlands	865	839	1 044	1 026	1 110	268	258	269	273	279
Austria	13 467	14 846	17 055	16 483	16 471	10 227	10 415	10 473	11 133	11 074
Poland	25 016	27 137	30 836	32 733	31 944	3 083	3 180	3 360	3 743	3 930
Portugal	8 946	8 742	9 673	10 869	11 106	1 492	1 298	1 383	1 060	1 0 1 0
Romania	12 424	15 154	15 440	15 809	14 501	3 059	3 696	4 246	4 588	4 321
Slovenia	2 2 5 7	2 283	2 591	2 551	2 733	460	506	511	512	490
Slovakia	5 788	5 782	6 355	7 240	9 302	1 265	1 265	1 651	1 837	2 621
Finland	52 210	53 011	53 778	53 800	51 599	12 770	13 390	13 745	13 544	12 269
Sweden	63 200	66 600	67 100	67 300	98 700	15 988	16 172	16 800	16 900	18 000
United Kingdom	7 926	7 802	8 075	8 281	8 589	2 728	2 731	2 768	2 783	2 862
Croatia	3 468	3 641	3 847	3 841	4 018	574	640	585	582	624
Turkey	15 337	16 122	15 810	16 503	16 185	5 036	5 579	5 615	6 2 1 5	6 445
Iceland	0	0	0	0	:	0	0	0	0	:
Norway	8 996	8 652	8 2 9 8	8 782	9 667	2 253	2 2 2 5	2 186	2 2 3 0	2 331
Switzerland	5 662	4 557	5 1 2 0	5 1 3 2	5 043	1 400	1 392	1 345	1 505	1 591
Canada	185 853	196 593	190 125	208 406	199 345	53 708	58 481	56 892	60 952	60 187
Russia	164 700	165 000	174 000	178 400	186 500	19 600	19 240	20 155	21 355	22 500
United States	449 114	448 000	448 513	461 739	471 862	86 015	88 643	86 159	93 067	95 619

Source: Eurostat (tag00072 and tag00073), UNECE

Roundwood production (the term is used as a synonymous term for removals) comprise all quantities of wood removed from the forest and other wooded land or other felling site during a certain period of time. It is reported in cubic metres underbark (i.e excluding bark).

Sawnwood: wood that has been produced either by sawing lengthways or by a profile-chipping process and that exceeds 6 mm in thickness. It includes planks, beams, joists, boards, rafters, scantlings, laths, boxboards and lumber, etc., in the following forms: unplaned, planed, end-jointed, etc. It is reported in cubic metres solid volume (m<sup>3</sup>).





Figure 7.17: Roundwood production per capita, 2005

Source: Eurostat (tag00072 and tps00001), UNECE

(m<sup>3</sup>)



Figure 7.18: Sawnwood production per capita, 2005

Source: Eurostat (tag00073 and tps00001), UNECE



# Figure 7.19: Total roundwood production, EU-27 (million m<sup>3</sup> under bark)

Source: Eurostat (for\_rdw51), UNECE

Table 7.10: Total paper and paperboard production (1 000 tonnes)

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
EU-27	76 238	77 372	80 282	82 151	84 782	89 698	88 028	90 545	92 646	97 289	97 549
Euro area	56 507	57 494	59 716	61 285	63 333	67 276	65 739	68 053	69 562	73 129	73 310
Belgium (1)	1 416	1 509	1 618	1 831	1 666	1 727	1 662	1 704	1 919	1 957	1 897
Bulgaria	153	153	153	153	126	136	171	171	171	326	326
Czech Republic	756	741	750	768	770	804	864	870	920	934	969
Denmark	362	367	390	393	397	263	389	384	388	402	423
Germany	15 284	15 458	15 911	16 311	16 742	18 182	17 879	18 526	19 310	20 391	21 679
Estonia	36	41	38	43	48	54	70	75	64	66	68
Ireland	42	42	42	42	42	43	43	44	45	45	45
Greece	833	749	604	622	352	496	495	493	493	510	510
Spain	3 684	3 768	3 668	3 545	4 4 3 6	4 765	5 131	5 365	5 437	5 526	5 697
France	8 302	8 420	8 867	9 161	9 603	10 006	9 625	9 809	9 939	10 255	10 332
Italy	6 949	7 194	7 929	8 2 5 4	8 568	9 129	8 926	9 317	9 4 9 1	9 667	9 999
Cyprus	0	0	0	0	0	0	0	0	0	0	0
Latvia	18	19	21	18	19	16	24	33	38	38	39
Lithuania	70	64	42	37	37	53	68	78	92	99	113
Luxembourg (2)	:	:	:	:	0	0	0	0	0	0	0
Hungary	321	363	410	482	473	506	495	517	546	579	571
Malta	0	0	0	0	0	0	0	0	0	0	0
Netherlands	2 962	3 011	3 130	3 180	3 2 5 6	3 333	3 174	3 346	3 3 3 9	3 459	3 471
Austria	3 614	3 720	3 884	4 009	4 1 4 1	4 385	4 2 5 0	4 4 1 9	4 565	4 852	4 950
Poland	1 477	1 528	1 660	1 718	1 839	1 934	2 086	2 342	2 461	2 635	2 7 3 2
Portugal	1 050	1 086	1 1 1 4	1 136	1 163	1 290	1 419	1 537	1 530	1 664	1 577
Romania	375	288	298	301	289	340	395	370	443	454	371
Slovenia	449	456	430	491	417	411	633	704	436	767	762
Slovakia	739	701	674	597	803	925	988	710	674	798	858
Finland	11 922	12 081	12 519	12 703	12 947	13 509	12 502	12 789	13 058	14 036	12 391
Sweden	9 120	9 2 3 6	9 654	9 879	10 07 1	10 786	10 534	10 724	11 061	11 589	11 736
United Kingdom	6 305	6 375	6 476	6 477	6 576	6 605	6 204	6218	6 2 2 6	6 2 4 0	6 033
Croatia	324	304	395	403	417	406	451	467	463	464	592
Turkey	1 305	1 265	1 282	1 357	1 349	1 567	1 513	1 643	1 643	1 643	1 643
Iceland	0	0	0	0	:	:	:	:	:	:	:
Norway	2 283	2 246	2 162	2 260	2 2 4 1	2 300	2 2 2 0	2 114	2 186	2 294	2 2 2 3
Switzerland	1 145	1 282	1 462	1 592	1 755	1 616	1 750	1 805	1 818	1 777	1 751
United States	76 477	82 726	86 916	86 469	88 670	86 252	81 2 4 9	81 879	80 712	82 084	81 437

(1) 1995-98, including Luxembourg.
 (2) 1995-98, included within Belgium.

Source: Eurostat (tag00074), UNECE

Paper and paperboard comprises the sum of graphic papers; sanitary and household papers; packaging materials and other paper and paperboard. It excludes manufactured paper products such as boxes, cartons, books and magazines.





Figure 7.20: Paper and paperboard production per capita, 2005 (1) (tonnes)

Source: Eurostat (tag00074 and tps00001), UNECE

Figure 7.21: Forest trees damaged by defoliation, 2006 (%)



(1) 2005.

(2) Not available

Source: Eurostat (tsdnr530), The Joint Research Centre

The indicator is defined as the percentage of trees on forest and other wooded land in the defoliation classes moderate, severe and dead.

# **7.6 FISHERIES**

### **INTRODUCTION**

The first common measures in the fishing sector date from 1970. They set rules for access to fishing grounds, markets and structures. All these measures became more significant when, in 1976, Member States followed an international movement and agreed to extend their rights to marine resources from 12 to 200 miles from their coasts. After years of difficult negotiations, the common fisheries policy (CFP), the EU's instrument for the management of fisheries and aquaculture, was born in 1983.

The EU has a common fisheries policy in order to manage fisheries for the benefit of both fishing communities and consumers, and for the protection of resources. Common measures are agreed in four main areas:

- conservation to protect fish resources by regulating the amount of fish taken from the sea, by allowing young fish to reproduce, and by ensuring that measures are respected;
- structures to help the fishing and aquaculture industries adapt their equipment and organisations to the constraints imposed by scarce resources and the market;
- markets to maintain a common organisation of the market in fish products and to match supply and demand for the benefit of both producers and consumers;
- relations with the outside world to set-up fisheries agreements and to negotiate at an international level within regional and international fisheries organisations for common conservation measures in deep-sea fisheries.

Fish stocks need to renew themselves as fish die through natural causes, fishing, or other causes. The CFP sets maximum quantities of fish that can be safely caught every year: the total allowable catch (TAC). Each country's share is called a national quota.

The 2002 reform of the CFP identified the need to limit fishing efforts, the level of catches, and to enforce certain technical measures. The Financial Instrument for Fisheries Guidance (FIFG) funds projects in all branches of fishing and aquaculture with respect to the modernisation of the fishing fleet, as well as the removal of excess fishing capacity. The FIFG covers the period 2000-06 and will be replaced by the European Fisheries Fund (EFF) covering the period 2007-13.

As regards fleet management, the 2002 CFP reform introduced a simpler system for limiting fishing capacity within the EU fleet. The new system gives more responsibility to the Member States to achieve a better balance between the fishing capacity of their fleets and available resources.

## **DEFINITIONS AND DATA AVAILABILITY**

Fishery statistics are derived from official national sources either directly by Eurostat for the EEA member countries or indirectly through other international organisations for other countries. The data are collected using internationally agreed concepts and definitions developed by the Coordinating Working Party on Fishery Statistics, comprising Eurostat and several other international organisations with responsibilities in fishery statistics.

#### **MAIN FINDINGS**

Almost three-quarters (73 %) of catches made by the EU-27 in 2005 were in the North-East Atlantic. However, there has been a marked decline in annual catches by the EU-27 in all regions; between 1995 and 2005, there was a decline in catches from 8.0 million tonnes to 5.6 million tonnes, and a reduction in the proportion of the world catch taken by the EU-27 from 8.6 % to 6.0 %. Shortfalls in catches have been met by rising imports from non-member countries (the value of extra-EU-27 imports of fishery products increasing by 32 % between 1999 and 2005) rather than from rising aquaculture production in the EU-27 (which grew by 7.5 % between 1995 and 2005).



# SOURCES

**Pocketbooks** 

Fishery statistics – Data 1990-2006

#### Methodologies and working papers

## **Catch statistics:**

Commission Regulation 448/2005 on the submission of nominal catch statistics by Member State fishing in the North-East Atlantic

Commission Regulation 1636/2001 on the submission of catch and activity statistics by Member State fishing in the North-West Atlantic

Commission Regulation 1638/2001 on the submission of nominal catch statistics by Member State fishing in certain areas other than those of the North Atlantic

# Aquaculture:

Council Regulation 788/96 on the submission of statistics on aquaculture production

## Landings:

Council Regulation 2104/93 on the submission of data on the landings of fishery products in Member States

## Fishing fleet:

Commission Regulation 26/2004 on the Community Fleet Register

## Website data

#### **Fisheries**

Catches by fishing area Aquaculture production Total fishery production (catch + aquaculture) Landings of fishery products Foreign trade in fishery products



#### Figure 7.22: Fishing fleet, 2006 (1)

(1) In 2006, EU-25 total power was 7 068 471 kW and total tonnage was 1 955 879 GT; the Czech Republic, Luxembourg, Hungary, Austria and Slovakia are landlocked countries without a marine fishing fleet.

Source: Eurostat (tag00082 and tag00083), Directorate-General for Maritime Affairs and Fisheries

The total power, expressed in kilowatts, of the fishing fleets of EU Member States, Iceland and Norway. The EU data are supplied by the Directorate-General for Maritime Affairs and Fisheries from the EU's administrative file of fishing vessels, with the data for Iceland and Norway being supplied to Eurostat directly by the national authorities. In general the data refer to the fleet size on 31 December of the reference year.

The total tonnage of the fishing fleets of EU Member States, Iceland and Norway. The period covered by this table is that of the transition of measuring the tonnage in gross registered tonnage (GRT) to that in gross tonnage (GT). This change which has taken place at different speeds within the national administrations gives rise to the possibility of non-comparability of data over time and, particularly for the earlier period, of non-comparability between countries.

# Table 7.11: Total catches in all fishing regions

_		(1 000 t	onnes live	weight)		(% of world catch)				
	2002	2003	2004	2005	2006	2001	2002	2003	2004	2005
EU-27	6 369	5 934	5 960	5 632	:	7.4	6.8	6.5	6.3	6.1
Belgium	29	27	27	25	23	0.0	0.0	0.0	0.0	0.0
Bulgaria	15	12	8	5	8	0.0	0.0	0.0	0.0	0.0
Czech Republic	5	5	5	4	5	0.0	0.0	0.0	0.0	0.0
Denmark	1 442	1 0 3 1	1 090	911	868	1.6	1.5	1.1	1.1	1.0
Germany	224	261	262	286	279	0.2	0.2	0.3	0.3	0.3
Estonia	101	79	88	100	87	0.1	0.1	0.1	0.1	0.1
Ireland	282	266	280	262	211	0.4	0.3	0.3	0.3	0.3
Greece	96	93	93	92	97	0.1	0.1	0.1	0.1	0.1
Spain	893	897	856	768	711	1.2	0.9	1.0	0.9	0.9
France	706	709	671	595	583	0.7	0.7	0.8	0.7	0.6
Italy	270	296	279	298	312	0.3	0.3	0.3	0.3	0.3
Cyprus	2	2	2	2	2	0.1	0.0	0.0	0.0	0.0
Latvia	114	115	125	151	140	0.1	0.1	0.1	0.1	0.2
Lithuania	150	157	162	140	153	0.2	0.2	0.2	0.2	0.1
Luxembourg	0	0	0	0	:	0.0	0.0	0.0	0.0	0.0
Hungary	7	7	7	8	:	0.0	0.0	0.0	0.0	0.0
Malta	1	1	1	1	1	0.0	0.0	0.0	0.0	0.0
Netherlands	464	526	522	549	433	0.6	0.5	0.6	0.5	0.6
Austria	0	0	0	0	:	0.0	0.0	0.0	0.0	0.0
Poland	223	180	192	156	:	0.2	0.2	0.2	0.2	0.2
Portugal	202	212	221	212	229	0.2	0.2	0.2	0.2	0.2
Romania	7	10	5	6	7	0.0	0.0	0.0	0.0	0.0
Slovenia	2	1	1	1	1	0.0	0.0	0.0	0.0	0.0
Slovakia	2	2	2	2	2	0.0	0.0	0.0	0.0	0.0
Finland	146	122	135	132	146	0.2	0.2	0.1	0.1	0.1
Sweden	295	287	270	256	269	0.3	0.3	0.3	0.3	0.3
United Kingdom	690	635	655	669	616	0.8	0.7	0.7	0.7	0.7
Croatia	21	20	30	35	:	0.0	0.0	0.0	0.0	0.0
FYR of Macedonia	0	0	0	0	:	0.0	0.0	0.0	0.0	0.0
Turkey	567	508	550	426	:	0.6	0.6	0.6	0.6	0.5
Iceland	2 145	2 002	1 750	1 661	1 345	2.1	2.3	2.2	1.8	1.8
Liechtenstein	0	0	0	0	:	0.0	0.0	0.0	0.0	0.0
Norway	2 740	2 549	2 525	2 393	2 245	2.9	2.9	2.8	2.6	2.6
Switzerland	2	2	2	1	:	0.0	0.0	0.0	0.0	0.0
Japan	4 489	4 784	4 427	4 178	:	5.1	4.8	5.2	4.6	4.5
United States	5 006	4 989	5 144	4 846	:	5.3	5.3	5.5	5.4	5.2

Source: Eurostat (tag00076 and tag00077), FAO

The total annual catch of fishery products by EU Member States, Iceland and Norway and other major fishing nations from all oceans and internal waters of the world. The data are expressed in the live weight equivalent of the landings. This is the weight as the product is taken from the water (that is, before processing) but excludes any products which, for a variety of reasons, are not landed.

The total annual catches of EU Member States, the EEA (that is, the EU plus Iceland and Norway), Japan and the USA as a percentage of the total world catch from all oceans and internal waters.



# Figure 7.23: Total catches in all fishing regions, EU-27

Source: Eurostat (tag00076 and tag00077), FAO

**Figure 7.24: Catches by fishing region, EU-27, 2005** (%, based on tonnes)



Source: Eurostat (tag00078, tag00079, tag00080 and tag00081)

The total annual catches by EU Member States, Iceland, Norway and other major fishing nations in the north-east Atlantic. This region of the Atlantic Ocean, is roughly the area to the east of 42°W longitude and north of 36°N latitude. It includes the waters of the Baltic Sea. The data are expressed in the live weight equivalent of the landings. This is the weight as the product is taken from the water (that is, before processing) but excludes any products which, for a variety of reasons, are not landed.

North-west Atlantic: this region of the Atlantic Ocean, is roughly the area to the west of 42°W longitude and north of 35°N latitude.

Eastern central Atlantic: this region of the Atlantic Ocean, is roughly the area to the east of 40°W longitude between latitudes 36°N and 6°S.

Mediterranean: this region, known as FAO Major Fishing Area 37, comprises the Mediterranean and the adjacent Black Sea.



# **Figure 7.25: Trade in fishery products, 2006** (EUR million)

Source: Eurostat (tag00093 and tag00094)

Data on trade in fishery products have been extracted from the COMEXT foreign trade database. Fishery products include edible fishery products (fish, crustaceans and molluscs), inedible products (meals, oils and fats as well as sponges, corals, etc.. ) and aquatic plants.



Figure 7.26: Extra-EU trade in fishery products, EU-27 (EUR million)

Source: Eurostat (fish\_trade\_eu)



# Table 7.12: Total aquaculture production

(1 000 tonnes live weight)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
EU-27	1 230	1 2 5 4	1 378	1 432	1 402	1 389	1 277	1 347	1 332	1 272	:
Belgium	1	1	1	2	2	2	2	1	1	1	:
Bulgaria	5	5	4	8	4	3	2	4	2	3	3
Czech Republic	18	18	17	19	19	20	19	20	19	20	20
Denmark	42	40	42	43	44	42	32	38	43	39	28
Germany	83	65	73	80	66	53	50	74	57	45	38
Estonia	0	0	0	0	0	0	0	0	0	1	1
Ireland	35	37	42	44	51	61	63	63	58	60	53
Greece	40	49	60	84	95	98	88	101	97	106 :	
Spain	232	239	315	321	312	313	259	273	299	222	295
France	286	287	268	265	267	252	252	240	261	258 :	
Italy	189	196	209	210	217	218	184	192	118	181	:
Cyprus	1	1	1	1	2	2	2	2	2	2	4
Latvia	0	0	0	0	0	0	0	1	1	1	1
Lithuania	2	2	2	2	2	2	2	2	3	2	2
Luxembourg	-	-	-	-	-	-	-	-	-	-	-
Hungary	8	9	10	12	13	13	12	12	13	14	15
Malta	2	2	2	2	2	1	1	1	1	1	7
Netherlands	100	98	120	109	75	57	54	67	76	68	31
Austria	3	3	3	3	3	2	2	2	2	2	3
Poland	28	29	30	34	36	35	33	35	35	37	36
Portugal	5	7	8	6	8	8	8	8	7	6	7
Romania	14	11	10	9	10	11	9	9	8	7	9
Slovenia	1	1	1	1	1	1	1	1	2	2	1
Slovakia	1	1	1	1	1	1	1	1	1	1	1
Finland	18	16	16	15	15	16	15	13	13	14	13
Sweden	8	7	5	6	5	7	6	6	6	6	8
United Kingdom	110	130	137	155	152	171	179	182	207	173	172
Croatia	3	4	6	6	7	10	8	8	13	14	:
FYR of Macedonia	1	1	1	2	2	1	1	1	1	1	:
Turkey	33	45	57	63	79	67	61	80	94	119	:
Iceland	4	4	4	4	4	4	4	6	9	8	:
Norway	322	368	411	476	491	511	551	584	637	657	709
Switzerland	1	1	1	1	1	1	1	1	1	1	:
Japan	1 349	1 340	1 2 9 0	1 315	1 2 9 2	1 311	1 385	1 302	1 261	1 2 5 4	:
United States	393	438	445	479	456	479	497	544	607	472	:

Source: Eurostat (tag00075), FAO

Total production of fish, crustaceans, molluscs and other aquatic organisms from aquaculture (fish-farming). The data are expressed in the live weight equivalent of the production and is the weight as the product as taken from the water. Thus, for example, in the case of molluscs it includes the shell.

# Figure 7.27: Aquaculture production, EU-27

(1 000 tonnes live weight)



Source: Eurostat, FAO

# International trade

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# 8.1 TRADE INTEGRATION OF GOODS AND SERVICES 8.2 INTERNATIONAL TRADE IN SERVICES 8.3 INTERNATIONAL TRADE IN GOODS 361

EU trade policy is a Community competence, implemented through the European Commission. The legal basis for this Community competence resides in Article 133 of the European Community Treaty. Consultation between the Commission and the Member States takes place in the so-called 'Article 133 Committee'. This advisory committee is composed of representatives from the 27 Member States and the European Commission. It discusses the full range of trade policy issues affecting the Community including multilateral, bilateral and unilateral instruments.

Multilateral trade issues are dealt with under the auspices of the World Trade Organisation (WTO). Its membership covers more than 150 countries, with several candidate members in the process of joining. The WTO sets the global rules for trade, provides a forum for trade negotiations and for settling disputes between members. The European Commission negotiates with its WTO partners on behalf of the EU Member States.

The EU is one of the driving forces behind the current round of multilateral trade negotiations in the WTO, the Doha Development Agenda (DDA). The DDA comprises further market-

# EUROSTAT DATA IN THIS DOMAIN:

Economy and finance Balance of payments – International transactions External trade External trade aggregated data External trade detailed data

opening and additional rule-making, underpinned by commitments to take measures necessary to integrate developing countries into the world trading system. The main objective of this latest round is to put development at the heart of the world trade system in a way that it will help combat poverty. However, at its meeting on 27 and 28 July 2006, the General Council, the WTO's highest-level decision-making body, supported a recommendation from its director-general to suspend the Doha negotiations in order to allow participants to reflect seriously on further courses of action. Among the obstructions to a new deal are disagreements in relation to agricultural market access and domestic support for the agriculture sector and the opening of trade in services <sup>(63)</sup>. In November 2006, there was a 'flexible' resumption of work that led through to the circulation of draft modalities texts (negotiating proposals) by the Chairs of the Agriculture and Non-Agricultural Market Access (NAMA) negotiating groups in July 2007. Discussion of these texts as part of the full multilateral process restarted in the autumn of 2007.

(63) For more information: http://ec.europa.eu/trade and http://www.wto.org for further information.

# 8.1 TRADE INTEGRATION OF GOODS AND SERVICES

## **INTRODUCTION**

International trade statistics are used extensively by public and private sector decision-makers. For example, businesses can carry out market research and define their commercial strategy. They are also used extensively by public body decision makers at an international, EU and national level. In the case of Community authorities, international trade statistics help in the preparation of multilateral and bilateral trade negotiations, in defining and implementing anti-dumping policies, in evaluating the progress of the Single Market or the integration of European economies.

#### **DEFINITIONS AND DATA AVAILABILITY**

Within the EU, there are two main sources for statistics on international trade. One source is external trade statistics (ETS), which provides information on trade in goods, collected on the basis of customs and VAT declarations. ETS provide information on the value and volumes (quantity) of international trade in goods with great detail concerning the type of commodity. The second main source is the balance of payments statistics (BoP) that register all the transactions of an economy with the rest of the world. The current account of the BoP provides information not only on international trade in goods (generally the largest category), but also on international transactions in services, income (from employment and investment) and current transfers. For all these transactions, the BoP registers the value of exports (credits) and imports (debits), the difference of which is usually referred to as the balance (surplus or deficit).

Trade integration of goods and services is measured as the average value of debits and credits (summed together and divided by two) expressed as a share of GDP. This indicator is calculated for both goods and services, based on BoP data; higher values indicate higher integration within the international economy. It is normal that smaller countries will display a higher recourse to international trade, as they are more likely to import a range of goods and services that are not produced within the domestic market.

#### **MAIN FINDINGS**

The economy of the EU-27 was more integrated with the international economy in 2006 (in terms of the credits and debits as a share of GDP) than at any time in the previous five years. The average value of EU-27 trade flows of goods corresponded to 10.8 % of GDP in 2006, a much higher ratio than the relative low of 8.6 % in 2003, reflecting the broad upturn in economic activity. Although the volume of international trade in services is less than that for goods, the trade integration of services also rose from a relative low in 2003 to 3.6 % of GDP in 2006.

The EU-27 had a trade deficit with the rest of the world in goods that equated to -1.5 % of GDP in 2006, in contrast to a surplus in services that corresponded to 0.6 % of GDP. There were stark contrasts among the Member States, reflecting among other factors, the relative size of the country and differences in respective economic structures. Trade deficits in goods were equal to over one fifth of GDP in Cyprus, Latvia and Bulgaria. In contrast, the trade surpluses in goods recorded in Ireland, Germany and the Netherlands were equal to 14.3 %, 6.8 % and 6.7 % of GDP respectively in 2006, the highest relative levels among the Member States. Relative to GDP, there were strong trade surpluses in services recorded in Luxembourg, Cyprus and Malta in 2006.

# International trade

# **SOURCES Pocketbooks** EU economic data pocketbook **Statistical books** European Union international transactions - analytical aspects - detailed tables on CD-ROM - data 1991-2001 (PDF) Methodologies and working papers Differences between balance of payments and foreign trade statistics International Monetary Fund balance of payments manual (BPM5) Balance of payments vade-mecum Website data External trade aggregated data External trade long-term indicators Share of EU in the world trade

Balance of payments - international transactions

Balance of payments statistics

Euro area balance of payments (source ECB)

European Union balance of payments Balance of payments by country

Figure 8.1: Trade integration, EU-27

(% of GDP)



Source: Eurostat (tsier064 and tsier065)

Trade integration of goods as a percentage of GDP (gross domestic product). Average of imports and exports of the item goods of the balance of payments divided by GDP. If the index increases over time it means that the country/zone is becoming more integrated within the international economy.

Trade integration of services as a percentage of GDP (gross domestic product). Average of imports and exports of the item services of the balance of payments divided by GDP. If the index increases over time it means that the country/zone is becoming more integrated within the international economy.

		Goods			Services			
	Exports	Imports	Balance	Exports	Imports	Balance		
EU-27	10.1	11.5	-1.5	3.8	3.3	0.6		
Euro area	16.5	16.2	0.3	5.1	4.6	0.4		
Belgium	71.3	70.4	1.0	15.0	13.4	1.6		
Bulgaria	47.8	71.7	-23.9	15.9	12.0	4.0		
Czech Republic	66.7	64.0	1.8	9.6	7.9	0.9		
Denmark	32.7	31.8	0.9	19.1	16.8	2.3		
Germany	38.8	32.0	6.8	6.0	7.5	-1.6		
Estonia	60.5	75.6	-15.1	22.7	15.1	7.6		
Ireland	47.5	33.2	14.3	31.5	35.5	-4.0		
Greece	:	:	:	:	:	:		
Spain	17.5	25.8	-8.2	8.6	6.3	2.2		
France	21.5	23.2	-1.7	5.2	4.8	0.4		
Italy	22.5	23.1	-0.7	5.3	5.4	-0.1		
Cyprus	6.9	34.4	-27.5	41.3	13.8	20.7		
Latvia	30.9	55.6	-24.7	12.4	12.4	6.2		
Lithuania	46.4	63.2	-12.6	12.6	8.4	4.2		
Luxembourg	38.4	50.2	-11.8	121.1	70.9	50.2		
Hungary	65.6	66.7	-1.1	12.2	10.0	1.1		
Malta	39.8	59.7	-19.9	39.8	19.9	19.9		
Netherlands	57.6	50.9	6.7	12.2	11.8	0.4		
Austria	43.4	43.0	0.0	14.3	10.1	4.3		
Poland	34.3	36.5	-2.2	5.9	5.5	0.7		
Portugal	22.6	32.9	-11.0	9.0	5.8	3.2		
Romania	26.8	39.1	-12.4	6.2	6.2	0.0		
Slovenia	55.8	59.1	-3.3	9.9	9.9	3.3		
Slovakia	75.1	81.9	-4.6	9.1	9.1	2.3		
Finland	37.1	31.7	5.4	7.8	7.2	0.0		
Sweden	38.6	33.0	5.6	13.1	10.5	2.6		
United Kingdom	18.8	24.7	-6.0	9.6	7.3	2.3		
Croatia	23.4	49.7	-23.4	23.4	8.8	17.5		
Turkey	22.9	33.3	-10.4	6.0	2.8	3.5		
Norway	36.7	18.7	18.0	9.7	9.3	0.4		
Japan	14.1	12.3	1.9	2.7	3.1	-0.4		
United States	7.8	14.1	-6.3	3.1	2.6	0.5		

# Table 8.1: Share of goods and services in GDP, 2006(% of GDP)

Source: Eurostat (tec00039, tec00040 and tec00001)

The balance of payments is a record of a country's international transactions with the rest of the world. The balance of payments is composed of two broad sub-balances: the current account and the capital and financial account. The current account is itself subdivided into four basic components: goods, services, income and current transfers. For each of these items, the current account registers the value of exports (credits) and imports (debits).

GDP (gross domestic product) is an indicator for a nation's economic situation. It reflects the total value of all goods and services produced less the value of goods and services used for intermediate consumption in their production. Expressing GDP in PPS (purchasing power standards) eliminates differences in price levels between countries, and calculations on a per head basis allows for the comparison of economies significantly different in absolute size.
#### **8.2 INTERNATIONAL TRADE IN SERVICES**

#### **INTRODUCTION**

Services cover a heterogeneous range of intangible products and activities that are difficult to encapsulate within a simple definition. Services are also often difficult to separate from goods with which they may be associated or bundled in varying degrees, and trade in goods may indistinguishably include service charges such as insurance, maintenance contracts, transport charges, or royalty/licence payments).

Services differ from goods in a number of ways, most commonly in the immediacy of the relationship between supplier and consumer. Many services are non-transportable, in other words, they require the physical proximity of supplier and customer — for example, the provision of a hotel service requires that the hotel is where the customer wishes to stay, a cleaning service for a business must be provided at the site of the business, and a haircut requires that both hairstylist and client to be present. This proximity requirement implies that many services transactions involve factor mobility. Thus, an important feature of services is that they are provided via various modes of supply.

Following the General Agreement on Trade in Services (GATS) the four-part typology of international services transactions that constitutes the generally accepted framework for services analysis encompasses:

- cross border supply (mode 1) of a service from one jurisdiction to another;
- consumption abroad (mode 2) requires the presence of consumers in the supplier's country of residence;
- commercial presence (mode 3), in which a service supplier establishes a foreign based corporation, joint venture, partnership, or other establishment in the consumer's country of residence to supply services to persons in the host country; and,
- presence of natural persons (mode 4), which involves an individual, functioning alone or as an employee of a service provider, temporarily travelling abroad to deliver a service in the consumer's country of residence.

Individuals who are seeking access to the employment market of another country on a permanent basis or for citizenship or residency purposes are not included in this category.

Services tend not to be homogenous or mass produced, many being tailored according to client and business needs and tastes. For international trade in such non-transportable services to take place, either the consumer must go to the supplier or the supplier must go to the consumer.

#### **DEFINITIONS AND DATA AVAILABILITY**

The main methodological references for the production of statistics on international trade in services are the International Monetary Fund's fifth balance of payments manual (BPM5) and the United Nations' manual on statistics of international trade in services. The breakdown of Eurostat statistics on international trade in services includes three main sub-items — transportation, travel, and other services.

- Transportation covers services provided by all modes of transportation — sea, air, and other, which includes space, rail, road, inland waterway and pipeline. The different types of services offered include the transport of passengers, the transport of freight, and other supporting and auxiliary services (such as storage and warehousing).
- The debit side of travel consists of goods and services which are acquired by residents who stay abroad for less than one year. The credit side includes purchases of the same type made by foreign travellers on the national territory. The travel item contains two main categories, namely business travel and personal travel (leisure, study, health-related purposes, etc.). Note that international transportation costs of the traveller to a destination are recorded under the heading transportation, but all movements within the country, including cruises, are entered under travel.
- Other services comprise those international transactions not covered under transportation or travel (such as communication services, construction services, insurance services, financial services, computer and information services, royalties and licence fees, other business services, personal, cultural and recreational services, and government services).

In the balance of payments statistics, the EU current account is geographically allocated according to the residence of the trading partner. Eurostat provides detailed information on the geographical breakdown of the international trade in services of the EU, distinguishing between:

- intra-EU transactions, corresponding to the sum of the transactions declared by EU Member States with other EU Member States, and;
- extra-EU transactions, corresponding to the transactions declared by EU Member States with countries outside the EU. Extra-EU transactions are further broken down into detailed partner zones, for example, for individual countries (such as Bulgaria, the United States, or Japan), for economic zones (such as the OECD, ACP or NAFTA countries), and for geographical zones (such as Africa, Asia or North America);
- world transactions are equal to the sum of intra-EU transactions and extra-EU transactions.

Finally, it is worth noting that the classification of international trade in services following BPM5 is not consistent with the fourtype GATS classification of trade in services. The balance of payments (BOP) statistics presented in this chapter generally refer to services traded internationally mainly by the first and second mode, and, to a limited extent, to trade via the movement of natural persons (part of computer and information services, of other business services, and of personal, cultural and recreational services) and via commercial presence (part of construction services). Therefore, given the limited modal coverage of BOP statistics, additional sources of information need to be consulted with respect to the other modes of supply in order to give a more complete picture of trade in services <sup>(64)</sup>.

#### **MAIN FINDINGS**

The importance of services within EU economies continues to grow and in 2006 services contributed 71.7 % of the gross value added within the EU-27. However, this importance is scarcely reflected in terms of international trade; according to the European Commission (Quarterly Report on the Euro Area, vol.5, No. 2) service sectors exported less than 6 % of their output on average compared with nearly 40 % for manufacturing. Indeed, contrary to popular perception, services share of total trade has remained fairly stable at around 20 % in the last couple of decades, as the services' share of output and employment has steadily expanded.

(64) See the Manual on Statistics of International Trade in Services, developed jointly by the IMF, the OECD, Eurostat, WTO, UN and UNCTAD for more details on additional sources. The EU-25 does however remain the biggest global trader in international services <sup>(65)</sup> and there is increasing tradability in several parts of the service economy. The EU-27 reported a surplus in service transactions of EUR 68 500 million with the rest of the world in 2006, reflecting credits of EUR 441 600 million and debits of EUR 373 100 million. This represented strong growth when compared with the surplus of EUR 52 900 million that was recorded for 2005. North America, comprising the United States, Canada and Greenland, represented the EU-27's principal external trading partner in service transactions, accounting for 32.8 % of the EU-27's credits and 35.0 % of its debits (when intra-EU trade is not included). It is important to underline that almost 60 % of EU trade in services was between EU Member States (intra-EU transactions).

The United Kingdom recorded a net credit (extra and intra-EU combined) of EUR 42 800 million in service transactions in 2006, the highest amount among the Member States and considerably more than the next highest that was recorded by Spain (EUR 22 100 million). In contrast, Germany recorded a net deficit in service transactions of EUR 35 900 million in 2006, the largest deficit among the Member States.

A little less than three quarters of the EU-27's credits (69.6 %) and debits (74.2 %) in the international trade of services were accounted for by transportation, travel and the category of other business services in 2006. The surplus of EUR 31 200 million for other business services was the highest among services for the EU-27 in 2006, closely followed by the surplus of EUR 24 500 million for financial services. In contrast, there were large deficits of EUR 9 200 million for royalties and license fees and EUR 14 000 million for travel.

(65) International trade in services refers mainly to modes 1 and 2, and to a limited extent to other modes of services supply; data do not include sales of foreign affiliates – mode 3.

#### **SOURCES**

**Statistical books** 

European Union international trade in services – analytical aspects – data 1997-2005

#### Methodologies and working papers

Manual on statistics of international trade in services (PDF) Methodological soundness questionnaire – report on responses to the Eurostat-OECD questionnaire on the measurement of trade in services in the balance of payments

#### Website data

#### **Balance of payments – International transactions**

International trade in services, geographical breakdown International trade in services (since 1985) International trade in services – structural indicators Total services, detailed geographical breakdown by EU Member States (since 2002)

# Table 8.2: International trade in services (1)

(EUR 1 000 million)

		Credits			Debits		N	let
			2005-06			2005-06		
			growth			growth		
	2005	2006	rate (%)	2005	2006	rate (%)	2005	2006
EU-27	402.9	441.6	9.6	350.0	373.1	6.6	52.9	68.5
Euro area	399.8	425.6	6.5	367.9	390.5	6.1	31.8	35.0
Belgium	45.2	47.4	4.9	41.2	42.2	2.6	4.0	5.1
Bulgaria	3.5	4.1	18.9	2.8	3.2	13.0	0.7	1.0
Czech Republic	9.5	10.6	11.9	8.2	9.4	13.8	1.2	1.2
Denmark	35.4	41.8	18.1	30.3	36.6	21.0	5.1	5.2
Germany	126.9	139.1	9.6	166.9	175.0	4.8	-40.0	-35.9
Estonia	2.6	2.8	7.9	1.7	2.0	12.7	0.8	0.8
Ireland	48.2	55.1	14.2	57.5	62.5	8.6	-9.3	-7.4
Greece	27.6	28.4	2.9	11.9	13.0	9.8	15.7	15.3
Spain	76.2	84.5	10.8	54.0	62.3	15.4	22.2	22.1
France	95.6	94.2	-1.4	85.0	86.0	1.2	10.6	8.3
Italy	71.9	78.4	9.1	72.4	79.9	10.4	-0.5	-1.5
Cyprus	5.2	5.8	10.3	2.2	2.4	9.0	3.1	3.4
Latvia	1.8	2.1	20.6	1.3	1.6	25.2	0.5	0.5
Lithuania	2.5	2.9	15.0	1.7	2.0	21.9	0.8	0.9
Luxembourg	32.9	40.6	23.5	19.8	24.0	21.4	13.1	16.6
Hungary	10.3	10.6	2.8	9.2	9.3	0.5	1.1	1.3
Malta	1.6	2.1	28.0	1.0	1.3	34.5	0.6	0.8
Netherlands	74.0	75.0	1.4	67.9	72.4	6.6	6.1	2.6
Austria	40.6	37.0	-8.8	36.4	25.9	-28.8	4.1	11.1
Poland	13.1	16.3	24.8	11.5	14.6	26.6	1.6	1.7
Portugal	12.3	14.1	15.4	8.4	9.2	9.9	3.8	4.9
Romania	4.1	5.5	34.6	4.4	5.5	23.9	-0.3	0.0
Slovenia	3.1	3.5	9.7	2.3	2.6	12.6	0.8	0.9
Slovakia	3.5	4.3	21.8	3.3	3.8	15.2	0.3	0.5
Finland	13.7	12.8	-6.2	12.2	12.4	1.5	1.4	0.4
Sweden	34.5	39.4	14.0	26.2	29.0	10.7	8.4	10.4
United Kingdom	168.4	182.8	8.5	132.5	139.9	5.6	36.0	42.8
Croatia	8.0	8.4	4.3	2.7	2.8	1.0	5.3	5.6
Turkey	21.4	19.6	-8.7	9.1	8.9	-2.5	12.3	10.6
Norway	23.6	26.2	11.2	23.8	25.1	5.3	-0.2	1.2
Japan	88.6	93.4	5.5	107.9	108.0	0.0	-19.3	-14.5
United States	309.1	333.6	7.9	253.7	273.0	7.6	55.4	60.6

(1) Transactions are registered vis-à-vis the rest of the world; EU-27 partner is extra EU-27, euro area partner is extra euro area, Member States partner is the rest of the world.

Source: Eurostat (tec00040)

The balance of payments is a record of a country's international transactions with the rest of the world. It is composed of the current account and the capital and financial account. The current account is itself subdivided into goods, services, income and current transfers; it registers the value of exports (credits) and imports (debits). The difference between these two values is the balance.

# Figure 8.2: International trade in services, EU-27, 2006

(% share of extra EU-27 credits and debits)



Table 8.3: Evolution of trade in services, by selected partner, EU-27

(EUR 1 000 million)

-		2004		2005				2006			
	Credits	Debits	Net	Credits	Debits	Net	Credits	Debits	Net		
Total	368.1	321.7	46.4	402.9	350.0	52.9	441.6	373.1	68.5		
United States	117.9	109.3	8.6	123.2	118.2	4.9	134.7	122.1	12.6		
EFTA	61.3	44.9	16.4	65.4	49.0	16.4	70.4	49.4	21.1		
Japan	18.4	11.1	7.3	19.6	12.3	7.3	18.9	12.9	6.0		
Russia	9.4	7.4	2.0	12.3	9.1	3.2	14.2	10.8	3.4		
China	9.3	7.7	1.7	12.3	9.6	2.7	12.8	11.3	1.4		
Canada	8.3	7.1	1.2	9.0	7.6	1.3	10.2	8.2	2.0		
India	3.9	3.9	-0.1	5.4	4.8	0.6	7.0	5.5	1.4		
Hong Kong	7.1	5.2	1.9	8.3	5.6	2.6	6.9	6.7	0.2		
Brazil	3.7	3.5	0.3	4.6	4.0	0.6	5.2	4.6	0.5		
Other countries	128.7	121.7	7.0	142.8	129.7	13.2	161.3	141.5	19.8		

Source: Eurostat (bop\_its\_det)



# Figure 8.3: International trade by main service categories, EU-27, 2006

*Source*: Eurostat (tec00063, tec00058, tec00062, tec00069, tec00071, tec00070, tec00067, tec00068, tec00066, tec00065 and tec00064)



#### **INTRODUCTION**

The value of international trade in goods currently dwarfs that of services, reflecting among other things the characteristics of being highly transportable and in some ways increasingly homogenous within product groups (especially in view of the need to meet various international standards). However, the international trade in goods is under increasing scrutiny concerning pollution (particularly from air and sea freight transport), and other environmental consequences, workers rights, health and safety standards, resource procurement and impacts on cultural diversity. It can be argued that the challenge is to integrate these largely social and environmental concerns (which are rarely priced into the value of goods) into trade developments in a way that enhances worldwide sustainable economic prospects.

In this way, trade statistics in goods are very important, not only for assessing the effectiveness of current policies and market shares but also for helping define new policies or new commercial strategies.

#### **DEFINITIONS AND DATA AVAILABILITY**

In broad terms, the aim of international trade statistics on goods is to record all goods that add to or subtract from the stock of material resources of a country by entering or leaving its territory. By their nature, international trade statistics are concerned with transportable goods.

The most important component of international trade statistics is related to transactions involving actual or intended transfer of ownership against compensation. Nevertheless, international trade statistics also cover movements of goods without a transfer of ownership, such as operations following, or with a view to, processing under contract (for example, processing textiles).

Exports are recorded at their 'free on board' (fob) value and imports at their 'cost, insurance and freight' (cif) value. Therefore, and contrary to balance of payments statistics, import values include charges, such as transport and insurance, relating to that part of the journey which takes place outside the statistical territory of the importing country. Export values correspond to the value of goods at the place and time where they leave the statistical territory of the exporting country.

Information on international trade for the European Union and the euro area are calculated as the sum of trade with countries outside these areas. In other words, each of these geographical areas is considered as a single trading entity and trade flows are measured into and out of the area, but not within it. On the other hand, international trade flows for individual Member States and other countries are generally presented with the rest of the world as the trading partner, including trade with other Member States (intra-EU trade). External trade statistics report export and import values and volumes for goods using a product classification. One of the most common classifications for studying aggregate product statistics is the Standard International Trade Classification of the United Nations (SITC Rev. 3); this classification allows a comparison to be made on a worldwide basis. Agrifood products are food products obtained from agriculture. They are classified according to Sections 0 and 1 of the SITC. Trade in raw materials refers to products classified according to Section 2 and 4 of the SITC. Trade in fuel products refers to products classified according to Section 3 of the SITC. Trade in chemicals refers to products classified according to Section 7 of the SITC and trade in other manufactured goods to products classified according to Sections 6 and 8.

#### **MAIN FINDINGS**

The EU-27 accounts for a little less than one fifth of the world's imports and exports of goods. The EU-27 exported goods to nonmember countries to the value of EUR 1 157 000 million in 2006 and imported goods from them to the value of EUR 1 350 000 million. The EU-27 exported EUR 331 000 million more goods than the United States in 2006, but imported EUR 178 000 million less. Note that the EU-27 imports less goods than does the EU-15, reflecting the fact that part of the imports into the EU-15 came from the countries that joined the EU in 2004 and 2007, and these imports are not included in the external trade of the EU-27.

Since 1999 (the period since which trade data for the EU-27 are available), the EU-27 has recorded consecutive annual trade deficits for goods as a whole, although the level of these deficits has fluctuated strongly. The EU-27 trade deficits for goods have tended to reduce strongly during periods of stagnant or falling economic activity, whilst growing during periods of economic expansion. The EU-27's trade deficit for goods in 2006 was EUR 193 000 million, the highest level over the seven years since 1999 and considerably more than the narrowest trade deficit of EUR 45 000 million in 2002.

A little over two fifths (43.5 %) of the value of exports of goods from the EU-27 to non-member countries in 2006 concerned machinery and transport equipment, with a further quarter (25.4 %) concerning the category of other manufactured goods. Although these two groups of products also accounted for a small majority (a combined 55.0 %) of goods imported into the EU-27 from nonmember countries in 2006, this proportion has been progressively falling, down from a combined 61.8 % share five years earlier (in 2001). This change in the relative make-up of imports largely reflects the strong increase in the value of mineral fuels, lubricants and related materials; these goods now account for about one quarter (25.1 %) of the value of the imports of total goods having accounted for 16.1 % back in 2001. Part of the rapid increase in the relative importance of mineral fuel imports may be attributed to rising prices for these products. Nevertheless, with natural resources of energy becoming depleted and shifts in the EU's energy mix, the EU has become increasingly dependent on fuel and energy imports - see chapter 11 on energy for more details.

The United States was by far most the important market for EU-27 exports of goods in 2006, accounting for 23.2 % of all exports to non-member countries, a much higher proportion than that (7.5 %) for Switzerland, which was the next most important market. However, the United States was overtaken by China as the principal source of imports of goods in 2006; the share of extra-EU-27 imports of goods coming from China rose sharply to 14.4 % in 2006, with the share for the United States falling to 13.2 %.

Nevertheless, the trade in goods between Member States (the EU's internal market) was by far the most important market for goods produced within the EU-27; intra-EU exports of goods were worth EUR 2 489 000 million in 2006, a little more than double the value of exports to non-member countries. Indeed, in each of the Member States the majority of the trade in goods in 2006 was with other Member States (intra-EU trade) as opposed to with

non-member countries (extra-EU trade). The proportion of the total trade in goods accounted for by these two flows varied considerably between the Member States, reflecting to some degree historical ties and geographical location. The highest levels of trade integration within the EU were recorded for the Czech Republic, Slovakia and Luxembourg; each of these countries reported that intra-EU trade in goods accounted for about 80 % or more of their total trade in goods. In contrast, about 60 % or less of the trade in goods in Italy, Greece, Bulgaria, the United Kingdom, Finland and Malta were accounted for by intra-EU trade.

In a reverse of the situation for trade in services, in 2006 Germany recorded the highest trade surplus (extra and intra-EU combined) for goods, valued at EUR 162 000 million, with the United Kingdom recording the largest trade deficit in goods of EUR 128 000 million.

## SOURCES

#### **Statistical books**

External and intra-European Union trade – statistical yearbook – data 1958-2006 External and intra-European Union trade – monthly bulletin Intra- and extra-EU trade – monthly data – combined nomenclature (DVD)

#### **Pocketbooks**

External and intra-European Union trade – pocketbook – data 1999-2004

#### Methodologies and working papers

Statistics on the trading of goods – user guide Quality report on international trade statistics – 2007 edition External trade by enterprise characteristics

#### Dedicated sections on the Eurostat website External trade

#### Website data

#### External trade – aggregated data

External trade long-term indicators
Share of EU in the world trade
International trade values and indicators of EU and main third countries by SITC 1-digit products
Trade with EU
Extra-EU trade by main partner countries
Extra-EU trade of agrifood products (SITC 0+1) by main partner countries
Extra EU trade of raw materials (SITC 2+4) by main partner countries
Extra-EU trade of mineral fuels, lubricants and related products (SITC 3) by main partner countries
Extra-EU trade of chemicals and related products (SITC 5) by main partner countries
Extra-EU trade of manufactured goods (SITC 6+8) by main partner countries
Extra-EU trade of machinery and transport equipment (SITC 7) by main partner countries
Extra-euro area trade by main partner countries
International trade of candidate countries

External trade short-term indicators

# Table 8.4: Main players in world trade for goods

(EUR 1 000 million)

	Exports			Imports				Balance					
1991	1996	2001	2006		1991	1996	2001	2006	199	)1	1996	2001	2006
:	:	885	1 157		:	:	979	1 350		:	:	-94	-193
403	626	986	1 310		472	581	1 028	1 430	-6	8	45	-43	-120
27	39	66	97		21	27	37	51		7	12	29	46
50	63	92	118		54	62	94	113		-4	1	-2	5
102	159	291	309		95	134	247	279		7	25	44	30
:	119	297	772		:	109	272	630		:	10	25	141
254	324	450	515		191	275	390	461	6	3	49	60	54
340	490	816	826		411	644	1 318	1 528	-7	1	-153	-501	-702
	<b>1991</b> : 403 27 50 102 : 254 340	Exp           1991         1996           :         :           403         626           27         39           50         63           102         159           :         119           254         324           340         490	Exports           1991         1996         2001           : <td:< td="">         :         :</td:<>	Exports           1991         1996         2001         2006           : <td:< td="">         :         <td:< td=""> <td:< th=""><th>Exports1991199620012006:::8851 1574036269861 31027396697506392118102159291309:119297772254324450515340490816826</th><th>Exports         1991         1996         2001         2006         1991           :         <td:< td="">         :         <td:< td=""> <td:< td=""></td:<></td:<></td:<></th><th>Exports         Imp           1991         1996         2001         2006         1991         1996           :         :         :         885         1157         :         :         :           403         626         986         1310         472         581           27         39         66         97         21         27           50         63         92         118         54         62           102         159         291         309         95         134           :         119         297         772         :         109           254         324         450         515         191         275           340         490         816         826         411         644</th><th>Exports         Imports           1991         1996         2001         2006         1991         1996         2001           :</th><th>Exports         Imports           1991         1996         2001         2006         1991         1996         2001         2006           1991         1996         2001         2006         1991         1996         2001         2006           1993         626         986         1310         472         581         1028         1430           27         39         66         97         21         27         37         51           50         63         92         118         54         62         94         113           102         159         291         309         95         134         247         279           :         119         297         772         :         109         272         630           254         324         450         515         191         275         390         461           340         490         816         826         411         644         1318         1528</th><th>Exports         Imports         1996         2001         2006         1991         1996         2001         2006         1991         1996         2001         2006         1991           :&lt;::::::::::::::::::::::::::::::::::</th><th>Exports         Imports         1996         2001         2006         1991         1996         2001         2006         1991         1996         2001         2006         1991           :         :         :         :         :         :         :         :         :         :         :         1991         1996         2001         2006         1991           :         :         :         :         :         :         :         :         :         :         1991         1996         2001         2006         1991           ::</th><th>Exports         Imports         Bala           1991         1996         2001         2006         1991         1996         2001         2006         1991         1996         2001         2006         1991         1996         2001         2006         1991         1996         2001         2006         1991         1996         2001         2006         1991         1996         2001         2006         1991         1996         2001         2006         1991         1996         2001         2006         1991         1996         2001         2006         1991         1996         2001         2006         1991         1996         2001         2006         1991         1996         2001         2006         1991         1996         2001         2006         1991         1996         2001         2006         1991         1996         2001         2006         1991         1990         1990         1990         1990         1990         1990         1990         120         120         120         120         120         120         130         140         141         141         141         141         141         141         141         141         141</th><th>Exports         Imports         Balance           1991         1996         2001         2006         1991         1996         2006         1991         1996         2006         1991         1996         2006         1991         1996         2006         1991         1996         2006         1991         1996         2006         1991         1996         2006         1991         1996         2006         1991         1996         2006         1991         1996         2006         1991         1996         2006         1991         1996         2006         1991         1996         2006         1991         1996         2006         1991         1996         2006         1991         1996         2006         1991         1996         2006         1991         1996         2006         1991         1996         2006         1991         2006         1991         201         199         201         12         299         102         159         291         309         95         134         247         279         7         25         444         1         292         102         25         254         324         450         515         191         275&lt;</th></td:<></td:<></td:<>	Exports1991199620012006:::8851 1574036269861 31027396697506392118102159291309:119297772254324450515340490816826	Exports         1991         1996         2001         2006         1991           : <td:< td="">         :         <td:< td=""> <td:< td=""></td:<></td:<></td:<>	Exports         Imp           1991         1996         2001         2006         1991         1996           :         :         :         885         1157         :         :         :           403         626         986         1310         472         581           27         39         66         97         21         27           50         63         92         118         54         62           102         159         291         309         95         134           :         119         297         772         :         109           254         324         450         515         191         275           340         490         816         826         411         644	Exports         Imports           1991         1996         2001         2006         1991         1996         2001           :	Exports         Imports           1991         1996         2001         2006         1991         1996         2001         2006           1991         1996         2001         2006         1991         1996         2001         2006           1993         626         986         1310         472         581         1028         1430           27         39         66         97         21         27         37         51           50         63         92         118         54         62         94         113           102         159         291         309         95         134         247         279           :         119         297         772         :         109         272         630           254         324         450         515         191         275         390         461           340         490         816         826         411         644         1318         1528	Exports         Imports         1996         2001         2006         1991         1996         2001         2006         1991         1996         2001         2006         1991           :<::::::::::::::::::::::::::::::::::	Exports         Imports         1996         2001         2006         1991         1996         2001         2006         1991         1996         2001         2006         1991           :         :         :         :         :         :         :         :         :         :         :         1991         1996         2001         2006         1991           :         :         :         :         :         :         :         :         :         :         1991         1996         2001         2006         1991           ::	Exports         Imports         Bala           1991         1996         2001         2006         1991         1996         2001         2006         1991         1996         2001         2006         1991         1996         2001         2006         1991         1996         2001         2006         1991         1996         2001         2006         1991         1996         2001         2006         1991         1996         2001         2006         1991         1996         2001         2006         1991         1996         2001         2006         1991         1996         2001         2006         1991         1996         2001         2006         1991         1996         2001         2006         1991         1996         2001         2006         1991         1996         2001         2006         1991         1996         2001         2006         1991         1990         1990         1990         1990         1990         1990         1990         120         120         120         120         120         120         130         140         141         141         141         141         141         141         141         141         141	Exports         Imports         Balance           1991         1996         2001         2006         1991         1996         2006         1991         1996         2006         1991         1996         2006         1991         1996         2006         1991         1996         2006         1991         1996         2006         1991         1996         2006         1991         1996         2006         1991         1996         2006         1991         1996         2006         1991         1996         2006         1991         1996         2006         1991         1996         2006         1991         1996         2006         1991         1996         2006         1991         1996         2006         1991         1996         2006         1991         1996         2006         1991         1996         2006         1991         2006         1991         201         199         201         12         299         102         159         291         309         95         134         247         279         7         25         444         1         292         102         25         254         324         450         515         191         275<

(1) Extra EU-27.
 (2) Extra EU-15.

Source: Eurostat (ext\_lt\_intertrd)

# Figure 8.4: Main players in world trade for goods, 2006

(EUR 1 000 million)



Source: Eurostat (ext\_lt\_intertrd)

#### Figure 8.5: Shares in the world market for exports of goods, 2005 (% share of world exports)



(1) Extra EU-25.

#### Source: Eurostat (tet00018)

The calculation of the percentages is based on a world trade excluding EU-25 intra-Community trade.



Figure 8.6: Shares in the world market for imports of goods, 2005

Extra EU-25.
 Source: Eurostat (tet00018)

# Figure 8.7: Evolution of international trade in goods, EU-27 (1)

(EUR 1 000 million)



Extra EU-27.
 Source: Eurostat (ext\_lt\_intertrd )

# Table 8.5: International trade in goods

(EUR 1 000 million)

		Exports			Imports		Ba	lance
			2005-06 growth			2005-06 growth		
	2005	2006	rate (%)	2005	2006	rate (%)	2005	2006
EU-27 (1)	1 053.2	1 157.2	9.9	1 179.9	1 350.2	14.4	-126.7	-193.0
Belgium	268.8	292.2	8.7	256.2	280.3	9.4	12.6	11.9
Bulgaria	9.2	11.7	26.9	12.5	15.3	22.5	-3.3	-3.6
Czech Republic	62.8	75.7	20.6	61.5	74.2	20.7	1.3	1.5
Denmark	68.4	73.9	8.0	60.8	68.7	13.1	7.7	5.2
Germany	780.4	885.6	13.5	624.6	723.7	15.9	155.8	161.9
Estonia	6.2	7.5	21.8	8.2	10.6	29.0	-2.0	-3.0
Ireland	88.1	88.4	0.3	55.1	58.0	5.2	33.0	30.4
Greece	13.8	16.6	20.3	43.5	50.3	15.8	-29.6	-33.7
Spain	154.9	163.6	5.7	232.1	252.0	8.6	-77.3	-88.4
France	372.5	390.6	4.8	405.2	426.0	5.1	-32.7	-35.5
Italy	299.9	327.0	9.0	309.3	348.3	12.6	-9.4	-21.3
Cyprus	1.2	1.1	-9.3	5.1	5.5	8.7	-3.9	-4.5
Latvia	4.2	4.9	18.1	7.0	9.2	31.2	-2.8	-4.3
Lithuania	9.5	11.2	18.4	12.5	15.4	23.1	-3.0	-4.1
Luxembourg	15.1	18.2	20.5	17.6	21.2	20.6	-2.5	-3.0
Hungary	50.6	59.3	17.3	53.5	61.3	14.6	-2.9	-2.0
Malta	1.8	2.1	15.8	2.9	3.2	9.7	-1.1	-1.1
Netherlands	326.6	368.3	12.7	292.4	331.7	13.4	34.2	36.6
Austria	100.6	111.8	11.1	102.3	111.7	9.2	-1.7	0.1
Poland	71.9	87.9	22.2	81.7	100.3	22.8	-9.8	-12.5
Portugal	30.7	34.5	12.5	49.2	53.1	7.9	-18.5	-18.6
Romania	22.3	25.9	16.1	32.6	40.7	25.1	-10.3	-14.9
Slovenia	15.5	18.5	19.7	16.4	19.2	17.4	-0.9	-0.7
Slovakia	25.8	33.2	29.0	28.5	36.5	28.4	-2.7	-3.3
Finland	53.1	61.4	15.6	47.4	54.9	15.7	5.7	6.5
Sweden	104.7	117.4	12.1	89.6	100.9	12.7	15.2	16.4
United Kingdom	309.0	357.8	15.8	412.9	485.3	17.5	-103.9	-127.5

(1) Extra EU-27.

Source: Eurostat (tet00002)

	E>	ports	Im	ports	
	(EUR 1 000	Share of EU-27	(EUR 1 000	Share of EU-27	Trade balance (EUR 1 000
	million)	exports (%)	million)	imports (%)	million)
EU-27	1 157.2	100.0	1 350.2	100.0	-193.0
Belgium	68.2	5.9	79.0	5.8	-10.8
Bulgaria	4.8	0.4	6.0	0.4	-1.2
Czech Republic	10.9	0.9	14.5	1.1	-3.6
Denmark	21.4	1.9	19.3	1.4	2.2
Germany	321.1	27.8	262.3	19.4	58.9
Estonia	2.6	0.2	2.7	0.2	-0.2
Ireland	32.1	2.8	18.4	1.4	13.7
Greece	6.1	0.5	21.5	1.6	-15.3
Spain	47.3	4.1	98.3	7.3	-51.0
France	135.8	11.7	132.6	9.8	3.2
Italy	129.6	11.2	150.2	11.1	-20.6
Cyprus	0.3	0.0	1.7	0.1	-1.4
Latvia	1.4	0.1	2.2	0.2	-0.8
Lithuania	4.1	0.4	5.8	0.4	-1.7
Luxembourg	1.9	0.2	6.3	0.5	-4.4
Hungary	12.5	1.1	18.6	1.4	-6.1
Malta	1.1	0.1	1.0	0.1	0.0
Netherlands	76.0	6.6	166.8	12.4	-90.7
Austria	30.6	2.6	22.2	1.6	8.5
Poland	18.6	1.6	27.4	2.0	-8.9
Portugal	7.8	0.7	12.9	1.0	-5.1
Romania	7.7	0.7	14.9	1.1	-7.3
Slovenia	5.8	0.5	4.3	0.3	1.6
Slovakia	4.4	0.4	8.9	0.7	-4.5
Finland	26.2	2.3	19.8	1.5	6.4
Sweden	46.8	4.0	30.5	2.3	16.2
United Kingdom	132.3	11.4	202.3	15.0	-70.0

# Table 8.6: Contribution to extra EU-27 trade in goods, 2006

Source: Eurostat (ext\_lt\_intratrd)

	E>	cports	Im	ports	
	(EUR 1 000	Share of EU-27	(EUR 1 000	Share of EU-27	Trade balance (EUR 1 000
	million)	exports (%)	million)	imports (%)	million)
EU-27	2 489.1	100.0	2 407.4	100.0	81.7
Belgium	224.1	9.0	201.4	8.4	22.7
Bulgaria	6.9	0.3	9.3	0.4	-2.4
Czech Republic	64.8	2.6	59.8	2.5	5.0
Denmark	52.4	2.1	49.5	2.1	3.0
Germany	564.5	22.7	461.4	19.2	103.1
Estonia	5.0	0.2	7.8	0.3	-2.9
Ireland	56.3	2.3	39.6	1.6	16.7
Greece	10.5	0.4	28.9	1.2	-18.4
Spain	116.3	4.7	153.8	6.4	-37.4
France	254.7	10.2	293.4	12.2	-38.7
Italy	197.4	7.9	198.2	8.2	-0.7
Cyprus	0.8	0.0	3.8	0.2	-3.0
Latvia	3.6	0.1	7.0	0.3	-3.5
Lithuania	7.1	0.3	9.6	0.4	-2.5
Luxembourg	16.3	0.7	14.9	0.6	1.4
Hungary	46.9	1.9	42.8	1.8	4.1
Malta	1.1	0.0	2.2	0.1	-1.1
Netherlands	292.2	11.7	164.9	6.8	127.3
Austria	81.2	3.3	89.6	3.7	-8.4
Poland	69.3	2.8	72.9	3.0	-3.6
Portugal	26.7	1.1	40.2	1.7	-13.4
Romania	18.2	0.7	25.8	1.1	-7.7
Slovenia	12.7	0.5	14.9	0.6	-2.3
Slovakia	28.9	1.2	27.7	1.1	1.2
Finland	35.2	1.4	35.0	1.5	0.1
Sweden	70.6	2.8	70.4	2.9	0.2
United Kingdom	225.5	9.1	283.0	11.8	-57.5

# Table 8.7: Contribution to intra EU-27 trade in goods, 2006

Source: Eurostat (ext\_lt\_intratrd)



# Figure 8.8: Intra and extra EU-27 trade in goods, 2006

Figure 8.9: Main trading partners for exports of goods, EU-27, 2006

(% share of extra EU-27 exports)



Source: Eurostat (ext\_lt\_maineu )

# Figure 8.10: Main trading partners for imports of goods, EU-27, 2006

(% share of extra EU-27 imports)



Source: Eurostat (ext\_lt\_maineu )

Figure 8.11: Imports of goods from developing countries by income group, EU-27, 2006 (1) (%)



(1) EU-27 imports from developing countries were valued at EUR 646 000 million in 2006.

#### Source: Eurostat (tsdgp210)

Imports from a non-EU country include goods which enter the statistical territory of the Member State from a non-EU country and are: 1) placed under the customs procedure for release into free circulation (goods that will be consumed in the importing Member State or dispatched to another Member State), either immediately or after a period in a customs warehouse; or 2) placed under the customs procedure for inward processing or processing under customs control (usually goods destined to be processed, transformed or repaired for subsequent re-export) either immediately or after a period in a customs warehouse. DAC (Development Assistance Committee) countries refer to developing countries and territories on Part I of the OECD DAC List of Aid Recipients for which there is a long-standing United Nations target of 0.7 % of donors' gross national product.

## Figure 8.12: Main exported goods, EU-27

(% share of extra EU-27 exports)



Source: Eurostat (ext\_lt\_intertrd)

#### Figure 8.13: Main imported goods, EU-27

(% share of extra EU-27 imports)



Source: Eurostat (ext\_lt\_intertrd)

## Figure 8.14: Main exported goods, EU-27

(% share of extra EU-27 exports)



#### Figure 8.15: Main imported goods, EU-27

(% share of extra EU-27 imports)



Source: Eurostat (ext\_lt\_intertrd)



**Figure 8.16: Imports of mineral fuels, lubricants and related materials, EU-27, 2006 (1)** (% share by income group of partner)

(1) Imports from countries of the Development Assistance Committee (DAC) were valued at EUR 142 000 million in 2006. *Source:* Eurostat (Comext)

**Figure 8.17: Imports of agricultural products, food, drinks and tobacco, EU-27, 2006 (1)** (% share by income group of partner)



(1) Imports from countries of the Development Assistance Committee (DAC) were valued at EUR 48 000 million in 2006. Source: Eurostat (Comext)

## Figure 8.18: Imports of manufactured products, EU-27, 2006 (1)

(% share by income group of partner)



(1) Manufactured products exclude processed food, beverages and tobacco, as well as processed mineral fuels, lubricants and related materials; imports from countries of the Development Assistance Committee (DAC) were valued at EUR 403 000 million in 2006.

Source: Eurostat (Comext)

# Table 8.8: Imports of selected materials from developing countries, EU-27 (million tonnes)

	2001	2002	2003	2004	2005	2006
Total materials	717.9	714.1	742.4	775.9	799.6	831.8
Mineral fuels, mineral oils and products of their distillation;	435.7	425.1	438.4	445.7	467.6	479.4
bituminous substances; mineral waxes						
Ores, slag and ash	115.0	116.7	121.5	134.6	132.5	131.7
Salt; sulphur; earths and stone;	36.2	38.0	42.7	47.0	48.3	50.5
plastering materials, lime and cement						
Iron and steel	18.2	16.4	18.6	22.3	22.9	34.3
Residues and waste from the food industries;	24.7	25.8	27.6	28.0	28.7	29.0
prepared animal feed						
Wood and articles of wood; wood charcoal	11.6	11.4	12.0	13.5	13.9	14.5
Oil seeds and oleaginous fruits; miscellaneous grains, seeds	13.4	12.6	13.1	11.8	12.4	12.2
and fruits; industrial or medicinal plants; straw and fodder						
Edible fruit and nuts; peel of citrus fruit or melons	8.7	8.9	9.7	9.8	10.5	11.0
Animal or vegetable fats and oils and their cleavage	5.0	5.6	5.6	6.0	7.2	8.3
products; prepared edible fats; animal or vegetable waxes						
Cereals	6.1	10.0	6.6	7.0	6.2	6.7
Others	43.3	43.6	46.6	50.2	49.4	54.2

Source: Eurostat (Comext)

Data refers to trade statistics concerning the following chapters of the Combined Nomenclature: 01 to 18, 23 to 27, 31 to 36, 39 to 41, 44 to 47, 50 to 53, 70 to 81.



(% share of exports of high technology products in total exports)



Source: Eurostat (tsiir140)

This indicator is calculated as share of exports of all high technology products of total exports. High-tech products are defined as the sum of the following products: aerospace, computers, office machinery, electronics, instruments, pharmaceuticals, electrical machinery and armament. The total exports for the EU do not include the intra-EU trade.

# Transport





# 9.1 MODAL BREAKDOWN 378 9.2 PASSENGER TRANSPORT 381 9.3 FREIGHT TRANSPORT 388

Transport plays a crucial role in an economy, bringing goods and services to customers, as well as transporting passengers for work or pleasure. However, key problems of congestion, quality of services (such as punctuality and connectivity), affordability and pollution put at risk economic development. Measures to address these concerns, among others, whilst maintaining the EU's economic competitiveness, were at the heart of the EU transport policy White paper titled 'European transport policy for 2010: time to decide' <sup>(66)</sup>, which was adopted in 2001. This policy document remains the bedrock of the current EU sustainable transport policy but was supplemented in June 2006 by the midterm review communication (67), 'Keep Europe moving sustainable mobility for our continent'. Some of the key conclusions of this communication were that each transport mode must be optimised to help ensure the competitiveness of European business and the prosperity of EU societies; all modes must become more environmentally friendly, safe and energy efficient; each mode should be used efficiently on its own and in combination to achieve an optimal and sustainable utilisation of resources. The communication proposed a wide range of implementing measures that were largely driven by evolving issues:

- environmental commitments such as those under the Kyoto Protocol, as well as air quality, noise pollution, and land use;
- a greater focus on technology this included the encouragement of further research and development into areas such as intelligent transport systems (such as Galileo, SESAR, ERTMS) involving communication, navigation and automation, engine technology that could improve fuel efficiency, and the promotion of alternative fuels. Other activities cited included the modernisation of air traffic systems, improvements in safety and security, urban mobility and the decongesting of transport corridors, as well as the efficient use of different modes on their own and in combination;
- consolidation within the transport sector especially in aviation and maritime transport, but also with the creation of large logistics enterprises with worldwide operations;
- enlargement allowing the possibility to expand trans-European networks to corridors that are particularly suitable for rail and waterborne transport;
- changes in the international context such as the threat of terrorism, or globalisation that has affected trade flows and increased demand for international transport services.

<sup>(66)</sup> COM(2001) 370 final; for more information: http://ec.europa.eu/transport/ white paper/index en.htm.

<sup>(67)</sup> Communication from the European Commission to the Council and the European Parliament, 'Keep Europe moving — Sustainable mobility for our continent', mid-term review of the European Commission's 2001 Transport White Paper, 22 June 2006, COM(2006) 314 final; for more information:

http://ec.europa.eu/transport/transport\_policy\_review/index\_en.htm.



The European Commission has already started the launch of a range of action plans on key transport policy issues, such as the Green paper on urban transport <sup>(68)</sup> and the new road charging Directive <sup>(69)</sup> and will continue with plans for logistics, green propulsion and a common European maritime space.

(68) COM(2007) 551 final; for more information: http://ec.europa.eu/transport/ clean/green\_paper\_urban\_transport/doc/ 2007\_09\_25\_gp\_urban\_mobility\_en.pdf.

(69 Directive 2006/38/EC; for more information: http://eur-lex.europa.eu/ LexUriServ/site/en/oj/2006/L\_157/L\_15720060609en00080023.pdf.

#### **EUROSTAT DATA IN THIS DOMAIN:**

#### Transport

Transport – horizontal view Railway transport Road transport Inland waterways transport Oil pipeline transport Maritime transport Air transport

#### 9.1 MODAL BREAKDOWN

#### **INTRODUCTION**

The demand for increased mobility from individuals and increased flexibility and timeliness of delivery from enterprises has led to road transport becoming the dominant mode of transport in the EU. The growth in road transport has had a significant impact on road congestion, road safety and pollution.

One of the main challenges identified by the 2001 White Paper was to address this imbalance in the development of the different modes of transport. Specific actions looking to boost rail and maritime connections were foreseen and then established (the Marco Polo programmes).

The Commission's Intermodal Freight Transport policy was established to support the efficient 'door to door' movement of goods, using two or more modes of transport, in an integrated transport chain. This policy recognises that each mode of transport has its own advantages either in terms of potential capacity, levels of safety, flexibility, energy consumption, or environmental impact and, as such intermodal transport allows each mode to play its role in building transport chains which overall are more efficient, cost effective and sustainable.

The White Paper also proposed the development of Motorways of the Sea as a real competitive alternative to land transport and a legal framework for funding this work was secured in 2004. Eurostat's transport statistics describe the most important features of transport, not only in terms of the quantities of freight and passengers that are moved each year, or the number of vehicles and infrastructure that are used, but also the contribution of transport services to the economy as a whole. Data collection is supported by several legal acts obliging the Member States to report statistical data, as well as voluntary agreements to supply additional data.

#### **DEFINITIONS AND DATA AVAILABILITY**

Definitions used in some transport statistics are available in the 'Glossary for Transport statistics – Third Edition'. Road freight data are based on Council Regulation 1172/98.

- a passenger-kilometre is the unit of measure representing the transport of one passenger by a given mode of transport over one kilometre;
- a tonne-kilometre is the unit of measure representing the transport of one tonne of goods by a given mode of transport over one kilometre;
- inland freight transport corresponds to road, rail, inland waterways and pipeline transport, thus excluding air and sea transport;
- rail and inland waterways movements are recorded in each reporting country on national territory ('territoriality principle'), regardless of the nationality of the vehicle or vessel, road statistics are based on all movements, in the registration country or abroad, of the vehicles registered in the reporting country ('nationality principle');
- road/rail/inland waterways share of inland freight transport is the share of road/rail/inland waterways in total inland freight transport in tonne-kilometres.

As statistics on road and other inland modes are based on different principles, the figures of the smallest reporting countries (for example, Luxembourg and Slovenia) may be misleading. Data on the relative shares of inland freight transport are annual and generally available for every year since the early 1990s.

Transport 9

#### **MAIN FINDINGS**

A little over three quarters (76.5 %) of inland freight transport in the EU-25 was accounted for by road transport in 2005. Less than one fifth (17.6 %) of inland freight transport was by rail, with the rest (5.9 %) accounted for by inland waterways. The dominance of freight transport by road was reflected in the majority of Member States, the exceptions being in Estonia and Latvia where around two thirds of inland freight was transported by rail in 2005. Inland waterways transport accounted for less than one third (30.6 %) of inland freight transport in the Netherlands in 2005 and between 10 % and 15 % in Belgium, Germany and Romania.

The main measure of the volume of passenger transport is the number of passenger-kilometres by residents within the national territory, which can be analysed by mode of transport. Some caution must be applied in making comparisons, particularly of absolute figures, because of the different sizes of countries and the coverage of national data. Nonetheless, car transport accounted for a sizable majority of inland passenger transport among all the Member States for which data are available <sup>(70)</sup>. The reliance on the car for inland passenger transport was particularly strong in Slovenia, the United Kingdom, Lithuania, Luxembourg and France, where it accounted for upwards of 85 % of all inland passenger-kilometres. In Cyprus, Malta, Hungary, Greece and Slovakia around one guarter of inland passengerkilometres were by bus, while Hungary (16.3 %), the Czech Republic (15.6 %), Austria (11.0 %) and France (10.0 %) reported the highest modal shares for railways, trams and metros.

(70) Bulgaria, Estonia, Cyprus, Malta and Romania, not available.

#### **SOURCES**

Pocketbooks Energy, transport and environment indicators pocketbook

Statistical books Panorama of transport

Methodologies and working papers Glossary for Transport statistics – third edition (PDF)

#### Website data

Transport – horizontal view

Regional transport statistics Road, rail and navigable inland waterways networks at regional level Stock of vehicles by category at regional level Victims in road accidents at regional level Ad hoc tables used in Eurostat yearbook

It should be noted that this analysis only refers to inland freight and passenger travel. Significant proportions of international freight and passenger travel are accounted for by maritime and aviation transport.

Road fatalities in the EU-25 fell sharply between 1990 and 2005, from 70 628 deaths to 41 274 deaths. Although this downward trend was reflected in almost all the Member States, stark differences in road fatality rates remain between countries. The highest rates of road fatalities per million inhabitants among EU Member States were in Lithuania (223 road fatalities per million inhabitants in 2005) and Latvia (192). This contrasted, for example, with rates of 49 per million inhabitants in Sweden (a Member State with similar weather and light conditions), 46 per million inhabitants in the Netherlands, and 42 per million inhabitants in Malta. In all of the countries for which an age breakdown of those that have died in road accidents is available for 2002, the rate of road fatalities among young drivers (those aged under 30 years) was very much higher than among older drivers (30 years and older). The difference in rates was widest in France, where the road fatality rate among young drivers was (at 259 per million inhabitants) a little more than double the rate of older drivers (127 per million inhabitants).

	(% of total i 2	nland passen 2004 (1)	ger-km),	(% of total inl ton	and freight ti ne-km), 2005	ansport in
-			Railways,			
	Passenger		trams and			Inland
	cars	Buses	metros	Railways	Roads	waterways
EU-27 (2)	82.8	9.3	7.9	17.6	76.5	5.9
Belgium	80.8	12.3	7.0	13.4	72.4	14.1
Bulgaria	:	:	:	25.4	70.8	3.7
Czech Republic	68.9	15.5	15.6	25.4	74.5	0.1
Denmark	81.8	9.9	8.2	7.8	92.2	-
Germany	84.8	6.6	8.6	20.3	66.0	13.6
Estonia	77.7	20.0	2.4	64.6	35.4	0.0
Ireland	75.3	19.7	5.0	1.7	98.3	-
Greece	73.3	23.3	3.4	2.6	97.4	-
Spain	81.7	12.3	6.0	4.8	95.2	-
France	85.1	4.9	10.0	16.0	80.5	3.5
Italy	82.5	11.5	6.0	9.7	90.3	0.0
Cyprus	73.8	26.2	-	-	100.0	-
Latvia	72.9	19.1	8.0	70.2	29.8	0.0
Lithuania	86.3	12.3	1.5	43.9	56.1	0.0
Luxembourg	85.6	10.8	3.6	4.1	92.5	3.6
Hungary	60.1	23.6	16.3	25.0	69.2	5.8
Malta	75.6	24.4	-	-	100.0	-
Netherlands	84.3	6.7	9.0	3.6	65.8	30.6
Austria	75.1	13.8	11.0	32.6	64.4	3.0
Poland	77.4	12.8	9.8	30.8	69.0	0.2
Portugal	81.4	13.1	5.5	5.3	94.7	-
Romania	:	:	:	21.7	67.3	11.0
Slovenia	90.2	5.5	4.3	22.7	77.3	-
Slovakia	70.0	22.7	7.3	29.5	70.3	0.3
Finland	84.1	10.5	5.3	23.3	76.5	0.2
Sweden	83.0	7.6	9.3	36.0	64.0	-
United Kingdom	87.2	6.2	6.6	11.9	88.0	0.1
Croatia	:	:	:	23.1	76.0	1.0
FYR of Macedonia	:	:	:	11.2	88.8	-
Turkey	:	:	:	5.6	94.4	-
Iceland (3)	88.8	11.2	-	-	100.0	-
Norway (3)	88.2	7.4	4.5	14.7	85.3	-

#### Table 9.1: Modal split of inland passenger and freight transport

(1) Excluding powered two-wheelers; if powered two-wheelers are included they would account for 2.6 % of the resulting modal split.

(2) EU-25 for inland passenger transport.(3) Inland passenger transport, 2002.

Source: Eurostat (tsdtr210 and tsdtr220) and Directorate-General for Energy and Transport (EU energy and transport in figures)

This indicator is defined as the percentage share of each mode of transport in total inland transport, expressed in passenger-kilometres (pkm). It is based on transport by passenger cars, buses and coaches, and trains. All data should be based on movements on national territory, regardless of the nationality of the vehicle. However, the data collection methodology is not harmonised at the EU level. This indicator is defined as the percentage share of each mode of transport in total inland transport expressed in tonne-kilometres (tkm). It includes transport by road, rail and inland waterways. Road transport is based on all movements of vehicles registered in the reporting country. Rail and inland waterways transport is generally based on movements on national territory, regardless of the nationality of the vehicle or vessel, but there are some variations in definitions from country to country.

#### Figure 9.1: People killed in road accidents, 2002

(persons killed per million inhabitants)



#### (1) Not available.

Source: Eurostat (tsdtr420) and European Commission CARE database (Community Database on Road Accidents)

Fatalities caused by road accidents include drivers and passengers of motorised vehicles and pedal cycles as well as pedestrians, killed within 30 days from the day of the accident. For Member States not using this definition, corrective factors were applied.

#### 9.2 PASSENGER TRANSPORT

#### **INTRODUCTION**

EU transport policies have been designed with its citizens, urban and rural, as well as its enterprises in mind. The recent mid-term review of the 2001 White Paper shed a spotlight on urban travel, reflecting the fact that 'eighty per cent of Europeans live in an urban environment'. The review points to picking up on the bestpractice initiatives used by a number of cities regarding 'transport infrastructure, norm-setting, congestion and traffic management, public transport services, infrastructure charging, urban planning, safety, security and cooperation with the surrounding region'. Building on the experience gained in the Civitas initiative <sup>(71)</sup> and on its thematic strategy on urban transport <sup>(72)</sup>, the Commission published a Green Paper <sup>(73)</sup> on a new culture for urban mobility in September 2007 that looks to pick up on these best practices. To underline the importance of these urban transport reflections for economic prosperity and cohesion, the Green Paper states that 'just less than 85 % of the EU's gross domestic products is created in urban areas'.

Intra-urban transport is only one element of passenger transport policy. Enlargement of the EU has opened up further opportunities for inter-urban passenger travel by rail, car or airplane, which has been and continues to be strengthened by improvements to the infrastructure (such as extensions of the high-speed rail links or raising of airport capacity), by more competition and greater co-ordination (such as the single sky policy). The strengthening of passenger rights has also made passengers more secure to enjoy the freedom to travel and work throughout the EU. The recent mid-term review underlines the point that rail and sea passengers will benefit from similar rights in forthcoming legislation.

#### **DEFINITIONS AND DATA AVAILABILITY**

Definitions used in transport statistics are available in the 'Glossary for Transport statistics – Third Edition', of which:

- a rail passenger is any person, excluding members of the train crew, who makes a journey by rail;
- a rail passenger-kilometre is a unit of measure representing the transport of one rail passenger by rail over a distance of one kilometre;

<sup>(71)</sup> The Civitas initiative was established to help cities to achieve a more sustainable, clean and energy efficient urban transport system by implementing and evaluating an ambitious, integrated set of technology and policy based measures.

<sup>(72)</sup> Also note the Communication on the thematic strategy on the urban environment – COM(2005) 718; for more information: http://ec.europa.eu/environment/urban/pdf/com\_2005\_0718\_en.pdf.

<sup>(73)</sup> COM(2007) 551 final; for more information: http://ec.europa.eu/transport/clean/green\_paper\_urban\_transport/doc/ 2007\_09\_25\_gp\_urban\_mobility\_en.pdf.

- a merchant ship is a ship designed for the carriage of goods, transport of passengers or specially fitted out for a specific commercial duty;
- a sea passenger is any person that makes a sea journey on a merchant ship. Service staff assigned to merchant ships are not regarded as passengers. Non-fare paying crew members travelling but not assigned and infants in arms are excluded;
- air passengers carried relate to all passengers on a particular flight (with one flight number) counted once only and not repeatedly on each individual stage of that flight. This includes all revenue and non-revenue passengers whose journey begins or terminates at the reporting airport and transfer passengers joining or leaving the flight at the reporting airport; but excludes direct transit passengers.

Rail transport statistics are reported on the basis of the 'territoriality principle'. This means that each reporting country reports the loading/embarkation, unloading/disembarkation and movements of goods and passengers that take place in their national territory. For this reason, 'tonne-kilometre' and 'passenger-kilometre' are the best measures for the comparisons between transport modes and countries, because the use of tonnes or passengers entails a high risk of double counting, particularly in international transport.

Annual passenger data of all railway enterprises and rail accidents are available for all Member States, except Malta and Cyprus that do not have railways.

Maritime transport data are transmitted to Eurostat by 22 Member States of the EU (the Czech Republic, Luxembourg, Hungary, Austria and Slovakia having no maritime traffic). Annual data are available for the remaining EU-27 Member States for most of the period between 2001 and 2005 (as of June 2007), although some Member States have sent annual and quarterly data for the period since 1997. The air transport domain contains national and international intra and extra-EU data. In the tables from the sub-domain 'Transport measurement – passengers', data are broken down by passengers on board (arrivals, departures and total), passengers carried (arrivals, departures and total) and passenger commercial air flights (arrivals, departures and total). The tables within the collection 'Detailed air transport by reporting country and routes' provides information on seats available (arrivals, departures and total). The data are presented with monthly, quarterly and annual frequencies. Annual data are available for the EU-27 Member States for most of the period between 2001 and 2006.

#### **MAIN FINDINGS**

In the vast majority of Member States, GDP growth since 1995 has outstripped changes in the volume of inland passenger transport. Among the exceptions were Spain and Italy, where the rate of growth in GDP was very similar to the rate of growth in the volume of inland passenger transport, and Portugal and Greece, where the growth in the volume of inland passenger transport and particularly personal car use was stronger than GDP growth on a sustained basis during the years through to 2004.

The average distance per inhabitant travelled on railways (national and international travel) in a year, was higher in France, Denmark and Austria than elsewhere in the EU-27; the average distance travelled by rail in these Member States ranged between 1 000 and 1 200 passenger-kilometres in 2004/2005. In terms of international travel within the EU-27 Member States, the average distance travelled on railways was highest in Austria (195 passenger-kilometres per inhabitant), Luxembourg (141 km per inhabitant) and France (125 km per inhabitant) in 2005<sup>(74)</sup>, reflecting variously the number of international borders, the importance of international commuters within the workforce, the relative proximity of their capitals or other cities to international borders, the access to high-speed network rail links, and their position on major international transport corridors.

(74) France, 2004.

Some 3 136 people were either killed or seriously injured in railway accidents in the EU-25 in 2005, of which a little more than one quarter (28 %) were either train passengers or railway employees. Approximately two thirds (68 %) of the losses of life in rail accidents were from incidents involving rolling stock in motion, with just over a quarter (28 %) from incidents at level-crossings. Of the 1 487 people that lost their lives in rail accidents, 62 were passengers and of these 19 people died in rail collisions (excluding level-crossing accidents).

The highest numbers of rail fatalities within the EU-27 (excluding Bulgaria) in 2005 occurred in Poland and the Czech Republic. In the case of the Czech Republic, however, statistics include suicides that should, in principle, be excluded.

Air transport in the EU-25 exceeded 700 million passengers in 2005. In 2006, London's Heathrow airport remained the busiest in terms of passenger numbers (about 67 million), accounting for only a little less than one tenth of all air passengers in the EU. Paris' Charles de Gaulle airport (56 million) and Frankfurt's Main airport (52 million) were the second and third busiest airports. The vast majority (about 90 % or more) of passengers in these three airports were international passengers. The busiest airports in the Member States for domestic flights were Madrid's Barajas airport, Paris' Orly airport, Barcelona airport and Roma's Fiumicino airport <sup>(75)</sup>.

(75) For more information, see Eurostat, Statistics in Focus 8/2007 on 'Air transport in Europe in 2005'. Ports in the EU-25 handled 387 million <sup>(76)</sup> maritime passengers in 2005, representing a decline of almost 5 % on numbers passing through in 2004. Greek and Italian ports handled more passengers (86 million and 79 million respectively) than the ports in any other Member State, although in both of these countries there were significant numbers of passengers who were double counted, through national ferry connections such as Perama-Paloukia and Reggio Calabria-Messina.

The opening of new bridges and tunnels between islands and countries can have a significant impact on the number of passengers passing through ports. For example, the strong decline (16 %) in the number of passengers through Greek ports between 2003 and 2005 is largely explained by the opening of the bridge between the Peloponnese and mainland Greece in 2004 which resulted in a downturn in sea passengers on the Rio-Antirio route. The discontinuation of the 'duty-free' traffic between Polish and German ports in May 2004 also largely explains the near halving of maritime passengers through Polish ports between 2003 and 2005 passengers (77).

#### SOURCES

#### Methodologies and working papers

Common Questionnaire of the United Nations Economic Commission for Europe (UNECE), Eurostat and the European Conference of Ministers of Transport (ECMT; more recently the International Transport Forum – ITF) on rail transport statistics; Manual on air transport statistics methodology

Glossary on air transport statistics

Methodological notes on maritime transport statistics are published in the annual CD-Rom on transport by sea

#### Website data

#### **Railway transport**

Railway transport measurement – passengers

Railway transport - quarterly passengers transported

Railway passenger transport by type of transport (national/international)

International railway passenger transport from the reporting country to the country of disembarkation (in 1 000 passengers) International railway passenger transport from the country of embarkation to the reporting country (in 1 000 passengers)

#### Maritime transport

Maritime transport – passengers

Maritime transport – passengers – annual data – all ports – by direction

Maritime transport – passengers – quarterly data – main ports – by direction and type of traffic (national and international) Air transport

Air transport measurement – passengers

Overview of the air passenger transport by country and airports

National air passenger transport by country and airports

International intra-EU air passenger transport by country and airports

International extra-EU air passenger transport by country and airports

Detailed air passenger transport by reporting country and routes

<sup>(76)</sup> The total number of maritime passengers may include some passengers who have been double-counted, for example, those that embarked or disembarked in ports of the same country. There is no significant difference between the number of passengers embarking and disembarking as most transport corresponds to main ferry connections.

<sup>(77)</sup> For more details, see Eurostat, Statistics in Focus 94/2007 on 'Maritime transport of goods and passengers, 1997-2005'.



#### Table 9.2: Volume of inland passenger transport (1)

(index of inland passenger transport volume relative to GDP (1995=100))

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Belgium	100.0	99.5	97.3	98.9	97.4	94.9	95.9	96.4	97.0	96.3
Bulgaria	100.0	:	:	:	:	:	:	:	:	:
Czech Republic	100.0	106.9	107.4	109.3	109.9	109.4	107.9	105.9	103.1	98.0
Denmark	100.0	99.0	97.7	96.6	95.4	91.6	89.7	89.5	89.8	90.0
Germany	100.0	99.2	97.5	96.7	96.9	92.5	93.4	93.8	93.5	93.6
Estonia	100.0	:	:	:	:	:	:	:	:	:
Ireland	100.0	97.2	93.8	90.7	85.8	81.7	80.7	79.2	78.7	77.8
Greece	100.0	98.4	100.3	102.0	105.1	110.0	110.0	111.6	109.9	109.6
Spain	100.0	101.9	101.0	101.1	101.8	99.5	97.9	102.0	101.2	101.4
France	100.0	100.8	100.2	99.6	99.2	96.0	97.4	97.5	96.9	94.9
Italy	100.0	101.3	100.9	102.4	101.0	105.8	103.1	102.1	102.0	101.8
Cyprus	100.0	:	:	:	:	:	:	:	:	:
Latvia	100.0	:	:	:	:	:	:	:	:	:
Lithuania	100.0	:	:	:	:	:	:	90.6	96.3	117.0
Luxembourg	100.0	100.4	96.8	92.7	85.8	88.0	89.2	88.1	87.2	85.6
Hungary	100.0	101.4	96.7	92.3	90.1	84.7	81.5	78.9	75.8	72.1
Malta	100.0	:	:	:	:	:	:	:	:	:
Netherlands	100.0	97.5	96.6	93.6	91.6	88.3	87.0	88.1	88.0	86.6
Austria	100.0	99.1	97.0	94.7	93.6	91.9	92.1	92.6	92.4	91.4
Poland	100.0	96.3	94.9	95.6	92.4	92.2	93.7	95.1	93.6	92.1
Portugal	100.0	100.8	102.9	103.2	104.8	105.3	105.0	107.5	111.2	113.7
Romania	100.0	:	:	:	:	:	:	:	:	:
Slovenia	100.0	104.0	104.9	98.8	99.1	94.5	93.0	91.6	89.8	87.6
Slovakia	100.0	91.1	82.9	79.0	81.6	88.2	85.2	83.6	79.0	73.1
Finland	100.0	97.2	94.0	91.1	89.6	86.5	85.8	86.0	86.1	84.7
Sweden	100.0	99.3	97.4	94.8	93.4	90.9	90.6	90.9	91.2	88.0
United Kingdom	100.0	98.2	97.0	94.7	93.1	89.5	89.3	90.2	88.2	85.8
Iceland	100.0	99.9	101.0	101.2	101.2	109.3	113.2	116.6	117.5	112.3
Norway	100.0	98.8	93.8	93.1	92.2	90.6	89.9	90.7	91.3	90.0
Japan	100.0	100.3	99.8	102.5	103.1	100.6	101.2	100.8	99.4	:
United States	100.0	98.9	97.5	96.1	94.3	92.8	96.7	96.4	95.1	:

(1) Break in series: Hungary and the United Kingdom, 1996; Italy, 2000.

Source: Eurostat (tsien032)

This indicator is defined as the ratio between passenger-km (inland modes) and GDP (gross domestic product in constant 1995 EUR). It is indexed on 1995. It is based on transport by passenger cars, buses and coaches, and trains. All data was asked to be based on movements on national territory, regardless of the nationality of the vehicle. However, data collection methodology is not harmonised at the EU level.



(index of inland passenger transport volume relative to GDP (1995=100))



Source: Eurostat (tsien032)

#### Table 9.3: Rail passenger transport

	Rai (1 000	l passeng 0 million	jer transp passenger	ort -km)	Rail passenger transport (passenger-km per inhabitant)			ort itant)	(ทเ	Rail ac umber o	cidents of persor	ıs)
	Nat	tional	Interna	tional	Nat	ional	Interna	tional	Kill	ed	Seric inju	ously red
	2004	2005	2004	2005	2004	2005	2004	2005	2004	2005	2004	2005
Belgium	8 675	7 771	:	535	834	744	:	51	19	24	23	26
Bulgaria	:	:	:	:	:	:	:	:	:	:	:	:
Czech Republic	6212	6 285	368	381	608	615	36	37	232	249	111	100
Denmark	5 384	5 421	332	330	997	1 002	62	61	17	23	13	13
Germany	71 592	74 944	1 287	3 300	867	908	16	40	167	157	215	209
Estonia	170	224	23	25	126	166	17	19	20	21	17	24
Ireland	1 582	1 654	:	127	393	403	:	31	1	0	2	1
Greece	1 636	1 804	33	50	148	163	3	5	32	26	82	60
Spain	18 278	19 075	738	734	432	443	17	17	110	65	54	32
France	66 582	:	7 777	:	1 072	:	125	:	93	79	40	42
Italy	43 576	43 889	2 002	2 255	753	751	35	39	59	99	87	121
Cyprus	-	-	-	-	-	-	-	-	-	-	-	-
Latvia	722	800	88	94	311	347	38	41	32	32	42	34
Lithuania	262	259	21	21	76	76	6	6	31	33	28	16
Luxembourg	191	203	62	64	423	446	137	141	0	0	0	1
Hungary	10 028	9 340	:	374	991	925	:	37	94	91	357	322
Malta	-	-	-	-	-	-	-	-	-	-	-	-
Netherlands	:	14 730	:	230	:	903	:	14	24	25	21	19
Austria	6 759	7 046	1 500	1 600	830	859	184	195	47	44	72	65
Poland	17 862	17 331	567	552	468	454	15	14	276	291	413	403
Portugal	3 633	3 753	60	57	347	356	6	5	101	99	157	70
Romania	8 475	7 816	158	144	390	361	7	7	40	36	1	15
Slovenia	648	666	47	50	325	333	24	25	12	5	42	18
Slovakia	2 099	2 039	129	143	390	379	24	27	10	7	9	20
Finland	3 280	3 402	72	76	628	650	14	15	24	22	7	13
Sweden	8 013	8 339	621	571	893	925	69	63	26	21	21	19
United Kingdom	41 952	42 981	1 396	1 434	703	716	23	24	88	74	30	21
Croatia	1 100	1 161	69	66	248	261	16	15	36	35	34	44
Turkey	5 172	4 977	65	59	73	70	1	1	219	154	471	283

Source: Eurostat (rail\_pa\_typepkm, rail\_ac\_catvict and tps00001)

# Table 9.4: Rail accidents by type of victim and accident, EU-25, 2005 (number of persons)

	Total		Pass	Passengers		Railway employees		Others		
	Seriously			Seriously	Seriously		Seriously			
	Killed	injured	Killed	injured	Killed	injured	Killed	injured		
Total	1 487	1 649	62	608	43	151	1 382	890		
Collisions (excluding	38	152	19	93	10	44	9	15		
level-crossing accidents)										
Derailments	1	51	0	35	0	15	1	1		
Accidents involving level-crossings	412	476	6	17	2	20	404	439		
Accidents to persons caused by	1 007	547	28	122	31	44	948	381		
rolling stock in motion										
Fire in rolling stock	0	6	0	3	0	3	0	0		
Others	29	417	9	338	0	25	20	54		

Source: Eurostat (rail\_ac\_catvict)



#### Figure 9.3: Rail passenger transport, 2005

(passenger-km per inhabitant)



Source: Eurostat (rail\_pa\_typepkm and tps00001)

Figure 9.4: Top 15 airports, passengers carried (embarked and disembarked), EU-27, 2006 (million passengers)



Source: Eurostat (avia\_paoa)

#### Table 9.5: Air and sea passenger transport (1 000 passengers)

	Air passengers (1)		Maritime passengers					
	2005	2003	2004	2005				
EU-25 (2)	704 569	412 607	406 427	386 608				
Euro area	:	288 432	282 486	266 646				
Belgium	17 814	739	787	922				
Bulgaria	5 023	4	6	13				
Czech Republic	11 266	-	-	-				
Denmark	22 173	48 653	48 555	47 924				
Germany	145 977	32 146	29 815	29 490				
Estonia	1 393	5 172	6 452	6 885				
Ireland	24 254	3 747	3 550	3 275				
Greece	30 798	102 760	96 744	86 068				
Spain	143 680	20 041	21 694	22 410				
France	107 955	27 405	27 068	25 804				
Italy	87 906	82 576	83 316	78 753				
Cyprus	6 782	287	247	194				
Latvia	1 872	118	130	144				
Lithuania	1 434	135	146	166				
Luxembourg	1 538	-	-	-				
Hungary	8 049	-	-	-				
Malta	2 762	166	225	178				
Netherlands	46 433	2 015	2 012	2 116				
Austria	19 685	-	-	-				
Poland	7 080	3 188	2 031	1 647				
Portugal	20 272	616	650	662				
Romania	3 916	:	:	:				
Slovenia	1 2 1 7	47	42	35				
Slovakia	1 583	-	-	-				
Finland	12 348	16 341	16 806	17 112				
Sweden	22 899	32 748	33 318	32 617				
United Kingdom	204 013	33 708	32 837	30 207				
Croatia	3 494	19 483	21 519	22 182				
Iceland	2 951	407	404	422				
Norway	18 579	4 656	5 787	6 663				

 Total passengers carried (arrivals and departures for national and international).
 For air: aggregates exclude the double-counting impact of passengers flying between countries belonging to the same aggregate.

Source: Eurostat (ttr00012 and mar\_pa\_aa) and Directorate-General for Energy and Transport

#### 9.3 FREIGHT TRANSPORT

#### **INTRODUCTION**

The ability to move goods safely, quickly and cost-efficiently to market is important for trade and economic development. Strains on infrastructure, demonstrated by congestion and pollution, as well as the constraints of disparate standards, technical barriers, poor interoperability and governance all impact on economic development.

The EU has already taken a number of steps to improve freight transport throughout the EU, but the mid-term review of the 2001 White Paper specified further actions. The package of measures being proposed by the European Commission concern:

- a freight transport logistics action plan: the trend towards integrated logistics enterprises needs to be matched by public policies enabling the optimal use and combination (comodality) of different modes of transport. The action plan proposed covers, among other ideas, e-freight and intelligent transport systems, the promotion of interoperability across modes, single transport documents and the removal of regulatory obstacles;
- a rail network giving priority to freight <sup>(78)</sup>: ideas being proposed by the European Commission include the creation of freight corridor structures <sup>(79)</sup> to measure service quality, improvement of the infrastructure of existing freight corridors, the introduction of harmonised rules for the allocation of train paths, the development of priority rules in the case of traffic disturbance, and the improvement of terminal and marshalling yard capacities;
- a ports policy: ideas being proposed include several that might be grouped under 'modernisation', such as the simplification of procedures for short-sea shipping, an emaritime approach to administration, and improved performance (such as the use of automated stacking cranes, automated container terminals, and twin and tandem lifting equipment), as well as the expansion of capacity whilst respecting the environment;
- a maritime and short-sea shipping policy <sup>(80)</sup>: challenges faced include reducing bureaucracy, improving promotion and marketing, port capacity, accessibility and efficiency, ensuring the availability of suitable vessels, providing adequate training, the availability of good and non-congested hinterland connections, and establishing integrated information systems.

#### **DEFINITIONS AND DATA AVAILABILITY**

Definitions used in transport statistics are available in the 'Glossary for Transport statistics – Third Edition', of which:

- weight by road/rail is the gross-gross weight of goods. This includes the total weight of the goods, all packaging, and tare-weight of the container, swap-body and pallets containing goods. In the case of rail, it also includes road goods vehicles carried by rail. When the tare-weight is excluded, the weight is the gross weight. The tare-weight is the weight of a transport unit before any cargo is loaded; weight by sea is the gross weight;
- goods loaded are those goods placed on a road vehicle/railway vehicle/merchant ship and dispatched by road/rail/sea. Unlike in road and inland waterway transport, transhipments from one railway vehicle directly to another and change of tractive vehicle are not regarded as unloading/loading. However, if the goods are unloaded from one railway vehicle to another railway vehicle, this is considered as a break of the journey;
- goods unloaded are those goods taken off a road vehicle/railway vehicle/merchant ship.

Road freight transport statistics are reported by Member States for vehicles registered in their country. On the basis of variables contained in the micro-data (reporting country, country of loading and country of unloading of a journey) five types of operations are derived:

- National transport;
- International transport goods loaded in the reporting country;
- International transport goods unloaded in the reporting country;
- International transport cross-trade;
- International transport cabotage.

Quarterly and annual rail freight data are collected for EU-25 Member States, except Malta and Cyprus that do not have railways, in line with Regulation 91/2003. Whereas the quarterly data concern big railway undertakings, annual data cover all undertakings. The new Regulation has been implemented from 2004 onwards.

<sup>(78)</sup> COM(2007) 608; for more information: http://eurlex.europa.eu/LexUriServ/ site/en/com/2007/com2007\_0608en01.pdf.

<sup>(79)</sup> Building on the intent to establish six European Rail Traffic Management System (ERTMS) corridors: A (Rotterdam – Genoa), B (Stockholm – Naples), C (Antwerp – Basle – Lyon), D (Valencia – Lyon – Ljubljana – Budapest), E (Dresden – Prague – Budapest), F (Duisberg – Berlin – Warsaw).

<sup>(80)</sup> Commission Staff Working Document SEC(2007) 1367; for more information: http://eur-lex.europa.eu/LexUriServ/site/en/com/

Maritime transport data are transmitted to Eurostat by 22 Member States of the EU (the Czech Republic, Luxembourg, Hungary, Austria and Slovakia having no maritime traffic). Annual data are available for the remaining EU-27 Member States for most of the period between 2001 and 2005 (as of June 2007), although some Member States have sent annual and quarterly data for the period since 1997.

In the tables of the sub-domain 'Transport measurement – Freight and mail', data are broken down by freight and mail on board (arrivals, departures and total), freight and mail loaded/unloaded (loaded, unloaded and total) and all-freight and mail commercial air flights (arrivals, departures and total). The data are presented with monthly, quarterly and annual frequencies. Annual data are available for most of the EU-27 Member States for the period between 2003 and 2006, with a majority also providing data for 2001 and 2002. Some Member States have provided data back to 1993.

#### **MAIN FINDINGS**

The rates of change in the GDP of the EU-25 since 1995 were broadly matched by rates of change in the volume of inland freight transport through until 2003, since when the rate of freight volume growth has been notably stronger. In about half of the EU-27 Member States, the rate of growth in GDP in the decade through to 2005 was outstripped by the growth in inland freight volumes. In the majority of Member States, the amount of freight transported by road exceeded that of railways and inland waterways. The vast majority (94 % in 2005) of air freight and mail transport is international (intra- and extra-EU combined). More freight was carried through German airports (a little more than 3 million tonnes) than airports in any other Member State in 2005, representing a sharp rise of nearly one quarter since 2003. The United Kingdom and then the Netherlands were the next largest air freight carriers among the Member States. It is interesting to note, however, the importance of air freight within some of the smaller Member States; for example, freight transported through Luxembourg's only commercial airport in 2005 was more than that passing through all the airports of Spain and equal to about one fifth of the total amount passing through German airports.

In 2005, 3 718 million tonnes of goods were handled in EU-27 maritime ports (4.2 % higher than in 2004). With 586 million tonnes, the United Kingdom had the highest share (16 %) of EU-27 goods handled in ports, followed by Italy (14 %), the Netherlands (12 %) and Spain (11 %). Tonnes of goods handled in maritime ports per inhabitant give some indication of the relative importance of maritime ports in each Member State, ranging from 34.6 tonnes in Estonia to 1.4 tonnes in Poland (the EU-27 average being 7.6 tonnes).

At the EU-27 level, liquid bulk represented 41 % of the total cargo handled in ports in 2005, followed by dry bulk (26 %) and large containers (16 %). Just over 60 % of the seaborne transport of goods made by the 27 Member States concerned extra-EU-27 partner (origin/destination) ports, while international intra-EU-27 transport represented 28 % of the total, and national maritime transport the remaining 11 %.

Rotterdam, Antwerp and Hamburg maintained their positions as the three largest ports in terms of both the gross weight of goods handled and the volume of containers handled.

#### **SOURCES**

#### Methodologies and working papers

Road freight transport methodology – volume 1: reference manual for the implementation of Council Regulation No 1172/98/EC on statistics on the carriage of goods by road

Road freight transport methodology – volume 2: methodologies used in surveys of road freight transport in Member States and Candidate Countries

#### Website data

#### **Road transport**

Road freight transport measurement

- Total road freight transport
- National road freight transport
- International road freight transport
- Road cabotage transport

#### **Railway transport**

Railway transport measurement – goods

(detailed data based on Directive 80/1177/EC or Regulation (EC) 91/2003)

Railway transport - goods transported, by type of transport

Railway transport – goods transported, by group of goods

- Railway transport quarterly goods transported
- International annual railway transport from the loading country to the reporting country (1 000 t, million tkm) International annual railway transport from the reporting country to the unloading country (1 000 t, million tkm) National monthly railway transport (1 000 t)

#### Maritime transport

Maritime transport – goods

Maritime transport - goods (gross weight) - annual data - all ports - by direction

Maritime transport – goods (gross weight) – quarterly data – main ports – by direction and type of traffic (national and international)

#### Air transport

Air transport measurement – freight and mail

Overview of the freight and mail air transport by country and airports

National freight and mail air transport by country and airports

International intra-EU freight and mail air transport by country and airports

International extra-EU freight and mail air transport by country and airports

Detailed freight and mail air transport by reporting country and routes

#### Figure 9.5: Volume of inland freight transport, 2005

(index of inland freight transport volume relative to GDP, 1995=100))



(1) Estimate.(2) Not available

Source: Eurostat (tsien031)

# Table 9.6: Volume of inland freight transport (1)

(index of inland freight transport volume relative to GDP, 1995=100)

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
EU-25	100.0	99.2	101.0	101.4	100.5	100.1	98.9	99.7	98.9	104.0	104.6
Euro area	100.0	99.8	101.3	103.4	103.9	104.2	103.9	104.6	102.9	109.4	109.9
Belgium	100.0	91.8	92.3	87.2	78.6	98.0	100.1	99.1	95.0	89.3	83.7
Bulgaria	100.0	:	:	:	:	31.8	33.3	33.2	35.0	38.5	41.4
Czech Republic	100.0	93.1	110.1	94.7	95.3	93.9	93.5	97.5	98.7	92.8	83.4
Denmark	100.0	92.1	90.9	88.9	93.1	93.0	85.5	86.2	87.6	87.4	84.4
Germany	100.0	97.8	99.8	101.4	103.7	103.3	103.3	102.3	103.2	109.2	110.6
Estonia	100.0	108.2	117.1	138.1	164.4	177.9	159.0	164.7	150.8	159.5	152.5
Ireland	100.0	104.4	102.1	108.4	121.2	131.8	125.3	135.3	141.6	148.4	146.0
Greece	100.0	117.3	128.6	141.0	141.7	:	:	:	108.0	:	120.8
Spain	100.0	98.1	101.9	108.9	111.2	116.4	121.0	133.8	135.3	149.2	151.7
France	100.0	100.0	100.7	100.8	103.7	100.4	97.5	95.4	92.9	93.3	88.5
Italy	100.0	105.6	103.7	107.7	101.5	102.2	100.9	102.7	93.7	104.5	111.9
Cyprus	100.0	101.0	100.5	99.1	96.2	94.6	93.9	95.7	99.5	76.5	91.7
Latvia	100.0	121.4	132.8	125.2	116.0	120.0	119.9	122.3	133.1	128.6	126.4
Lithuania	100.0	94.4	97.5	91.4	104.2	107.1	96.4	115.3	116.9	113.7	125.4
Luxembourg	100.0	67.8	78.1	81.5	92.3	100.8	110.0	109.5	113.0	109.5	95.4
Hungary	100.0	97.4	97.5	107.9	99.6	94.9	89.2	85.0	82.9	89.1	99.3
Malta	100.0	:	:	:	:	:	:	:	:	:	:
Netherlands	100.0	99.0	101.0	103.9	104.1	97.4	94.9	93.1	93.7	102.7	101.3
Austria	100.0	100.9	102.9	104.5	109.8	112.3	117.1	119.2	118.3	117.5	112.2
Poland	100.0	97.7	96.7	91.6	84.2	81.8	79.9	80.5	81.9	88.7	89.6
Portugal	100.0	116.2	120.5	116.2	115.6	114.2	123.8	122.2	114.2	164.9	172.6
Romania	100.0	:	:	:	71.5	75.3	80.0	90.0	95.6	104.3	131.2
Slovenia	100.0	93.5	93.1	92.8	89.0	87.6	88.5	84.0	87.2	98.3	111.0
Slovakia	100.0	65.4	61.4	62.7	60.7	54.1	50.0	47.3	48.3	48.1	51.5
Finland	100.0	96.5	95.8	97.3	97.1	98.7	92.2	93.6	90.5	90.5	86.1
Sweden	100.0	100.9	102.6	95.8	91.2	93.2	88.9	90.6	90.6	88.9	90.2
United Kingdom	100.0	100.9	100.5	99.0	93.6	89.8	87.3	85.5	84.7	84.1	82.3
Turkey	100.0	111.7	107.3	111.9	116.4	116.6	117.0	107.8	103.6	98.3	89.9
Iceland	100.0	100.1	101.1	101.3	103.1	99.2	104.9	108.2	108.4	109.3	112.7
Norway	100.0	117.3	124.6	125.6	124.1	122.8	119.2	118.2	123.9	127.0	130.9
Japan	100.0	100.8	99.5	99.1	101.1	99.9	99.5	99.1	100.4	99.7	:
United States	100.0	99.2	97.1	96.0	95.0	93.4	94.4	94.1	91.4	:	:

 Break in series: Sweden, 1996; Estonia, 1997; Hungary and Slovakia, 2000; Bulgaria, 2001; Greece, 2003; Spain, Italy, Austria, Poland, Portugal and Romania, 2004.

Source: Eurostat (tsien031)

This indicator is defined as the ratio between tonne-kilometres (inland modes) and GDP (in constant 1995 EUR). It is indexed on 1995. It includes transport by road, rail and inland waterways. Rail and inland waterways transport are based on movements on national territory, regardless of the nationality of the vehicle or vessel. Road transport is based on all movements of vehicles registered in the reporting country.



			Inland			Inland	National air
			water-			water-	freight and mail
	Road (1)	Rail (2)	ways (3)	Road (1)	Rail (2)	ways (3)	transport (4)
		(million t-k	(m)	(t-k	m per inha	(tonnes)	
Belgium	47 868	:	3 393	4 554	:	325	509
Bulgaria	13 763	5 396	622	1 783	699	81	:
Czech Republic	50 374	15 748	11	4 9 1 4	1 536	1	2 320
Denmark	21 255	1 892	-	3 916	349	-	1 650
Germany	321 434	107 007	23 758	3 899	1 298	288	118 780
Estonia	5 674	10 418	-	4 2 2 0	7 748	:	0
Ireland	:	205	-	:	49	-	16 383
Greece	33 998	662	-	3 056	60	-	16 466
Spain	241 782	11 634	-	5 525	266	-	116 192
France	211 464	40 924	1 580	3 357	650	25	170 116
Italy	176 292	24 165	-	3 001	411	:	72 761
Cyprus	1 165	-	-	1 520	-	-	656
Latvia	10 765	19 779	-	4 691	8 576	:	1
Lithuania	18 122	12 896	-	5 325	3 789	:	8
Luxembourg	8 803	392	4	19 158	862	44	84
Hungary	:	10 167	264	:	1 009	26	0
Malta	:	-	-	:	-	-	0
Netherlands	83 297	5 025	8 595	5 100	308	526	2
Austria	37 455	20 980	902	4 531	2 538	109	955
Poland	128 315	53 622	16	3 363	1 405	0	6 773
Portugal	44 995	2 422	-	4 257	230	-	22 013
Romania	57 262	15 791	2 198	2 650	731	102	484
Slovenia	12 090	3 373	-	6 035	1 684	-	32
Slovakia	22 163	9 988	23	4 112	1 853	4	5
Finland	29 716	11 060	-	5 654	2 104	:	5 619
Sweden	36 206	21 675	-	4 002	2 405	-	13 543
United Kingdom	168 289	22 322	-	2 787	372	:	135 847

#### Table 9.7: Inland freight transport, 2006

Road transport is based on movements all over the world of vehicles registered in the reporting country; Italy, 2005.
 Latvia, Luxembourg, the Netherlands, Portugal, Sweden and the United Kingdom, 2005.
 Belgium and Hungary, 2005.
 Sweden, 2004; Denmark does not include data for Copenhagen/Kastrup airport; France underestimated as freight transport at Paris Charles-de-Gaulle and Paris Orly is incomplete.

Source: Eurostat (road\_go\_to\_tcrg, rail\_go\_typeall, iww\_go\_ildg, avia\_gonc and tps00001)
# Figure 9.6: Gross weight of seaborne goods handled in ports, 2005 (1)

(million tonnes)



(1) Czech Republic, Luxembourg, Hungary, Austria and Slovakia, not applicable. Source: Eurostat (mar\_go\_aa)

## Figure 9.7: Air freight transport, 2005

(1 000 tonnes)



(1) Underestimated: freight transport at Paris Charles-de-Gaulle and Paris Orly is incomplete.

(2) Excluding freight transport at Copenhagen/Kastrup airport.(3) Not available.

Source: Eurostat (ttr00011) and Directorate-General for Energy and Transport

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The sixth environment action programme (sixth EAP) <sup>(81)</sup>, adopted in 2002, is the EU's ten-year (2002–2012) policy programme for the environment. It identifies four key priorities:

- tackling climate change: to achieve the EU's target of reducing greenhouse gas emissions by 8 % by 2008-2012 and target more radical global emission cuts in the order of 20 % by 2020;
- nature and biodiversity: to avert the loss of species and their habitats in Europe by completion of the Natura 2000 network and by developing new sectoral biodiversity action plans, and to pay greater attention to protecting landscapes, the marine environment and soils, and to establish measures to prevent industrial and mining accidents;
- environment and health: to completely overhaul the EU's riskmanagement system for chemicals, to develop a strategy for reducing risks from pesticides, protection of water quality in the EU, noise abatement and a thematic strategy for air quality;
- sustainable use of natural resources and the management of waste: to increase resource efficiency and decouple resource use from economic growth, to increase recycling and waste prevention with the aid of an integrated product policy and measures targeting specific waste streams such as hazardous waste, sludges and biodegradable waste.

In order to implement the sixth EAP, the European Commission adopted seven thematic strategies; these are air pollution (adopted in September 2005), marine environment (October 2005), the prevention and recycling of waste (December 2005), the sustainable use of natural resources (December 2005), urban environment (January 2006), soil (September 2006) and the sustainable use of pesticides (July 2006).

Each strategy follows an in-depth review of existing policy and wide-ranging stakeholder consultation. The aim is to create positive synergies between the seven strategies, as well as to integrate them with existing sectoral policies, the Lisbon strategy and the sustainable development strategy.

The 2007 mid-term review of the sixth EAP <sup>(82)</sup> was held, and the results adopted by the European Commission in April 2007: this confirmed the programme as the framework for Community action in the field of the environment up to 2012.

Eurostat, in close partnership with the European Environment Agency (EEA), provides statistics, indicators and meta-information on environmental pressures and the state of the environment to support the implementation and monitoring of the sixth EAP.

<sup>(81)</sup> Decision No 1600/2002/EC of the European Parliament and of the Council of 22 July 2002 laying down the Sixth Community Environment Action Programme; for more information: http://europa.eu/ eur-lex/pri/en/oj/dat/2002/l\_242/l\_24220020910en00010015.pdf.

<sup>(82)</sup> Commission Communication on the mid-term review of the Sixth Community Environment Action Programme, for more information: http://eur-lex.europa.eu/lexuriserv/lexuriserv.do? uri=com:2007:0225:fin:en:pdf.

# SOURCES

Eurostat data in this domain **Environment and energy** Environment Air pollution/climate change Waste Waste statistics Regulation Water Environmental accounts **Biodiversity** Key indicators on EU policy (predefined tables) Sustainable development Sustainable consumption and production Resource use and waste Consumption patterns Production patterns Public health Determinants of health Climate change and energy Climate change Sustainable transport Social and environmental impact of transport Natural resources Biodiversity Fresh water resources Marine ecosystems Land use

#### **10.1 CLIMATE CHANGE**

#### INTRODUCTION

The fourth assessment report from the International Panel on Climate Change (IPCCC) confirmed that climate change is happening and is projected to continue; the emission of greenhouse gases from human activities, such as the burning of coal, oil and gas, is causing an overall warming of the earth's atmosphere, and climate change is the most likely result with potentially major economic and social consequences <sup>(83)</sup>.

Data on greenhouse gas emissions are officially reported under the United Nations Framework Convention on Climate Change – UNFCCC <sup>(84)</sup> – and the Kyoto Protocol. The so-called Kyoto basket includes six greenhouse gases (GHG): carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF<sub>6</sub>). Under the Kyoto Protocol, the EU has agreed to an 8 % reduction in its greenhouse gas emissions by 2008-2012, compared with a base year of 1990. The reductions for each of the EU-15 Member States have been agreed under the so-called EU burden sharing agreement, which allows some countries to increase emissions, provided these are offset by reductions in other Member States. The ten Member States that joined the EU in 2004, as well as Bulgaria and Romania, have chosen other reduction targets and other base years as allowed under the protocol. Emissions of the six greenhouse gases covered by the protocol are weighted by their global warming potentials (GWPs) and aggregated to give total emissions in  $CO_2$  equivalents.

In February 2006, the European Commission adopted the fourth national communication  $^{(85)}$  from the European Community under the UNFCCC, in which it describes the wide range of policies on climate change, provides projections for greenhouse gas emissions, and outlines the effect of European Community policies and measures on such gases. In August 2006, the European Commission adopted a communication implementing a Community strategy to reduce CO<sub>2</sub> emissions from cars <sup>(86)</sup>.

(86) COM(2006) 463; for more information:http://eurlex.europa.eu/LexUriServ/ site/en/com/2006/com2006\_0463en01.pdf.

<sup>(83) &#</sup>x27;Winning the battle against global climate change', COM(2005) 35; for more information: http://ec.europa.eu/environment/climat/pdf/ comm\_en\_050209.pdf.

<sup>(84)</sup> For more information: http://unfccc.int

<sup>(85)</sup> COM(2006) 40; for more information: http://unfccc.int/resource/docs/ natc/eunce4.pdf.

In January 2007, the European Commission proposed a number of EU targets for 2020:

- greenhouse gas emissions should be cut by 20 % compared with 1990 levels;
- renewable energy sources (such as hydro, solar and wind energy) should provide 20 % of all energy used;
- biofuels should account for 10 % of all transport fuels; and
- total energy consumption should be cut by 20 % through increased energy efficiency.

At their spring European Council in March 2007, EU Heads of State and Government pledged that the EU would reduce its emissions in the order of 30 % below 1990 levels by 2020 provided that other developed countries agreed to make similar efforts. EU leaders endorsed the package of climate and energy measures put forward by the Commission as the basis for achieving this goal.

#### **DEFINITIONS AND DATA AVAILABILITY**

The European Environment Agency, assisted by its European Topic Centre on Air and Climate Change, compiles the annual European Community greenhouse gas inventory report for submission to the UNFCCC Secretariat.

Emissions data for the six greenhouse gases (GHG): CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFC, PFC and SF<sub>6</sub> are normalised by conversion to CO<sub>2</sub>equivalents. Land use changes and forestry are excluded from the calculations of GHG emissions. The base quantity is defined by the GHG emissions in the base year, which is 1990 for the nonfluorinated gases (CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O) and 1995 for the fluorinated gases (HFC, PFC and SF6), with exceptions for some countries. Greenhouse gas emission reduction targets for 2008-2012 are those agreed upon in Council Decision 2002/358/EC (for the Member States) or in the Kyoto Protocol (all other countries).

#### MAIN FINDINGS

Compared with the base year value of 100 in 1990, by 2005 the EU-15 Member States had reduced their greenhouse gas emissions by 2 %, with an 8 % reduction being calculated for the EU-27.

In 2005, GHG emissions in ten of the Member States (including Cyprus and Malta, which do not have a Kyoto target) were above base year levels, whereas emissions were below base year levels for the remaining 17 Member States.

The EU inventory of greenhouse gas emissions for 2005 showed that levels for the EU-15 and EU-27 were 0.8 % and 0.7 % lower than in 2004 respectively. These reductions took place against the background of a 1.8 % increase in GDP for the EU-27 in 2005.

Germany, Finland, the Netherlands and Romania were the largest contributors to the 2005 decrease in GHG emissions in absolute terms. Germany reduced its emissions by 2.3 % or 23.5 million tonnes of CO<sub>2</sub> equivalents, Finland by 14.6 % (11.9 million tonnes), Romania by 4.1 % (6.4 million tonnes) and the Netherlands by 2.8 % (6.3 million tonnes). Belgium, the Czech Republic, Denmark, Estonia, France, Luxembourg, Slovakia, Sweden and the United Kingdom also recorded falls.

The decrease in 2005 emissions for the EU-15 was due mainly to lower CO<sub>2</sub> emissions from public electricity and heat production, households and services, and road transport. Emissions of CO<sub>2</sub> from public electricity and heat production declined by 0.9 %, due mainly to a reduction in the use of coal. CO<sub>2</sub> emissions from households and services decreased by 1.7 %, with substantial falls in Germany, the United Kingdom and the Netherlands; one reason for this was the milder than usual winter. Germany also achieved significant reductions in methane emissions from its waste sector. CO<sub>2</sub> emissions from road transport declined by 0.8 % in the EU-15, largely due to a fall in Germany. Among EU-15 Member States, Spain recorded the largest emissions increase in absolute terms in 2005, with a rise of 3.7 % or 15.4 million tonnes of CO<sub>2</sub> equivalents. This was due mainly to a 17 % increase in electricity production by fossil-fuel power stations, coupled with a 33 % fall in electricity generated by hydro-power plants due to reduced river levels.

Among the 12 Member States that have joined the EU since 2004, the largest increase in emissions in absolute terms was in Poland, for whom there was a rise of 0.6 % or 2.3 million tonnes of CO<sub>2</sub> equivalents in 2005. This higher level of emissions was due mainly to a 1 % increase in fugitive methane emissions from energy and rises in methane and nitrous oxide emissions from the agriculture sector of 5 % and 4.5 % respectively.

Emission levels for 2005 were also higher in Austria, Bulgaria, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Malta, Portugal and Slovenia.

Some 80 % of the GHG (mainly CO<sub>2</sub>) emissions of EU-15 Member States came from the burning of fossil fuels for energy use (59 %) and transport activities (21 %) in 2005. This represented a 3.8 % increase on the levels in the base year of 1990. Agriculture (mainly CH<sub>4</sub>) was responsible for 9 % of GHG emissions in 2005, industrial processes for 8 % and waste generation <sup>(87)</sup> a further 3 %.

The latest projections suggest that in order for the EU to reach its intended targets for 2020, it will have to put emissions on a much steeper reduction path after 2012.

#### SOURCES

Pocketbooks Energy, transport and environment indicators

## WEBSITE DATA

Environment

Air pollution/climate change Indicators for air pollution and climate change Air emissions

<sup>(87)</sup> Report from the European Commission on 'Progress towards achieving the Kyoto objectives', COM(2006) 658 final, 27.10.2006, http://ec.europa.eu/environment/climat/gge\_progress.htm#2006.



# Figure 10.1: Total greenhouse gas emissions (1)

(1990 = 100)

(1) Generally index based on 1990=100.

(3) 2003.

#### Source: Eurostat (tsien010), European Environment Agency

Under the Kyoto Protocol, the EU has agreed to an 8 % reduction in its greenhouse gas emissions by 2008-2012, compared to the Kyoto base year. The reductions for each of the EU-15 countries have been agreed under the so-called EU Burden Sharing Agreement (Council Decision 2002/358/EC), which allows some countries to increase emissions, provided these are offset by reductions in other Member States. Eight of the ten new Member States have chosen other reduction targets and other base years, as allowed under the Kyoto Protocol. These and the 'Burden sharing' targets for 2008-2012 are shown in the table as figures for 2010 (no target for Cyprus and Malta). Emissions of the 6 greenhouse gases covered by the Protocol are weighted by their global warming potentials (GWPs) and aggregated to give total emissions in CO<sub>2</sub> equivalents. The total emissions are presented as indices, with the base year=100. In general, the base year is 1990 for the non-fluorinated gases (CO2, CH4 and N2O), and 1995 for the fluorinated gases (HFC, PFC and SF6; exception see meta data). Data exclude emissions and removals due to land use change and forestry (LUCF).

## Figure 10.2: Greenhouse gas emissions, EU-27 (1)

(1990 = 100)



(1) Weighted emissions of greenhouse gases represented 5 249 million tonnes of CO2 equivalent in 1995 and 5 177 million tonnes in 2005

Source: Eurostat (tsien010 and ten00072), European Environment Agency

The annual greenhouse gas (GHG) emissions are estimated and reported under the United Nations Framework Convention on Climate Change (UNFCCC), the Kyoto Protocol and the Decision 280/2004/EC. The so called Kyoto basket includes six gases: carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF<sub>6</sub>). The impact of land use, land use changes and forestry (LULUCF) on the GHG inventories is excluded. Emissions are weighted according to the global warming potential of each gas. To obtain emissions in CO2-equivalents using their global warming potential (GWP) the following weighting factors are used: CO<sub>2</sub>=1, CH<sub>4</sub>=21 and N<sub>2</sub>O=310, SF<sub>6</sub>=23900. HFCs and PFCs comprise a large number of different gases that have different GWPs

<sup>(2)</sup> No target under the Kyoto Protocol.

## Table 10.1: Greenhouse gas emissions

		(1990=10	0)(1)		(million	tonnes of Co	O <sub>2</sub> equivale	ent) (2)
	1995	2000	2005 20	Target	1995	2000	2005	Share in
EU-27	93.4	90.7	92.1	-	5 249.4	5 099.7	5 176.9	-
Belgium	103.6	100.4	97.9	92.5	152.1	147.5	143.9	2.8
Bulgaria	65.6	50.7	52.8	92.0	86.7	66.9	69.8	1.3
Czech Republic	78.7	75.9	74.2	92.0	154.5	149.0	145.6	2.8
Denmark	110.0	98.4	92.2	79.0	76.3	68.2	64.0	1.2
Germany	88.9	82.7	81.3	79.0	1 095.7	1 019.8	1 001.5	19.3
Estonia	53.8	45.9	48.0	92.0	23.2	19.7	20.7	0.4
Ireland	106.4	123.9	125.4	113.0	59.4	69.1	70.0	1.4
Greece	101.9	118.6	125.4	125.0	113.2	131.8	139.2	2.7
Spain	110.0	132.8	152.3	115.0	318.4	384.4	440.6	8.5
France	99.1	99.3	98.1	100.0	558.9	559.7	553.4	10.7
Italy	102.5	106.6	112.1	93.5	532.5	553.8	582.2	11.2
Cyprus	119.5	144.7	163.7	-	7.2	8.7	9.9	0.2
Latvia	48.2	38.8	42.0	92.0	12.5	10.1	10.9	0.2
Lithuania	45.3	38.9	46.9	92.0	21.8	18.7	22.6	0.4
Luxembourg (3)	77.0	75.2	100.4	72.0	9.8	9.5	12.7	0.2
Hungary	65.9	64.3	65.5	94.0	81.1	79.1	80.5	1.6
Malta	122.4	129.0	154.8	-	2.7	2.9	3.4	0.1
Netherlands	104.9	99.9	98.9	94.0	225.1	214.4	212.1	4.1
Austria	101.7	102.7	118.1	87.0	80.3	81.1	93.3	1.8
Poland	77.2	69.0	68.0	94.0	453.2	405.1	399.0	7.7
Portugal	116.7	135.0	140.4	127.0	71.1	82.3	85.5	1.7
Romania	66.2	49.1	54.4	92.0	187.0	138.6	153.7	3.0
Slovenia	91.4	92.6	100.4	92.0	18.5	18.7	20.3	0.4
Slovakia	72.3	65.8	66.4	92.0	53.0	48.3	48.7	0.9
Finland	100.6	98.5	97.4	100.0	71.6	70.0	69.3	1.3
Sweden	102.0	94.5	92.6	104.0	73.7	68.3	67.0	1.3
United Kingdom	91.1	86.4	84.3	87.5	710.1	674.0	657.4	12.7
Croatia	70.4	81.1	95.5	95.0	21.9	25.3	29.7	-
Turkey	129.8	164.0	184.0	-	220.7	278.8	312.9	-
Iceland	93.6	109.9	110.5	110.0	3.1	3.7	3.7	-
Liechtenstein (4)	86.9	86.8	105.3	92.0	0.2	0.3	0.3	-
Norway	100.2	107.6	108.8	101.0	49.8	53.6	54.2	-
Switzerland				92.0	51.0	517	536	-

Total greenhouse gas emissions (1000 - 100)(1)

#### Weighted emissions of greenhouse gases (million tonnes of $CO_2$ equivalent) (2)

Generally index based on 1990=100; EU-27, Cyprus and Malta, no target under the Kyoto Protocol.
Estimates for Cyprus, Malta, Croatia (2005) and Turkey (2000).
Total greenhouse gas emissions, break in series, 1995.
Total greenhouse gas emissions, 2003 instead of 2005.

Source: Eurostat (tsien010 and ten00072)

#### Figure 10.3: Greenhouse gas emissions by sector, EU-15, 2005 (1)

(%, based on data in million tonnes CO<sub>2</sub> equivalent)



(1) Total emissions were 4 192 million tonnes of CO2 equivalent for the EU-15.

Source: Eurostat (tsdcc100), European Environment Agency

Aggregated emissions of Kyoto basket of 6 greenhouse gases weighted by their global warming potentials (GWPs). Using GWPs, emissions of individual gases are translated into CO<sub>2</sub> equivalents that can be added up to one figure. Weighting factors: carbon dioxide = 1, methane = 21, nitrous oxide = 310 and sulphur hexafluoride = 23 900. Hydrofluorocarbons and perfluorocarbons comprise a large number of different gases that have different GWPs.

#### **10.2 AIR POLLUTION**

#### **INTRODUCTION**

Data on air pollution is officially reported under the Convention on Long-range Transboundary Air Pollution – CLRTAP – to the EMEP project; EMEP stands for Co-operative Programme for Monitoring and Evaluation of the Long-range Transmission of Air pollutants in Europe. The air pollutants that are reported are ammonia (NH<sub>3</sub>), sulphur oxides (SO<sub>2</sub> and SO<sub>3</sub> as SO<sub>x</sub>), nitrogen oxides (NO and NO<sub>2</sub> as NO<sub>x</sub>), non-methane volatile organic compounds (NMVOC), carbon monoxide (CO), and particulate matter (PM10, particles defined as having aerodynamic diameter of 10 im or less). Where PM10 data are not reported by countries to EMEP/CLRTAP, emission estimates can be obtained from the Regional Air Pollution Information and Simulation (RAINS) model.

Air pollution caused by human activities, the rise of industrial and energy production, the burning of fossil fuels and increased transport can lead to serious health problems. Air pollution damages the health of hundreds of thousands of Europeans every year. A 2004 WHO evaluation found that air pollution contributed to 100 000 premature deaths and 725 000 working days lost annually in Europe. Since the early 1970s, the EU has been working to improve air quality by controlling emissions of harmful substances into the atmosphere, improving fuel quality, and by integrating environmental protection requirements into the transport and energy sectors. Clean Air for Europe (CAFE) <sup>(88)</sup> is a programme of technical analysis and policy development that has led to a strategy setting out the objectives and measures for the next phase of European air quality policy.

Although ozone  $(O_3)$  is present in small concentrations throughout the atmosphere, most ozone (about 90 %) exists in the stratosphere, a layer between 10 and 50 km above the surface of the earth. This ozone layer performs the essential task of filtering out most of the sun's biologically harmful ultraviolet (UV-B) radiation.

At ground level, ozone is harmful. It is formed by atmospheric pollutants and is often associated with human activities, such as the burning of fossil fuels and biomass, traffic emissions, or the use of aerosols, while natural events, such as volcanic eruptions, can also have an impact. Areas with heavy traffic are particularly susceptible to the formation of ground level ozone; this problem is exacerbated by particular climatic conditions. Ground-level ozone is a secondary pollutant caused by nitrogen oxide and volatile organic compounds reacting in sunlight; it harms human health, nature and biological diversity, crops and materials.

<sup>(88)</sup> Clean Air for Europe (CAFE) was launched in March 2001 with a Communication (COM(2001) 245)); for more information: http://ec.europa.eu/environment/air/cafe.

People living in urban areas are therefore most at risk from ground level ozone. Higher concentrations of ground level ozone can have harmful effects on the respiratory tract, can cause breathing difficulties, damage lungs and can trigger asthma attacks.

Indeed, human health is also at risk from high concentrations of particles, particularly those smaller than 10  $\mu$ m, which penetrate deeply into the lungs, increasing the death rate in members of the population suffering from heart and lung diseases. Particles smaller than 2.5  $\mu$ m are mostly soot, especially wood smoke and diesel-engine exhaust. These can persist in the air for long periods and can be transported over long distances. Coarser particles (soil and mineral ash) originate mainly from mechanical processes such as mining, quarrying and other industrial processes, as well as wear and tear of tyres and brakes in road traffic.

#### **DEFINITIONS AND DATA AVAILABILITY**

The European Environment Agency (EEA) and its European Topic Centre on Air and Climate Change compile data on emissions of air pollutants and on air quality for the Member States and the candidate countries. A near to real-time ozone information system is available on the EEA website <sup>(89)</sup>.

Emissions of key air pollutants are available in EPER, a web-based register, which enables the public to view data from large industrial point sources in the EU  $^{(90)}$ .

#### **MAIN FINDINGS**

Although the data is incomplete in terms of country coverage, the highest concentration of particulate matter among people living in urban areas was found in Italy in 2004, at about 50 % more than the EU-25 average level of micrograms per cubic metre day. Exposure to air pollution by ozone was highest for the urban population in Greece, where the mean ozone concentrations registered in 2004 were almost two and a half times as high as the EU-25 average.

(89) Ozone today – European status; for more information: http://www.eea.europa.eu/maps/ozone/welcome.

(90) For more information: http://ec.europa.eu/environment/ippc/eper/index.htm.

## SOURCES

Pocketbooks Energy, transport and environment indicators

#### Website data

#### Environment

Air pollution/climate change Indicators for air pollution and climate change Air emissions



## Figure 10.4: Urban population exposure to air pollution by particulate matter, 2005

(population weighted annual mean concentration of particulate matter – micrograms per cubic metre day)

#### (1) Not available.

Source: Eurostat (tsien042), European Environment Agency, European Topic Center on Air and Climate Change

The indicator shows the population weighted annual mean concentration of particulate matter at urban background stations in agglomerations. Fine particulates (PM10), i.e. particulates whose diameter is less than 10 micrometers, can be carried deep into the lungs where they can cause inflammation and a worsening of the condition of people with heart and lung diseases. In 1996, the Environment Council adopted Framework Directive 96/62/EC on ambient air quality assessment and management. The first Daughter Directive (1999/30/EC) relating to limit values for PM10 and other pollutants in ambient air fixed an annual limit value of 40 microgram of PM10 per m<sup>3</sup>. Annual reporting must follow Commission Decision 2004/224/EC of 20 February 2004 laying down arrangements for the submission of information under Council Directive 96/62/EC in relation to limit values for certain pollutants in ambient air.



#### Figure 10.5: Urban population exposure to air pollution by ozone, 2005

(population weighted yearly sum of maximum daily 8-hour mean ozone concentrations above a threshold)

#### (1) Not available.

Source: Eurostat (tsien041), European Environment Agency, European Topic Center on Air and Climate Change

The indicator shows the population weighted yearly sum of maximum daily 8-hour mean ozone concentrations above a threshold (70 microgram ozone per m<sup>3</sup>) at the urban background stations in agglomerations. Ozone is a strong photochemical oxidant, which causes serious health problems and damage to the ecosystem, agricultural crops and materials. Human exposure to elevated ozone concentrations can give rise to inflammatory responses and decreases in lung function. In 1996, the Environment Council adopted Framework Directive 96/62/EC on ambient air quality assessment and management. The third Daughter Directive (2002/3/EC) relating to ozone was adopted on 12 February 2002 with a long-term objective of 120 microgram ozone per m<sup>3</sup> as a maximum daily 8-hour mean within a calendar year. The annual reporting must follow the Commission Decision 2004/224/CE of 20 February 2004 laying down arrangements for the submission of information under Council Directive 96/62/EC in relation to limit values for certain pollutants in ambient air.

# Figure 10.6: Air pollutants, EU-27



Fnvironment



Source: Eurostat (ten00073, ten00070, ten00074, ten00067 and ten00068), European Environment Agency

Carbon dioxide (CO<sub>2</sub>) is by far the most important greenhouse gas, accounting for above 82% of the global warming potential due to anthropogenic GHG emissions covered by the Kyoto Protocol. The main source of  $CO_2$  is the burning of fossil fuels. The annual emissions are estimated and reported under the United Nations Framework Convention on Climate Change (UNFCCC), the Kyoto Protocol and the Decision 280/2004/EC. The impact of land use, land use changes and forestry (LULUCF) is excluded.

Carbon monoxide (CO) is an odorless, colorless and toxic gas. It is impossible to see, taste or smell the toxic fumes. It is a major product of the incomplete combustion of carbon and carbon-containing compounds. Carbon monoxide impairs the oxygen admission of people and animals as an air pollutant. Already low quantities of this breath poison have consequences for the central nervous system. In addition CO also takes part in the photo-chemical formation of near-surface (tropospheric) ozone. Therefore, CO emissions are reported under the Geneva Convention on Long-range Transboundary Air Pollution (CLRTAP).

Methane (CH<sub>4</sub>) is a greenhouse gas and a precursor for tropospheric ozone. Agriculture is the dominant source of anthropogenic CH<sub>4</sub> emissions with 47 % in 2005 in the EU-27; the other two important sources are waste management and fugitive emissions by the energy use (31 % and 17 %, respectively). In agriculture, methane is produced as a by-product of enteric fermentation, an anaerobic digestive process. Both ruminant animals (e.g. cattle, sheep) and some non-ruminant animals (e.g. pigs, horses) produce methane; dairy cows are the principal producers. Livestock manure is the second most important source of methane. In this case, methane is produced during the decomposition of manure under anaerobic conditions, while under aerobic conditions, carbon dioxide will be produced. These anaerobic conditions often occur when large numbers of animals are managed in a confined area (e.g. dairy farms, beef feedlots and pig and poultry farms). The annual emissions are estimated and reported under the United Nations Framework Convention on Climate Change (UNFCCC), the Kyoto Protocol and the Decision 280/2004/EC. The impact of land use, land use changes and forestry (LULUCF) is excluded.

Sulphur dioxide (SO<sub>2</sub>) is colourless and non-flammable. The main sources of SO<sub>2</sub> are coal and oil combustion. Volcanoes are the most important natural source. SO<sub>2</sub> dissolves in water in the air to form microscopic acid aerosols that cause acid rain, acidifying lakes and rivers, and increasing erosion. It interacts with other substances, such as ammonia, being an important contributor to the formation of particulate matter, responsible for scattering and absorbing radiation, affecting our climate and contributing to produce a haze that reduces visibility (smog above urban areas). When combined with other gases and particles in the air it forms sulphates and other products that can have adverse effects on human health (respiratory system, eye and lung irritations), the environment (damage vegetation), corrodes metals and amages buildings and materials. The air emissions of sulphur oxides (SO<sub>2</sub> and sulphur trioxide-SO<sub>3</sub> reported as SO<sub>x</sub>) are estimated and reported under the Geneva Convention on Long-range Transboundary Air Pollution (CLRTAP), the Gothenburg Protocol and National Emission Ceilings Directive (NEC Directive 2001/81/EC).

Nitric oxide (NO) is colourless and odourless. The nitric oxide molecule is a free radical, which makes it very reactive and unstable. In air, it quickly reacts with oxygen to form the poisonous nitrogen dioxide (NO<sub>2</sub>) which is an odorous, brown, acidic, highly-corrosive gas responsible for the yellowish-brown colour of the photochemical smog. About 90 % of the nitrogen oxides (NO<sub>x</sub>) from fuel combustion are emitted as NO. Nitric acid is formed by reaction of nitrogen oxides with water and it is a major contributor to acid rain. Nitrogen oxides (NO and NO<sub>2</sub> reported as NO<sub>x</sub>) are the most important precursor for tropospheric ozone and particulate matter. The air emissions of nitrogen oxides (NO<sub>x</sub>) are estimated and reported under the Geneva Convention on Long-range Transboundary Air Pollution (CLRTAP), the Gothenburg Protocol and National Emission Ceilings Directive (NEC Directive 2001/81/EC).

# Table 10.2: Air pollutants

							Emissions of		Emissions of		
	Emissie	Emissions of		Emissions of Emissions of			sulphur c	oxides	nitrogen	oxides	
	carbon o	dioxide	carbon mo	onoxide	metha	ane	(million to	nnes of	(million to	nnes of	
	(million	tonnes)	(million t	onnes)	(million t	onnes)	SO <sub>2</sub> equiv	alent)	NO <sub>2</sub> equivalent)		
	1995	2005	1995	2005	1995	2005	1995	2005	1995	2005	
EU-27	4 165.2	4 269.0	51.08	31.89	25.73	19.94	17.16	8.28	14.60	11.29	
Belgium	123.7	123.3	1.11	0.88	0.51	0.37	0.26	0.15	0.37	0.29	
Bulgaria	65.9	54.8	0.85	0.74	0.71	0.49	1.48	0.90	0.27	0.23	
Czech Republic	132.1	125.9	1.00	0.51	0.64	0.52	1.09	0.22	0.37	0.28	
Denmark	60.5	50.4	0.71	0.61	0.28	0.27	0.14	0.02	0.26	0.19	
Germany	921.2	872.9	6.53	4.03	3.88	2.27	1.73	0.56	2.17	1.44	
Estonia	20.1	18.0	0.21	0.16	0.10	0.09	0.12	0.08	0.04	0.03	
Ireland	35.5	47.3	0.32	0.23	0.65	0.62	0.16	0.07	0.12	0.12	
Greece	87.4	111.7	1.32	0.64	0.44	0.40	0.54	0.53	0.32	0.32	
Spain	255.6	368.3	3.22	2.38	1.46	1.77	1.81	1.36	1.33	1.53	
France	390.1	412.5	9.57	5.68	3.30	2.68	0.97	0.47	1.65	1.21	
Italy	445.7	493.4	7.17	4.21	2.10	1.91	1.32	0.50	1.81	1.17	
Cyprus	5.6	7.8	0.10	0.04	0.04	0.05	0.04	0.04	0.02	0.02	
Latvia	9.1	7.6	0.32	0.34	0.10	0.09	0.05	0.00	0.04	0.04	
Lithuania	15.0	14.2	0.29	0.19	0.18	0.16	0.09	0.04	0.07	0.06	
Luxembourg	9.2	11.9	0.11	0.04	0.02	0.02	0.01	0.00	0.02	0.01	
Hungary	61.9	61.8	0.76	0.59	0.39	0.37	0.70	0.13	0.19	0.20	
Malta	2.3	3.0	:	:	0.02	0.02	0.03	0.02	0.01	0.01	
Netherlands	170.6	175.9	0.86	0.60	1.13	0.80	0.13	0.06	0.47	0.34	
Austria	63.7	79.7	1.01	0.72	0.41	0.34	0.05	0.03	0.19	0.23	
Poland	377.5	326.5	4.55	3.33	2.04	1.82	2.38	1.22	1.12	0.81	
Portugal	53.1	67.9	0.85	0.65	0.59	0.53	0.33	0.21	0.27	0.28	
Romania	134.8	110.5	2.09	1.41	1.49	1.23	0.89	0.73	0.32	0.31	
Slovenia	14.9	16.7	0.09	0.08	0.10	0.10	0.13	0.04	0.07	0.06	
Slovakia	43.8	39.9	0.42	0.30	0.23	0.20	0.25	0.09	0.18	0.10	
Finland	58.2	57.0	0.44	0.52	0.29	0.21	0.10	0.07	0.26	0.18	
Sweden	58.0	52.6	0.90	0.60	0.32	0.27	0.07	0.04	0.28	0.20	
United Kingdom	549.8	557.6	6.30	2.42	4.30	2.36	2.32	0.71	2.38	1.63	
Croatia	16.3	23.0	0.34	0.31	0.12	0.15	0.08	0.06	0.06	0.07	
FYR of Macedonia	:	:	0.02	0.10	:	:	0.02	0.10	0.01	0.03	
Turkey	171.9	256.9	3.99	3.78	2.03	2.35	1.01	1.35	0.80	0.95	
Iceland	2.3	2.9	0.00	0.00	0.02	0.02	0.00	0.00	0.00	0.00	
Liechtenstein	0.2	0.2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Norway	37.8	43.2	0.73	0.45	0.24	0.22	0.03	0.02	0.21	0.20	
Switzerland	43.3	46.0	0.49	0.33	0.19	0.17	0.03	0.02	0.12	0.09	

Source: Eurostat (ten00073, ten00070, ten00074, ten00067 and ten00068)





# Figure 10.7: Emissions of carbon dioxide, 2005

(kg per capita)

Source: Eurostat (ten00073 and tps00001)

### Figure 10.8: Emissions of carbon monoxide, 2005 (kg per capita)



(1) Not available.

Source: Eurostat (ten00070 and tps00001)



#### Figure 10.9: Emissions associated with road vehicles, EU-27

Source: Eurostat (tsdtr430, tsdtr440, tsdtr450 and tsdtr410), European Environment Agency, Topic Centre on Air and Climate

Ozone is a highly reactive gas causing or provoking respiratory problems in man and animals. It is also toxic to plants and can lead to leaf damage and defoliation. Tropospheric or ground-level ozone is a secondary pollutant. It forms when sufficient concentrations of precursor gases come into contact in the presence of sunlight. High concentrations of ozone result in the phenomenon known as summer smog. Tropospheric ozone is also a greenhouse gas. Reducing negative side-effects of transport is an important element of the sustainable development strategy. The precursors are principally volatile organic compounds, oxides of nitrogen, carbon monoxide and methane. With the exception of methane, these precursors are all produced in significant quantities by uncontrolled internal combustion engines. Weighting factors are used to combine the emissions of each individual gas, using their ozone formation potential. These factors are the following: nitrogen oxides = 1.22; volatile organic compounds without methane = 1; carbon monoxide = 0.11; methane = 0.014.

Figure 10.10: Weighted emissions of acidifying substances, by sector, EU-25, 2004 (1)

(%, based on data in 1 000 tonnes of acid equivalent)



(1) Estimates; transport, 2003; total emissions were 683 300 tonnes of acid equivalent.

Source: Eurostat (tsdpc260), European Environment Agency, Topic Centre on Air and Climate

This indicator tracks trends in anthropogenic atmospheric emissions of acidifying substances (sulphur dioxide, nitrogen oxides and ammonia) by source sector. Acidifying substance emissions are combined in terms of their acidifying effects, and expressed in acid equivalents.

#### **10.3 WATER**

#### **INTRODUCTION**

Water is essential for life, as well as an indispensable resource for the economy, while playing a fundamental role in the climate regulation cycle. The management and the protection of water resources, of fresh and salt water ecosystems, and of the water we drink and bathe in are therefore major concerns all around the world.

A study conducted for the European Commission estimates that water use efficiency could be improved by nearly 40 % through technological improvements alone and that changes in human behaviour or production patterns could increase such savings further. In a scenario without changes in practices it is estimated that water consumption by the public, industry and agriculture would increase by 16 % by 2030. Conversely, the use of water saving technologies and irrigation management in the industrial and agricultural sectors could reduce excesses by as much as 43 %, while water efficiency measures could decrease water wastage by up to a third.

In a Communication on water scarcity and droughts <sup>(91)</sup> adopted in July 2007, the European Commission identified an initial set of policy options to be taken at European, national and regional levels to address water scarcity within the EU. This set of proposed policies aims to move the EU towards a water-efficient and watersaving economy. Indeed, both the quality and availability of water are major concerns in many regions. While water resources are limited, water quality is affected by human activities such as industrial production, household discharges, or arable farming. The pollution of rivers, lakes and groundwater remains of worldwide concern.

The majority of the EU's population is connected to public water supplies, with the proportion rising close to 100 % in most Member States. Looking at the 'other end of the pipe', namely the treatment of wastewater, a number of countries reported that less than half of their population was connected to urban wastewater treatment.

(91) COM(2007) 414 final; for more information: http://eur-lex.europa.eu/ LexUriServ/site/en/com/2007\_com2007\_0414en01.pdf.

#### **DEFINITIONS AND DATA AVAILABILITY**

Water statistics are collected through the inland waters section of a joint OECD/Eurostat questionnaire which is continuously adapted to the EU policy framework. It currently reports on the following:

- freshwater resources in groundwater and surface waters these can be replenished by precipitation and by external inflows (water flowing in from other territories);
- water abstraction a major pressure on resources, although a large part of the water abstracted for domestic, industrial (including energy production), or agricultural use is returned to the environment and its water bodies, but often as wastewater with impaired quality;
- water use, analysed by supply category and by industrial activities;
- treatment capacities of wastewater treatment plants and the share of the population connected to them — this gives an overview of the development status of the infrastructure, in terms of quantity and quality, that is available for the protection of the environment from pollution by wastewater;
- sewage sludge production and disposal an inevitable product of wastewater treatment processes; its impact on the environment depends on the methods chosen for its processing and disposal;
- generation and discharge of wastewater pollutants present in wastewater have different source profiles, and similarly the efficiency of treatment of any pollutant varies according to the method applied.

Statistics on water resources are usually calculated on the basis of long-term annual averages of at least 20 years, to take account of the fluctuations in rainfall and evaporation/transpiration from one year to the next.

Precipitation is defined as the total volume of atmospheric wet precipitation (mainly rain, snow and hail) and is usually measured by meteorological or hydrological institutes.

Evapotranspiration is the volume of water that is transported from the ground (including inland water surfaces – streams, rivers, freshwater lakes and glaciers) into the atmosphere by evaporation or by transpiration of plants.

Internal flow is defined as the total volume of river run-off and groundwater generated, in natural conditions, exclusively by precipitation into a territory. The internal flow is equal to precipitation less evapotranspiration and can be calculated or measured. If the river run-off and groundwater generation are measured separately, transfers between surface and groundwater should be netted out to avoid double counting. External inflow is the volume of inflow derived from rivers and groundwater that originate in a neighbouring territory. Freshwater resources refer to the volume of water resulting from internal flow and external inflow. Outflow is the volume of water that flows from rivers and groundwater into the sea and into neighbouring territories. Total additional freshwater resources available are calculated as the sum of internal and external flows.

Fresh surface water is defined as water which flows over, or rests on the surface of a land mass, natural watercourse – such as rivers, streams, brooks and lakes – as well as artificial watercourse – such as irrigation, industrial and navigation canals, drainage systems and artificial reservoirs.

Fresh groundwater is defined as freshwater which is being held in, and can usually be recovered from, or via, an underground formation. All permanent and temporary deposits of water, both artificially charged and naturally, in the subsoil, of sufficient quality for at least seasonal use.

Wastewater is defined as water which is of no further immediate value to the purpose for which it was used or in the pursuit of which it was produced because of its quality, quantity or time of occurrence. However, wastewater from one user can be a potential supply to another user elsewhere. Domestic wastewater is defined as wastewater from residential settlements and services which originates predominantly from the human metabolism and from household activities. Urban wastewater is domestic wastewater or the mixture of domestic wastewater with industrial wastewater and/or run-off rain water.

Urban wastewater treatment is all treatment of wastewater in urban wastewater treatment plants (UWWTPs). UWWTPs are usually operated by public authorities or by private enterprises working by order of public authorities. This includes wastewater delivered to treatment plants by trucks. This approach used in international water statistics is different to the concept applied in the EU Urban Wastewater Treatment Directive (91/271/EC) where only a system of conduits (sewage pipes) is taken into account for connection to the treatment plant.

The population connected to urban wastewater treatment relates to the proportion of persons who are connected to any kind of sewage treatment that is carried out in municipal treatment plants by public authorities or private enterprises on behalf of local authorities.

#### MAIN FINDINGS

Given the natural resources available, geographical characteristics and freshwater management, there are wide differences among the countries in terms of freshwater resources. On the basis of long-term annual averages of at least 20 years among the Member States, an overall picture shows that Finland and Sweden recorded the highest volume of freshwater resources per capita in 2006, while the Czech Republic and Poland recorded the lowest averages.

The population connected to urban wastewater treatment relates to the proportion of persons who are connected to any kind of sewage treatment (on behalf of local authorities). Although the data set is incomplete, only in eight of the 22 Member States with available data did the proportion of households connected to the urban wastewater treatment near or exceed 80 %, with the proportion almost reaching 100 % in the Netherlands. At the other end of the spectrum, household connection rates were less than 40 % in eight of the Member States, with a relatively low proportion in Greece, where this connection rate was around 11 %.

#### SOURCES Pocketbooks

Energy, transport and environment indicators

#### Website data

Environment Water Water use balance Renewable water resources Annual water abstraction by source and by sector Annual water abstraction by source and by sector per capita Other sources of water Other sources of water per capita Water consumption by supply category and by sector Water use by supply category per capita National population connected to wastewater treatment plants Treatment capacity of wastewater treatment plants Sewage sludge production and disposal Sewage sludge production and disposal per capita Generation and discharge of waste water Urban wastewater treatment with at least secondary treatment Water use intensity



# Figure 10.11: Freshwater resources per capita – long-term average (1)

(1 000 m<sup>3</sup> per inhabitant)



(1) The minimum period taken into account for the calculation of long term annual averages is 20 years; population data are as of 1 January 2006.

(2) Total freshwater resources, estimate.

(3) Not available.

#### Source: Eurostat (ten00001)

The minimum period taken into account for the calculation of long term annual averages is 20 years. Actual evapotranspiration is the volume of water transported from the ground (including inland water surfaces) into the atmosphere by evaporation and by transpiration of plants. Internal flow is the total volume of river run-off and groundwater renewal generated, in natural conditions, exclusively by precipitation into a territory. The internal flow is equal to precipitation less actual evapotranspiration. Actual external inflow is the total volume of actual inflow of rivers and groundwater coming from neighbouring territories. Total fresh water resources is the total volume of water that is additionally available due to internal flow and external inflow. Total actual outflow is the total actual outflow of rivers and groundwater into the sea and into neighbouring territories.



# Figure 10.12: Population connected to urban wastewater treatment, 2003 (1) (%)

 Estonia, Spain, Hungary, the Netherlands, Finland and Sweden, 2002; France and Germany, 2001; the Czech Republic and Ireland, 1999; Portugal, Belgium, Austria and Denmark, 1998; Greece, 1992; the United Kingdom, 1991.
Not available.

#### Table 10.3: Water resources

		Long-ter	Groundwater and surface water abstraction						
			(million	(% of ava	ilable resou	irces) (2)			
		Actual				Total			
		evapo-		Actual	Total	fresh-			
	Precipit-	trans-	Internal	external	actual	water			
	ation	piration	flow	inflow	outflow	resources	1990	2000	2004
Belgium	28 547	16 146	12 401	8 347	17 785	20 748	:	:	:
Bulgaria	68 220	52 916	15 304	450	15 754	15 754	59.3	19.8	16.1
Czech Republic	54 653	39 416	15 237	740	15 977	15 977	62.4	41.4	40.3
Denmark	38 485	22 145	16 340	:	1 935	16 340	126.1	70.9	65.9
Germany	:	190 000	117 000	:	:	188 000	:	:	:
Estonia	30 647	18 603	12 044	9 0 7 0	11 920	21 114	:	:	:
Ireland	:	:	:	:	:	:	:	:	:
Greece	115 000	55 000	60 000	12 000	:	72 000	56.6	:	:
Spain	346 527	235 394	111 133	:	111 133	111 133	:	:	:
France	:	:	:	11 000	168 000	:	:	:	:
Italy	:	:	:	:	:	:	:	:	:
Cyprus	:	:	:	0	:	:	:	:	:
Latvia	42 197	:	:	17 415	33 532	:	:	23.7	20.8
Lithuania	44 010	28 500	15 510	8 990	25 897	24 500	:	:	:
Luxembourg	2 030	1 125	905	739	1 600	1 644	31.4	36.7	:
Hungary	58 000	52 000	6 000	114 000	120 400	120 000	:	11.0	10.8
Malta	:	:	:	:	:	:	:	:	:
Netherlands	29 770	21 290	8 480	81 200	86 300	89 680	55.2	49.6	:
Austria	98 000	43 000	55 000	29 000	84 000	84 000	4.0	3.6	:
Poland	193 100	138 300	54 800	8 300	63 100	63 100	:	:	:
Portugal	82 164	43 571	38 593	35 000	34 000	73 593	76.6	:	:
Romania	154 000	114 585	39 415	2 878	17 930	42 293	31.6	12.3	8.4
Slovenia	31 746	13 150	18 596	13 496	32 274	32 092	:	:	:
Slovakia	37 352	24 278	13 074	67 252	81 680	80 326	31.2	19.2	16.5
Finland	222 000	115 000	107 000	3 200	110 000	110 000	8.0	9.5	9.5
Sweden	335 600	:	170 000	:	179 000	179 000	17.6	18.4	18.2
United Kingdom	:	:	:	:	:	:	:	:	:
FYR of Macedonia	19 088	:	1 378	6 261	:	7 639	:	:	:
Turkey	501 000	273 600	227 400	6 900	178 000	234 300	:	:	:
Iceland	200 000	30 000	170 000	:	170 000	170 000	:	:	:
Switzerland	60 100	19 950	40 150	13 100	53 500	53 250	:	:	:

The minimum period taken into account for the calculation of long-term annual averages is 20 years; population data are as of 1 January 2006.
Bulgaria, 2003 instead of 2004; the Czech Republic and Hungary, 2002 instead of 2004; the Netherlands, 2001 instead of 2000; Luxembourg and Austria, 1999 instead of 2000; Luxembourg and Portugal, 1989 instead of 1990.

Source: Eurostat (ten00001 and env\_watq2\_1)

#### **10.4 WASTE**

#### **INTRODUCTION**

Waste refers to materials for which the generator has no further use for their own purpose of production, transformation or consumption; these materials are discarded. In some circumstances there may be statutory requirements on a producer to dispose of waste in a certain manner, for example, when waste materials are hazardous.

The EU's sustainable development strategy and the sixth environment action programme, which identifies waste prevention and management as one of four top priorities, underline the relationship between the efficiency of resources and waste generation and management. The objective is to decouple the use of resources and generation of waste from economic growth, while sustainable consumption should not exceed environmental capacity.

The EU's approach to waste management is based on three principles: waste prevention, recycling and reuse, and improving final disposal and monitoring. Waste prevention can be achieved through cleaner technologies, eco-design, or more eco-efficient production and consumption patterns. Waste prevention and recycling, focused on materials technology, can also reduce the environmental impact of resources that are used through limiting raw materials extraction and transformation during production processes. Where possible, waste that cannot be recycled or reused should be safely incinerated, with landfill only used as a last resort. Both these methods need close monitoring because of their potential for causing severe environmental damage.

The European Commission has defined several specific waste streams for priority attention, the aim being to reduce their overall environmental impact; this includes packaging waste, end-of-life vehicles, batteries, electrical and electronic waste. EU Directives now require Member States to introduce legislation on waste collection, reuse, recycling and disposal of these waste streams. Several Member States are already managing to recycle over 50 % of packaging waste. In 2006, Directives were adopted by the European Parliament and the Council on waste <sup>(92)</sup> and on shipments of waste <sup>(93)</sup>, with the aim to strengthen, simplify and clarify the control procedures applicable to shipments of waste.

#### **DEFINITIONS AND DATA AVAILABILITY**

In order to be able to monitor the implementation of waste policy, in particular compliance with the principles of recovery and safe disposal, reliable statistics on the production and management of waste from businesses and private households are needed. In 2002, Regulation No 2150/2002/EC on waste statistics <sup>(94)</sup> was adopted, creating a framework for harmonised Community statistics on waste.

Starting with the reference year 2004, the Regulation requires the EU Member States to provide data on the generation, recovery and disposal of waste every two years. Thus, the Regulation on waste statistics replaces the Eurostat/OECD Joint Questionnaire as the main source of European waste data. Whereas reporting by the Joint Questionnaire was voluntary, the provisions of the Regulation are binding in law.

The first delivery of data based on the Regulation on waste statistics for the reference year 2004 was due in June 2006; as data have to be provided every second year trends can be calculated from 2008 onwards.

The concept of 'municipal waste', a central waste category of the Joint Questionnaire is replaced in the new Regulation by the category 'waste generated by households'. The concept has always been disputed as its content is directly linked to different national or regional waste management systems. However, data on municipal waste is still collected annually from the countries, as it is part of the series of structural indicators on the environment.

Municipal waste consists of waste collected by or on behalf of municipal authorities and disposed of through the waste management system. The information presented on municipal waste includes waste generated by various branches of economic activity and households. For areas not covered by a municipal waste scheme, estimation has been made of the amount of waste generated. Data for waste recovery and recycling is not collected from countries but calculated as the difference between municipal waste generation and municipal waste incinerated and landfilled.

<sup>(92)</sup> Directive 2006/12/EC of the European Parliament and of the Council of 5 April 2006 (text with EEA relevance); for more information: http://eur-lex.europa.eu/LexUriServ/site/en/oj/2006/l\_114/ l\_11420060427en00090021.pdf.

<sup>(93)</sup> Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14 June 2006; for more information: http://eur-lex.europa.eu/ LexUriServ/site/en/oj/2006/1\_190/1\_19020060712en00010098.pdf.

<sup>(94)</sup> Regulation (EC) No 2150/2002 of the European Parliament and of the Council of 25 November 2002; for more information: http://eur-lex.europa.eu/LexUriServ/site/en/consleg/2002/R/ 02002R2150-20050614-n.pdf.

Treatment of municipal waste can be classified into three principal categories:

- landfill, which is defined as the depositing of waste into or onto land, including specially engineered landfill, and temporary storage of over one year on permanent sites;
- incineration, which refers to the thermal treatment of waste in a specifically designed plant, and;
- recovery, which refers to any waste management operation that diverts a waste material from the waste stream and which results in a certain product with a potential economic or ecological benefit.

The disposal of waste can have a serious environmental impact: for example, landfill takes up land space, and may cause air, water and soil pollution. Incineration can also result in emissions of dangerous air pollutants, unless properly regulated.

#### **MAIN FINDINGS**

According to Eurostat statistics, about 1 300 million tonnes of waste is thrown away each year in the EU, of which some 40 million tonnes involve hazardous waste. Relative to population, this amounts to about 3.5 tonnes of solid waste per capita. Agricultural waste accounted for a further 700 million tonnes.

There have been visible efforts in waste prevention and management in the EU in recent years. Analysed relative to the size of the population in the EU-27, the data presented in this section show that total municipal waste generated grew by some 7 % between the years 1996 and 2006 to reach 517 kg per inhabitant; over the same period the growth of income and production was considerably higher (25 %).

A more significant change, however, was in the way waste was treated. Landfilling was the common option for a long time. About 60 % of municipal waste was landfilled in 1996, this proportion dropping to 41 % by 2006. Alternative ways of treatment, however, have become more important. About 14 % of municipal waste was incinerated in 1996 but this proportion had risen to 19 % by 2006 and the amount of waste recycled or composted more than doubled in the same period.

Turning to the EU-27's generation of waste by origin, and based on estimates for 2004, the largest volume of waste was generated by construction (including demolition) activities. The amount of non-hazardous waste was far larger than the amount of hazardous waste generated in manufacturing activities, in construction and by households. Manufacturing industries produced the majority of hazardous waste.

#### SOURCES

**Statistical books** 

Waste generated and treated in Europe – data 1995-2003 Hazardous and industrial waste management in accession countries

#### **Pocketbooks**

Energy, transport and environment indicators

#### Methodologies and working papers

Ecological footprint and biocapacity: the world's ability to regenerate resources and absorb waste in a limited time period

#### Website data

#### Environment

Waste

Generation of waste by economic sector and households Generation, shipment and recycling of selected waste streams Generation of waste by selected waste streams Generation, recovery and disposal of non-hazardous industrial waste Generation, recovery and disposal of hazardous waste Generation of hazardous waste by category Generation and collection of municipal waste Composition of municipal waste Recovery and disposal of municipal waste Waste recovery and disposal installations Waste statistics Regulation Generation of waste Treatment of waste

# Figure 10.13: Generation of waste by origin, EU-27, 2004 (1)

(million tonnes)



(1) Estimates. Source: Eurostat (env\_wasgen)

# Figure 10.14: Municipal waste, EU-27

(kg per inhabitant)



Source: Eurostat (tsien051, tsien052 and tsien053)

This indicator presents the amount of municipal waste generated. It consists of waste collected by or on behalf of municipal authorities and disposed of through the waste management system. The bulk of this waste stream is from households, though similar wastes from sources such as commerce, offices and public institutions are included. For areas not covered by a municipal waste scheme an estimation has been made of the amount of waste generated. The quantity of waste generated is expressed in kg per person per year.

This indicator presents the amount of municipal waste disposed of through incineration. The bulk of this waste stream is from households, though similar wastes from sources such as commerce, offices and public institutions are included. Incineration means thermal treatment of waste in an incineration plant as defined in Article 3(4) or a co-incineration plant as defined in Article 3(5) of the Directive on the incineration of waste (Directive 2000/76/EC of 4 December 2000). The quantity of waste incinerated is expressed in kg per person per year.

This indicator presents the amount of municipal waste disposed of through landfill. The bulk of this waste stream is from households, though similar wastes from sources such as commerce, offices and public institutions are included. Landfill is defined as the depositing of waste into or onto land, including specially engineered landfill, and temporary storage of over one year on permanent sites. The definition covers both landfill in internal sites (i.e. where a generator of waste is carrying out its own waste disposal at the place of generation) and in external sites. The quantity of waste landfilled is expressed in kg per person per year.

# Table 10.4: Municipal waste

(kg per capita)

_	Municipal waste generated (1)			Mu	inicipal wa andfilled (2	ste !)	Municipal waste incinerated (3)			
	1996	2001	2006	1996	2001	2006	1996	2001	2006	
EU-27	485	522	517	290	279	213	66	82	98	
Belgium	451	467	475	189	54	24	152	160	155	
Bulgaria	616	491	446	477	392	356	0	0	0	
Czech Republic	310	273	296	310	214	234	0	35	29	
Denmark	619	658	737	82	47	37	308	374	405	
Germany	642	633	566	225	160	4	106	135	179	
Estonia	396	372	466	396	295	278	0	1	1	
Ireland	524	705	804	419	540	471	0	0	0	
Greece	337	417	443	322	380	386	0	0	0	
Spain	536	658	583	298	364	289	25	37	41	
France	486	528	553	225	215	192	170	175	183	
Italy	457	516	548	380	346	284	27	45	65	
Cyprus	642	703	745	593	634	652	0	0	0	
Latvia	263	302	411	247	285	292	0	4	2	
Lithuania	400	377	390	400	335	356	0	0	0	
Luxembourg	589	650	702	163	131	131	306	275	266	
Hungary	468	451	468	367	375	376	32	35	39	
Malta	344	542	652	317	494	562	0	0	0	
Netherlands	563	615	625	115	50	12	171	199	213	
Austria	517	578	617	186	192	59	54	65	181	
Poland	301	290	259	295	278	236	0	0	1	
Portugal	399	472	435	231	355	274	0	104	95	
Romania	333	345	385	235	272	326	0	0	0	
Slovenia	590	479	432	465	358	362	0	0	3	
Slovakia	275	239	301	172	209	234	28	25	36	
Finland	410	466	488	275	284	286	0	41	42	
Sweden	385	442	497	126	99	25	147	169	233	
United Kingdom	512	592	588	440	474	353	36	43	55	
Turkey	471	457	434	345	360	364	0	0	0	
Iceland	437	469	534	328	353	370	82	53	47	
Norway	632	635	793	425	274	245	81	99	132	
Switzerland	602	659	715	69	40	1	282	315	355	

Breaks in series for Estonia (2001), Latvia (2006), Lithuania (1999), Hungary (2000), Malta (1999), Portugal (2002), Slovenia (2002), Slovakia (2002), Turkey (2004) and Switzerland (2004).
Breaks in series for Estonia (2001), Latvia (2006), Lithuania (1999), Hungary (2000), Malta (1999), Portugal (2002) and Turkey (2004).
Breaks in series for Italy (2002).

Source: Eurostat (tsien051, tsien052 and tsien053)

Table 10.5: Waste treatment (non-hazardous), breakdown by type of treatment, 2004 (1 000 tonnes)

	Но	usehold ar	nd	r	<b>Aixed</b> and				
	sim	nilar waste	es	undiffere	ntiated m	aterials	Sor	les	
			Deposit			Deposit			Deposit
	Energy	Inciner-	onto or	Energy	Inciner-	onto or	Energy	Inciner-	onto or
	recovery	ation	into land	recovery	ation	into land	recovery	ation	into land
Belgium	845	1 711	1 095	6	156	149	18	72	473
Bulgaria	0	1	3 334	0	0	35	0	0	23
Czech Republic	388	0	2 456	:	0	186	:	0	119
Denmark	3 006	:	21	:	:	528	:	:	:
Germany	849	10 020	8 1 3 1	206	497	138	1 157	1 500	7 455
Estonia	0	0	373	2	0	5	0	0	15
Ireland	0	0	1 845	0	0	1	0	0	1
Greece	0	0	4 405	0	0	83	0	0	401
Spain	1 661	29	13 549	0	0	1 772	0	0	878
France	11 098	641	10 291	1 071	30	8 099	184	0	1 411
Italy	0	3 080	17 742	25	86	782	346	728	6 553
Cyprus	:	0	19	1	0	54	:	:	1
Latvia	:	:	594	:	:	2	:	:	:
Lithuania	0	0	1 1 3 5	0	0	1	0	0	26
Luxembourg	0	124	:	0	0	0	0	9	:
Hungary	142	0	2 974	2	0	47	0	0	81
Malta	0	:	220	0	:	11	0	:	2
Netherlands	142	5 861	649	11	29	11	45	102	297
Austria	:	1 183	400	0	:	0	156	:	182
Poland	0	44	9 2 4 0	3	12	59	26	1	387
Portugal	993	0	3 297	0	0	54	0	0	82
Romania	0	0	31	12	0	617	0	0	8
Slovenia	:	:	593	:	:	12	:	:	19
Slovakia	0	2	289	0	1	24	2	1	35
Finland	47	49	1 378	56	0	111	21	0	72
Sweden	1 959	0	348	643	0	386	204	0	478
United Kingdom	3 568	95	24 667	0	27	25 195	0	0	497
Croatia	10	10	1 882	0	0	10	0	0	8
Turkey	0	0	24 97 9	0	0	4	0	0	17
Iceland	10	10	72	1	1	13	:	:	0

Source: Eurostat (env\_wastrt)

Table 10.6: Waste treatment (non-hazardous), recovery, 2004(1 000 tonnes)

			Paper and				
	Metallic	Glass	cardboard	Rubber	Plastic	Wood	Textile
	waste	waste	waste	waste	waste	waste	waste
Belgium	:	:	:	:	:	:	:
Bulgaria	1 180	5	169	2	8	0	4
Czech Republic	1 058	155	152	27	66	226	28
Denmark	606	140	677	76	54	721	:
Germany	6 990	2 162	6 054	179	518	2 221	109
Estonia	15	16	0	0	4	180	0
Ireland	11	3	118	0	10	155	11
Greece	2 324	64	263	3	4	24	4
Spain	4 953	1 335	2 2 1 7	332	2 646	279	127
France	17 210	2 000	7 550	268	380	4 261	302
Italy	6 981	1 429	3 335	49	959	4 2 4 8	244
Cyprus	20	0	6	0	10	0	0
Latvia	4	1	15	:	:	2	:
Lithuania	14	30	68	2	8	17	2
Luxembourg	:	0	0	0	:	:	0
Hungary	577	18	287	23	23	183	2
Malta	0	0	2	1	0	1	0
Netherlands	1 344	453	2 667	71	251	1 209	78
Austria	1 615	251	1 156	21	349	2 935	120
Poland	6 446	489	1 157	68	279	930	111
Portugal	558	237	345	43	98	1 109	56
Romania	4 077	76	344	2	12	80	4
Slovenia	163	:	:	3	12	:	:
Slovakia	910	19	45	9	24	126	10
Finland	1 108	165	424	37	1	3 472	0
Sweden	1 590	93	1 677	:	8	4 948	0
United Kingdom	4 397	1 931	6 891	142	1 479	2 715	284
Croatia	16	13	4	1	3	35	0
Turkey	1 995	27	417	2	135	78	212
Iceland	0	6	8	4	2	23	1
Norway	728	70	531	38	25	384	11

Source: Eurostat (env\_wastrt)



#### **10.5 RESOURCE USE**

#### **INTRODUCTION**

Resources are the backbone of every economy. In using resources and transforming them, capital stocks are built up which add to the wealth of present and future generations. However, the dimensions of our current resource use are such that the chances of future generations – and the developing countries – to have access to their fair share of scarce resources are endangered. Moreover, the consequences of our resource use in terms of impacts on the environment may induce serious damages that go beyond the carrying capacity of the environment. These effects risk being aggravated once the developing world has taken up growth and resource use similar to the levels currently experienced in industrialised countries.

In December 2005, the European Commission proposed a Strategy on the Sustainable Use of Natural Resources <sup>(95)</sup> used in Europe, the objective being to reduce the environmental impacts associated with resource use and to do so in a growing economy. Focusing on the environmental impacts of resource use is one factor that will help the EU achieve sustainable development.

Eurostat is developing indicators that will monitor the environmental impacts of resource use, in order to support the implementation of the strategy.

(95) Thematic Strategy on the Sustainable Use of Natural Resources, COM(2005) 670 final; for more information: http://ec.europa.eu/environment/natres/index.htm.

#### **DEFINITIONS AND DATA AVAILABILITY**

Resource productivity measures the efficiency with which the economy uses energy and materials (the natural resource inputs needed to achieve a given economic output). If the definition of natural resources includes pollution sinks – the capacity of the atmosphere, the land area and the world's oceans and rivers to absorb waste and pollution – resource productivity also measures the economy's ability to produce goods and services relative to its environmental impacts. This wider measure is particularly useful to policy-makers, because there are pressing concerns regarding the way in which pollution sinks are being used up as a resource.

Resource productivity is defined as GDP divided by domestic material consumption (DMC). DMC is related to the consumption activities of the residents of a national economy (DMC = domestic extraction (DE) plus imports minus exports). The three main DMC material categories (biomass, fossil fuels and minerals) can be further disaggregated into different material categories.

#### **MAIN FINDINGS**

Although the wealth of the EU-15, as measured by GDP, increased on average by 2.3 % per annum between 1994 and 2004, the consumption activities of the EU-15's residents (domestic material consumption) remained stable over the same period of time.

## SOURCES

Pocketbooks Energy, transport and environment indicators.

Methodologies and working papers

Ecological footprint and biocapacity: the world's ability to regenerate resources and absorb waste in a limited time period.

#### Website data

Environment Environmental accounts

# Figure 10.15: Resource productivity, EU-15

(1990=100)



Source: Eurostat (tsdpc100, tec00001 and tsdpc220)

Figure 10.16: Resource productivity (GDP per DMC) (EUR/kg)



(1) Not available.

Source: Eurostat (tsdpc100)

#### **10.6 CHEMICALS MANAGEMENT**

#### **INTRODUCTION**

The sixth environment action programme (sixth EAP) requires a complete overhaul of EU policy on chemicals management. Since June 2007, REACH <sup>(96)</sup> – the new European Regulation on the Registration, Evaluation, Authorisation and restriction of Chemicals – is in force. The major objective of REACH is to ensure a high level of protection for human health and the environment, including promotion of alternative methods for the assessment of hazards of substances as well as the free circulation of substances on the internal market while enhancing competitiveness and innovation in the EU chemical industry.

REACH defines a new period of chemicals policy in Europe. It will increase knowledge in relation to the hazardous properties of chemicals. It is expected to enhance the communication and implementation of conditions of safe use in supply chains and the substitution of dangerous substances by less dangerous ones. Through different types of measures REACH is expected to lead to a decrease in risks to human health and the environment.

Eurostat is providing statistics and indicators for the assessment of the effectiveness of REACH.

(96) http://ec.europa.eu/environment/chemicals/index.htm.

#### **DEFINITIONS AND DATA AVAILABILITY**

Eurostat has developed a production index of toxic chemicals, broken down into five toxicity classes. The indicator presents the trend in aggregated production volumes of chemicals which have been classified as toxic substances according to EU legislation <sup>(97)</sup>. An important objective of REACH is to reduce risks by substitution of hazardous by less hazardous substances. This indicator monitors progress in shifting production from the most toxic chemicals to less toxic classes. The indicator does not provide information on the risk from the use of chemicals: production and consumption are not synonymous with exposure, as some chemicals are handled in closed systems, or as intermediates in controlled supply chains. The toxicity classes, beginning with the most dangerous, are: carcinogenic, mutagenic and reprotoxic (CMR-chemicals); chronic toxic chemicals; very toxic chemicals; toxic chemicals and chemicals classified as harmful. The indicator is also published as a sustainable development indicator within the theme of public health.

Production volumes are extracted from Prodcom (statistics on the production of manufactured goods) and are aggregated to the five classes according to their toxicity. EU-15 data covers the years from 1995 to 2006, for 2004 to 2006 data for EU-27 is available.

#### **MAIN FINDINGS**

Between 1996 and 2006 the total production of chemicals grew by 22 % (EU-15). The production of chemicals classified as toxic increased by 16 %, with 10 % growth for CMR chemicals. Over the period considered, there was steady growth in the production volume of toxic chemicals, with no decoupling from the growth of GDP observed.

(97) Directive on Dangerous Substances, http://ec.europa.eu/environment/dansub/home\_en.htm.

#### **SOURCES**

**Methodologies and working papers** The REACH baseline study, a monitoring instrument for the new European policy on chemicals

#### Website data

#### Sustainable development

Public health Determinants of health Index of production of toxic chemicals, by toxicity class

# Figure 10.17: Production volume of toxic chemicals, EU-15 (1)

(tonnes)



(1) In 2006, the volume of toxic industrial chemicals produced in the EU-25 was 207 million tonnes.

This indicator presents the trend in aggregated production volumes of toxic chemicals, broken down into five toxicity classes. The classes are derived from the Risk Phrases assigned to the individual substances in Annex 6 of the Dangerous Substance Directive (Council Directive 67/548/EEC as last amended in 2001). The chemicals are grouped into five toxicity classes: carcinogenic, mutagenic and reprotoxic (CMR-) chemicals; chronic toxic chemicals; very toxic chemicals; toxic chemicals; and harmful chemicals.

# 10.7 ENVIRONMENTAL PROTECTION EXPENDITURE

#### **INTRODUCTION**

In the absence of environmental policies, the costs resulting from pollution are met by society at large. As EU environmental protection policies fall into place, the financial burden is shifting to those enterprises or individuals at the source of the pollution; this is the polluter pays principle and is seen as a key tool for reducing overall pollution.

#### **DEFINITIONS AND DATA AVAILABILITY**

Data on environmental expenditure are collected from European countries through the joint OECD/Eurostat questionnaire on environmental protection expenditure and revenues. The questionnaire has been revised to have an accounting structure close to the environmental protection expenditure account (EPEA) which is a satellite account from national accounts <sup>(98)</sup>.

(98) For more information: 'Environmental protection expenditure accounts – compilation guide'.

Environmental protection expenditure is defined as the money spent on all purposeful activities directly aimed at the prevention, reduction and elimination of pollution or nuisances resulting from the production processes or consumption of goods and services. Excluded are activities that, while beneficial to the environment, primarily satisfy technical needs or health and safety requirements. Environmental protection expenditure is classified into different economic sectors (public, agriculture, industries, and households), financial variables (treatment and prevention investments, current expenditure, subsidies, etc.) and environmental domains (of which nine areas – including air, water, waste, soil, noise, biodiversity and landscape – are distinguished in the European standard statistical classification of environmental protection activities (CEPA)).

Non-core expenditure consists of administrative costs such as labour costs associated with running environmental departments or government funded agencies. Investment expenditure includes outlays in a given year (purchases and own-account production) for machinery, equipment and land used for environmental protection purposes.

Source: Eurostat (tsdph320)



#### **MAIN FINDINGS**

An analysis of environmental protection expenditure shows that there are considerable differences between expenditure incurred by the public sector and that incurred by industry. Indeed, the share of total environmental protection expenditure incurred by the EU-25's public sector for non-core domains (administrative costs) in 2002 was 3.9 times as high as that incurred by industry. Industry spent almost equal shares on wastewater (30.5 %) and waste (29.9 %) as a proportion of total industrial environmental protection expenditure. A relatively low proportion (less than 2 %) of EU-25 public expenditure on environmental protection was devoted to air protection, while the share of environmental protection expenditure on air pollution made by industry reached almost one quarter (23.3 %). An analysis of investment expenditure by industry for environmental protection is also available, and this shows that industry dedicated more than one third (35.9 %) of such investment to air protection, while wastewater accounted for just over one quarter (26.7 %) and waste for 15.2 %. The remaining share of investment for environmental protection by industry was used for none-core domains.

# SOURCES

Pocketbooks

Energy, transport and environment indicators

#### Methodologies and working papers

Environmental expenditure statistics

OECD/Eurostat Environment Protection Expenditure and Revenue: Joint Questionnaire/SERIEE Environmental Protection Expenditure Accounts – Conversion Guidelines

SERIEE Environmental Protection Expenditure Accounts - Compilation Guide

#### Dedicated sections on the eurostat website

Environmental accounts

#### Website data

#### Environment

Environmental accounts

Environmental protection expenditure in Europe – detailed data Environmental protection expenditure in Europe – indicators

Figure 10.18: Breakdown of environmental protection expenditure by the public sector, EU-25, 2002 (1)

(%)



(1) Figures do not sum to 100 % due to rounding.

Source: Eurostat (ten00055)

The indicator presents environmental protection expenditure by environmental domain. It includes both investments and current expenditure.





Figure 10.19: Breakdown of environmental protection expenditure by industry, EU-25, 2002 (1) (%)

(1) Excluding the activities of the recycling sector (NACE Division 37); figures do not sum to 100 % due to rounding. *Source:* Eurostat (ten00058)

Figure 10.20: Breakdown of environmental protection investment by industry, EU-25, 2002 (1) (%)



(1) Excluding the activities of the recycling sector (NACE Division 37); figures do not sum to 100 % due to rounding. *Source:* Eurostat (ten00059)

#### **10.8 BIODIVERSITY**

#### **INTRODUCTION**

A contraction of biological diversity, biodiversity reflects the number, variety and variability of living organisms, including mankind. The global scale of the biodiversity issue has led to international action within this domain, with the framework for action being the United Nations (UN) convention on biological diversity (CBD), which the EU ratified in 1993. In 1998, the EU adopted a biodiversity strategy. Four biodiversity action plans were adopted under this strategy in 2001 (conservation of natural resources, agriculture, fisheries, economic and development cooperation).

At the United Nations world summit on sustainable development in Johannesburg in 2002, governments committed themselves to significantly reducing the rate of biodiversity loss by 2010. The EU has also set itself the objective of halting the loss of biodiversity on its own territory by 2010. Today, nature and biodiversity are one of the four priorities of the EU's sixth environment action programme (2002-12), together with climate change, resource and waste management, and health in relation to the environment.

More recently, the European Commission adopted a proposal for a Directive on the contained use of genetically modified microorganisms <sup>(99)</sup> in May 2006. Moreover, it adopted Decisions and presented to the Council <sup>(100)</sup> proposals for Decisions on the market release of certain genetically modified products (maize, oilseed rape and carnations) or, where applicable, on a temporary ban on the sale and use of such products (maize).

#### **DEFINITIONS AND DATA AVAILABILITY**

EU policy on nature conservation is part of the EU's biodiversity strategy. It is essentially based on the implementation of two Directives: Council Directive 92/43/EEC of 21 May 1992 (the habitats Directive) on the conservation of natural habitats and of wild fauna and flora <sup>(101)</sup> and Council Directive 79/409/EEC of 2 April 1979 (the birds Directive) on the conservation of wild birds, which includes the setting-up of a coherent European ecological network of sites under the title Natura 2000.

(99) For more information: http://europa.eu/scadplus/leg/en/lvb/l21157.htm.

(100) In accordance with Directive 2001/18/EC of the European Parliament and of the Council; for more information: http://eur-lex.europa.eu/LexUriServ/ site/en/oj/2001/l\_106/l\_10620010417en00010038.pdf.

(101) Council Directive 79/409/EEC of 2 April 1979 (birds Directive) and Council Directive 92/43/EEC of 21 May 1992 (habitat Directive); for more information: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do? uri=CELEX:31979L0409:EN:HTML. Annual data are available on protected areas under the habitats Directive and these are presented as a percentage of total country area. The indicator on protected areas is based on territories proposed by countries to be designated for the protection of natural and semi-natural habitats, wild fauna and flora according to the habitats Directive.

Birds are considered as good proxies for biodiversity and the integrity of ecosystem. The population index of farmland birds is an aggregated index (with base year 1990 or the first year the Member State entered the scheme) of population trend estimates of a selected group of common bird species dependent on agricultural land for nesting or breeding. Indices are calculated for each species independently and are then combined using an unweighted geometric mean. Aggregated EU indices are calculated using population-dependent weighting factors for each country and species. The EU index is based on trend data from 18 Member States, derived from annually operated national breeding bird surveys spanning different periods obtained through the pan-European common bird monitoring scheme (PECBMS).

#### **MAIN FINDINGS**

Protected areas for biodiversity are based on areas proposed by countries under the habitats Directive reflecting the share of the total area of a country. Just over 12 % of the EU-25's territory was considered as a protected area in 2005, among the Member States the share rising to a little above 30 % in Slovenia.

There was a negative trend in the past 25 years for common bird species, in particular for common farmland birds, which are considered a good indicator of trends in farmland biodiversity; these have become more threatened during the period considered. Part of the decline may be explained by changes in land use and agricultural practices which affect birds' capacity for nesting or feeding. In 2005, there was a limited upturn in the population of farmland species back towards the levels recorded between 1996 and 2000.

#### SOURCES

#### **Pocketbooks**

Energy, transport and environment indicators

#### Website data

#### Environment

Biodiversity

Protected areas for biodiversity: habitats directive Protection of natural resources – common bird index Fish catches from stocks outside of safe biological limits

#### Table 10.7: Biodiversity

	Protected areas for biodiversity (% of total area) (1)				Farmland bird index (1990=100) (2)					
	2003	2004	2005	2006	1995	1997	1999	2001	2003	2005
EU-25	:	:	12.1	12.2	91.3	80.0	80.5	79.5	76.6	78.8
Belgium	9.9	10.0	10.0	10.0	94.6	87.5	83.6	72.5	63.9	67.6
Bulgaria	:	:	:	:	:	:	:	:	:	:
Czech Republic	:	:	9.2	9.2	118.5	86.4	71.3	78.9	70.0	65.8
Denmark	7.4	7.4	7.4	7.4	84.2	80.1	84.1	78.3	71.0	60.3
Germany	7.0	7.0	9.8	9.9	119.4	115.6	125.5	107.7	84.9	90.5
Estonia	:	:	15.9	15.9	57.4	77.2	77.2	:	:	:
Ireland	10.7	10.2	10.2	10.2	:	:	113.1	115.8	108.0	108.6
Greece	16.4	16.4	16.4	16.4	:	:	:	:	:	:
Spain	22.6	22.6	22.6	22.6	:	112.2	123.2	128.8	115.3	121.8
France	6.8	6.8	6.9	7.9	82.8	89.4	83.3	81.5	78.1	82.5
Italy	14.7	13.9	13.9	14.2	:	:	:	93.3	74.2	88.4
Cyprus	:	:	5.0	7.2	:	:	:	:	:	:
Latvia	:	:	11.0	11.0	100.0	109.7	111.0	127.7	118.6	117.0
Lithuania	:	:	10.0	10.0	:	:	:	:	:	:
Luxembourg	14.8	:	:	14.8	:	:	:	:	:	:
Hungary	:	:	15.0	15.0	:	:	:	:	:	:
Malta	:	:	12.5	12.6	:	:	:	:	:	:
Netherlands	9.5	9.5	9.5	8.4	79.4	82.2	79.5	75.2	73.2	76.6
Austria	10.6	10.6	10.6	10.6	:	:	:	:	:	:
Poland	:	:	4.2	4.2	:	:	:	95.0	84.9	90.5
Portugal	17.4	17.4	17.4	17.4	:	:	:	:	:	101.0
Romania	:	:	:	:	:	:	:	:	:	:
Slovenia	:	:	31.4	31.4	:	:	:	:	:	:
Slovakia	:	:	11.8	11.8	:	:	:	:	:	:
Finland	12.7	12.7	12.7	12.7	96.6	85.2	91.1	97.1	94.2	91.7
Sweden	13.9	13.6	13.6	13.7	90.5	81.1	72.9	73.6	70.7	61.1
United Kingdom	6.5	6.5	6.5	6.5	83.1	76.0	74.4	81.2	73.3	71.1
Norway	:	:	:	:	100.0	53.2	57.6	55.3	47.9	45.8
Switzerland	:	:	:	:	:	:	100.0	92.6	94.2	111.5

 Area proposed under the habitats Directive.
Aggregated index of population estimates of a selected group of breeding bird species dependent on agricultural land for nesting or feeding; the EU index is based on trend data from 18 EU Member States which is derived from annually operated national breeding bird surveys spanning different periods, obtained through the Pan-European Common Bird Monitoring Scheme (PECBMS).

Source: Eurostat (env\_bio1 and tsdnr100)

The farmland bird index is an aggregated index of population trend estimates of a selected group of breeding bird species dependent on agricultural land for nesting or breeding. It is indexed on the year 2000. Indices are calculated for each species independently and are weighted equally when combined in the aggregate index using a geometric mean. Aggregated EU indices are calculated using population-dependent weighting factors for each country and species.





#### Figure 10.21: Protected areas for biodiversity: habitats Directive, 2007

(area proposed under the habitats Directive as a % of total area )

Not available.
Source: Eurostat (env\_bio1)

#### Figure 10.22: EU farmland bird index (1)

(aggregated index of population estimates of a selected group of breeding bird species dependent on agricultural land for nesting or feeding, 1990=100)



 The EU index is based on trend data from 18 Member States which is derived from annually operated national breeding bird surveys spanning different periods, obtained through the pan-European common bird monitoring scheme (PECBMS).
Source: Eurostat (tsien073)
#### **10.9 CORPORATE RESPONSIBILITY**

#### **INTRODUCTION**

The EU's eco-management and audit scheme (EMAS) is a management tool for enterprises and other organisations to evaluate, report and improve their environmental performance. Enterprises have been able to participate in the scheme since 1995 (102). It was originally restricted to enterprises within the industrial economy, however, since 2001 EMAS has been open to all economic sectors including public and private services. In addition, EMAS was strengthened by the integration of the ISO 14001 international standard, which is primarily concerned with environmental management and aims to help organisations establish or improve an environmental management system, to minimise harmful effects on the environment caused by its activities, and continually improve their environmental performance (103). Organisations participating in EMAS are committed to evaluate and improve their own environmental performance, comply with relevant environmental legislation, prevent pollution, and provide relevant information to the public (via verified environmental audits).

The Community eco-label is awarded to products and services with reduced environmental impacts. The existing scheme has been in operation since 1993.

The 1999 industry Council's report to the Helsinki European Council on environmental integration emphasised three pillars of sustainable development (immediate and longer-term needs; local and global needs; and the inseparability and interdependence of social, economic and environmental components of human progress) and addressed issues such as climate change, employment, enlargement, changing production and consumption patters, eco-efficiency and integrated product policy.

The industry Council of 6-7 June 2002 adopted conclusions on the contribution of enterprise policy to sustainable development. The Council considered economic growth as a prerequisite for achieving sustainable development, as it provides essential additional resources that are needed in order to tackle environmental pressures and reinforce social cohesion.

(102) Council Regulation (EEC) No 1836/93 of 29 June 1993; for more information: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do? uri=CELEX:31993R1836:EN:HTML.

(103) Commission Regulation (EC) No 196/2006 of 3 February 2006 amending Annex I to Regulation (EC) No 761/2001 of the European Parliament and of the Council to take account of the European Standard EN ISO 14001:2004, and repealing Decision 97/265/EC; for more information: http://eur-lex.europa.eu/LexUriServ/site/n/oj/2006/\_032/ I\_03220060204en00040012.pdf.

#### **DEFINITIONS AND DATA AVAILABILITY**

The eco-management and audit scheme (EMAS) is an EU voluntary instrument which acknowledges organisations that improve their environmental performance on a continuous basis. EMAS registered organisations are legally compliant, run an environment management system and report on their environmental performance through the publication of an independently verified environmental statement. They are recognised by the EMAS logo, which guarantees the reliability of the information provided. To receive EMAS registration an organisation must comply with the following steps:

- conduct an environmental review;
- establish an effective environmental management system;
- carry out an environmental audit and;
- provide a statement of its environmental performance.

The EU eco-label scheme, as laid down in a Regulation of the European Commission (104) is now part of a wider approach on integrated product policy (IPP).

#### **MAIN FINDINGS**

From EMAS statistics, it is possible to report figures on the number of sites having implemented an eco-management and audit scheme or an ISO 14001 certification among the Member States, and to present these relative to the size of the population. Based on such an analysis Austria recorded the largest number of such sites in 2006, with 31.2 sites per million inhabitants, followed by Denmark (22.3), Germany (17.9) and Spain (13.2) the only Member States with more than 10 sites per million inhabitants. At the other end of the spectrum, there were no sites having implemented an EMAS or an ISO 14001 certification in Cyprus, Latvia, Lithuania or Romania.

The EU eco-label aims to encourage enterprises to produce products and services with reduced environmental impact. Danish enterprises had by far the largest number of awards in 2006, more than 1 000 per million inhabitants, compared with an EU average of a little less than 3. To a lesser extent, Malta (247), Ireland (214) and Slovenia (200) also received a relatively high number of awards, while the Baltic States, Luxembourg, Romania and Slovakia had no such awards.

An analysis by product group shows that a large majority of ecolabel awards in the EU-25 in 2007 were granted to products related to chemicals and man-made fibres (41.9 % of the total), followed by hotel and restaurant services (27.8 %), and textiles (16.8 %).

<sup>(104)</sup> Regulation (EC) No 1980/2000 of the European Parliament and of the Council of 17 July 2000: http://eur-lex.europa.eu/LexUriServ/site/en/oj/ 2000/I\_237/I\_23720000921en00010012.pdf.

# Figure 10.23: Number of sites having implemented an eco-management and audit scheme (EMAS) or an ISO 14001 certification, 2006

(per million inhabitants)



#### (1) Not available.

Source: Eurostat (tsdpc410 and tps00001), European Commission (EMAS)

This indicator is defined as the number of EMAS-registered organisations and sites. The EMAS (Eco-Management and Audit Scheme) is a voluntarily environmental management system implemented by companies and other organisations from all sectors of economic activity including local authorities, to evaluate, report on and improve their environmental performance. The scheme integrates ISO 14001 (International Standard for Environmental Management System) as its environmental management system element. Since April 2001, corporate registrations are possible, wherein organisations gather all their sites under one registration number. The European Commission started to collect numbers of sites in addition to number of organisations in March 2004 to give a more accurate picture of EMAS development.

#### Figure 10.24: Eco-label awards, 2006

(per million inhabitants)



#### (1) Not available

Source: Eurostat (tsdpc420 and tps00001), Directorate-General Environment

This indicator is defined as the number of eco-label or EU flower awards in EU Member States. The Community ecolabel is awarded to products and services with reduced environmental impacts. It is administered by the European Ecolabelling Board (EUEB) and receives the support of the European Commission, all EU Member States and the European Economic Area (EEA). The Eco-labelling Board includes representatives such as industry, environment protection groups and consumer organisations.





Source: Directorate-General Environment

# Energy





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A competitive, reliable and sustainable energy sector is essential for an economy, and this has been put under the spotlight in recent years by a number of issues, including the volatility in oil prices, interruptions to energy supply from non-member countries, blackouts aggravated by inefficient connections between national electricity networks, and the difficulties of market access for suppliers in relation to gas and electricity markets. These issues have pushed energy towards the top of national and European political agendas.

In January 2007 the European Commission adopted a communication (COM(2007) 1) proposing an energy policy for Europe <sup>(105)</sup>, with the goal to combat climate change and boost the EU's energy security and competitiveness. This set out the need for the EU to draw up a new energy path towards a more secure, sustainable and low-carbon economy, for the benefit of all users. One aim is to give energy users greater choice, and another is to spur investment in energy infrastructure.

Based on the European Commission's proposal, in March 2007 the Council endorsed the following targets:

- reducing greenhouse gas emissions by at least 20 % (compared with 1990 levels) by 2020;
- improving energy efficiency by 20 % by 2020;
- raising the share of renewable energy to 20 % by 2020;
- increasing the level of biofuels in transport fuel to 10 % by 2020.

The use of renewable energy sources is seen as a key element in energy policy, reducing the dependence on fuel from nonmember countries, reducing emissions from carbon sources, and decoupling energy costs from oil prices. The second key element is constraining demand, by promoting energy efficiency both within the energy sector itself and at end-use.

In order to meet the increasing requirements of policy makers for energy monitoring, Eurostat has developed a coherent and harmonised system of energy statistics. Annual data collection covers the 27 Member States of the EU, the candidate countries of Croatia and Turkey, and the European Economic Area countries of Iceland and Norway; time-series run back to 1985 for some countries, but are more generally available from 1990. Although not presented in this yearbook, monthly data are also available.

<sup>(105)</sup> For more information: http://ec.europa.eu/energy/ energy\_policy/index\_en.htm.

#### EUROSTAT DATA IN THIS DOMAIN Environment and energy

Energy

Main indicators – energy statistics Energy statistics – quantities Energy statistics – prices Operation of nuclear power stations

#### **11.1 ENERGY PRODUCTION AND IMPORTS**

#### **INTRODUCTION**

Energy commodities extracted or captured directly from natural resources are called primary energy sources. All energy commodities which are produced from primary sources in transformation plants are called derived products. Primary energy production covers the national production of primary energy sources. Whenever consumption exceeds primary production the shortfall is accounted for by imports of primary or derived products. The dependency of the EU on imports, particularly for oil and more recently for gas, has formed the backdrop for policy concerns relating to the security of supply.

#### **DEFINITIONS AND DATA AVAILABILITY**

Primary production is the sum of energy extraction, heat produced in reactors as a result of nuclear fission, and the use of renewable energy sources.

Net imports are simply calculated as the quantity of imports minus the equivalent quantity of exports.

The energy dependency rate is defined as net imports divided by gross consumption, expressed as a percentage; gross consumption is equal to gross inland consumption plus the energy (oil) supplied to international marine bunkers. The gross inland consumption covers consumption by the energy branch itself, distribution and transformation losses, and final non-energy and energy consumption. A negative dependency rate indicates a net exporter of energy. A dependency rate in excess of 100 % indicates that energy products have been stocked.

#### **MAIN FINDINGS**

Production of primary energy in the EU-27 totalled 890 million tonnes of oil equivalent (toe) in 2005. Production was dominated by the United Kingdom with a 23 % share of the EU-27 total, while France and Germany were the only other Member States to report production in excess of 100 million toe.

Primary energy production in the EU-27 in 2005 was concentrated among nuclear energy, solid fuels (mainly coal) and natural gas, with crude oil and renewable energies playing a less important role. However, the pace at which the primary production of renewable energy was growing exceeded that of all the other energy types, with particularly strong growth since 2002. Among renewable energies, the most important source was biomass and waste, representing almost 81 million toe of primary production in the EU-27 in 2005. Hydropower was the only other significant contributor to the renewable energy mix (26 million toe). Although production still remains small, there has been a particularly rapid expansion in the production of wind energy, reaching 6 million toe in the EU-27 in 2005.

The EU-27's imports of primary energy exceeded exports by some 975 million toe in 2005. The largest net importers of primary energy were usually the largest Member States, with the exception of the United Kingdom and Poland (both of whom have significant primary production, mainly oil, natural gas and coal). Since 2004 the only net exporter among the Member States has been Denmark.

In 2004 the EU-27's net imports of energy were greater than its primary production of energy, witnessed by its dependency rate just exceeding 50 %. In 2005 the dependency rate increased again to reach 52 %. Energy dependency ratios were highest for crude oil and petroleum (82 %), although the dependency on non-member countries for supplies of solid fuels and natural gas grew at a faster pace in the last decade than the EU's dependency on oil (which was already at a high rate). Net imports exceeded primary production of natural gas in 2002, while the same situation occurred for hard coal in 2004. Among the Member States, energy dependency in 2005 varied from the only net exporter among the Member States Denmark (which recorded a negative dependency ratio) and low ratios in the United Kingdom and Poland, to ratios of upwards of 80 % in Spain, Italy, Portugal, Ireland, Luxembourg, Cyprus and Malta.

The sources of EU energy imports have changed rapidly in recent years. In 2005 the EU-27's imports of crude oil from Russia were nearly double those from Norway, whereas five years earlier these two countries deliveries to the EU-27 had been almost equal. For natural gas the same two countries were also the biggest suppliers to the EU-27 market in 2005. In contrast to crude oil, the combined share of Russian gas among the EU-27's imports fell, from close to half the total in 2000 to just over two fifths by 2005.

Energy

#### SOURCES

**Statistical books** 

Panorama of energy: energy statistics to support EU policies and solutions Energy – yearly statistics Energy balance sheets

#### Website data

#### Energy

Energy statistics – quantities

Energy statistics – supply, transformation, consumption Energy statistics – imports (by country of origin) Energy statistics – exports (by country of destination)

#### Table 11.1: Total production of primary energy

(million tonnes of oil equivalent)

												Share in
												EU-27,
												2005
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	(%)
EU-27	939.8	969.4	960.3	938.1	940.5	931.2	932.3	932.8	924.6	921.0	890.0	100.0
Euro area	445.1	457.7	446.8	432.9	434.7	433.8	440.0	442.8	445.1	457.0	448.3	50.4
Belgium	10.9	11.3	12.6	12.0	13.3	13.1	12.7	12.9	13.1	13.2	13.9	1.6
Bulgaria	10.2	10.6	9.8	10.2	9.0	9.8	10.3	10.5	10.1	10.2	10.6	1.2
Czech Republic	31.4	32.2	32.3	30.4	27.6	29.4	30.1	30.3	32.8	32.7	32.4	3.6
Denmark	15.5	17.6	20.2	20.3	23.7	27.6	27.0	28.5	28.4	31.0	31.2	3.5
Germany	140.8	138.8	138.5	131.6	134.6	132.0	133.0	133.9	134.4	135.5	134.9	15.2
Estonia	3.5	3.9	3.8	3.3	3.1	3.2	3.5	3.8	4.2	4.1	4.2	0.5
Ireland	4.0	3.5	2.8	2.4	2.5	2.2	1.8	1.5	1.9	1.9	1.7	0.2
Greece	9.7	10.1	9.9	10.0	9.4	9.9	9.9	10.5	9.9	10.3	10.3	1.2
Spain	31.2	32.0	30.7	32.0	30.3	31.2	32.9	31.6	32.8	32.6	30.1	3.4
France	126.0	130.3	127.3	124.2	126.3	131.1	132.2	133.7	134.8	135.5	135.2	15.2
Italy	29.2	30.1	30.2	30.1	29.0	26.8	25.7	26.3	27.2	28.0	27.6	3.1
Cyprus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Latvia	1.6	1.6	1.8	1.9	1.8	1.6	1.7	1.9	2.0	2.1	2.3	0.3
Lithuania	3.7	4.3	3.9	4.4	3.5	3.2	4.1	4.8	5.1	5.0	3.7	0.4
Luxembourg	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0
Hungary	13.5	13.1	12.8	11.9	11.5	11.2	10.8	11.1	10.6	10.1	10.3	1.2
Malta	-	-	-	-	-	-	-	-	-	-	-	-
Netherlands	65.9	73.7	65.5	62.7	59.2	56.9	60.6	60.1	58.4	67.6	61.8	6.9
Austria	8.5	8.4	8.5	8.6	9.3	9.6	9.4	9.6	9.4	9.6	9.4	1.1
Poland	97.9	97.8	99.1	86.8	82.8	78.4	79.4	79.1	78.7	77.9	77.7	8.7
Portugal	2.6	3.2	3.0	3.0	2.7	3.1	3.9	3.6	4.3	3.9	3.6	0.4
Romania	32.1	32.9	31.6	29.1	28.0	28.6	27.6	28.0	28.2	28.4	27.5	3.1
Slovenia	3.0	3.0	3.0	3.0	2.9	3.1	3.1	3.4	3.2	3.4	3.5	0.4
Slovakia	4.8	4.7	4.6	4.7	5.2	6.0	6.4	6.5	6.3	6.2	6.5	0.7
Finland	13.2	13.4	14.8	13.1	15.2	14.8	14.7	15.6	15.5	15.4	16.2	1.8
Sweden	31.5	31.6	32.2	33.2	32.7	30.1	33.4	31.3	30.5	33.9	34.3	3.9
United Kingdom	248.9	261.3	261.5	268.8	276.9	268.2	258.0	254.3	242.5	222.3	201.0	22.6
Croatia	4.1	4.2	4.1	4.0	3.6	3.6	3.7	3.7	3.7	3.9	3.8	-
Turkey	26.5	27.2	28.0	29.1	27.5	26.7	25.1	24.6	23.9	24.2	23.6	-
Iceland	1.6	1.6	1.7	1.8	2.2	2.3	2.5	2.5	2.5	2.5	2.6	-
Norway	181.6	207.6	212.2	206.1	209.1	224.5	228.4	233.1	235.5	238.0	233.6	-

Source: Eurostat (ten00076)

Any kind of extraction of energy products from natural sources to a usable form is called primary production. Primary production takes place when the natural sources are exploited, for example in coal mines, crude oil fields, hydro power plants or fabrication of biofuels. Transformation of energy from one form to another, like electricity or heat generation in thermal power plants or coke production in coke ovens is not primary production.

#### Figure 11.1: Production of primary energy, EU-27, 2005

(% of total, based on tonnes of oil equivalent)



Source: Eurostat (ten00080, ten00077, ten00079, ten00078, ten00081, ten00082 and ten00076)

The heat produced in a reactor as a result of nuclear fission is regarded as primary production of nuclear heat, or in other words nuclear energy. It is either the actual heat produced or calculated on the basis of reported gross electricity generation and the thermal efficiency of the nuclear plant. Primary production of coal and lignite consists of guantities of fuels extracted or produced, calculated after any operation for removal of inert matter. In general, primary production includes the quantities consumed by the producer in the production process (e.g. for heating or operation of equipment and auxiliaries) as well as supplies to other on-site producers of energy for transformation or other uses. Dry marketable production, measured after purification and extraction of NGLs (natural gas liquids) and sulphur is considered as primary production. It does not include quantities re-injected, extraction losses, or quantities vented and flared. It includes quantities used within the natural gas industry, in gas extraction, pipeline systems and processing plants. Primary production within national boundaries including offshore production is covered. Production should only include marketable production, excluding volumes returned to formation. Such production should include all crude oil, NGLs, condensates and oil from shale and tar sands, etc. Primary production of biomass, hydropower, geothermal energy, wind and solar energy are included in renewable energies. Primary production: biomass (heat content of the produced biofuels or biogas; heat produced after combustion during incineration of renewable wastes); hydropower covers potential and kinetic energy of water converted into electricity in hydroelectric plants (the electricity generated in pumped storage plants is not included); geothermal energy comprises energy available as heat emitted from within the earth's crust, usually in the form of hot water or steam; wind energy covers the kinetic energy of wind converted into electricity in wind turbines; solar energy covers the solar radiation exploited for solar heat (hot water) and electricity production.



**Figure 11.2: Evolution of the production of primary energy (by fuel type), EU-27** (1995=100, based on tonnes of oil equivalent)

Source: Eurostat (ten00081, ten00080, ten00079, ten00076, ten00078 and ten00077)

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#### Table 11.2: Net imports of primary energy

(million tonnes of oil equivalent)

												Share in EU-27, 2005
FII 27	<b>1995</b>	<b>1996</b>	1997	1998	1999	2000	2001	2002	2003	2004	2005	(%)
EU-27	750.7 664.6	/0/.1	706.4	741 0	702.0 741 E	010.9 772.6	049.4 701 /	040.1 707 E	094.0 000 7	929.0 070 0	9/4./	100.0
Polaium	12 0	47.1	/00.4	F0 1	141.5	//2.0	/01.4	/0/.5	40.4	40.2	40.1	 
Bulgaria	42.0	47.1	47.Z	10.0	40.9	40.7 9.7	40.7	45.5	49.4	49.5	49.0	1.0
Czoch Popublic	د.د۱ ۸ و	10.2	10.0	10.0	0.9	0.7	9.0 10.6	10.9	9.2 10.0	9.1 11.0	9.4 12 2	1.0
Czech Kepublic Donmark	0.4 7 E	10.5 E 6	20	10.4	9.0	9.5	10.0 E 7	10.9 o E	10.9	0.0	12.5	1.5
Gormany	10E 1	0.C 7 7 7	2.9 2002	1.0 7177	-5.5 202 E	-7.1	-5.7	-0.0 5 00 C	-0.0	-9.9	-10.5	-1.1
Ectonia	195.1	207.7	200.5	212.7	202.5	204.7	215.7	200.5 1 E	2 I Z . I 1 E	214.7	214.4 1 E	22.0
Iroland	2.0	2.0	0.5	10.6	1.9	1.5	12.6	1.5	125	12.0	126	0.2
Grooco	10 2	10.4	9.J	21.1	10.7	22.0	222	12.7	225	24.6	15.0	1.4 2.4
Snain	75 /	72.0	19.2 80.2	21.1	19.7 Q.4_4	22.0 02.1	22.5	107.0	107.9	11/1	177 9	12.4
France	116.0	12/13	122.1	1316	94.4 131 5	133.5	135 Q	136.8	138.0	1/0.6	1/12.0	12.0
Italy	1347	124.5	13/ /	1/0 2	1/13 6	153.0	1/7 7	152.6	155.0	150.0	160.5	16.5
Cyprus	20	2.2	7 2 1	2.2	145.0 2.4	2 5	25	2.6	27	2.4	28	0.3
Latvia	2.0 3.1	2.2 3.4	2.1	2.2	2.4	2.5	2.5	2.0	2.7	2.4	2.0	0.5
Lithuania	5.6	5.1	5 1	2.0 /1.8	2.2 // 3	2.J // 3	2.J 3.9	2.4	2.7 / 1	<u>л</u> л	5.1	0.5
Luxembourg	3.0	3.4	3.1			3.6	3.5	3.9	4.1 4.1	4.5	4.6	0.5
Hungary	12.6	13.8	13.6	14.3	13.9	14.0	13.9	14.7	16.3	15.9	17.6	1.8
Malta	0.9	0.9	1.0	0.9	1.0	0.8	0.7	0.9	0.9	0.9	1.0	0.1
Netherlands	16.4	14.1	22.7	23.5	25.9	34.3	31.5	31.4	35.4	30.1	36.9	3.8
Austria	17.8	19.8	19.0	20.2	18.9	18.9	19.7	20.6	22.9	23.1	24.4	2.5
Poland	-0.2	5.4	65	8.0	95	10.5	94	10.0	11.9	13.6	17.0	17
Portugal	17.9	16.7	18.4	19.4	22.1	21.6	21.5	22.3	22.1	22.4	24.0	2.5
Romania	14 5	14.9	14.8	11.6	8.0	8 1	95	9.1	10.2	12.0	10.7	1 1
Slovenia	3.1	3.5	3.6	3.4	3.6	3.4	3.4	3.4	3.7	3.7	3.8	0.4
Slovakia	12.5	13.4	13.2	12.6	11.7	11.6	12.2	12.6	12.6	13.2	12.5	1.3
Finland	15.5	17.3	18.5	18.3	17.2	18.5	18.9	18.8	22.3	20.8	19.2	2.0
Sweden	19.3	21.2	19.7	19.8	18.1	19.2	19.1	19.7	22.7	20.2	19.9	2.0
United Kingdom	-36.0	-33.3	-34.4	-36.4	-46.9	-39.0	-21.3	-27.9	-14.4	11.4	32.6	3.3
Croatia	2.9	3.2	3.7	4.0	4.4	4.2	4.2	5.0	5.0	5.1	5.2	-
Turkey	36.8	40.9	42.7	43.4	43.3	50.9	46.1	51.0	56.7	58.6	62.0	-
Iceland	0.8	0.9	0.9	0.9	1.0	1.0	0.9	1.0	0.9	1.1	1.1	-
Norway	-156.8	-182.1	-186.9	-180.2	-181.6	-197.8	-202.8	-208.2	-206.7	-209.6	-200.3	-

Source: Eurostat (ten00083)

Net imports are calculated as imports minus exports. Imports represent all entries into the national territory excluding transit quantities (notably via gas and oil pipelines); electrical energy is an exception and its transit is always recorded under foreign trade. Exports similarly cover all quantities exported from the national territory.



#### Table 11.3: Main origin of primary energy imports, EU-27

(% of extra EU-27 imports)

	Crude oil												
	2000	2001	2002	2003	2004	2005							
Russia	21.7	25.3	29.0	30.8	32.8	32.4							
Norway	21.2	20.0	19.3	19.2	18.9	16.8							
Saudi Arabia	12.0	10.6	10.0	11.1	11.2	10.5							
Libya	8.4	8.1	7.3	8.3	8.7	8.7							
Iran	6.5	5.8	4.9	6.3	6.2	6.1							
Kazakhstan	-	-	-	-	3.9	4.5							
Algeria	4.0	3.6	3.4	3.4	3.8	3.9							
Nigeria	4.1	4.7	3.5	4.2	2.6	3.2							
Iraq	5.8	3.8	3.0	1.5	2.2	2.1							
Mexico	1.8	1.7	1.8	1.6	1.5	1.8							
Syria	-	-	3.9	2.3	1.6	1.6							
Others	14.5	16.5	14.1	11.3	6.6	8.3							

	Natural gas												
	2000	2001	2002	2003	2004	2005							
Russia	49.6	48.8	46.1	46.1	44.5	41.9							
Norway	21.7	23.6	26.3	25.4	25.2	22.3							
Algeria	24.1	21.6	21.6	20.3	18.4	19.1							
Nigeria	1.9	2.4	2.2	3.2	3.7	3.7							
Qatar	0.1	0.3	0.9	0.8	1.4	1.7							
Oman	0.0	0.4	0.5	0.2	0.5	0.6							
Libya	0.4	0.4	0.3	0.3	0.4	1.8							
Trinidad and Tobago	0.4	0.3	0.2	0.0	0.0	0.3							
United Arab Emirates	0.1	0.1	0.3	0.1	0.1	0.1							
Egypt	0.0	0.0	0.0	0.0	0.0	1.7							
Malaysia	0.0	0.0	0.0	0.0	0.0	0.1							
Others	1.8	2.3	1.7	3.5	5.7	6.8							

Source: Eurostat (nrg\_123a and nrg\_124a)



**Figure 11.3: Main origin of primary imports of crude oil, EU-27, 2005** (% of extra EU-27 imports, based on tonnes)

Source: Eurostat (nrg\_123a)

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#### Figure 11.4: Main origin of primary imports of natural gas, EU-27, 2005

(% of extra EU-27 imports, based on Terajoules)



Source: Eurostat (nrg\_124a)

#### Table 11.4: Energy dependency rate, EU-27

(% of net imports in gross inland consumption and bunkers, based on tonnes of oil equivalent)

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
All products	43.3	43.9	44.9	46.0	45.0	46.7	47.3	47.4	48.8	50.1	52.3
Hard coal	28.2	29.9	32.5	34.5	36.3	40.3	44.9	44.8	47.0	51.2	53.0
Crude oil	74.4	75.5	75.8	77.0	72.9	75.8	77.2	75.9	78.3	79.7	82.2
Natural gas	43.6	43.5	45.2	45.7	47.9	48.9	47.3	51.1	52.5	54.0	57.7

Source: Eurostat (nrg\_100a, nrg\_101a, nrg\_102a and nrg\_103a)

#### Figure 11.5: Energy dependency rate – all products, 2005

(% of net imports in gross inland consumption and bunkers, based on tonnes of oil equivalent)



Source: Eurostat (nrg\_100a)

#### **11.2 ELECTRICITY GENERATION**

#### **INTRODUCTION**

One of the reasons for the increased dependency rate for natural gas is the shift in fuels used for electricity generation: among the main sources for generation, natural gas has increased at the expense of coal, lignite and oil, probably as a result of lower emissions from gas. Over the same period there has been an increase in the use of renewables, particularly wind turbines, although their contribution remains relatively small.

The use of nuclear power for electricity generation has received renewed attention against a background of increasing dependency on imported primary energy, rising oil and gas prices, and commitments to reduce greenhouse gas emissions, balanced against long-standing concerns about safety and waste from nuclear power plants. Some Member States have recently started construction or have planned new nuclear reactors.

Renewable energy can have an important role to play in reducing  $CO_2$  emissions. A sustainable energy policy is, in part, reliant upon increasing the share of renewable energy, which may at the same time help improve the security of energy supply by reducing the Community's growing dependence on imported energy sources. The European Parliament and Council set indicative targets in 2001 for the promotion of electricity from renewable energy sources, whereby 22 % of the EU-15's gross electricity consumption should be electricity produced from renewables by 2010; the target for the EU-25 is 21 %.

#### **DEFINITIONS AND DATA AVAILABILITY**

Gross electricity generation at the plant level is defined as the electricity measured at the outlet of the main transformers, in other words, the consumption of electricity in the plant auxiliaries and in transformers is included.

The indicator of electricity from renewable energy sources is the ratio between the electricity produced from renewable energy sources and the gross national electricity consumption. Electricity produced from renewable energy sources comprises the electricity generation from hydropower plants (excluding pumping), wind, solar, geothermal and electricity from biomass/wastes.

The indicator on the market share of the largest electricity generator is based on net electricity production, and as such the electricity used by generators for their own consumption is not taken into account.

#### **MAIN FINDINGS**

Total gross electricity generation in the EU-27 was 3.3 million GWh in 2005. Germany and France were the principal electricity generators in the EU-27, with shares of 19 % and 17 % respectively, while the United Kingdom was the only other Member State to report a proportion above 10 %.

The EU-27 has recorded average growth of 1.9 % per annum in its level of electricity generation between 1995 and 2005. Among the Member States, Ireland, Greece, Spain, Luxembourg and Portugal all recorded large increases in electricity generation during this period, as did the Czech Republic, Cyprus and Malta.

The largest share of the EU-27's electricity is generated within nuclear power stations, which accounted for 30 % of the total in 2005. The gradual switch to gas among the fuels used for electricity generation led to a 20 % share of the total for this fuel by 2005, slightly more than that for coal (19 %), and far ahead of lignite (9 %) and oil (4 %). Among the renewable energy sources, by far the most significant is hydropower, which was the source for 10 % of electricity generated in the EU-27 in 2005. The overall share of EU-27 electricity generated from all renewable sources relative to gross national electricity consumption stood at 14 % in 2005.

Several of the Member States had much higher ratios concerning the relative importance of renewables, in particular Austria (58 %), Sweden (54 %), Latvia (48 %), Romania (36 %), Finland (27 %) and Slovenia (24 %), which all generated large proportions of their electricity from hydropower, as well as (in some cases) from biomass. In contrast, the relatively high share of renewables in Denmark (28 %) was mainly due to wind power and to a lesser extent biomass.

One measure that can be used to monitor the success of liberalisation within electricity markets is the market share of the largest generator. While the small island nations of Cyprus and Malta continued to report a complete monopoly, with 100 % of their electricity being generated by the largest generator, the proportion fell to below 25 % in Finland, the United Kingdom and Poland.

Energy

### 11

#### SOURCES

#### **Statistical books**

Panorama of energy: energy statistics to support EU policies and solutions Energy – yearly statistics Energy balance sheets

#### Website data

#### Energy

Main indicators – energy statistics Energy statistics – structural indicators in energy – annual data Market share of the largest generator in the electricity market Share of renewable energy Energy statistics – euro-indicators in energy – monthly data Supply of electricity – monthly data Energy statistics – quantities Energy statistics – supply, transformation, consumption Supply, transformation, consumption – electricity – annual data Supply – electricity – monthly data

**Figure 11.6: Electricity generation by fuel used in power stations, EU-27, 2005** (% of total, based on GWh)



Source: Eurostat (nrg\_105a)



## Table 11.5: Total gross electricity generation (1.000 CWb)

(1 000 GWh)

												Share in
												2005
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	(%)
EU-27	2 733	2 830	2 841	2 910	2 939	3 022	3 108	3 117	3 2 1 6	3 289	3 310	100.0
Euro area	1 822	1 883	1 902	1 946	1 985	2 056	2 105	2 121	2 197	2 260	2 268	68.5
Belgium	74	76	79	83	85	84	80	82	85	85	87	2.6
Bulgaria	42	43	43	42	38	41	44	43	43	42	44	1.3
Czech Republic	61	64	65	65	65	73	75	76	83	84	83	2.5
Denmark	37	54	44	41	39	36	38	39	46	40	36	1.1
Germany	536	555	552	557	555	572	586	572	599	617	620	18.7
Estonia	9	9	9	9	8	9	8	9	10	10	10	0.3
Ireland	18	19	20	21	22	24	25	25	25	26	25	0.8
Greece	42	43	44	46	50	54	54	55	58	59	60	1.8
Spain	167	174	190	195	209	225	238	246	263	280	294	8.9
France	494	513	505	511	524	541	550	559	567	574	575	17.4
Italy	241	244	251	260	266	277	279	284	294	303	304	9.2
Cyprus	2	3	3	3	3	3	4	4	4	4	4	0.1
Latvia	4	3	5	6	4	4	4	4	4	5	5	0.1
Lithuania	14	17	15	18	14	11	15	18	19	19	15	0.4
Luxembourg	1	1	1	1	1	1	1	4	4	4	4	0.1
Hungary	34	35	35	37	38	35	36	36	34	34	36	1.1
Malta	2	2	2	2	2	2	2	2	2	2	2	0.1
Netherlands	81	85	87	91	87	90	94	96	97	101	100	3.0
Austria	57	55	57	57	61	62	62	62	60	64	66	2.0
Poland	139	143	143	143	142	145	146	144	152	154	157	4.7
Portugal	33	35	34	39	43	44	47	46	47	45	47	1.4
Romania	59	61	57	53	51	52	54	55	57	56	59	1.8
Slovenia	13	13	13	14	13	14	14	15	14	15	15	0.5
Slovakia	26	25	25	25	28	31	32	32	31	31	31	1.0
Finland	64	69	69	70	69	70	74	75	84	86	71	2.1
Sweden	148	141	149	158	155	146	162	147	135	152	158	4.8
United Kingdom	334	347	345	362	368	377	385	387	398	395	401	12.1
Croatia	9	11	10	11	12	11	12	12	13	13	12	-
Turkey	86	95	103	111	116	125	123	129	141	151	162	-
Iceland	5	5	6	6	7	8	8	8	9	9	9	-
Norway	123	105	112	117	123	143	122	131	107	111	138	-

Source: Eurostat (ten00087)

Total gross electricity generation covers gross electricity generation in all types of power plants. The gross electricity generation at the plant level is defined as the electricity measured at the outlet of the main transformers, i.e. the consumption of electricity in the plant auxiliaries and in transformers are included.

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### Figure 11.7: Proportion of electricity generated from renewable energy sources (% of gross electricity consumption)

(1) Indicative targets for 2010 are not available for Croatia, Turkey, Iceland and Norway.

#### Source: Eurostat (tsien024)

This indicator is the ratio between the electricity produced from renewable energy sources and the gross national electricity consumption for a given calendar year. It measures the contribution of electricity produced from renewable energy sources to the national electricity consumption. Electricity produced from renewable energy sources comprises the electricity generation from hydro plants (excluding pumping), wind, solar, geothermal and electricity from biomass/wastes. Gross national electricity consumption comprises the total gross national electricity generation from all fuels (including autoproduction), plus electricity imports, minus exports.



### **Figure 11.8: Market share of the largest generator in the electricity market, 2005** (% of total generation)

- (1) 2004.
- (2) 2001.(3) Not available.

Source: Eurostat (tsier031)

The indicator shows the market share of the largest electricity generator in each country. To calculate this indicator, the total net electricity production during each reference year is taken into account. It means that the electricity used by generators for their own consumption is not taken into account. Then, the net production of each generator during the same year is considered in order to calculate the corresponding market shares. Only the largest market share is reported under this indicator.

#### **11.3 CONSUMPTION OF ENERGY**

#### **INTRODUCTION**

As well as supply-side policies, a number of EU initiatives have been aimed at reducing energy demand, in an attempt to decouple it from the growth in economic activity. Several instruments and implementing measures exist in this field, including the promotion of co-generation, the energy performance of buildings (whether private or public buildings), and energy labelling of domestic appliances.

In October 2006 the European Commission adopted an action plan for energy efficiency (COM(2006) 545)<sup>(106)</sup> which was supported by the Council in November 2006. The plan proposes to cut energy consumption by 20 % by 2020, and in so doing simultaneously address the issues of import dependency, energy-related emissions, and energy costs.

Providing transport for goods and passengers, whether for ownuse or for hire and reward, consumes significant amounts of energy. There are many factors that impact on energy use and emissions in transport, for example, overall economic growth, the efficiency of individual transport modes, the combination of different transport modes, alternative fuels, and lifestyle choices.

In 2001 the European Commission adopted a policy to promote biofuels for transport, and a number of targets were set. In March 2007 the Council supported increasing the level of biofuels in transport fuel to 10 % by 2020.

#### **DEFINITIONS AND DATA AVAILABILITY**

Gross inland consumption expresses the total energy needs of a country. It covers consumption by the energy branch itself, distribution and transformation losses, and final energy consumption.

Energy available for final consumption is the energy placed at the disposal of consumers including non-energy consumption, for example, the use of some energy products as raw materials by the chemical industry.

Final energy consumption includes the consumption by all users except the energy branch itself, and includes, for example, energy consumption by agriculture, industry, services and households, as well as energy consumption for transport.

Energy intensity is measured as the ratio between gross inland consumption of energy and gross domestic product (GDP) at constant prices (1995). The ratio is expressed as kgoe (kilogram of oil equivalent) per thousand euro. Note that if an economy becomes more efficient in its use of energy, and its GDP remains constant, then the ratio for this indicator should fall; this energy intensity ratio is also considered as an indicator of energy efficiency.

#### MAIN FINDINGS

Gross inland consumption of energy within the EU-27 in 2005 was 1 811 million toe. The gross inland consumption of each Member State depends on the structure of its energy system and the availability of natural resources. This is true not only for conventional fuels and nuclear power, but also for renewables. For example, the use of solar power is particularly high in the Mediterranean countries such as Cyprus, while the use of biomass is high in countries with large forest areas, for example, Slovenia, Sweden and Latvia. In the same vein, hydropower is particularly important in mountainous countries with ample water supplies, such as Austria or Sweden.

Final energy consumption in the EU-27 remained roughly stable at 1 169 million toe in 2005. As such, over the ten years from 1995 final energy consumption increased on average by just 0.9 % per annum. However, an analysis by main type of energy shows greater rates of change, most notably a fall in the consumption of solid fuels (-4.4 % per annum) and an increase in the consumption of renewables (2.8 % per annum), electricity (2.1 %), gas (1.6 %) and crude oil and petroleum products (0.8 %).

The most important end-use of energy is for transport (private and public use), with 31 % of final energy consumption, just ahead of industry (28 %) and households (27 %). The vast majority of energy consumption for transport purposes is for road (82 % of the total) and air transport (14 %). Whereas energy consumption for inland waterways fell between 1995 and 2005 (mainly between 1998 and 2001), and remained stable for rail transport, road transport recorded an average increase in energy consumption of 1.8 % per annum, while energy consumption for air transport increased on average by 3.9 % per annum, despite the downturn in air transport activities in 2001 and 2002.

In 2007 a minimum target was set that biofuels should account for 10 % of transport petrol and diesel by 2020. Data for 2005 show that biofuels made the biggest contribution to transport consumption of fuels in Germany (3.1 %) and Sweden (2.4 %), and these were the only Member States (for which data are available) where the share of biofuels was above the EU-27 average of 0.9 %.

The most energy-efficient countries in the EU-27 in 2005, according to the indicator of energy intensity, were Denmark, Ireland and Austria. The most energy-intensive countries were Bulgaria and Romania, both using more than ten times as much energy as Denmark to produce a unit of GDP. It should be noted that the economic structure of an economy plays an important role in determining energy intensity, as post-industrial economies with large service sectors will, a priori, display low levels of energy intensity compared with economics that have a considerable proportion of their economic activity within industrial activities.

<sup>(106)</sup> For more information: http://ec.europa.eu/energy/ action\_plan\_energy\_efficiency/index\_en.htm.

Energy

SOURCES Statistical books Panorama of energy: energy statistics to support EU policies and solutions Energy – yearly statistics Energy balance sheets Website data

#### Energy

Main indicators – energy statistics Energy statistics – structural indicators in energy – annual data Energy intensity of the economy Energy statistics – quantities Energy statistics – supply, transformation, consumption



## Figure 11.9: Share of renewables in gross inland energy consumption, 2005 (%)

(1) Not available.

Source: Eurostat (tsdcc110)

This indicator is defined as the percentage share of renewables in gross inland energy consumption. It is split into the major energy sources.



#### Table 11.6: Gross inland consumption of energy

(million tonnes of oil equivalent)

												Share in FII-27
												2005
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	(%)
EU-27	1 650	1 708	1 693	1 710	1 698	1 712	1 752	1 745	1 787	1 808	1 811	100.0
Euro area	1 085	1 1 2 1	1 1 2 2	1 1 4 4	1 1 4 9	1 165	1 194	1 193	1 222	1 239	1 241	68.5
Belgium	50	54	55	56	57	57	56	53	56	55	55	3.0
Bulgaria	23	23	20	20	18	19	19	19	19	19	20	1.1
Czech Republic	41	42	43	41	38	40	41	41	44	45	45	2.5
Denmark	20	23	21	21	20	20	20	20	21	20	20	1.1
Germany	338	349	346	344	338	340	352	345	347	348	345	19.1
Estonia	5	6	6	5	5	5	5	5	6	6	6	0.3
Ireland	11	12	12	13	14	14	15	15	15	16	15	0.8
Greece	24	25	26	27	27	28	29	30	30	31	31	1.7
Spain	102	101	106	112	118	123	126	130	134	140	143	7.9
France	240	254	247	255	254	259	267	267	271	274	275	15.2
Italy	161	161	164	168	171	173	173	173	183	185	187	10.3
Cyprus	2	2	2	2	2	2	2	2	3	2	2	0.1
Latvia	5	5	5	5	4	4	4	4	4	5	5	0.3
Lithuania	9	9	9	9	8	7	8	9	9	9	9	0.5
Luxembourg	3	3	3	3	3	4	4	4	4	5	5	0.3
Hungary	26	26	26	26	25	25	25	26	27	26	28	1.5
Malta	1	1	1	1	1	1	1	1	1	1	1	0.1
Netherlands	73	76	75	75	75	76	78	78	81	82	81	4.5
Austria	27	28	28	29	29	29	30	30	33	33	34	1.9
Poland	100	104	102	96	94	91	91	89	92	93	94	5.2
Portugal	20	20	21	22	24	24	25	26	25	26	27	1.5
Romania	47	48	45	41	37	37	37	38	40	40	39	2.2
Slovenia	6	6	7	6	6	6	7	7	7	7	7	0.4
Slovakia	18	18	18	18	17	17	19	19	19	19	19	1.1
Finland	29	31	33	33	33	32	33	35	37	37	35	1.9
Sweden	50	52	50	51	50	48	51	51	50	53	52	2.8
United Kingdom	218	228	223	230	229	231	232	226	230	232	232	12.8
Croatia	7	7	8	8	8	8	8	8	9	9	9	-
Turkey	62	67	71	72	71	77	71	75	79	82	85	-
Iceland	2	2	3	3	3	3	3	3	3	3	4	-
Norway	24	23	24	26	27	26	27	24	27	28	32	-

Source: Eurostat (ten00086)

Gross inland consumption is defined as primary production plus imports, recovered products and stock change, less exports and fuel supply to maritime bunkers (for seagoing ships of all flags). It therefore reflects the energy necessary to satisfy inland consumption within the limits of national territory.

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#### Table 11.7: Final energy consumption

(million tonnes of oil equivalent)

												Share in EU-27, 2005
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	(%)
EU-27	1 066	1112	1 100	1107	1 102	1108	1135	1123	1156	11/1	1169	100.0
Euro area	/10	/39	/35	/50	/53	/61	/85	///	801	811	809	69.2
Belgium	34	36	37	37	37	37	37	36	38	37	36	3.1
Bulgaria	11	12	9	10	9	9	9	9	9	9	10	0.8
Czech Republic	24	26	26	24	22	22	23	23	25	26	26	2.2
Denmark	15	15	15	15	15	15	15	15	15	15	15	1.3
Germany	222	231	226	224	220	218	224	219	223	222	218	18.6
Estonia	2	3	3	3	2	2	3	3	3	3	3	0.2
Ireland	8	8	9	9	10	11	11	11	11	12	12	1.1
Greece	16	17	17	18	18	19	19	19	20	20	21	1.8
Spain	64	65	68	72	74	79	83	85	90	94	97	8.3
France	141	149	146	151	151	152	158	154	158	159	158	13.5
Italy	114	114	115	119	123	123	126	125	130	133	134	11.5
Cyprus	1	1	1	2	2	2	2	2	2	2	2	0.1
Latvia	4	4	4	4	3	3	4	4	4	4	4	0.3
Lithuania	5	4	5	4	4	4	4	4	4	4	4	0.4
Luxembourg	3	3	3	3	3	4	4	4	4	4	4	0.4
Hungary	16	16	16	16	16	16	16	17	18	17	18	1.5
Malta	0	0	1	0	0	0	0	0	0	0	1	0.0
Netherlands	48	52	49	50	49	50	51	51	52	53	52	4.4
Austria	21	23	22	23	23	23	25	25	26	26	27	2.3
Poland	63	66	65	60	58	55	56	54	56	57	57	4.9
Portugal	13	14	15	15	16	17	18	18	18	20	19	1.6
Romania	27	30	29	26	22	22	23	23	24	26	25	2.1
Slovenia	4	4	4	4	4	4	5	5	5	5	5	0.4
Slovakia	11	11	11	11	11	11	11	11	11	11	11	0.9
Finland	22	22	24	24	25	24	24	25	26	26	25	2.2
Sweden	34	35	34	34	34	34	33	33	34	34	34	2.9
United Kingdom	142	150	147	148	151	152	153	148	150	152	152	13.0
Croatia	4	5	5	5	5	5	5	6	6	6	6	-
Turkey	45	49	50	50	49	55	50	54	58	59	62	-
Iceland	2	2	2	2	2	2	2	2	2	2	2	-
Norway	17	18	17	18	19	18	19	18	18	18	19	-

Source: Eurostat (ten00095)

Final energy consumption includes all energy delivered to the final consumer's door (in industry, transport, households and other sectors) for all energy uses. It excludes deliveries for transformation and/or own use of the energy producing industries, as well as network losses.

#### Figure 11.10: Final energy consumption, EU-27

(million tonnes of oil equivalent)



Source: Eurostat (nrg\_102a, nrg\_103a, nrg\_105a, nrg\_101a, nrg\_1071a and nrg\_1072a)



Figure 11.11: Share of biofuels in total fuel consumption of transport, 2005 (%)

(1) Provisional.

(2) Not available.

Source: Eurostat (nrg\_1073a and nrg\_100a)

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#### Figure 11.12: Final energy consumption, EU-27, 2005 (1)

(% of total, based on tonnes of oil equivalent)



(1) Provisional; figures do not sum to 100 % due to rounding.

#### Source: Eurostat (tsdpc320)

This indicator expresses the sum of the energy supplied to the final consumer's door for all energy uses. It is the sum of final energy consumption in industry, transport, households, services, agriculture, etc. Final energy consumption in industry covers the consumption in all industrial sectors with the exception of the energy sector. The fuel quantities transformed in the electrical power stations of industrial autoproducers and the quantities of coke transformed into blast-furnace gas are not part of the overall industrial consumption but of the transformation sector. Final energy consumption in transport covers the consumption in all types of transportation, i.e., rail, road, air transport and inland navigation. Final energy consumption in households, services, etc. covers quantities consumed by private households, commerce, public administration, services, agriculture and fisheries.





(1) Figures do not sum to 100 % due to rounding.

Source: Eurostat (tsdtr100)

This indicator covers the consumption of energy in all modes of transport, with the exception of maritime and pipelines.



#### Figure 11.14: Energy consumption by transport mode, EU-27

(1995=100)



Source: Eurostat (tsdtr100)



# Figure 11.15: Energy intensity of the economy, 2005 (kgoe per EUR 1 000 of GDP)

(1) 2004.

Source: Eurostat (tsien021)

This indicator is the ratio between the gross inland consumption of energy and the gross domestic product (GDP) for a given calendar year. It measures the energy consumption of an economy and its overall energy efficiency. The gross inland consumption of energy is calculated as the sum of the gross inland consumption of five energy types: coal, electricity, oil, natural gas and renewable energy sources. The GDP figures are taken at constant prices to avoid the impact of the inflation, base year 1995 (ESA95). The energy intensity ratio is determined by dividing the gross inland consumption by the GDP. Since gross inland consumption is measured in kgoe (kilogram of oil equivalent) and GDP in EUR 1 000, this ratio is measured in kgoe per EUR 1 000.

#### **11.4 ENERGY PRICES**

#### **INTRODUCTION**

Ever increasing energy demand, the global geopolitical situation and severe weather conditions have induced rapid increases in energy prices. Crude oil prices have increased significantly since 2004. High oil prices have an impact on the price of substitutes, notably natural gas, and also feed into the prices of products from other sectors that are heavy users of energy or of energy products as raw materials.

The price and reliability of energy supplies, and of electricity in particular, is a key element of a country's energy supply, and particularly important with respect to international competitiveness, as electricity usually represents a high proportion of total energy costs to households and businesses. In contrast to the price of fossil fuels, which are usually traded on global markets with relatively uniform prices, there is a particularly wide range of prices within the EU for electricity. The price of electricity is, to some degree, influenced by the price of primary fuels and more recently also by the cost of carbon dioxide (CO<sub>2</sub>) emission certificates – in the context of reducing greenhouse gas emissions to prevent global warming, and it is likely that resulting higher prices for electricity will provide an incentive for greater energy efficiency and lower levels of carbon emissions.

There have been moves within the EU to liberalise the electricity and gas market since the second half of the 1990s. Directives of the European Parliament and the Council adopted in 2003 established common rules for the internal markets in electricity and natural gas, and set deadlines for market opening, allowing customers to choose their supplier: 1 July 2004 for all business customers and 1 July 2007 for all consumers including households. Certain countries anticipated the liberalisation process, while others were slower in adopting the necessary measures. Nevertheless, significant barriers to entry remain in electricity and natural gas markets, as witnessed in many Member States, which are still dominated by (near) monopoly suppliers. In September 2007, the European Commission adopted a third package of legislative proposals <sup>(107</sup>) aimed at ensuring a real and effective choice of supplier and benefits for customers.

#### **DEFINITIONS AND DATA AVAILABILITY**

Eurostat collects a number of price statistics, of which a selection is presented here. Energy prices are currently collected at a national level, whereas in the past they were collected at a regional level or, in some cases, even for individual cities. The reporting countries are generally the 27 Member States, Croatia, as well as Norway (only electricity prices). Time-series for prices start in 1985, with data for the Member States that joined the EU in 2004 and 2007 generally available from 2004 onwards.

Statistics on electricity and natural gas prices are collected on a half-yearly basis – they are shown here as a snapshot as of 1 January of each year. Electricity prices for households are normally shown including taxes and value added tax (VAT), as these are generally the end price paid by the consumer at point of use. For the purposes of comparison industrial gas and electricity prices are also shown here including all taxes, although in practise enterprises can deduct VAT paid.

For automotive fuels the prices shown are at the pump prices of premium unleaded gasoline (petrol) 95 RON and diesel oil. Eurostat also publishes price information on heating oil and residual fuel oil.

#### **MAIN FINDINGS**

Electricity and gas tariffs vary from one supplier to another. They may be the result of negotiated contracts, especially for large industrial consumers. For smaller consumers they are generally set according to the amount of electricity or gas consumed, and a number of other characteristics that vary from one country to another; most tariffs also include some form of fixed charge. Therefore, there is no single price for electricity or gas in any EU country. In order to compare prices over time and between countries, two 'standard consumers' are presented, one representing domestic consumers and the other industrial consumers. All electricity price data are given in euro per 100 kWh and correspond to prices applicable on 1 January of the reference year; a similar set of criteria are used for gas prices, except the unit changes to euro per GJ.

<sup>(107)</sup> For more information: http://ec.europa.eu/energy/electricity/ package\_2007/index\_en.htm.

Electricity and gas prices have increased strongly in recent years, particularly gas prices. Between 2005 and 2007 prices increased for households and industrial users in nearly all Member States for both types of energy, with only Latvia recording significantly lower electricity prices for households. In percentage terms, price increases for households were particularly high in Romania and the United Kingdom. In 2007, the price of electricity for households was nearly four times higher in the most expensive Member State, Denmark, than in the cheapest Member States, namely Bulgaria and Latvia. The range of household prices for gas was even greater, with the highest prices again in Denmark, more than five times the lowest, in Estonia; household gas prices were also significantly higher in Sweden than in other Member States. A large part of the price differences between the Member States can be attributed to taxes, as the range in prices excluding taxes is less than the range when including taxes.

As with electricity and gas prices, petrol and diesel prices have also risen. The highest prices for unleaded petrol in the EU during the first half of 2007 were recorded in the Netherlands and the United Kingdom, while the United Kingdom had by some margin the most expensive pump price for diesel. The lowest prices for petrol and diesel were generally in the Baltic Member States and Cyprus, while Luxembourg also recorded low diesel prices.

The contribution of taxes to petrol prices was considerable in all of the Member States, accounting for more than 70 % of the total price in both the United Kingdom and Germany, and the same two Member States also recorded the highest percentage of tax on diesel, more than 60 % of the price. The only Member States where taxes accounted for less than half the price of petrol were Cyprus and Malta and these Member States also had the lowest percentage tax rates on diesel.

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# Table 11.8: Electricity and gas prices (including taxes), as of 1 January $_{(\mbox{EUR})}$

	Electricity prices (per 100 kWh)						Gas prices (per GJ)						
	Но	ousehol	ds	I	ndustry	/	Но	ousehol	ds	I	ndustry	/	
	2005	2006	2007	2005	2006	2007	2005	2006	2007	2005	2006	2007	
EU-27	13.36	13.97	15.28	8.75	9.75	10.70	11.21	12.92	14.95	7.54	10.03	10.99	
Euro area (1)	14.70	15.10	16.05	9.49	10.27	11.23	13.36	15.33	16.98	7.93	10.28	11.13	
Belgium	14.81	14.42	15.81	9.38	11.72	11.73	11.16	13.50	12.89	6.43	8.61	8.47	
Bulgaria	6.44	6.60	6.60	5.16	5.52	5.62	6.73	7.70	8.83	4.53	5.40	6.26	
Czech Republic	8.68	9.85	10.67	7.13	8.70	9.30	7.49	10.03	9.45	6.08	8.74	7.81	
Denmark	22.78	23.62	25.79	10.86	12.06	10.74	28.44	29.82	30.84	8.49	8.58	8.16	
Germany	17.85	18.32	19.49	10.47	11.53	12.72	13.56	15.98	18.45	10.29	13.44	15.79	
Estonia	6.78	7.31	7.50	5.57	6.02	6.30	4.63	4.63	5.89	3.25	3.36	4.36	
Ireland	14.36	14.90	16.62	10.56	11.48	12.77	9.98	12.51	16.73	:	:	:	
Greece	6.88	7.01	7.20	6.97	7.28	7.61	:	:	:	:	:	:	
Spain	10.97	11.47	12.25	8.36	8.79	9.87	11.90	13.63	14.23	5.43	8.40	8.21	
France	11.94	11.94	12.11	6.91	6.91	7.01	10.57	12.72	13.46	7.58	9.78	9.26	
Italy	19.70	21.08	23.29	12.02	13.29	15.26	15.34	16.50	18.34	7.30	8.41	9.88	
Cyprus	10.74	14.31	13.76	9.27	13.04	12.26	-	-	-	-	-	-	
Latvia	8.28	8.29	6.88	4.82	4.82	5.23	4.54	5.34	7.50	4.11	4.77	6.24	
Lithuania	7.18	7.18	7.76	5.88	5.88	6.46	5.41	6.24	7.04	4.25	5.26	7.10	
Luxembourg	14.78	16.03	16.84	9.02	9.49	10.54	8.14	10.33	11.52	7.36	9.55	10.45	
Hungary	10.64	10.75	12.22	8.86	9.13	9.84	5.10	5.28	7.16	6.94	9.40	11.64	
Malta	7.64	9.49	9.87	7.41	7.46	9.42	-	-	-	-	-	-	
Netherlands	19.55	20.87	21.80	10.70	11.38	12.25	15.17	16.92	18.42	8.90	11.15	11.59	
Austria	14.13	13.40	15.45	9.92	10.35	11.43	13.36	15.65	15.99	9.83	12.99	13.27	
Poland	10.64	11.90	11.84	6.78	7.27	7.23	7.55	9.46	10.69	6.47	8.25	9.20	
Portugal	13.81	14.10	15.00	7.49	8.58	9.03	12.34	14.52	13.88	6.33	8.01	8.15	
Romania	7.79	9.43	10.17	9.15	9.20	10.02	4.79	7.66	9.05	4.38	7.42	8.71	
Slovenia	10.33	10.49	10.64	7.33	7.81	8.90	10.33	12.99	13.86	7.07	9.55	9.75	
Slovakia	13.38	14.48	15.37	8.37	9.20	11.11	8.14	10.88	11.48	6.04	9.12	9.52	
Finland	10.57	10.78	11.60	6.99	6.86	6.89	:	:	:	8.43	9.51	9.87	
Sweden	13.97	14.35	17.14	4.68	5.93	6.31	22.18	25.95	26.58	9.20	12.26	12.21	
United Kingdom	8.77	10.20	13.16	6.96	9.66	11.44	7.26	8.24	11.76	7.17	10.82	12.75	
Croatia	8.48	9.22	9.23	6.76	7.32	7.33	7.99	8.18	8.18	8.10	8.29	8.30	
Norway	15.71	15.33	18.56	8.12	8.06	10.58	:	:	:	:	:	:	

(1) EA-12.

Source: Eurostat (nrg\_pc\_204, nrg\_pc\_205, nrg\_pc\_202 and nrg\_pc\_203)







(1) EA-12. Source: Eurostat (nrg\_pc\_204)



Figure 11.17: Gas prices (including taxes) for households, as of 1 January 2007 (EUR per GJ)

(1) EA-12.

Source: Eurostat (nrg\_pc\_202)

Eneray



# Figure 11.18: Price of premium unleaded gasoline 95 RON, first half of 2007 (EUR per litre)

(1) Not available.

Source: Eurostat (ten00102) and Directorate-General for Energy and Transport

This indicator presents the average unleaded gasoline (Euro-super 95) consumer prices at the pump. The prices are supplied to the Directorate-General for Energy and Transport of the European Commission by the Member States as being the most frequently encountered at the 15th of each month.

#### Figure 11.19: Price of diesel oil, first half of 2007

(EUR per litre)



(1) Not available.

Source: Eurostat (ten00103) and Directorate-General for Energy and Transport

This indicator presents the average automotive diesel oil consumer prices at the pump. The prices are supplied to the Directorate-General for Energy and Transport of the European Commission by the Member States as being the most frequently encountered at the 15th of each month.

# Science and technology





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Research and development (R & D) is often considered as a driving force behind economic growth, job creation, innovation, and the subsequent increasing quality of products. The seventh framework programme for research and technological development (FP7) is the EU's main instrument for funding research in Europe <sup>(108)</sup>; it runs from 2007-2013. The main aims of FP7 are to increase Europe's growth, competitiveness and employment. This is done through a number of initiatives and existing programmes including, the competitiveness and innovation framework programme (109), educational and training programmes, as well as regional development through structural and cohesion funds. The FP7 is also a key pillar of the European Research Area <sup>(110)</sup>, where the European Commission conducted a debate during 2007 on what should be done to create a unified and attractive research area to meet the needs of business, the scientific community and citizens. FP7 is made up of four broad programmes (cooperation, ideas, people and capacities) and a fifth specific programme on nuclear research. The ten thematic areas that are covered by FP7 cooperation include: health, food, agriculture and biotechnology, information and communication technologies, nanosciences, nanotechnologies, materials and new production technologies, energy, environment, transport, socioeconomic sciences and humanities, space and security.

The European Atomic Energy Community (Euratom) adopts a separate framework programme for nuclear research and training activities, with the current programme spanning the period 2007-2011 <sup>(111)</sup>. There are two associated specific programmes covering the Joint Research Centre's direct actions and nuclear research and training indirect actions in the fields of fusion energy research and nuclear fission and radiation protection.

Information technology is developing day by day. However, the information society, a society whose wealth and growth are based on its ability to handle information efficiently, is not only a technical phenomenon, it is also transforming the way in which we communicate, do business, and live everyday lives. It holds enormous potential and opportunities for Europe's economy and societies. The i2010 initiative <sup>(112)</sup> is the European Commission's strategic policy framework in this area, laying out broad policy guidelines for the information society and the media in the years up to 2010. It is designed to promote an open and competitive digital economy, research into information and communication technologies, as well as their application to improve social inclusion, public services and the quality of life.

<sup>(108)</sup> For more information: http://cordis.europa.eu/fp7/home\_en.html.

<sup>(109)</sup> For more information: http://cordis.europa.eu/innovation/en/policy/cip.htm.

<sup>(110)</sup> For more information: http://ec.europa.eu/research/era/index\_en.html.

<sup>(112)</sup> For more information: http://ec.europa.eu/information\_society/ eeurope/i2010/index\_en.htm.

#### Eurostat data in this domain:

Science and technology

Research and development Community innovation survey

High-tech industry and knowledge-intensive services

Patent statistics

Human resources in science & technology

Information society statistics

#### **12.1 PERSONNEL**

#### **INTRODUCTION**

Researchers are professionals engaged in the conception or creation of new knowledge, products, processes, methods and systems, and in the management of the projects concerned.

The European Commission has placed renewed emphasis on the conversion of Europe's scientific expertise into marketable products and services, while also focusing on improving the mobility of European researchers, encouraging networks between researchers from different Member States, and promoting R & D as an occupation for women.

This latter point has been one particular area of concern for policy makers who consider that women's intellectual potential, and their contribution to society are not being fully capitalised upon. In particular, their participation is low in certain branches of the natural sciences, engineering and technology, which are considered key R & D areas. Furthermore, women are also underrepresented in the business enterprise sector where the EU's R & D is most highly intensive, as well as in senior academic grades and influential positions <sup>(113)</sup>.

#### **DEFINITION AND DATA AVAILABILITY**

Data on scientific and technical R & D personnel provide indicators for useful international comparisons of human resources devoted to R & D. For statistical purposes, indicators on R & D personnel are compiled by gender in terms of persons as head counts (HC), as full-time equivalents (FTEs), or person-years.

Eurostat also compiles a number of series in relation to stocks of human resources in science and technology (HRST) with breakdowns available according to gender, age, region, sector of activity, occupation, educational attainment and fields of education (although it should be noted that not all combinations are possible). This information is derived from the Labour Force Survey (LFS). HRST indicators are presented as absolute figures and as shares of the economically active population in the age group 25-64. HRST are defined as persons having either successfully completed tertiary education, or persons who are employed in an occupation where such an education is normally required. Data on employment in high-technology and knowledgeintensive sectors and related derived indicators are also built-up using data from the LFS; these data are available both at the national and regional level.

Education statistics are based on the International Standard Classification of Education (ISCED). The basic unit of classification in ISCED-97 is the educational programme. The number of PhD graduates is measured by graduates from ISCED level 6. Indicators on the number of PhD students provide an idea of the extent to which countries will have researchers at the highest level. The number of graduates refers to new graduates in the reference year, not the total number available in the labour market in that year. The term PhD is defined in terms of general tertiary programmes which lead to the award of an advanced research degree, e.g. a doctorate in economics. The programmes are therefore devoted to advanced study and original research and are not based on course-work alone. They usually require 3-5 years of research and course work, generally after a master's degree.

The indicator of tertiary graduates in science and technology includes new graduates from all institutions completing graduate and post graduate studies in science and technology fields, and is calculated as a percentage of all graduates.

#### **MAIN FINDINGS**

The number of researchers in the EU-25 regularly increased in recent years. There were approximately 1.2 million researchers in full-time equivalents in the EU-25 in 2004, which marked a 13 % increase on the level from 2000. According to a gender breakdown, men accounted for the majority of researchers in all sectors, and represented about three quarters of the total R & D workforce. There was almost no change in the proportion of male and female researchers during the period 2000-2004.

The gender split among PhD students in 2005 was generally much more balanced; a small majority of PhD students were female in the Baltic Member States, Portugal, Italy, Finland and Cyprus, and women accounted for at least 40 % of PhD students in all of the other Member States for which data are available, with the exception of the Czech Republic and Malta.

<sup>(113)</sup> For more information: http://ec.europa.eu/research/ science-society/index.cfm?fuseaction=public.topic&id=27.



The Nordic countries reported the highest proportion of R & D personnel as a share of the total labour force, usually twice the EU-25 average, which stood at 1.4 % in 2005.

Germany had a relatively high proportion of total employment within high- and medium-high-technology sectors, while in the services sector, Sweden, Denmark, the United Kingdom and the Netherlands had the highest shares of total employment in knowledge-intensive services (KIS) in 2006 (for definitions of the composition of these sectors, see the glossary at the end of the publication).

#### SOURCES

#### Statistical books Science, technology and innovation in Europe

#### **Pocketbooks**

Science, technology and innovation in Europe – 2007 edition

#### Website data

#### **Research and development**

Statistics on research and development R&D personnel at national and regional level

#### Human resources in science & technology

Stocks of HRST at the national and regional levels; unemployment for HRST and non-HRST Flows of HRST at the national level: education inflows and job-to-job mobility Data on HRST and mobility derived from the 2001 round of population and housing censuses

# 2 Science and technology



### **Figure 12.1: Researchers in all institutional sectors, EU-25 (1)** (1 000 FTE)

(1) Estimates.

Source: Eurostat (tsc00004 and tsc00006)

Researchers are professionals engaged in the conception or creation of new knowledge, products, processes, methods and systems, and in the management of the projects concerned. FTE (Full-time equivalent) corresponds to one year's work by one person (for example, a person who devotes 40 % of his time to R&D is counted as 0.4 FTE.



Figure 12.2: Gender breakdown of researchers in all institutional sectors, 2004 (% of total researchers)

- (1) Estimates.
- (2) 2003.
- (3) Break in series.
- (4) Not available.(5) 2002.

(5) 2002.

Source: Eurostat (tsc00006)
6 <del>6</del> .	anal sastar	2005 (1)		Science	e and techr	nology	<b>201</b> 12
<u>s</u>	Busine enterprise	ss sector	Governm secto	nent	Highe education	r sector	
-)	(1 000	(% of	(1 000	(% of	(1 000	(% of	
=) _	<b>FIE)</b>		150.6	12.1			
2 0	599.1 425 2	49.2 E1.0	139.0 117 E	13.1	445.0	30.0 34.0	
0	425.5	51.0	2.2	7.0	203.4	54.0 11.2	
1	10.5	11 5	6.1	60.4	75.2	41.Z 25.0	
י. ר	1.2	11.5	6.1	25.2	2.0	20.9	
2	10.4	42.0	2.0	2J.J 7 2	7.0	20 <i>1</i>	
2 1	162.0	60.4	2.0 40 1	15.0	66.0	29.4	
' २	0.9	26.5	0.5	14.2	19	57.2	
2	6.4	57.4	0.5	4.6	4.2	38.0	
0	43	25.4	23	13.6	10.3	60.2	
8	35.5	32.4	20.2	18.4	53.8	49.0	
.1	106.4	53.2	24.8	12.4	65.5	32.7	
.0	27.6	38.3	14.2	19.8	28.2	39.2	
6	0.1	19.0	0.1	17.5	0.4	59.5	
.3	0.5	14.3	0.6	17.9	2.2	67.8	
6	0.7	94	1.8	23.6	5 1	67.0	

Table 12.1: Researchers, by instit

	Total - all sectors	Busine enterprise	ss sector	Governm sector	ent	Higher education sector	
		(1.000	(% of	(1 000	(% of	(1 000	(% of
	(1 000 FTE)	(1000 FTE)	total)	(1000 FTE)	total)	(1000 FTE)	total)
EU-25 (2)	1 217.5	599.1	49.2	159.6	13.1	445.8	36.6
Euro area (3)	834.0	425.3	51.0	117.5	14.1	283.4	34.0
Belgium	32.0	16.3	50.9	2.2	7.0	13.2	41.2
Bulgaria	10.1	1.2	11.5	6.1	60.4	2.6	25.9
Czech Republic	24.2	10.4	42.8	6.1	25.3	7.6	31.3
Denmark	28.2	17.7	62.7	2.0	7.2	8.3	29.4
Germany	268.1	162.0	60.4	40.1	15.0	66.0	24.6
Estonia	3.3	0.9	26.5	0.5	14.2	1.9	57.2
Ireland	11.2	6.4	57.4	0.5	4.6	4.2	38.0
Greece	17.0	4.3	25.4	2.3	13.6	10.3	60.2
Spain	109.8	35.5	32.4	20.2	18.4	53.8	49.0
France (2)	200.1	106.4	53.2	24.8	12.4	65.5	32.7
Italy (2)	72.0	27.6	38.3	14.2	19.8	28.2	39.2
Cyprus	0.6	0.1	19.0	0.1	17.5	0.4	59.5
Latvia	3.3	0.5	14.3	0.6	17.9	2.2	67.8
Lithuania	7.6	0.7	9.4	1.8	23.6	5.1	67.0
Luxembourg	2.1	1.5	73.3	0.4	18.3	0.2	8.4
Hungary	15.9	5.0	31.5	5.0	31.2	5.9	37.2
Malta	0.4	0.2	42.7	0.0	6.3	0.2	50.9
Netherlands (4)	37.3	22.7	60.8	7.0	18.9	10.2	27.4
Austria	28.2	17.9	63.6	1.1	4.0	9.0	31.9
Poland	62.2	9.4	15.1	12.2	19.6	40.4	65.1
Portugal	21.0	4.1	19.6	2.9	14.0	11.1	53.0
Romania (2)	21.3	9.1	42.8	6.3	29.8	5.7	26.6
Slovenia	3.8	1.9	49.6	1.2	30.3	0.7	19.4
Slovakia	10.9	1.9	17.8	2.5	22.9	6.5	59.1
Finland	39.6	22.0	55.5	4.4	11.1	12.9	32.5
Sweden	54.0	34.1	63.0	2.8	5.3	16.8	31.1
United Kingdom (5)	:	95.1	:	9.2	:	:	:
Croatia (2)	7.1	1.0	14.2	2.4	33.9	3.7	51.9
Turkey (6)	24.0	3.7	15.4	2.8	11.5	17.5	73.1
lceland (2)	2.0	0.9	44.2	0.5	24.1	0.6	29.0
Norway	21.9	11.4	52.2	3.4	15.8	7.0	32.0
Switzerland (2)	25.4	12.6	49.8	0.4	1.7	12.3	48.6
Japan (7)	675.3	458.8	67.9	33.7	5.0	172.4	25.5

(1) Shares do not always sum to 100 % due to estimates, differences in reference years and the conversion of data to a count in terms of FTE.
(2) 2004.
(3) EA-12; 2004.
(4) Total – all sectors and higher education sector, 2003; government sector, break in series.
(5) Government sector, 2004.
(6) 2002.
(7) 2003.

Source: Eurostat (tsc00004), OECD

## Table 12.2: PhD students (ISCED level 6), 2005

(% of total PhD students)

						Science,			
	Total				Teacher	maths &			
	number			Social	training &	computing;			
	of PhD			sciences,	education;	engineering,		Health &	
	students			business	humanities	manufacturing	Agriculture	welfare;	Others
	(1 000)	Male	Female	& law	& arts	& construction	& veterinary	services	(1)
Belgium	7.4	59.7	40.3	19.8	13.1	45.9	6.9	14.4	0.0
Bulgaria	5.1	50.2	49.8	20.3	23.9	39.1	3.7	13.0	0.0
Czech Republic	24.9	63.0	37.0	14.9	15.2	50.2	5.2	14.4	0.0
Denmark	4.4	54.5	45.5	13.6	14.7	38.0	8.8	24.9	0.0
Germany	:	:	:	:	:	:	:	:	:
Estonia	1.8	47.4	52.6	19.8	19.6	41.8	6.2	12.6	0.0
Ireland	4.8	52.4	47.6	13.4	22.0	50.6	2.1	10.0	1.9
Greece	22.3	56.7	43.3	17.5	22.6	55.9	1.7	2.2	0.0
Spain	76.3	48.8	51.2	24.2	22.8	24.8	2.3	18.7	7.2
France	:	:	:	:	:	:	:	:	:
Italy	37.5	48.8	51.2	19.9	15.7	43.3	5.9	14.9	0.3
Cyprus	0.3	49.8	50.2	23.9	23.9	52.2	:	:	0.0
Latvia	1.4	41.8	58.2	31.9	27.4	30.1	1.9	8.7	0.0
Lithuania	2.8	43.1	56.9	31.9	:	39.9	4.2	:	24.0
Luxembourg	:	:	:	:	:	:	:	:	:
Hungary	7.9	55.5	44.5	22.2	24.7	31.1	6.3	15.7	0.0
Malta	0.1	69.8	30.2	18.9	32.1	20.8	:	28.3	0.0
Netherlands	7.4	58.6	41.4	:	:	:	:	:	:
Austria	15.8	54.7	45.3	38.2	24.7	29.9	3.4	3.8	0.0
Poland	33.0	51.7	48.3	20.5	29.9	35.2	5.6	8.8	0.0
Portugal	18.4	44.0	56.0	26.1	25.9	31.9	2.7	13.5	0.0
Romania	22.3	52.7	47.3	22.3	:	34.8	3.2	:	39.7
Slovenia	1.0	53.9	46.1	13.6	14.1	51.2	2.5	18.6	0.0
Slovakia	10.3	59.1	40.9	20.4	18.4	38.7	3.9	18.5	0.0
Finland	21.6	49.2	50.8	22.7	24.2	40.3	2.1	10.7	0.0
Sweden	22.2	52.1	47.9	12.4	13.0	41.8	2.0	30.8	0.0
United Kingdom	91.6	55.7	44.3	19.2	21.8	42.1	1.5	15.2	0.1
Croatia	1.0	51.4	48.6	10.6	19.0	33.8	7.2	29.5	0.0
Turkey	27.4	60.0	40.0	23.1	22.4	33.9	8.0	12.6	0.0
Iceland	0.1	41.0	59.0	14.2	30.6	28.4	0.0	26.9	0.0
Norway	4.4	56.8	43.2	16.2	12.6	44.9	5.0	21.2	0.0
Switzerland	16.6	60.7	39.3	25.7	15.3	39.9	2.8	16.0	0.3
Japan	73.5	70.8	29.2	13.3	13.7	33.0	5.9	32.4	1.6
United States	384.6	48.7	51.3	26.8	24.4	30.4	0.8	17.6	0.0

(1) Unknown or not specified.

Source: Eurostat (educ\_enrl5)

Science and technology



(% of the total labour force)



are mainly or partly employed on R&D. R&D personnel in HC are expressed as a percentage of the labour force

(comprises of population aged 15 and over who are employed or unemployed but not inactive).



## Figure 12.4: Human resources working in science and technology occupations, 2006 (1)

(% of total employment)

(1) Break in series.

(2) Not available.

	People	e working	in a S&T	occupatio	on	People who have a third level education and work in a S&T occupation				
	(1 000)	(%)	of total e	mployme	ent)	(1 000)	(%	of total e	mployme	ent)
	2006	2003	2004	2005	2006	2006	2003	2004	2005	2006
EU-27	56 925	29.5	30.4	30.7	31.2	33 025	16.7	17.5	17.9	18.1
Euro area	37 539	30.8	31.8	32.1	32.5	21 067	17.1	17.9	18.3	18.2
Belgium	:	31.7	32.2	33.5	:	:	22.5	23.1	23.3	:
Bulgaria	635	25.2	23.8	24.1	22.4	488	17.8	17.3	17.7	17.2
Czech Republic	1 467	31.0	31.6	33.3	33.4	537	10.8	11.2	11.9	12.2
Denmark	983	38.7	39.2	40.6	41.5	676	25.8	26.7	27.7	28.5
Germany	12 471	36.5	36.9	37.5	38.2	6 412	18.7	19.3	20.0	19.7
Estonia	152	25.6	25.0	28.0	27.4	106	17.1	16.4	18.5	19.2
Ireland	:	25.0	25.7	25.0	:	:	18.4	19.0	18.7	:
Greece (2)	970	21.2	22.9	22.8	23.8	754	16.3	18.0	17.8	18.5
Spain	4 4 3 5	23.6	24.8	25.5	25.2	3 519	18.0	19.2	19.7	20.0
France	7 093	31.3	31.4	31.9	31.7	4 383	18.7	18.8	19.4	19.6
ltaly (2)	6 785	29.0	31.1	30.5	32.2	2 633	11.0	11.9	11.9	12.5
Cyprus	85	27.8	26.9	26.6	27.1	65	20.9	20.6	19.7	20.9
Latvia (3)	250	24.1	23.5	25.6	27.2	142	11.6	13.3	15.1	15.5
Lithuania	353	23.8	25.1	27.4	26.2	245	15.2	16.7	18.8	18.1
Luxembourg (3)	74	33.9	40.1	39.6	40.3	45	14.6	24.0	26.7	24.8
Hungary	987	26.2	26.9	26.1	27.1	569	14.2	15.2	14.9	15.7
Malta	35	25.0	25.5	28.0	28.1	17	10.6	13.3	14.0	13.5
Netherlands (3)	2 7 1 9	40.2	41.6	41.5	39.8	1 640	22.2	24.4	25.0	24.0
Austria (2)	1 075	26.5	33.9	32.5	32.1	443	12.3	14.1	13.6	13.2
Poland	3 577	26.5	26.8	27.1	27.6	2 194	14.0	15.1	16.0	17.0
Portugal (2)	842	15.7	18.6	18.6	19.2	524	9.3	11.5	11.5	12.0
Romania	1 652	18.7	19.1	19.5	20.5	935	9.2	10.2	10.6	11.6
Slovenia	286	30.9	31.3	32.9	33.8	162	16.1	16.5	17.7	19.2
Slovakia	634	29.4	29.2	30.0	30.6	274	11.1	11.7	12.6	13.2
Finland	789	34.5	35.5	35.9	36.7	550	24.5	25.2	25.1	25.6
Sweden	1 641	40.9	41.5	42.0	42.2	1 005	23.6	24.2	25.4	25.8
United Kingdom	6 935	27.2	27.9	28.2	29.1	4 704	18.4	19.1	19.3	19.8
Iceland	:	35.2	34.9	38.4	:	:	22.5	22.2	24.3	:
Norway	:	37.9	39.0	40.4	:	:	25.3	26.1	27.7	:
Switzerland	1 396	39.2	39.9	40.2	41.1	763	20.2	20.9	21.8	22.5

## Table 12.3: Human resources in science and technology (1)

Break in series, 2006.
 Break in series, 2004.
 Break in series, 2003.

Source: Eurostat (hrst\_st\_nsec)

### Table 12.4: Science and technology graduates

(tertiary graduates in science and technology per 1 000 persons aged 20-29 years)

	То	tal	Ma	ale	Fem	ale
	2000	2005	2000	2005	2000	2005
EU-27	10.2	13.2	13.9	17.8	6.4	8.4
Euro area	10.2	13.4	14.1	18.6	6.1	8.1
Belgium	9.7	10.9	14.4	15.7	4.9	6.0
Bulgaria	6.6	8.6	7.0	9.9	6.1	7.3
Czech Republic	5.5	8.2	7.8	11.7	3.0	4.6
Denmark	11.7	14.7	16.5	19.3	6.8	10.1
Germany	8.2	9.7	12.6	14.5	3.6	4.8
Estonia	7.0	12.1	9.0	13.5	5.0	10.7
Ireland	24.2	24.5	29.8	33.8	18.5	15.0
Greece	:	10.1	:	11.5	:	8.7
Spain	9.9	11.8	13.3	16.2	6.4	7.2
France	19.6	22.5	27.0	32.0	12.1	12.9
Italy	5.7	11.6	7.2	14.3	4.3	8.7
Cyprus	3.4	3.6	4.9	4.3	2.0	2.7
Latvia	7.4	9.8	10.1	13.0	4.7	6.5
Lithuania	13.5	18.9	17.2	24.2	9.7	13.5
Luxembourg	1.8	:	:	:	:	:
Hungary	4.5	5.1	6.8	7.0	2.1	3.1
Malta	3.4	3.4	4.9	4.6	1.9	2.1
Netherlands	5.8	8.6	9.5	13.6	2.1	3.5
Austria	7.2	9.8	11.6	14.8	2.9	4.6
Poland	6.6	11.1	8.3	13.9	4.8	8.3
Portugal	6.3	12.0	7.3	14.3	5.4	9.7
Romania	4.9	10.3	6.2	12.1	3.5	8.5
Slovenia	8.9	9.8	13.3	14.1	4.2	5.3
Slovakia	5.3	10.2	7.3	12.9	3.2	7.3
Finland	16.0	17.7	22.7	24.3	8.9	10.8
Sweden	11.6	14.4	15.5	18.7	7.6	9.9
United Kingdom	18.5	18.4	25.2	25.3	11.9	11.4
Croatia	:	5.7	:	7.5	:	3.8
FYR of Macedonia	3.7	4.0	4.2	4.1	3.1	3.8
Turkey	:	5.7	:	8.0	:	3.3
Iceland	8.4	10.1	10.3	12.5	6.5	7.6
Liechtenstein	:	12.7	:	18.1	:	7.3
Norway	7.9	9.0	11.4	13.1	4.3	4.7
Japan	12.6	13.7	21.5	23.0	3.3	4.1
United States	9.7	10.6	13.0	14.2	6.2	6.8

Source: Eurostat (tsiir041, tsiir043 and tsiir042)

The indicator tertiary graduates in science and technology includes new tertiary graduates in a calendar year from both public and private institutions completing graduate and post graduate studies compared to an age group that corresponds to the typical graduation age in most countries. It does not correspond to the number of graduates in these fields who are available in the labour market in this specific year. The levels and fields of education and training used follow the 1997 version of the International Standard Classification of Education (ISCED97) and the Eurostat manual of fields of education and training (1999).

 Table 12.5: Proportion of persons working in high- and medium-high-technology manufacturing and knowledge-intensive service sectors

(% of total employment)

	Emplo	yment in high-	and	Employment in				
	medium-high-t	echnology manu	ufacturing	knowle	dge-intensive s	ervices		
	1996	2001	2006	1996	2001	2006		
EU-27	:	6.0	5.6	:	30.8	32.6		
Euro area	:	6.3	5.9	:	30.4	32.8		
Belgium	6.4	6.0	6.0	34.6	37.8	38.6		
Bulgaria	:	5.0	4.3	:	23.1	21.7		
Czech Republic	:	7.6	8.8	:	24.1	25.0		
Denmark	5.9	6.0	5.0	40.1	42.7	43.8		
Germany	9.2	9.3	9.0	27.9	31.0	34.3		
Estonia	:	3.9	2.6	:	28.0	26.8		
Ireland	4.4	3.7	3.0	30.1	31.9	34.9		
Greece	2.1	2.0	2.0	20.5	22.5	24.9		
Spain	4.6	4.9	4.1	23.6	24.8	27.0		
France	5.5	5.8	5.1	33.6	35.0	36.4		
Italy	6.3	6.3	6.2	24.7	26.9	30.1		
Cyprus	:	1.0	0.8	:	26.5	28.3		
Latvia	:	1.6	1.5	:	24.7	24.5		
Lithuania	:	2.5	1.8	:	26.8	25.0		
Luxembourg	1.4	1.0	:	33.4	35.8	:		
Hungary	6.2	6.1	6.0	25.3	26.3	28.5		
Malta	:	4.8	2.8	:	27.8	31.2		
Netherlands	3.8	3.2	2.6	36.4	40.0	42.3		
Austria	4.7	4.7	5.5	26.5	29.3	30.4		
Poland	:	:	4.5	:	:	24.6		
Portugal	3.6	3.1	2.7	21.8	19.4	22.7		
Romania	:	4.6	5.4	:	11.0	14.5		
Slovenia	7.7	7.9	7.5	20.8	23.0	26.3		
Slovakia	:	5.8	8.0	:	25.3	24.9		
Finland	5.3	5.3	4.7	37.4	39.1	41.1		
Sweden (1)	6.4	6.0	5.4	44.2	46.1	47.5		
United Kingdom	6.2	5.6	4.5	37.3	40.5	43.0		
Croatia	:	:	4.4	:	:	22.1		
Iceland	1.4	1.7	:	38.4	40.9	:		
Norway	4.9	3.5	3.9	40.6	43.6	46.2		
Switzerland	5.6	5.5	:	34.0	37.7	:		

(1) Break in series, 2001.

Source: Eurostat (tsc00011 and tsc00012)

The data shows per country the employment in high- and medium-high technology manufacturing sectors as a share of total employment. Data source is the EU Labour Force Survey (LFS). The definition of high- and medium-high technology manufacturing sectors is based on the OECD definition (itself based on the ratio of R&D expenditure to GDP). The data shows per country the employment in knowledge-intensive service sectors as a share of total employment. Data source is the EU Labour Force Survey (LFS). The definition of knowledge-intensive services including high-technology services used by Eurostat is based on a selection of relevant items of NACE Rev. 1 on 2-digit level and is oriented on the ratio of highly qualified working in these areas.



#### **INTRODUCTION**

Research and development (R & D) lies at the heart of the EU's strategy to become the most competitive and dynamic knowledge-based economy by 2010; one of the goals set in Lisbon was for the EU to increase its R & D expenditure to at least 3 % of GDP by 2010.

In January 2006 the European Commission presented to the European Council its 2006 annual report on the revised Lisbon strategy, in the form of a communication – COM(2006) 30 – entitled 'Time to move up a gear – The new partnership for growth and jobs' <sup>(114)</sup>. One of the four areas for priority actions set out by the European Commission was to invest more in knowledge and innovation, and to increase the proportion of national wealth devoted to research and development between now and 2010.

One are that has received notable attention in recent years is the structural difference in R & D funding between Europe and its main competitors. One of the main goals of policy makers has been to increase the R & D business expenditure so that it is more in line with the ratios observed in Japan or the United States. In October 2007 the EU industrial R & D investment scoreboard was released <sup>(115)</sup>. This presents information on the top 1 000 companies in terms of R & D investors whose registered offices are in the EU. The report shows that R & D investment by EU companies was growing at a slower rate than for their non-EU counterparts, a difference that is primarily explained by higher growth and more concentration of investment in R & D-intensive sectors outside the EU. The report pointed to rapid growth in R & D investment in the area of pharmaceuticals and biotechnology, and more generally for the whole of the chemicals sector, as well as aerospace and defence activities. Three EU companies were among the world's top ten R & D investors, namely: DaimlerChrysler, GlaxoSmithKline and Siemens.

(115) For more information: http://iri.jrc.ec.europa.eu/.

#### **DEFINITION AND DATA AVAILABILITY**

R & D is defined as comprising creative work undertaken on a systematic basis to increase the stock of knowledge (of man, culture and society) and the use of this stock to devise new applications. R & D is an activity where there are significant transfers of resources between units, organisations and sectors.

R & D expenditure is a basic measure that covers intramural expenditure, in other words, all expenditures for R & D that are performed within a statistical unit or sector of the economy, whatever the source of the funds.

Gross domestic expenditure on R & D (often referred to as GERD) is composed of four separate sectors of performance: business enterprises, government, higher education, and private non-profit organisations. Expenditure data consider the research spend on the national territory, regardless of the source of funds; data are usually expressed in relation to GDP, otherwise known as R & D intensity.

Government budget appropriations or outlays for research and development (GBAORD) are the amount governments allocate towards R & D activities. Comparisons of GBAORD across countries give an impression of the relative importance attached to state-funded R & D.

<sup>(114)</sup> For more information: http://eur-lex.europa.eu/LexUriServ/site/en/ com/2006/com2006\_0030en01.pdf.

#### **MAIN FINDINGS**

Gross domestic expenditure on R & D for the EU-27 followed a generally positive evolution in the five years up to 2002. However, in 2003 the share of R & D expenditure in GDP decreased – this pattern was repeated in 2004 and 2005.

Gross domestic expenditure on R & D in the EU-27 was equivalent to 1.84 % of GDP in 2005. As noted above, the EU-27's R & D expenditure tends to lag behind that of Japan and the United States as a result of differences observed in levels of expenditure within the business enterprise sector, where expenditure in the EU-27 was considerably lower (1.17 % of GDP in 2005). Among the Member States, the highest R & D intensity was recorded in Sweden and Finland, the only Member States where R & D intensity exceeded the 3 % goal set by the Lisbon strategy. This level of intensity was exceeded in all years for which data is available over the period 1995-2005 in Sweden and the period 1998-2005 in Finland. There were 11 Member States for which data are available that reported that R & D expenditure accounted for less than 1 % of their GDP in 2005.

When focusing on the breakdown of gross domestic expenditure on R & D by source of funds in 2005, slightly more than half of the total (54.5 %) for the EU-27 came from the industrial sector, while just over one third (34.8 %) was derived from government, and a further 8.5 % came from abroad; industry-funded R & D accounted for about 70 % of R & D expenditure in Japan and the United States.

### **SOURCES**

Statistical books Science, technology and innovation in Europe

Pocketbooks Science, technology and innovation in Europe – 2007 edition

Dedicated sections on the Eurostat website R & D industrial investment scoreboard

#### Website data

Research and development

Statistics on research and development R & D expenditure at national and regional level Scoreboard main indicators Government budget appropriations or outlays on R & D



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
EU-27	:	:	:	1.80	1.85	1.86	1.88	1.88	1.87	1.84	1.84
Euro area	1.79	1.73	1.77	1.79	1.83	1.85	1.87	1.88	1.87	1.86	1.86
Belgium	1.67	1.77	1.83	1.86	1.94	1.97	2.08	1.94	1.89	1.85	1.82
Bulgaria (1, 2)	0.62	0.52	0.51	0.57	0.57	0.52	0.47	0.49	0.50	0.51	0.50
Czech Republic (3)	0.95	0.97	1.08	1.15	1.14	1.21	1.20	1.20	1.25	1.26	1.42
Denmark	1.82	1.84	1.92	2.04	2.18	2.24	2.39	2.51	2.56	2.48	2.44
Germany	2.19	2.19	2.24	2.27	2.40	2.45	2.46	2.49	2.52	2.50	2.51
Estonia	:	:	:	0.58	0.70	0.61	0.71	0.72	0.79	0.88	0.94
Ireland	1.26	1.30	1.27	1.23	1.18	1.23	1.10	1.10	1.16	1.21	1.25
Greece (3)	0.49	:	0.51	:	0.67	:	0.64	:	0.63	0.61	0.61
Spain	0.79	0.81	0.80	0.87	0.86	0.91	0.91	0.99	1.05	1.06	1.12
France (4, 5)	2.29	2.27	2.19	2.14	2.16	2.15	2.20	2.23	2.17	2.14	2.13
Italy (4)	0.97	0.99	1.03	1.05	1.02	1.05	1.09	1.13	1.11	1.10	:
Cyprus	:	:	:	0.22	0.23	0.24	0.25	0.30	0.35	0.37	0.40
Latvia	0.47	0.42	0.38	0.40	0.36	0.44	0.41	0.42	0.38	0.42	0.57
Lithuania (1)	0.44	0.50	0.54	0.55	0.50	0.59	0.67	0.66	0.67	0.76	0.76
Luxembourg	:	:	:	:	:	1.65	:	:	1.66	1.66	1.56
Hungary	0.73	0.65	0.72	0.68	0.69	0.78	0.92	1.00	0.93	0.88	0.94
Malta (6)	:	:	:	:	:	:	:	0.26	0.26	0.63	0.61
Netherlands (1)	1.97	1.98	1.99	1.90	1.96	1.82	1.80	1.72	1.76	1.78	:
Austria	1.54	1.59	1.69	1.77	1.88	1.91	2.04	2.12	2.21	2.23	2.36
Poland (3)	0.63	0.65	0.65	0.67	0.69	0.64	0.62	0.56	0.54	0.56	0.57
Portugal	0.54	0.57	0.59	0.65	0.71	0.76	0.80	0.76	0.74	0.77	0.81
Romania	:	:	:	0.49	0.40	0.37	0.39	0.38	0.39	0.39	:
Slovenia	1.57	1.33	1.31	1.37	1.41	1.43	1.55	1.52	1.32	1.45	1.22
Slovakia (4)	0.92	0.90	1.07	0.78	0.65	0.65	0.63	0.57	0.58	0.51	0.51
Finland	2.26	2.52	2.70	2.86	3.16	3.34	3.30	3.36	3.43	3.46	3.48
Sweden (3)	3.32	:	3.51	3.59	3.62	:	4.25	:	3.95	:	3.86
United Kingdom	1.95	1.87	1.81	1.80	1.87	1.86	1.83	1.83	1.79	1.73	:
Croatia	:	:	:	:	:	:	:	1.11	1.11	1.22	:
Turkey	0.38	0.45	0.49	0.50	0.63	0.64	0.72	0.66	:	:	:
Iceland	1.53	:	1.83	2.01	2.31	2.69	2.98	2.99	2.86	2.83	:
Norway (3)	1.70	:	1.64	:	1.65	:	1.60	1.67	1.73	1.62	1.51
Switzerland	:	2.67	:	:	:	2.57	:	:	:	2.93	:
Japan (1)	2.92	2.82	2.89	3.02	3.04	3.05	3.13	3.18	3.20	:	:
United States (7)	2.49	2.53	2.56	2.61	2.65	2.73	2.74	2.64	2.67	2.67	:

(1) Break in series, 1996.

Break in series, 1990.
 Break in series, 1999.
 Break in series, 1995.
 Break in series, 1997.
 Break in series, 2000.

(6) Break in series, 2004.

(7) Break in series, 1998.

Source: Eurostat (tsiir021), OECD

Research and experimental development (R&D) comprise creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society and the use of this stock of knowledge to devise new applications (Frascati Manual, 2002 edition, § 63). R&D is an activity where there are significant transfers of resources between units, organisations and sectors and it is important to trace the flow of R&D funds.

1

	Business enter	orise sector	Governme	nt sector	Higher educa	tion sector
	2000	2005	2000	2005	2000	2005
EU-27	1.21	1.17	0.26	0.24	0.39	0.41
Euro area	1.19	1.18	0.27	0.26	0.38	0.40
Belgium	1.43	1.24	0.12	0.14	0.40	0.41
Bulgaria	0.11	0.11	0.36	0.33	0.05	0.05
Czech Republic	0.73	0.92	0.31	0.27	0.17	0.23
Denmark	1.50	1.67	0.28	0.18	0.44	0.58
Germany	1.73	1.76	0.33	0.34	0.40	0.42
Estonia	0.14	0.42	0.14	0.11	0.32	0.39
Ireland	0.86	0.82	0.10	0.08	0.27	0.35
Greece	0.16	0.18	:	0.13	:	0.30
Spain	0.49	0.61	0.14	0.19	0.27	0.32
France (1, 2)	1.34	1.32	0.37	0.37	0.40	0.42
Italy	0.52	0.55	0.20	0.17	0.32	:
Cyprus	0.05	0.09	0.11	0.13	0.06	0.15
Latvia	0.18	0.23	0.10	0.11	0.17	0.23
Lithuania	0.13	0.16	0.25	0.19	0.22	0.42
Luxembourg	1.53	1.34	0.12	0.19	0.00	0.02
Hungary	0.35	0.41	0.20	0.26	0.19	0.24
Malta	:	0.42	:	0.02	:	0.17
Netherlands (1, 2)	1.07	1.02	0.23	0.24	0.51	:
Austria	:	1.60	:	0.12	:	0.63
Poland	0.23	0.18	0.21	0.21	0.20	0.18
Portugal	0.21	0.29	0.18	0.11	0.28	0.32
Romania	0.26	:	0.07	:	0.04	:
Slovenia	0.80	0.87	0.37	0.23	0.24	0.12
Slovakia	0.43	0.25	0.16	0.15	0.06	0.10
Finland	2.37	2.46	0.35	0.33	0.60	0.66
Sweden	:	2.92	:	0.12	:	0.80
United Kingdom	1.21	:	0.23	:	0.38	:
Turkey	0.21	:	0.04	:	0.39	:
Iceland	1.51	:	0.69	:	0.44	:
Norway	:	0.82	:	0.24	:	0.45
Switzerland (1)	1.90	:	0.03	:	0.59	:
Japan	2.17	:	0.30	:	0.44	:
United States	2.04	:	0.28	:	0.31	:

### Table 12.7: Gross domestic expenditure on R&D by sector (% of GDP)

Break in series, government sector for 2000.
 Break in series, higher education sector for 2000.

Source: Eurostat (tsc00001), OECD

R&D expenditures include all expenditures for R&D performed within the business enterprise sector (BERD) on the national territory during a given period, regardless of the source of funds. R&D expenditure in BERD are shown as a percentage of GDP (R&D intensity).



	Indus	stry	Gove	rnment	Abro	ad	Oth	ers
	2000	2005	2000	2005	2000	2005	2000	2005
EU-27	56.3	54.5	34.3	34.8	7.3	8.5	2.1	2.2
Euro area	57.4	56.2	35.7	36.1	5.6	6.4	1.3	1.3
Belgium	62.4	:	22.9	:	12.2	:	2.5	:
Bulgaria	24.4	:	69.2	:	5.3	:	1.1	:
Czech Republic	51.2	54.1	44.5	40.9	3.1	4.0	1.2	1.0
Denmark	:	:	:	:	:	:	:	:
Germany	66.0	:	31.4	:	2.1	:	0.5	:
Estonia	24.2	:	59.2	:	12.7	:	3.9	:
Ireland	66.7	58.7	25.6	32.9	6.0	6.6	1.7	1.8
Greece	:	:	:	:	:	:	:	:
Spain	49.7	:	38.6	:	4.9	:	6.8	:
France (1)	52.5	:	38.7	:	7.2	:	1.6	:
Italy	:	:	:	:	:	:	:	:
Cyprus	17.5	:	66.5	:	9.4	:	6.6	:
Latvia	29.4	34.3	41.5	46.0	29.1	18.5	0.0	1.2
Lithuania	31.6	20.8	61.7	62.7	6.7	10.5	0.0	6.0
Luxembourg	90.7	:	7.7	:	1.6	:	0.0	:
Hungary	37.8	39.4	49.5	49.4	10.6	10.7	2.1	0.5
Malta	:	:	:	:	:	:	:	:
Netherlands	51.4	:	34.2	:	11.6	:	2.8	:
Austria	41.8	45.7	38.0	36.4	19.9	17.6	0.3	0.3
Poland	29.5	30.3	66.5	60.7	1.8	5.7	2.2	3.3
Portugal	27.0	:	64.8	:	5.2	:	3.0	:
Romania	49.0	:	40.8	:	4.9	:	5.3	:
Slovenia	53.3	65.2	40.0	27.2	6.2	6.8	0.5	0.8
Slovakia	54.4	36.6	42.6	57.0	2.3	6.0	0.7	0.4
Finland	70.2	:	26.2	:	2.7	:	0.9	:
Sweden	:	:	:	:	:	:	:	:
United Kingdom	48.3	:	30.2	:	16.0	:	5.5	:
Turkey	42.9	:	50.6	:	1.2	:	5.3	:
Switzerland	69.1	:	23.2	:	4.3	:	3.4	:
Japan	72.4	:	19.6	:	0.4	:	7.6	:
United States	68.6	:	25.8	:	:	:	:	:

(1) Break in series, 2000.

Source: Eurostat (tsiir022, tsiir023 and tsiir024), OECD

#### **12.3 INNOVATION**

#### **INTRODUCTION**

By placing competitiveness at the heart of the European political agenda, the reinvigorated Lisbon process aims to make Europe a more attractive place to invest, by boosting entrepreneurial initiative and creating a productive environment where innovation capacity can grow and develop. With this in mind, on 29 October 2006, the European Parliament and the Council adopted a decision (n° 1639/2006/CE) establishing a competitiveness and innovation framework programme (CIP) for the period 2007-2013 (116).

Education is seen as a key to developing an innovation-orientated society, through developing entrepreneurial skills, as well as literacy, scientific and mathematical competence, languages and digital literacy. Many policy makers express concern at the falling number of science and technology graduates and a lack of mobility between universities and industry.

Another element that is often considered as being important for the development of an innovative society is the regulatory environment. More specifically, the success of innovation is considered by many to depend on the rapid adoption of new technological standards and the protection of intellectual property. Policy developments in this field include a European Commission proposal for the adoption of a Community-wide patent system (see next subchapter), while Directive 2004/48/EC of the European Parliament and of the Council covers the enforcement of intellectual property rights <sup>(117)</sup>; this is in the process of being revised and has reached the stage of an amended European Commission proposal for a Directive of the European Parliament and of the Council on criminal measures aimed at ensuring the enforcement of intellectual property rights.

(116) For more information: ftp://ftp.cordis.europa.eu/pub/innovation/ docs/cip\_en.pdf.

(117) For more information: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do? uri=CELEX:32004L0048R(01):EN:HTML.

#### **DEFINITION AND DATA AVAILABILITY**

The fourth Community Innovation Survey (CIS4) collects information about both product and process innovation and organisational and marketing innovation. The legal basis for the collection of these statistics is a Commission Regulation (EC) No 1450/2004 of 13 August 2004 implementing Decision No 1608/2003/EC of the European Parliament and of the Council concerning the production and development of Community statistics on innovation <sup>(118)</sup>.

The survey covers areas such as new or significantly improved goods or services and the introduction of new or significantly improved processes, logistics or distribution methods. It also provides information on the characteristics of innovation activity at the enterprise level, thus creating a better understanding of the innovation process and the effects of innovation on the economy.

For the purpose of the Community Innovation Survey (CIS) an innovation is defined as a new or significantly improved product (good or service) introduced to the market, or the introduction within an enterprise of a new or significantly improved process. Innovations are based on the results of new technological developments, new combinations of existing technology, or the utilisation of other knowledge acquired by the enterprise. Innovations may be developed by the innovating enterprise or by another enterprise. However, purely selling innovations wholly produced and developed by other enterprises is not included as an innovation activity, nor is introducing products with purely aesthetic changes. Innovations should be new to the enterprise concerned: for product innovations they do not necessarily have to be new to the market and for process innovations the enterprise does not necessarily have to be the first one to have introduced the process.

Enterprises with innovation activity include all types of innovator, namely product innovators, process innovators, as well as enterprises with only on-going and/or abandoned innovation activities. The proportion of enterprises with innovation activity may also be referred to as the propensity to innovate.

In terms of comparability of data between the different surveys, Eurostat made particular improvements for comparison between the third and fourth innovation surveys, which were based on similar survey methodology, target populations, survey questionnaires and definitions of innovation. CIS4 was carried out in all EU-27 Member States, as well as Iceland and Norway. Data is also available broken down by enterprise size class.

(118) For more information: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do? uri=CELEX:32004R1450:EN:HTML.

Science and technology

#### **MAIN FINDINGS**

According to CIS4, the proportion of enterprises with innovation activity increased slightly in relation to the results from CIS3. Some 40 % of the EU-27's enterprises were innovative in 2004, compared with a share of 39 % in 2000. This slight increase in innovation activity was reflected in the vast majority of countries, with Ireland, Cyprus, Finland, Portugal, the Netherlands, France, Hungary, Latvia and Iceland the only exceptions reporting a lower propensity to innovate in 2004.

Germany had the highest propensity to innovate in 2004, with more than two thirds of all enterprises having some form of innovation activity. At the other end of the spectrum, Bulgaria, Latvia and Romania each reported that fewer than one in five enterprises were engaged in innovative activities. A breakdown by enterprise size class shows that large (250 and more employees) enterprises were more inclined to introduce new or improved products to the market. Almost half of all large innovative enterprises did so in the EU-27 in 2004, compared with less than 40 % of medium-sized (from 50 to 249 employees) enterprises and only around one third of small (from 10 to 49 employees) enterprises.

New or significantly improved products contributed a relatively small share of total turnover among innovative enterprises in 2004, below the threshold of 10 % in most Member States; these products did however account for more than 20 % of sales in Malta and Slovakia.

### **SOURCES**

#### **Statistical books**

Science, technology and innovation in Europe Innovation in Europe – results for the EU, Iceland and Norway

#### **Pocketbooks**

Science, technology and innovation in Europe – 2007 edition

#### Website data

#### **Community innovation survey**

Results of the fourth community innovation survey (CIS4)



## Figure 12.6: Proportion of innovative enterprises

(% of all enterprises)

*Source:* Eurostat (inn\_prod and inn\_cis4\_prod)

## Table 12.9: Proportion of innovative enterprises which introduced new or improved products to the market, by size of enterprise

(% of innovative enterprises)

			2000				2004	
		10 to 49	50 to 249	> 250		10 to 49	50 to 249	> 250
	Total	employees	employees	employees	Total	employees	employees	employees
EU-27	38.4	36.5	39.9	49.3	35.9	33.2	39.6	49.2
Belgium	36.1	32.3	42.2	52.3	40.7	38.5	44.0	53.1
Bulgaria	53.6	53.3	52.5	59.5	56.4	57.6	52.9	58.6
Czech Republic	38.2	35.2	41.2	46.3	41.5	39.0	44.4	48.3
Denmark	50.9	45.2	62.7	66.7	47.7	46.2	49.3	58.0
Germany	30.5	26.8	33.5	45.2	26.9	22.7	31.7	42.1
Estonia	38.6	39.0	35.7	45.0	41.9	43.7	35.4	44.7
Ireland	31.7	:	:	:	44.5	38.0	57.2	62.8
Greece	40.1	40.3	38.7	44.3	44.4	43.3	47.6	54.2
Spain	34.0	33.1	34.8	45.2	20.9	18.0	28.2	43.2
France	34.7	28.3	37.7	49.0	38.6	34.1	43.3	57.9
Italy	54.7	53.1	60.5	64.7	31.1	28.7	37.8	52.2
Cyprus	13.5	11.0	20.8	24.1	14.6	11.6	21.7	40.9
Latvia	44.8	43.8	46.5	45.6	34.5	33.8	36.4	34.1
Lithuania	46.0	45.5	46.8	47.0	34.5	30.9	38.4	43.8
Luxembourg	39.9	:	28.5	:	51.6	51.4	48.8	64.2
Hungary	35.4	38.5	23.5	39.0	36.3	36.5	33.9	40.7
Malta	53.7	56.3	56.1	35.0	25.0	25.0	25.0	25.0
Netherlands	41.8	39.8	43.4	51.8	48.3	47.5	48.3	56.8
Austria	28.3	19.8	35.4	62.5	48.4	47.3	47.1	64.7
Poland	:	:	:	:	46.4	44.8	47.6	50.4
Portugal	43.4	39.2	48.6	70.0	30.1	27.3	35.8	44.6
Romania	80.4	81.4	79.0	80.1	27.9	25.1	29.2	36.2
Slovenia	60.7	67.4	56.4	57.1	46.6	40.8	50.1	58.1
Slovakia	41.5	36.5	46.3	49.1	41.6	39.7	42.6	45.1
Finland	62.7	62.3	62.7	64.9	49.6	47.4	52.2	58.0
Sweden	37.0	39.5	26.9	43.9	52.4	52.8	49.9	56.5
United Kingdom	27.5	26.7	27.8	33.3	47.8	47.3	48.2	51.9
Iceland	21.1	19.8	22.8	32.0	77.6	82.4	59.6	89.5
Norway	38.5	39.6	33.4	41.6	36.5	37.6	32.5	38.6

Source: Eurostat (inn\_prod and inn\_cis4\_prod)



Figure 12.7: Turnover from new or significantly improved products, new to the market (% of total turnover of innovative enterprises)

(1) Not available for 2000.

Source: Eurostat (inn\_prod and inn\_cis4\_prod)



#### **INTRODUCTION**

Intellectual property rights provide a link between innovation, inventions and the marketplace. Applying for a patent, for example, makes an invention public but at the same time gives it protection. A count of patents is one measure that reflects a country's inventive activity and also shows its capacity to exploit knowledge and translate it into potential economic gains. In this context, indicators based on patent statistics are widely used to assess the inventive and innovative performance of a country.

Patents are generally used to protect R & D results, but they are also significant as a source of technical information, which may prevent re-inventing and re-developing ideas because of a lack of information. However, the use of patents is relatively restricted within the EU – this may be for a number of reasons including their relative cost, the overlap between national and European procedures, or the need for translation into foreign languages.

Most studies in this area show that innovative enterprises tend to make more use of intellectual property protection. Enterprise size and the economic sector in which an enterprise operates are also likely to play an important role in determining whether an enterprise chooses to protect its intellectual property.

In April 2007 the European Commission released a Communication entitled, 'Enhancing the patent system in Europe' <sup>(119)</sup>. It highlighted that the European patent system is more expensive, uncertain and unattractive, while underlining that the European Commission believes a more competitive and attractive Community patent system can be achieved, based upon the creation of a unified and specialised patent judiciary, with competence for litigation on European patents and future Community patents.

#### **DEFINITION AND DATA AVAILABILITY**

Patent data published in this section are provided by the European Patent Office (EPO), while data for the United States Patent and Trademark Office (USPTO) are provided by the OECD.

(119) COM(2007) 165 final; for more information: http://eur-lex.europa.eu/ LexUriServ/site/en/com/2007/com2007\_0165en01.pdf. European patent applications refer to applications filed directly under the European Patent Convention or to applications filed under the Patent Co-operation Treaty and designated to the EPO (Euro-PCT), regardless of whether the patents are granted or not. Applications are assigned to a country according to the inventor's place of residence, using fractional counting if there are multiple inventors to avoid double counting. To normalise the data, the total number of applications at the EPO is also divided by the population and expressed as applications per million. The European Patent Office (EPO) grants European patents for the contracting states to the European Patent Convention (EPC). There are currently 32 contracting states; the EU-27 Member States, Iceland, Liechtenstein, Switzerland, Monaco and Turkey.

In contrast, the United States Patent and Trademark Office (USPTO) data refers to patents granted and data are recorded by year of publication as opposed to the year of filing. Patents are allocated to the country of the inventor, using fractional counting in the case of multiple inventor countries. The methodology used is not harmonised with that of Eurostat and therefore the comparison between EPO and USPTO patents data should be interpreted with caution.

#### **MAIN FINDINGS**

EU-27 patent applications to the EPO increased significantly from 1995 onwards, when the number of applications increased on average by 11.6 % per annum through to 2000. However, the steady upward trend reached a peak of 61 300 patent applications in 2001, followed by a slight decline in 2002, and then another increase in 2003 (to 62 300 applications). EU-27 high-tech patent applications to the EPO represented an increasing share of total patent applications up until 2001, after which their relative importance declined somewhat. Patent applications to the EPO from the United States numbered almost 48 800 in 2003, while the level of applications from Japan was almost 28 000.

Among the Member States, Germany had by far the highest number of patent applications to the EPO, some 25 700 in 2003 (which was more than 40 % of the EU-27 total). In relative terms, Germany was also the Member State with the highest number of patent applications per million inhabitants (312), followed by Finland (306) and then Sweden (285); although these rates were below those recorded in Liechtenstein and Switzerland (respectively 726 and 426 applications to the EPO per million inhabitants in 2003).

Finland stood out as the Member State that was most specialised in high-technology patent applications, as these accounted for 41 % of all Finish patent applications to the EPO in 2003. The ratio of high-technology patent applications per million inhabitants in Finland stood at 126 (slightly more than twice the rate in Sweden, which was the next highest figure among the Member States).

# 2 Science and technology

## SOURCES

**Statistical books** Science, technology and innovation in Europe

#### Pocketbooks

Science, technology and innovation in Europe – 2007 edition

#### Methodologies and working papers

OECD patent manual Data production methods for harmonised patent statistics: patentee name harmonisation Data production methods for harmonised patent statistics: assignee sector allocation

### Website data

## Patent statistics

Patent applications to the EPO by priority year Patents granted by the USPTO by priority year



Figure 12.8: Patent applications to the European Patent Office (EPO), 2003

Source: Eurostat (tsiir051), European Patent Office

Table 12.10: Patent applications to the European Patent Office (EPO) and patents granted by the USPTO

	Patent applications to the EPO		Hig app	h techno plication	ology pate s to the E	ent PO	Pate Unite Trade	ents gran d States mark Of	ted by t Patent fice (US	the and PTO)		
	(numl applica	per of ations)	(numb applica per mi inhabit	er of tions illion ants)	(numb applica	per of itions)	(numb applica per m inhabit	er of ations illion ants)	(numl pate gran	ber of ents ited)	(numb applica per m inhabi	per of ations nillion tants)
	1998	2003	1998	2003	1998	2003	1998	2003	1995	2000	1995	2000
EU-27	51 194	62 250	107	128	8 392	10 840	17	22	23 089	23 723	48.5	49.2
Euro area	40 8/6	50 528	134	163	6 2 4 2	8 4 1 4	20	27	1/93/	18 987	59.7	62.0
Belgium	1313	1 496	129	144	221	242	22	23	626	550	61.8	53.8
Bulgaria	24	34 1CD	10	4		3 10	0	1	6	4	0.7	0.5
Czech Republic	101	1 2 7 0	170	16	175	10			26	28	Z.6	Z.8
Denmark	21 6 20	1 Z / U	1/8	230		240	33 24	40	0.260	38Z	/1.4	127.0
Estonia	21029	23720	204	16	2770	2 0 2 2	24 1	44	9 3 0 0	10 509	114.9	127.9
Ireland	226	306	61	77	2 //8	63	13	16	2 91	1/15	25.3	38.5
Greece	80	123	7	11	-0	21	0	2	13	14	1 2	13
Spain	830	1 2 7 4	21	31	94	165	2	4	230	288	5.9	7.2
France	7 433	9 202	124	149	1 363	1 980	23	32	3 752	3 2 3 5	63.3	53.5
Italy	3 711	5 002	65	87	325	481	6	8	1 489	1 694	26.2	29.8
Cyprus	7	12	10	16	:	4	:	5	0	1	0.3	1.7
Latvia	10	14	4	6	1	1	0	0	2	6	0.9	2.5
Lithuania	1	20	0	6	:	2	:	1	0	6	0.1	1.8
Luxembourg	80	90	190	200	5	6	12	14	25	36	62.3	83.4
Hungary	120	192	12	19	17	34	2	3	55	54	5.3	5.3
Malta	5	4	13	9	:	:	:	:	:	2	:	5.3
Netherlands	2 941	3 956	188	244	744	908	48	56	1 235	1 307	80.1	82.4
Austria	1 070	1 581	134	195	95	235	12	29	446	556	56.2	69.5
Poland	61	160	2	4	7	23	0	1	8	20	0.2	0.5
Portugal	32	78	3	7	2	15	0	1	10	14	1.0	1.4
Romania	26	26	1	1	1	3	0	0	6	3	0.3	0.1
Slovenia	50	101	25	50	4	9	2	4	16	24	8.2	11.9
Slovakla	23 1 401	44	200	8	3	5	110	120	6	(1)	1.1	1100
Finiand	1481	1 591	288	300	505	654 562	67	62	1 201	014 1 1 7 2	124.3	1222
United Kingdom	6 368	Z 347 7 217	109	121	1 3 3 5	1 5 2 6	23	26	3 3 7 7	3 050	58.3	51.0
Croatia	31	81	7	121	2	1 520	0	1	13	14	2.7	31.5
Turkey	53	133		2	6	13		0	7	14	2.7	
Iceland	36	44	133	154		15		53	, 10	20	37.5	70.0
Liechtenstein	43	25	1 357	726	1	2	32	59	13	10	409.1	313.6
Norway	511	533	116	117	45	90	10	20	214	203	49.3	45.3
Switzerland	2 635	3 113	371	426	263	331	37	45	1 298	1 2 5 3	184.9	174.9
Canada	1 931	2 736	63	86	516	793	17	25	2 739	3 2 1 6	93.0	104.8
Japan	17 243	27 987	137	219	4 2 2 8	6 834	34	54	29 641	35 013	236.0	276.0
United States	38 345	48 786	142	168	10 366	13 845	39	48	72 420	77 585	276.7	274.7

Source: Eurostat (tsc00009, tsiir051, pat\_ep\_ntec, tsc00010, pat\_us\_ntot and tsiir052), European Patent Office

Total European patent applications refer to requests for protection of an invention directed either directly to the European Patent Office (EPO) or filed under the Patent Cooperation Treaty and designating the EPO (Euro-PCT), regardless of whether they are granted or not. The data shows the total number of applications per country. Data refer to applications filed directly under the European Patent Convention or to applications filed under the Patent Co-operation Treaty and designated to the EPO (Euro-PCT). Patent applications are counted according to the year in which they were filed at the EPO and are broken down according to the International Patent Classification (IPC). They are also broken down according to the inventor's place of residence, using fractional counting if multiple inventors or IPC classes are provided to avoid double counting. The data refers to the ratio of patent applications made directly to the European Patent Office (EPO) or via the Patent Cooperation Treaty and designating the EPO (Euro-PCT), in the field of high-technology patents per million inhabitants of a country. The definition of high-technology patents uses specific subclasses of the International Patent Classification (IPC) as defined in the trilateral statistical report of the EPO, JPO and USPTO. USPTO data refers to patents granted while EPO data refers to patent applications. Data are recorded by year of publication as opposed to the year of filing used for the EPO data. This is because patents in the US (at least in the past) were only published once they were granted. Patents are allocated to the country of the inventor, using fractional counting in the case of multiple inventor countries. The methodology used is not harmonised with that of Eurostat and therefore the comparison between EPO and USPTO patents data should be interpreted with caution.



## **Figure 12.9: Patent applications to the European Patent Office (EPO), EU-27** (number of applications)

Source: Eurostat (tsc00009 and pat\_ep\_ntec), European Patent Office

### **12.5 INFORMATION SOCIETY**

#### **INTRODUCTION**

Information and communication technologies (ICT) are considered as critical for improving the competitiveness of European industry and, more generally, to meet the demands of its society and economy.

The i2010 initiative <sup>(120)</sup> – European information society in 2010 – seeks to boost efficiency throughout the European economy through wider use of information and communications technologies. This policy covers regulation, research, deployment, and promoting cultural diversity. Its main objective is to ensure that Europe's citizens, businesses and governments make the best use of ICT, in order to improve competitiveness, support growth, and create jobs, as well as addressing key societal challenges. At the heart of the policy is a desire to ensure that social and geographical differences are overcome, thus creating an inclusive digital society. The i2010 initiative has three main priorities:

- to create a Single European Information Space, which promotes an open and competitive internal market for information society and media services;
- to strengthen investment in innovation and research in ICT, and
- to foster inclusion, better public services and quality of life through the use of ICT.

Broadband technologies are considered to be of major importance when measuring access and use of the Internet as they offer users the possibility to rapidly transfer large volumes of data and keep their access line open; the take-up of broadband is considered a key indicator within the domain of ICT policy making. Widespread access to the Internet via broadband is seen as essential for the development of advanced services on the Internet, such as eBusiness, eGovernment or eLearning.

Broadband growth has continued in the last year throughout the EU, and the highest penetration rates show that roughly one third of all households has broadband. Digital Subscriber Line (DSL) remains the EU's main broadband technology, although alternatives such as cable, fibre optics, wireless local loops are seeing more widespread use.

#### **DEFINITION AND DATA AVAILABILITY**

Statisticians are well aware of the challenges posed by rapid technological change in areas related to the Internet and other new means of information and communication technology. As such, there has been a considerable degree of evolution in this area, with statistical tools being adapted to satisfy new demands for data. Statistics within this domain are re-assessed on an annual basis in order to meet user needs and reflect the rapid pace of technological change.

<sup>(120)</sup> For more information: http://ec.europa.eu/information\_society/ eeurope/i2010/index\_en.htm.

The data presented within this section are from Eurostat surveys on information and communication technologies in households and by individuals, and surveys on information and communication technologies in enterprises. These annual surveys on ICT use in enterprises and in households/by individuals can be used to benchmark ICT-driven developments. While the surveys initially concentrated on access and connectivity issues, their scope has subsequently been extended to cover a variety of socioeconomic breakdowns, so that regional diversity, gender specificity, age and educational differences are also covered. The scope of the surveys with respect to different technologies is also adapted so as to cover new product groups and means of delivering communication technologies to end-users (enterprises and households).

Households are defined as having at least one member in the age group 16 to 74 years old. Internet access refers to whether anyone in a household could use the Internet at home, if desired, even if just to send an e-mail. The most commonly used technologies to access the Internet are divided between broadband and dial-up access. Broadband includes digital subscriber lines (DSL) and uses technology that transports data at high speeds. A dial-up access using a modem can be made over a normal or an ISDN telephone line. Due to its limited bandwidth it is often referred to as narrowband.

A computer is defined as a personal computer that is run using one of the main operating systems (Macintosh, Linux or Microsoft); handheld computers or palmtops (PDAs) are also included.

The ordering of goods and services by individuals includes confirmed reservations for accommodation, purchasing financial investments, participation in lotteries and betting, Internet auctions, as well as information services from the Internet that are directly paid for. Goods and services that are obtained via the Internet for free are excluded. Orders made by manually written e-mails are also excluded.

The survey on ICT usage in enterprises covers enterprises with 10 or more persons employed. Its activity coverage is restricted to those enterprises whose principal activity is within NACE Sections D, F, G, I and K and Groups 55.1, 55.2, 92.1 and 92.2, in other words manufacturing, construction, distributive trades, hotels and accommodation, transport and communication, real estate, renting and business activities, motion picture, video, radio and television activities.

The indicator measuring enterprise turnover from e-commerce is shown as a percentage of the total turnover. E-commerce is defined as ordering or selling goods and services over computer mediated networks. On-line purchases or orders received exclude those relating to manually typed e-mail purchases or orders received.

Indicators relating to online access to public services show the percentage of 20 selected basic services which are fully available online, in other words, for which it is possible to carry out full electronic case handling. Measurement is based on a sample of URLs of public websites agreed with Member States as relevant for each service.

The indicators concerning the use of e-government services are based on usage during the three months prior to the survey for individuals and one year in the case of enterprises. They concern interaction with public authorities in one or more of the following activities: obtaining information from public authority websites, downloading official forms and submitting completed forms.

Data on information technology (IT) expenditure covers expenditure for IT hardware, equipment, software and other services.

#### **MAIN FINDINGS**

During the last decade, information and communication technologies (ICTs) have become widely available to the general public, in terms of accessibility as well as cost. In 2006 almost half (49 %) of all households in the EU-27 had an Internet access, with more households using broadband access (30 %), when compared with those that used a dial-up access or ISDN (slightly less than 20 %).

Some 80% of individuals living in a household with broadband connection accessed the Internet at least once a week. Some 41 % of all individuals declared they accessed Internet at home in 2006; the equivalent proportion accessing the Internet from their place of work was 22 %.

Widespread and affordable broadband access would appear to be one means of promoting the knowledge based and informed society. Half of some 20 basic public services that were surveyed across the EU-27 were available online in 2006. Almost one quarter (24 %) of all individuals made use of these public services online, mainly for obtaining information. Almost all (92 %) enterprises in the EU-27 had an Internet connection in 2006 and 73 % accessed the Internet using broadband connections. Almost two thirds (63 %) of enterprises made use of e-government services. A majority of enterprises used e-government services to obtain information and to download forms (55 % of all enterprises did both of these activities), while 44 % of enterprises returned filled in forms using e-government services.

Among the Member States there is a clear distinction between high levels of e-commerce take-up in some countries and low participation rates in others. The general pattern across Member States is one where a larger proportion of enterprises have made purchases online when compared with those that have received orders online (probably reflecting the greater complexity of setting up an online selling system compared with making purchases). Online purchases by enterprises were particularly important in Ireland, the United Kingdom and Germany, with about half of all enterprises purchasing goods or services online in 2006.

Compared with its main competitors, the EU has a relatively low share of ICT expenditure when expressed as a share of GDP. Indeed, expenditure on information technology represented 2.7% of GDP in the EU-27 in 2006, compared with 3.4 % in Japan and 3.3 % in the United States.

#### **SOURCES**

Statistical books Science, technology and innovation in Europe

Pocketbooks Science, technology and innovation in Europe – 2007 edition

Dedicated sections on the Eurostat website Information society

#### Website data

#### Information society statistics

Policy indicators Information society: structural indicators Computers and the Internet in households and enterprises E-commerce by individuals and enterprises

### Figure 12.10: Internet access of households

(% of all households)



(1) EU-25 for 2005.

(2) Not available for 2005

(3) Not available.(4) Not available for a statistical statist

(4) Not available for 2006.

Source: Eurostat (tsiir031)

Percentage of households who have Internet access at home. All forms of Internet use are included. The population considered is aged 16 to 74.



## **Figure 12.11: Internet access of households by type of connection, 2006** (% of all households)



**Figure 12.12: Individuals regularly using the Internet by type of connection, 2006** (% of all individuals aged 16 to 74)



Living in a household with a broadband connection



(1) EA-12.

(2) Broadband, not available.

Source: Eurostat (isoc\_ci\_ifp\_fu)

## Table 12.11: Place of Internet use by individuals, 2006

(% of individuals aged 16 to 74)

		Place of work	Place of	Other
	Home	(other than home)	education	places
EU-27	41	22	8	7
Euro area (1)	42	22	7	6
Belgium	53	21	6	3
Bulgaria	14	10	3	6
Czech Republic	31	20	9	3
Denmark	77	46	14	9
Germany	61	27	8	6
Estonia	46	28	11	4
Ireland	36	23	7	4
Greece	18	12	4	4
Spain	33	22	7	10
France	35	18	6	5
Italy	27	17	5	5
Cyprus	24	17	5	3
Latvia	31	22	9	9
Lithuania	29	17	11	7
Luxembourg	65	32	8	2
Hungary	29	19	12	7
Malta	:	:	:	:
Netherlands	77	39	9	3
Austria	47	29	6	3
Poland	26	13	10	6
Portugal	23	16	8	5
Romania	11	7	4	3
Slovenia	41	28	10	9
Slovakia	24	26	11	7
Finland	65	39	18	16
Sweden	77	38	12	5
United Kingdom	55	30	10	14
FYR of Macedonia	8	4	5	14
Iceland	80	49	20	15
Norway	73	47	12	11

(1) EA-12.

Source: Eurostat (isoc\_ci\_ifp\_pu)

#### Figure 12.13: Individuals' level of computer skills, 2006

(% of all individuals aged 16 to 74)



(1) Not available.

Source: Eurostat (tsc00039, tsc00040 and tsc00041)

This indicator presents the percentage of individuals who have carried out one or more of the following computer related activities: copied or moved a file or folder; used copy and paste tools to duplicate or move information within a document; used basic arithmetic formulas to add, subtract, multiply or divide figures in a spreadsheet; compressed files; connected and installed new devices, e.g. a printer or a modem; wrote a computer program using a specialised programming language.

## Figure 12.14: Individuals who ordered goods or services over the Internet for private use in the last three months

(% of all individuals aged 16 to 74)



Source: Eurostat (tsc00021)

This indicator covers all individuals aged 16 to 74. Financial investments are excluded.

#### Figure 12.15: E-government on-line availability, 2006

(% of online availability of 20 basic public services)



(1) Not available.

Source: Eurostat (tsiir100), Directorate-General for Information Society and Media

The indicator shows the percentage of the 20 basic services which are fully available online i.e. for which it is possible to carry out full electronic case handling. For example if in a country 13 of the 20 services were measured as being 100 % available on-line and one service was not relevant (e.g. does not exist), the indicator is 13/19 which is 68.4 %. Measurement is based on a sample of URLs of public web sites agreed with Member States as relevant for each service.

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	E-government usage by individuals			Individuals using the Internet for interacting with public authorities			
		<u> </u>		Obtaining	Downloading	Returning	
	Total	Male	Female	information	official forms	filled in forms	
EU-27	24	27	21	21	13	9	
Euro area	27	30	24	24	15	10	
Belgium	30	33	28	26	8	7	
Bulgaria	8	9	8	6	4	2	
Czech Republic	17	18	16	16	8	3	
Denmark	43	50	36	39	20	17	
Germany	32	36	29	28	18	9	
Estonia	29	30	28	27	17	17	
Ireland	26	27	24	21	19	14	
Greece	9	10	7	6	1	2	
Spain	25	28	22	24	14	7	
France	26	28	24	24	14	12	
Italy	16	19	13	15	11	5	
Cyprus	13	13	12	12	8	3	
Latvia	25	25	25	23	8	6	
Lithuania	13	12	13	13	7	6	
Luxembourg	46	57	35	36	35	17	
Hungary	17	18	16	14	11	5	
Malta	:	:	:	:	:	:	
Netherlands	52	61	42	46	27	30	
Austria	33	39	27	29	22	12	
Poland (1)	13	13	12	11	6	3	
Portugal	17	19	14	14	11	12	
Romania	3	3	3	3	1	1	
Slovenia	30	33	28	28	17	6	
Slovakia	32	35	29	27	17	7	
Finland	47	50	44	41	29	15	
Sweden (1)	52	56	47	49	31	21	
United Kingdom (1)	24	27	22	22	7	5	
FYR of Macedonia	15	19	11	12	5	2	
Turkey (1)	6	8	4	5	2	1	
Iceland	61	65	56	55	37	27	
Norway	57	61	54	52	30	28	
(1) 2005							

## Table 12.12: Individuals using the Internet for interacting with public authorities, 2006(% of all individuals aged 16 to 74)

(1) 2005.

Source: Eurostat (tsiir111, tsiir113, tsiir112 and tsc00018)

Percentage of individuals aged 16 to 74 who have used the Internet, in the last 3 months, for interaction with public authorities (i.e. having used the Internet for one or more of the following activities: obtaining information from public authorities web sites; downloading official forms; sending filled in forms). This indicator is broken down by purpose (obtaining information; obtaining forms; returning filled in forms) and covers all individuals aged 16 to 74.



(% of enterprises)

	Total	Small	Medium	Large
	(10 or more	(10 to 49 persons	(50 to 249 persons	(250 or more
	persons employed)	employed)	employed)	persons employed)
EU-27	17	13	30	55
Euro area	15	11	30	57
Belgium	27	21	50	71
Bulgaria	9	9	10	17
Czech Republic	19	15	31	48
Denmark	53	46	81	95
Germany	21	15	39	65
Estonia	22	18	34	53
Ireland	25	20	38	59
Greece	16	14	25	52
Spain	8	5	17	40
France	:	:	:	:
Italy	3	2	7	23
Cyprus	14	10	28	62
Latvia	7	5	12	27
Lithuania	12	11	13	30
Luxembourg	19	16	25	66
Hungary	10	8	16	36
Malta	:	:	:	:
Netherlands	35	29	56	85
Austria	20	16	37	64
Poland	4	3	8	15
Portugal	9	7	21	49
Romania	7	6	9	20
Slovenia	26	23	32	65
Slovakia	13	12	17	34
Finland	32	24	56	77
Sweden	39	34	59	84
United Kingdom	32	26	49	79
Iceland	47	42	67	66
Norway	49	44	78	94

(1) Enterprises with 10 or more full-time persons employed; enterprises that have their main activity in NACE Sections D, F, G, I and K or NACE Groups 55.1, 55.2, 92.1 and 92.2.

Source: Eurostat (isoc\_ci\_tw\_e)

	E-government	Obtaining	Downloading	Returning
	usage by enterprises	information	official forms	filled in forms
EU-27	63	55	55	44
Euro area	65	55	57	46
Belgium	59	53	44	37
Bulgaria	46	43	36	23
Czech Republic	76	72	66	32
Denmark	87	81	81	55
Germany	49	36	42	37
Estonia	69	66	64	54
Ireland	84	75	77	56
Greece	84	71	67	76
Spain	58	53	54	38
France	66	58	59	51
Italy	87	75	74	49
Cyprus	44	44	34	8
Latvia	40	37	35	21
Lithuania	76	68	74	56
Luxembourg	83	72	79	32
Hungary	45	43	42	28
Malta	:	:	:	:
Netherlands	70	63	64	61
Austria	81	56	76	54
Poland	61	50	47	56
Portugal	60	53	53	54
Romania	39	38	34	13
Slovenia	75	71	65	49
Slovakia	77	68	69	45
Finland	93	86	89	78
Sweden	80	78	78	53
United Kingdom	52	51	48	38
Iceland	95	85	79	81
Norway	74	68	68	62

Table 12.14: Enterprises using the Internet for interacting with public authorities, 2006 (1)(% of enterprises)

(1) Enterprises with 10 or more full-time persons employed; enterprises that have their main activity in NACE Sections D, F, G, I and K or NACE Groups 55.1, 55.2, 92.1 and 92.2.

Source: Eurostat (tsiir120 and tsc00019)

Percentage of enterprises using the Internet to interact with public authorities (i.e. having used the Internet for one or more of the following activities: obtaining information; downloading forms; filling-in web-forms). This indicator is broken down by purpose (obtaining information; obtaining forms; returning filled in forms) and covers all enterprises with 10 or more full-time employees. The enterprises have their main activity in NACE Sections: D, F, G, H (Groups 55.1 - 55.2), I, K, O (Groups 92.1 - 92.2 only).



## Figure 12.16: Internet access and broadband connections among enterprises, 2006 (1) (% of enterprises)

(1) Enterprises with 10 or more full-time persons employed; enterprises that have their main activity in NACE Sections D, F, G, I and K or NACE Groups 55.1, 55.2, 92.1 and 92.2.

(2) 2005.

#### Source: Eurostat (tsc00016 and tsc00017)

This indicator consists of enterprises with 10 or more full-time employees. The enterprises have their main activity in NACE Sections: D, F, G, H (Groups 55.1 - 55.2 only), I, K, O (Groups 92.1 - 92.2 only). The availability of broadband is measured by the percentage of enterprises that are connectable to an exchange that has been converted to support xDSL-technology, to a cable network upgraded for Internet traffic, or to other broadband technologies.



Figure 12.17: Proportion of enterprises' total turnover from e-commerce via Internet, 2006 (1) (%)

(1) Enterprises with 10 or more full-time persons employed; enterprises that have their main activity in NACE Sections D, G, I and K or NACE Groups 55.1 and 55.2.

- (2) 2004.(3) 2005.
- (4) Not available.

#### Source: Eurostat (tsiir080)

Information comes from the surveys carried out by the National Statistical Institutes on usage of information and communication technologies (ICT) by enterprises. The indicator is calculated as the enterprises' receipts from sales through the Internet as percentage of the total turnover. Sales through other networks are not included, leaving out for instance EDI-based sales. Only enterprises with 10 or more employees are covered. The year given relates to the survey year. The e-commerce data relates to the year prior to the survey.



Figure 12.18: Enterprises having received orders/made purchases online, 2006 (1) (% of enterprises)

(1) Enterprises with 10 or more full-time persons employed; enterprises that have their main activity in NACE Sections D, F, G, I and K or NACE Groups 55.1, 55.2, 92.1 and 92.2.

(2) 2005.

#### Source: Eurostat (tsc00022 and isoc\_ec\_ebuy)

This indicator covers online selling via Internet and EDI or other networks within the previous year. Only enterprises buying/selling more than 1 % online are included. Enterprises with 10 or more full-time employees are covered. The enterprises have their main activity in NACE Sections: D, F, G, H (Groups 55.1 - 55.2), I, K, O (Groups 92.1 - 92.2 only). The year given relates to the survey year. The e-commerce data relates to the year prior to the survey.



(% of GDP)



(1) Not available.

Source: Eurostat (tsiir071), European Information Technology Observatory (EITO)

Annual data on expenditure for IT hardware, equipment, software and other services as a percentage of GDP.



#### **INTRODUCTION**

The European telecommunications sector was historically characterised by public service, monopoly providers, often run in conjunction with postal services. Liberalisation moves began in the first half of the 1980s and, at first, concerned value added services or business users, while basic services were left in the hands of monopoly providers. By 1998, telecommunications were, in principle, fully liberalised across all of the Member States. The liberalisation of telecommunication markets has led to considerable reductions in prices. This may, in part, reflect the introduction of competition into a number of markets that were previously the domain of incumbent, monopoly suppliers, as well as reflecting technological changes that have increased capacity and made it possible to communicate not only by voice, but also over the Internet.

Main telephone lines are the traditional way of connecting to communication networks. They are usually used for voice telephony, but may also be used for accessing the Internet via a modem or dial-up connection. The rapid growth of the more powerful means to access the Internet (broadband) and mobile communications has eroded somewhat the market for traditional fixed telecommunication networks.

Mobile phones were first introduced into Europe during the early 1980s. Constrained by weight and power supply requirements, they were initially confined to cars. As mobile phones became lighter, cheaper and technically more advanced, their market grew rapidly from the second half of the 1990s.

#### **DEFINITION AND DATA AVAILABILITY**

Eurostat's data collection exercise in relation to telecommunications statistics is conducted through the use of a predefined questionnaire (TELECOM), which is sent on annual basis to the national statistical institutes. They collect information from their relevant regulatory authorities and send the completed questionnaires back to Eurostat.

Indicators presented in relation to market share refer to fixed-line telecommunications and mobile telephony. The market share of the incumbent for fixed-line telephony is defined as the enterprise active in the market just before liberalisation and is calculated on the basis of retail revenues.

Indicators relating to the mobile market refer to the number of subscriptions to public cellular mobile telecommunication systems and also include active pre-paid cards. Note that an increasing number of people have multiple mobile subscriptions (for example, for private and work use).

Data on expenditure for telecommunications covers hardware, equipment, software and other services. Both of these indicators are included within the structural indicators. The data are not collected by Eurostat; further methodological information is available at: http://www.eito.com/.

Telecommunications prices are based on the price (including VAT) in euro of a 10-minute call at 11 am on a weekday in August, based on normal rates. Three markets are presented, namely a local call (3 km), a national long distance call (200 km) and an international call (to the United States). These indicators are included within the structural indicators. The data are not collected by Eurostat; further methodological information is available at: http://www.teligen.com/.

#### **MAIN FINDINGS**

Although overall expenditure on telephony has increased, the proportion accounted for by ex-monopoly providers has generally been reduced, as the share of the total telecommunication market accounted for by fixed-line voice operations has shrunk, while growth has been concentrated in areas associated with mobile and other data service providers.

The relative importance of telecommunications expenditure was higher, accounting for 3.0 % of GDP in the EU-27 in 2006, compared with 2.1 % in the United States and 4.2 % in Japan.

In 2005, the rate of mobile subscriptions per 100 inhabitants often stood close to 100, and in 13 of the Member States even surpassed this level; note that one person may have more than one subscription, privately or for professional use.

Mobile telephony generally displays much lower market shares for incumbents than traditional fixed line telephony. In 2006, the market share of the leading operator in mobile telecommunications averaged 39 % in the EU-25, compared with a 56 % market share for the incumbent in fixed telecommunications in relation to international calls. The relative importance of incumbents was considerably higher for national long distance and local calls, rising to averages of 66 % and 72 % respectively.

The price of telecommunications fell between 2004 and 2006 in a large number of Member States. Price reductions were most apparent for national long distance and international calls (defined here as calls to the United States), as on average in the EU-25 the price of a national long distance call was reduced by almost 20 % overall between 2004 and 2006, while the price of an international call was reduced by almost 16 %. In comparison, there was a modest reduction in the price of a local call, which was reduced by less than 3 %. The prices of local, national long distance or international calls varied greatly across the Member States in 2006. Local and national distance calls were most expensive in Slovakia, while the price of international calls was highest in Latvia. The cheapest tariff for local calls was found in Spain, for national long distance calls in Cyprus, and for calls to the United States in Germany.

## SOURCES

**Statistical books** Science, technology and innovation in Europe

#### Pocketbooks

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#### Dedicated sections on the Eurostat website Information society

#### Website data

#### Information society statistics

Information society: structural indicators Computers and the Internet in households and enterprises

## Figure 12.20: Telecommunications expenditure, 2006 (% of GDP)



(1) Not available.

Source: Eurostat (tsiir072), European Information Technology Observatory (EITO)

Annual data on expenditure for telecommunication hardware, equipment, software and other services as a percentage of GDP.

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#### Figure 12.21: Market share of the incumbent in fixed telecommunications, 2005 (% of total market)

(1) 2003

(2) Local calls, not available.

2004 for local calls. (3)

(4) National long distance calls, not available.

(5) Not available

Source: Eurostat (tsier0321 and tsier0322), National Regulatory Authorities

The incumbent is defined as the enterprise active on the market just before liberalisation. The market share is calculated as the share of the incumbent's retail revenues of the total market.



Figure 12.22: Market share of the incumbent in fixed telecommunications, international calls, 2005 (% of total market)

(1) 2004. (2) Not available.

Source: Eurostat (tsier033), National Regulatory Authorities

## Figure 12.23: Mobile phone subscriptions, 2005

(average number of subscriptions per 100 inhabitants)



(1) Source: International Telecommunication Union (ITU).

Source: Eurostat (tsc00014)

This indicator shows the number of subscriptions to public mobile telecommunication systems using cellular technology related to the population. The total number of mobile subscriptions in the country is divided by the number of inhabitants of the country and multiplied by 100. Active pre-paid cards are treated as subscriptions. One person may have more than one subscription.



**Figure 12.24: Market share of the leading operator in mobile telecommunications, 2006** (% of total market)

(1) Not available.

(2) 2005.

Source: Eurostat (tsier033), National Regulatory Authorities

The market share of the leading operator is calculated on the basis of the estimates of the number of mobile subscribers. The share of the leading operator of all subscriptions in mobile telecommunication is given.

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## Figure 12.25: Price of fixed telecommunications, 2006

(EUR per 10-minute call)



(1) No distinction between local and national long distance; all calls are local.

(2) Not available.(3) 2005.

Source: Eurostat (tsier0211 and tsier0212), Teligen

The first indicator gives the price in euro of a 10-minute call at 11 am on a weekday (including VAT) for a local call (3 km).

The second indicator gives the price in euro of a 10-minute call at 11 am on a weekday (including VAT) for a national call (200 km). The prices refer to August each year. Normal tariffs without special rates are used.

## Table 12.15: Price of fixed telecommunications

(EUR per 10-minute call)

	National									
	Local calls			long	long distance calls			Calls to the United States		
	2004	2005	2006	2004	2005	2006	2004	2005	2006	
EU-25	0.37	0.35	0.36	0.92	0.76	0.74	2.13	2.11	1.79	
Belgium	0.57	0.57	0.57	0.57	0.57	0.57	1.98	1.98	1.98	
Bulgaria	:	:	:	:	:	:	:	:	:	
Czech Republic	0.56	0.56	0.56	1.46	1.13	0.56	3.64	2.02	2.02	
Denmark	0.37	0.37	0.37	0.37	0.37	0.37	2.38	2.38	2.38	
Germany	0.42	0.39	0.39	1.20	0.49	0.49	1.23	1.23	0.46	
Estonia	0.23	0.23	0.23	0.23	0.23	0.23	2.26	2.10	2.13	
Ireland	0.49	0.49	0.49	0.82	0.82	0.82	1.91	1.91	1.91	
Greece	0.31	0.31	0.31	0.73	0.74	0.74	2.91	2.93	3.49	
Spain	0.28	0.28	0.19	0.88	0.84	0.85	1.53	1.53	1.53	
France	0.39	0.33	0.36	0.96	0.83	0.89	2.24	2.27	2.32	
Italy	0.25	0.22	0.22	1.15	1.15	1.15	2.12	2.12	2.12	
Cyprus	0.20	0.22	0.22	0.20	0.22	0.22	0.80	0.66	0.66	
Latvia	0.36	0.36	0.36	1.03	1.03	1.03	5.94	5.94	5.94	
Lithuania	0.39	0.39	0.39	0.79	0.79	0.79	4.07	4.07	4.07	
Luxembourg	0.31	0.31	0.31	:	:	:	1.37	1.37	1.37	
Hungary	0.41	0.41	0.40	1.09	1.09	1.04	2.43	2.97	2.88	
Malta	0.25	0.25	0.25	:	:	:	1.65	1.77	1.64	
Netherlands	0.33	0.33	0.33	0.49	0.49	0.49	0.85	0.85	0.85	
Austria	0.49	0.49	0.49	0.59	0.59	0.59	1.90	1.90	1.90	
Poland	0.35	0.30	0.50	1.22	1.22	1.00	3.67	3.74	1.23	
Portugal	0.40	0.37	0.37	0.65	0.65	0.65	3.06	3.11	3.11	
Romania	:	:	:	:	:	:	:	:	:	
Slovenia	0.26	0.26	0.26	0.26	0.26	0.26	1.75	1.40	1.40	
Slovakia	0.60	0.60	0.60	1.29	1.23	1.29	3.02	3.02	1.23	
Finland	0.24	0.24	0.24	0.90	0.94	0.94	4.77	4.90	4.90	
Sweden	0.29	0.29	0.29	0.29	0.29	0.29	1.06	1.06	1.18	
United Kingdom	0.44	0.44	0.44	0.44	0.44	0.44	2.08	2.08	2.23	
Norway	0.32	0.34	:	0.32	0.34	:	0.82	0.77	:	
Japan	0.25	0.25	0.25	1.02	1.02	1.02	4.39	4.39	4.34	
United States	0.07	0.07	0.07	1.03	1.03	1.03	-	-	-	

Source: Eurostat (tsier0211, tsier0212 and tsier0213), Teligen

The indicator gives the price in euro of a 10-minute call at 11 am on a weekday (including VAT) for an international call (to the United States). The prices refer to August each year. Normal tariffs without special rates are used.

## **Europe's regions**




## **INTRODUCTION**

The EU's regional policy aims to strengthen economic, social and territorial cohesion by reducing disparities in the level of development among regions and Member States. Its three main concerns are:

- convergence, under which the poorest Member States and regions are eligible, accounting for around 82 % of the funds available in the period 2007 to 2013;
- regional competitiveness and employment, accounting for around 16 % of the funds available in the period 2007 to 2013;
- European territorial cooperation, accounting for around 2.5 % of the funds available in the period 2007 to 2013.

The main instruments of regional policy are the structural and cohesion funds.

- The European Regional Development Fund (ERDF) operates in all Member States and co-finances physical investments and, to a limited extent, training for citizens.
- The European Social Fund (ESF) will be implemented in line with the European Employment Strategy.
- The Cohesion Fund co-finances mainly transport and environment projects in Member States whose gross national income per inhabitant is less than 90 % of the EU average.
- The regional development component, as well as the crossborder cooperation component of the new Instrument for Pre-Accession (IPA), helps candidate countries to develop their competitiveness, particularly through the development of transport networks and environmental infrastructure.

The ERDF is concentrated on the poorest regions in terms of gross domestic product per inhabitant. It aims to strengthen economic and social cohesion in the EU by correcting imbalances between its regions. The fund can intervene in the three objectives of regional policy. In regions covered by the convergence objective, it focuses its intervention on modernising and diversifying economic structures as well as safeguarding or creating sustainable jobs. Concerning regional competitiveness and employment, the priorities of the ERDF are innovation and the knowledge-based economy, environment and risk prevention, and access to transport and telecommunications services of general economic interest. With respect to European territorial cooperation, the ERDF is concerned with the development of economic and social cross-border activities, the establishment and development of transnational cooperation, and increasing the efficiency of regional policy through interregional promotion and cooperation, as well as the networking and exchange of experiences between regional and local authorities.

The ESF sets out to improve employment and job opportunities in the EU. It intervenes in the framework of the convergence and regional competitiveness and employment objectives. The ESF supports actions in Member States and will focus on four key areas: increasing adaptability of workers and enterprises (lifelong learning schemes, designing and spreading innovative working organisations); enhancing access to employment and participation in the labour market; reinforcing social inclusion by combating discrimination and facilitating access to the labour market for disadvantaged people; and promoting partnership for reform in the fields of employment and inclusion. The Cohesion Fund is aimed at Member States whose gross national income per inhabitant is less than 90 % of the EU average. It serves to reduce their economic and social shortfall, as well as to stabilise their economy. It supports actions in the framework of the convergence objective. For the 2007-2013 period, the Cohesion Fund concerns Bulgaria, the Czech Republic, Estonia, Greece, Cyprus, Hungary, Latvia, Lithuania, Malta, Poland, Portugal, Romania, Slovenia and Slovakia; Spain is eligible to a phase-out fund only. The Cohesion Fund finances activities under two categories: trans-European transport networks, notably priority projects of European interest; and the environment, also supporting projects related to energy or transport, as long as they clearly present a benefit to the environment.

## **DEFINITIONS AND DATA AVAILABILITY**

Comparable regional statistics form an important part of the European statistical system, and have been collected for several decades. Eurostat's regional statistics cover the principal features of economic and social life within the EU. The concepts and definitions used for these regional statistics are as close as possible to those used for the production of statistics at a national level.

All statistics at a regional level within the EU are based on the nomenclature of territorial units for statistics (NUTS). The NUTS classification has been used for many decades for regional statistics, but it was only in 2003 that NUTS acquired a legal basis. As new Member States have joined the EU the NUTS Regulation has been amended to include the regional classification in those countries. This was the case in 2004, when the EU took in 10 new Member States, and again in 2007 when Bulgaria and Romania became members. A review of the NUTS classification was conducted in 2006 and a revised version is expected to be put in place during the course of 2008.

NUTS is a hierarchical classification; it subdivides each Member State into a number of regions at NUTS 1 level. Each of these is then subdivided into regions at NUTS 2 level, and these in turn into regions at NUTS 3 level. The NUTS regions are, in general, administrative units, reflecting the remit of local authorities. Administrative regions are generally adopted by statisticians as the most appropriate units for data collection, processing and dissemination.

Since 2004, Eurostat has also collected and published urban statistics, measuring the 'quality of life' through a set of some 280 indicators for 258 cities within the EU. Data are available for three levels: the core city; larger urban zones; and for sub-city districts. This project is called the Urban Audit. In 2006 a new Urban Audit data collection started for 284 cities including 26 from Turkey.

# **MAIN FINDINGS**

The maps presented here illustrate the diversity of Europe's regions. They show that for many economic and social aspects, quite large variations can also be found within a given country. In most cases, the capital region of a country is economically better off than the more rural areas.

The richest European regions in 2004, as defined by GDP per inhabitant, were concentrated within the major conurbations of the EU-15 Member States, with inner London topping the list. Among the top 20 regions Prague stood out as the only region from the countries that have joined the EU since 2004, and was ranked in 12th place of the 268 regions within the EU-27 Member States for which data are presented. The ten poorest regions (using this measure) were in Bulgaria and Romania, with Polish and Romanian regions making up most of those regions ranked between 10th and 20th poorest. The region at the top of the ranking was more than twelve times as rich as the one at the bottom.

The widest disparities in the distribution of wealth creation between the regions within a country were recorded in the United Kingdom, France, Belgium and Slovakia. In each of these cases the highest GDP per inhabitant was recorded for the region including the capital city, and the exclusion of this region narrows considerably the distribution. The pattern of the highest GDP per inhabitant being recorded in the region with the capital city was not observed in all of the Member States, as for example, Hamburg was the wealthiest region in Germany, Åland the wealthiest in Finland, while the province of Lombardia was the wealthiest in Italy. Care should be taken with the interpretation of data on GDP per inhabitant as it is based on calculation of GDP where it is created divided by the population where it is resident, and as such the ratio is influenced by commuters working in one region but living in another: the very high GDP per inhabitant within Inner London can, at least in part, be explained by this.

In stark contrast to the level of GDP per inhabitant, several regions of Bulgaria and Romania as well as the three Baltic Member States (Estonia, Latvia and Lithuania) recorded strong growth in GDP per inhabitant: an analysis of the period 2000 to 2004 shows that the top 15 regions within the EU-27 for the growth of GDP per inhabitant included eight from Romania, two from Bulgaria, the three Baltic Member States, as well as one region each from Hungary and Slovakia. Six Romanian and one of the Bulgarian regions averaged growth in excess of 10 % per annum during this period, and the highest growth was 13.3 % in the Vest region of Romania. The slowest growing regions included Malta, 15 regions in Italy, and four in Portugal, with four of the Italian regions and one Portuguese region recording a fall in GDP per inhabitant over the period considered, the largest reduction being an average of 1.5 % per annum in Abruzzo.

# SOURCES

Statistical books Eurostat regional yearbook 2007

# Methodologies and working papers

More information on NUTS, the Regulation and its application can be found on the Eurostat website at: http://ec.europa.eu/eurostat/ramon/nuts/splash\_regions.html.

# **Dedicated sections on the Eurostat website**

Regions Portrait of the regions Geographic information system (GISCO)

# Website data

# General and regional statistics

Regional statistics

Regional agriculture statistics Regional demographic statistics Regional economic accounts – ESA95 Regional education statistics Regional environment and energy statistics Regional science and technology statistics Regional structural business statistics Regional health statistics Regional tourism statistics Regional transport statistics Regional labour market statistics Regional labour costs statistics Urban audit



Map 13.1: Gross domestic product (GDP) per inhabitant, by NUTS 2 regions, 2004 (PPS per inhabitant)

Source: Eurostat (tgs00005)

GDP (gross domestic product) is an indicator of the output of a country or a region. It reflects the total value of all goods and services produced less the value of goods and services used for intermediate consumption in their production. Expressing GDP in PPS (purchasing power standards) eliminates differences in price levels between countries. Calculations on a per inhabitant basis allow for the comparison of economies and regions significantly different in absolute size. GDP per inhabitant in PPS is the key variable for determining the eligibility of NUTS 2 regions in the framework of the European Union's structural policy.

Europe's regions

Contraction of the

Map 13.2: Average annual growth rate of gross domestic product (GDP) per inhabitant, by NUTS 2 regions, 2000-2004

(% per annum)



Source: Eurostat (tgs00005)



# Map 13.3: Population density, by NUTS 2 regions, 2004

(inhabitants per km<sup>2</sup>)



Source: Eurostat (tgs00024)

Total population divided by the surface area. For the calculation of population density, the land area concept (excluding inland water bodies like lakes or rivers) should be used wherever available. In several countries the total area, including area of lakes and rivers, is used because it is the only concept for which data are available.

Map 13.4: Average annual growth rate of population, by NUTS 2 regions, 1 Jan. 2000 – 1 Jan. 2005

(% per annum)



Source: Eurostat (reg\_d2jan)

1



Map 13.5: Old age dependency, population ratio by age: > 64 / 15-64, by NUTS 2 regions, 2005 (%)

Source: Eurostat (reg\_d2jan)

# Map 13.6: Disposable income, by NUTS 2 regions, 2004 (EUR per inhabitant)



Source: Eurostat (tgs00026)

The disposable income of private households is the balance of primary income (operating surplus/mixed income plus compensation of employees plus property income received minus property income paid) and the redistribution of income in cash. These transactions comprise social contributions paid, social benefits in cash received, current taxes on income and wealth paid, as well as other current transfers. Disposable income does not include social transfers in kind coming from public administrations or non-profit institutions serving households.

# Map 13.7: Employment rate, by NUTS 2 regions, 2005 (%)



Source: Eurostat (tgs00007)

Regional (NUTS level 2) employment rate of the age group 15-64 represents employed persons aged 15-64 as a percentage of the population of the same age group. The indicator is based on the EU Labour Force Survey (LFS). The survey covers the entire population living in private households and excludes those in collective households such as boarding houses, halls of residence and hospitals. The employed persons are those aged 15-64, who during the reference week did any work for pay, profit or family gain for at least one hour, or were not at work but had a job or business from which they were temporarily absent.





Map 13.8: Old age employment rate, by NUTS 2 regions, 2005 (%)

Source: Eurostat (reg\_lfe2emprt)

# Map 13.9: Unemployment rate, by NUTS 2 regions, 2005 (%)



Source: Eurostat (tgs00010)

Regional (NUTS level 2) unemployment rate represents unemployed persons as a percentage of the economically active population (i.e. labour force or sum of employed and unemployed). The indicator is based on the EU Labour Force Survey (LFS). Unemployed persons comprise persons aged 15-74 who were (all three conditions must be fulfilled simultaneously): 1) without work during the reference week; 2) currently available for work; 3) actively seeking work or who had found a job to start within a period of at most three months. The employed persons are those aged 15-64, who during the reference week (id any work for pay, profit or family gain for at least one hour, or were not at work but had a job or business from which they were temporarily absent.



(coefficient of variation)

	1999	2000	2001	2002	2003	2004	2005
EU-27	12.9	13.0	13.1	13.1	12.7	12.1	11.9
Belgium	8.0	7.9	8.0	8.0	7.7	8.7	8.4
Bulgaria	:	:	:	:	:	6.9	7.2
Czech Republic	5.6	5.8	5.7	5.6	5.8	5.6	5.5
Denmark	:	:	:	:	:	:	:
Germany	5.5	5.7	6.1	5.8	6.0	6.2	5.7
Estonia	-	-	-	-	-	-	-
Ireland	-	-	-	-	-	-	-
Greece	5.2	5.1	4.3	3.8	3.2	4.1	4.3
Spain	10.8	10.7	10.0	9.3	9.0	8.7	8.3
France	7.1	6.9	8.3	8.0	7.2	7.1	7.3
Italy	17.4	17.5	17.1	16.7	17.0	15.6	16.0
Cyprus	-	-	-	-	-	-	-
Latvia	-	-	-	-	-	-	-
Lithuania	-	-	-	-	-	-	-
Luxembourg	-	-	-	-	-	-	-
Hungary	9.1	9.0	8.8	9.4	8.5	9.4	9.9
Malta	-	-	-	-	-	-	-
Netherlands	2.3	2.2	2.3	2.2	2.3	2.3	2.0
Austria	2.3	2.5	2.6	2.5	3.0	3.5	4.1
Poland	4.8	6.9	7.2	7.3	7.2	6.4	5.6
Portugal	3.6	4.3	3.5	3.8	3.9	3.5	3.3
Romania	4.2	4.6	5.6	3.2	3.5	4.9	4.5
Slovenia	-	-	-	-	-	-	-
Slovakia	8.1	9.1	8.3	7.3	7.6	9.0	9.8
Finland	6.7	6.8	7.0	6.7	6.1	5.5	5.5
Sweden	4.8	4.5	4.2	4.6	4.3	4.4	3.0
United Kingdom	7.5	7.1	6.8	6.6	6.1	5.9	5.7
Iceland	-	-	-	-	-	-	-
Norway	2.4	2.4	2.2	1.6	1.6	1.7	1.3

(1) Variation of employment rates for the age group 15-64 across regions (NUTS 2 level) and within countries.

Source: Eurostat (tsisc041)

The dispersion of regional (NUTS level 2) employment rates of the age group 15-64 shows the regional differences in employment within countries and groups of countries (EU-27, euro area). The employment rate of the age group 15-64 represents employment rates is zero when the employment rates in all regions are identical, and it will rise if there is an increase in the differences between employment rates among regions. The indicator is not applicable for Denmark, Estonia, Ireland, Luxembourg, Cyprus, Latvia, Lithuania, Malta, Slovenia or Iceland as these countries comprise only one or (in the case of Ireland) two NUTS level 2 regions. However, the employment rates for groups of countries. Regional employment rates represent annual average figures and are taken from the EU Labour Force Survey (LFS).





Effective economic and political decision-making depends on the regular supply of reliable information. Statistics are one of the principle sources of such information, providing essential quantitative support to the elaboration and implementation of policies. Statistics are also a powerful tool for communicating with the general public.

The information needs of politicians require constant interaction between policymakers and statisticians: the former formulate their needs for data, and the latter attempt to adapt the statistical production system so as to fulfil those needs. In this fashion, new policies lead to improvements in statistical production, both in terms of enhancing the quality of existing indicators and of creating new ones.

Whereas politicians require aggregated indicators which provide a synthetic and clear picture of the different phenomena they are interested in, statisticians tend to deal with less aggregated basic data. Statisticians therefore have to transform, synthesise and model basic data in order to increase data readability and extract signals (i.e. indicators).

Over recent years, three particularly significant policies have substantially influenced Eurostat's priorities and activities:

- economic and monetary union (EMU) and the creation of the euro area (1999);
- the Lisbon strategy (2000, re-focused in 2005);
- the sustainable development strategy (2001, renewed in 2006).

Economic and monetary union and the setting-up of the European Central Bank (ECB) required a broad range of infraannual short-term statistics to measure economic and monetary developments within the euro area and to assist in the implementation of a common monetary policy. Effective monetary policy depends on timely, reliable and comprehensive economic statistics giving an overview of the economic situation. Such data are also needed for the assessment of the business cycle.

However, measuring economic and monetary developments within the euro area is not the only concern of European policies. Europeans place a high value on their quality of life, including aspects such as a clean environment, social protection, prosperity and equity. In recent years the European Council has focused on a number of key areas intended to shape the future development of the EU, in particular by adopting two complementary strategies. While the goal of the Lisbon strategy is for the EU to 'become the most competitive and dynamic knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion', sustainable development strategy is concerned with the continuous improvement of quality of life, both for current and for future generations, through seeking a balance between economic development, social cohesion and protection of the environment.

Eurostat has responded to politicians needs in these new areas by developing three sets of indicators:

- Euro-Indicators, of which the Principal European Economic Indicators (PEEIs) are the core, for monetary policy purposes;
- structural indicators, for the Lisbon strategy, used to underpin the Commission's analysis in an annual progress report to the European Council;
- sustainable development indicators, extending across a wide range of issues affecting quality of life, including environmental, social, economic and governance issues.

These indicators have been developed by experts and agreed at a political level. They are being continuously monitored, improved and reviewed in order to be in line with evolving policy requirements.

The challenge of free dissemination and the growth of the Internet, which extend citizens' possibilities to be fully informed, have led Eurostat to create three 'special topics' on its website, linked to the three collections of indicators and related policies mentioned above. This chapter briefly presents the main characteristics of these three areas.

# **EURO-INDICATORS/PEEIS**

Since October 2001 the Euro-Indicators/PEEIs web pages have been a reference point for all users of official statistics dealing with short-term data. Euro-Indicators/PEEIs was initially conceived as an independent website, available in parallel to the Eurostat website. However, since October 2004, Euro-Indicators/PEEIs have been integrated into the Eurostat website as a so-called 'special topic'. It is possible to access Euro-Indicators/PEEIs either from Eurostat's homepage or directly via the following link: http://ec.europa.eu/euroindicators. It is also possible to e-mail the Euro-Indicators/PEEIs team at: ESTAT-EUROINDICATORS@ec.europa.eu. Euro-Indicators/PEEIs aims to supply business-cycle analysts, policymakers, media, researchers, students, and other interested users with a comprehensive, well structured and high quality set of information which is useful in their daily activities. The core of Euro-Indicators/PEEIs comprises a set of statistical indicators giving an accurate and as timely as possible overview of the economic evolution of the euro area, the EU, and the individual Member States. Moreover, Euro-Indicators contains the following additional products and services intended to assist in the understanding and analysis of data:

- Principal European Economic Indicators (PEEIs),
- background,
- data,
- publications,
- news releases,
- methodology.

# **EURO-INDICATORS/PEEIS DATA**

The data presented in Euro-Indicators/PEEIs are built around a set of the most relevant statistical indicators, called Principal European Economic Indicators, a complete list of which can be found in the Commission communication COM(2002) 661. Euro-Indicators/PEEIs includes detailed breakdowns for PEEIs, as well as additional qualitative and quantitative indicators which are useful to give an overall picture of the economic situation in Europe. They are structured in three main parts:

- selected Principal European Economic Indicators (containing 22 selected indicators for the euro area and European Union) directly accessible on the Euro-Indicators/PEEIs homepage;
- key short-term indicators (a subset of pre-defined tables);
- European and national short-term statistics database (Euroind).

Both the key short-term indicators and the Euroind database are divided into the following eight domains:

- balance of payments,
- business and consumer surveys,
- consumer prices,
- external trade,
- industry, commerce and services,
- labour market,
- monetary and financial indicators,
- national accounts.

1/

The new Euro-indicators/PEEIs homepage launched in October 2007 gives a general overview of the economic situation of the euro area and European Union. bringing together in one single place a set of the most relevant and timely short-term economic indicators for the euro area and the European Union. This webpage provides policy makers, analysts, academics, the media, and the public with essential information for decision making, economic analysis and research. Key short-term indicators predefined tables are the easiest way to look at the most recent data, being user-friendly and offering a graphical view of the most recent evolution, together with a short explanatory text; a download facility is also provided for the 320 tables that are currently available.

The Euroind database (accessible either from the Euro-Indicators pages or from the data dissemination tree on the Eurostat website) constitutes a large database of infra-annual macroeconomic indicators; about 70 000 series are currently available and these can be selected and downloaded in a variety of formats.

# **META-DATA**

In conformity with Eurostat standards, the Euro-Indicators data are documented in accordance with the International Monetary Fund's (IMF) special data dissemination standard (SDDS). SDDS files are regularly monitored and revised so that they are in line with the published data. The creation of a more user-oriented meta-data set is one of the objectives of the Euro-Indicators team.

#### **QUALITY REPORTS**

Since 2001, the Euroind database has been subject to monthly quality monitoring. The results of this assessment are presented in a detailed online publication called 'State of affairs', accessible from the tab entitled 'Publications' within the Euro-Indicators/PEEIs 'special topic'. A synthesis of this monthly assessment is presented in another online publication, entitled the 'Monitoring report', which is also accessible from the same tab.

# PUBLICATIONS AND WORKING PAPERS

The main publication produced by the Euro-Indicators team is the monthly 'Eurostatistics'. It presents a synthetic picture of the economic situation together with d etailed statistical analysis of the latest economic events for the euro area, EU and the Member States. The current issue of 'Eurostatistics' is accessible from the Euro-Indicators/PEEIs home page as an essential product. Past issues are accessible from the 'Publications' tab within the Euro-Indicators/PEEIs 'special topic' at the top of the page. Moreover, under the same tab users can find the collection of Euro-Indicators selected readings and working papers, containing both methodological and empirical studies on statistical improvements and analyses of European data.

#### **OTHER PRODUCTS AND SERVICES**

The Euro-Indicators/PEEIs 'special topic' also provides users with access to the European release calendar for infra-annual statistics, which is updated on a weekly basis, as well as access to related press releases – both of these are found within the tab entitled 'news releases'. In addition, a monthly online newsletter is accessible from the 'Publications' tab. The newsletter contains short articles, news from the Members States and Eurostat, announcements, useful links, etc. Note that all papers and proceedings presented in conferences in relation to Euro-Indicators are also available on the Euro-Indicators/PEEIs 'special topic' under the tab for methodology by selecting the final point concerning 'Eurostat seminars and conferences'.

## PLANNED IMPROVEMENTS

Euro-Indicators/PEEIs is constantly evolving to meet user needs. The main improvements for 2008 will concern the improvement of the new Euro-Indicators/PEEIs homepage and the methodological pages. Concerning the new Euro-Indicators/PEEIs page, new features and facilities will be added and the list of indicators updated. A new set of methodological pages related to key topics, such as flash estimates, back-recalculation, interpolation and extrapolation, seasonal adjustment, businesscycle analysis, and the construction of coincident and leading indicators will be progressively implemented within the 'Methodology' tab. These pages will cover methodological papers, online bibliographies, software and routines, links to specialised sites and, whenever possible, new indicators or quantitative analyses (documented in SDDS format) produced on the basis of advanced statistical techniques.

## **STRUCTURAL INDICATORS**

At the Lisbon European Council in spring 2000, the EU set itself the following strategic goal for the next decade: 'to become the most competitive and dynamic knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion'.

The Council recognised the need to regularly discuss and assess progress made in achieving this goal on the basis of a commonly agreed set of structural indicators and to this end, invited the European Commission to draw up an annual spring report on progress being made. This report was to be based on the evolution of structural indicators in the following areas:

- general economic background,
- employment,
- innovation and research,
- economic reform,
- social cohesion,
- environment (since 2002).

For the first time, in 2004, the European Commission presented a shortlist of 14 structural indicators which were included in the statistical annex to its spring report to the European Council. This shortlist was agreed with the Council; its concise layout makes it easier to present policy messages and the Member States' positions with regard to the key Lisbon targets. The same shortlist indicators were presented in the annexes of subsequent annual progress reports to the European Council.

# SHORTLIST OF STRUCTURAL INDICATORS General economic background

- GDP per capita in PPS
- Labour productivity

# **Employment**

- Employment rate
- Employment rate of older workers

#### **Innovation and research**

- Youth educational attainment (20 to 24)
- Gross domestic expenditure on R & D

## **Economic reform**

- Comparative price levels
- Business investment

#### **Social cohesion**

- At risk-of-poverty rate after social transfers
- Long-term unemployment rate
- Dispersion of regional employment rates

# Environment

- Greenhouse gas emissions
- Energy intensity of the economy
- Volume of freight transport relative to GDP

The Lisbon strategy has entered a new phase since the spring of 2005, with the spotlight on delivering results, focusing on growth and jobs. By submitting national reform programmes, Member States have accepted a new responsibility, setting out detailed commitments for action. At the same time, Community programmes specify what has to be done at an EU level. National reform programmes provide the basis for the reform agenda, prioritising growth and employment.

Time-series are presented for the EU-27, the euro area, the Member States, the candidate countries, the EFTA countries, Japan and the United States (subject to data availability).

More information regarding structural indicators may be found on Eurostat's website at: http://ec.europa.eu/ eurostat/structuralindicators. Alternatively, for further information, contact Eurostat's structural indicators co-ordination team, at:

estat-structuralindicators@ec.europa.eu.

# SUSTAINABLE DEVELOPMENT INDICATORS

The European Union's Sustainable Development Strategy, adopted by the European Council in Gothenburg in June 2001, and renewed in June 2006, aims to continuously improve quality of life, both for current and for future generations, through reconciling economic development, social cohesion and protection of the environment. A set of sustainable development indicators has been developed to monitor progress in the implementation of the sustainable development strategy. The indicators are organised under ten different themes that reflect different political priorities: socio-economic development, sustainable consumption and production, social inclusion, demographic changes, public health, climate change and energy, sustainable transport, natural resources, global partnership, and good governance.

Each theme is further divided into sub-themes to organise the set of indicators in a way that reflects the operational objectives and actions of the sustainable development strategy. In order to facilitate communication, the set of indicators has been built as a three-level pyramid. This distinction between the three levels of indicators reflects the structure of the renewed strategy (overall objectives, operational objectives, actions) and also responds to different kinds of user needs, with the headline indicators having the highest communication value, as described in the figure below.



Indicator	Hierarchical		
level	framework	Objectives	Users targeted
Level 1	Themes	Headline indicators for initial policy analysis and monitoring progress towards headline policy objectives	High-level policy makers and general public
Level 2	Sub-themes	Evaluation of core policy areas and more detailed monitoring of progress in achieving headline objectives	Policy makers and general public
Level 3	Areas to be addressed (special issues within themes, and various measures implementing headline objectives)	Further policy analysis and better understanding of the trends and complexity of issues associated with the theme or interlinkages with other themes in the framework	More specialised audience (e.g. academic community)

The three-levels are complemented with contextual indicators, which do not monitor directly the strategy's objectives, but provide valuable background information for analysis. The SDI data set also describes indicators which are not yet fully developed but which will, in the future, be necessary to get a more complete picture of progress, differentiating between indicators that are expected to become available within two years, with sufficient quality ('indicators under development'), and those to be developed in the longer term ('indicators to be developed').

# HEADLINE SUSTAINABLE DEVELOPMENT INDICATORS Economic development

Growth rate of GDP per capita

# **Production and consumption patterns**

Resource productivity

# Poverty and social exclusion

At-risk-of-poverty rate after social transfers

# Ageing society

Employment rate of older workers

#### **Public health**

Healthy life years at birth, by gender

# **Climate change and energy**

- Total greenhouse gas emissions
- Renewables in gross inland energy consumption

#### **Transport**

Energy consumption by transport mode

#### Management of natural resources

- Common bird index
- Fish catches taken from stocks outside safe biological limits

# **Global partnership**

Official development assistance

More information regarding sustainable development indicators may be found on the Eurostat website: (http://ec.europa.eu/eurostat/sustainabledevelopment).

Alternatively, for further information, contact Eurostat's sustainable development indicators team at: estat-sdi@ec.europa.eu.



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# GLOSSARY

# Α

Accommodation, tourist

This includes all types of accommodation:

#### Collective tourist accommodation establishments:

- hotels and similar establishments,
- other collective accommodation establishments (holiday dwellings, tourist campsites, marinas, etc.),
- specialised establishments (health establishments, work and holiday camps, public means of transport and conference centres);

# Private tourist accommodation:

- rented accommodation,
- other types of private accommodation.

Note that data on private tourist accommodation are excluded from Eurostat data.

ACP signatories of the Cotonou agreement (African, Caribbean and Pacific countries; note that Cuba is not a signatory, although it is a member of the ACP)

AG: Antigua and Barbuda; AO: Angola; BB: Barbados; BF: Burkina Faso; BI: Burundi; BJ: Benin; BS: Bahamas; BW: Botswana; BZ: Belize; CF: Central African Republic; CG: Congo; CI: Côte d'Ivoire; CK: Cook Islands; CM: Cameroon; CV: Cape Verde; DJ: Djibouti; DM: Dominica; DO: Dominican Republic; ER: Eritrea; ET: Ethiopia; FJ: Fiji; FM: Federated States of Micronesia; GA: Gabon; GD: Grenada; GH: Ghana; GM: Gambia; GN: Republic of Guinea; GQ: Equatorial Guinea; GW: Guinea-Bissau; GY: Guyana; HT: Haiti; JM: Jamaica; KE: Kenya; KI: Kiribati; KN: St Kitts and Nevis; LC: St. Lucia; LR: Liberia; LS: Lesotho; KM: Comoros; MG: Madagascar; MH: Marshall Islands; ML: Mali; MR: Mauritania; MU: Mauritius; MW: Malawi; MZ: Mozambique; NA: Namibia; NE: Niger; NG: Nigeria; NR: Nauru; NU: Niue; PW: Palau; PG: Papua New Guinea; RW: Rwanda; SB: Solomon Islands; SC: Seychelles; SD: Sudan; SL: Sierra Leone; SN: Senegal; SO: Somalia; SR: Suriname; ST: São Tomé and Príncipe; SZ: Swaziland; TD: Chad; TG: Togo; TL: Timor Leste/East Timor; TO: Tonga; TT: Trinidad and Tobago; TV: Tuvalu; TZ: Tanzania; UG: Uganda; VC: St Vincent and the Grenadines; VU: Vanuatu; WS: Samoa; ZA: South Africa; ZM: Zambia; ZW: Zimbabwe.

# Agricultural area (AA) or utilised agricultural area (UAA)

An agricultural area (AA) or utilised agricultural area (UAA) is the area utilised for farming, i.e. categories: arable land, permanent pasture, permanent crops and kitchen gardens.

# **Agricultural holdings**

An agricultural holding is a single unit, both technically and economically, which has single management and which produces agricultural products. Other supplementary (non-agricultural) products and services may also be provided by the holding.

#### Agricultural production of crops

Production of crops is harvested production (not including losses to the harvest).

# Animal output

The concept of output comprises sales, changes in stocks, and products used for processing and own final use by the producers.

# Annual work unit (AWU)

One annual work unit corresponds to the work performed by one person who is occupied on an agricultural holding on a full-time basis. Full-time means the minimum hours required by the national provisions governing contracts of employment. If these do not indicate the number of hours, then 1 800 hours are taken to be the minimum (225 working days of eight hours each).

#### Aquaculture

The farming of aquatic organisms including fish, molluscs, crustaceans and aquatic plants. Farming implies some form of intervention in the rearing process to enhance production, such as regular stocking, feeding and protection from predators. Farming also implies individual or corporate ownership of, or rights resulting from contractual arrangements to, the stock being cultivated.

#### **Asylum applicant**

A person who has requested protection under:

- either Article 1 of the Convention relating to the Status of Refugees of 28 July 1951, as amended by the New York Protocol of 31 January 1967; or
- within the remit of the United Nations Convention Against Torture and other forms of cruel or inhuman treatment (UNCAT) or the European Convention on Human Rights or other relevant instruments of protection.

This definition is intended to refer to all who apply for protection on an individual basis, irrespective of whether they lodge their application on arrival at an airport or land border, or from inside the country, and irrespective of whether they entered the territory legally (e.g. as a tourist) or illegally.

# **Asylum applications**

Asylum applications are defined as new applications; these generally include only those claims which were lodged on the territory or at the border of the Member State.

#### Asylum seekers

People awaiting a decision on applications for refugee status or another form of international protection.

# At-risk-of-poverty rate

The share of persons with an equivalised disposable income below the risk-of-poverty threshold, which is set at 60 % of the national median equivalised disposable income (after social transfers). It should be noted that this indicator does not measure wealth but low current income (in comparison to other persons in that country) which does not necessarily imply a low standard of living.

# Annexes

# At-risk-of-poverty rate before social transfers

The at-risk-of-poverty rate before social transfers is calculated as the share of people having an equivalised disposable income before social transfers below the at-risk of poverty threshold calculated after social transfers. Old-age and survivors' pensions are counted as income before transfers and not as social transfers. This indicator examines the hypothetical absence of social transfers.

# В

# **Balance of payments**

The balance of payments summarises the transactions of an economy with the rest of the world. The current account covers international transactions in goods, services, income and current transfers. The financial account registers transactions involving financial claims on, or liabilities to, the rest of the world. The capital account covers international capital transfers (e.g. debt forgiveness) and the acquisition/disposal of non-produced, non-financial assets (such as patents).

#### Bed places (in hotels and similar establishments)

The number of bed places in an establishment or dwelling is determined by the number of persons who can stay overnight in beds set up in the establishments, ignoring any extra beds that may be set up by customer request.

The term 'bed place' applies to a single bed. A double bed is counted as two bed places. This unit serves to measure the capacity of any type of accommodation. A bed place is also a pitch or, in a boat, a mooring to accommodate one person. A pitch for a tent (if counted), caravan, mobile home and similar shelter, or a boat on a mooring, usually counts for four bed places if the actual number is not known.

#### **Biofuels**

Liquid biofuels cover biogasoline and biodiesels.

- Biogasoline: this category includes bioethanol (ethanol produced from biomass and/or the biodegradable fraction of waste), biomethanol (methanol produced from biomass and/or the biodegradable fraction of waste), bioETBE (ethyl-tertio-butyl-ether produced on the basis of bioethanol: the percentage by volume of bioETBE that is calculated as biofuel is 47 %) and bioMTBE (methyl-tertio-butyl-ether produced on the basis of biomethanol: the percentage by volume of bioETBE that is calculated as biofuel is 47 %) and bioMTBE (methyl-tertio-butyl-ether produced on the basis of biomethanol: the percentage by volume of bioMTBE that is calculated as biofuel is 36 %).
- Biodiesels: this category includes biodiesel (a methyl-ester produced from vegetable or animal oil, of diesel quality), biodimethylether (dimethylether produced from biomass), Fischer Tropsch (Fischer Tropsch produced from biomass), cold pressed bio-oil (oil produced from oil seed through mechanical processing only) and all other liquid biofuels which are added to, blended with or used straight as transport diesel.

#### **Biomass and wastes**

Biomass and wastes cover organic, non-fossil material of biological origin, which may be used for heat production or electricity generation. This category comprises wood and wood waste, biogas, municipal solid waste and biofuels. Renewable industrial waste should be reported under the various waste categories mentioned. The non-renewable part of industrial waste is not covered here, but under industrial wastes.

# **Biotechnology (patents)**

The OECD defines 'biotechnology as 'the application of science and technology to living organisms, as well as parts, products and models thereof, to alter living or non-living materials for the production of knowledge, goods and services'. The choice of the international patent classification (IPC) subclasses used for this sector is based on the OECD definition.

## Birth rate, crude

The ratio of the number of births during the year to the average population in that year. The value is expressed per 1 000 inhabitants.

#### **Birth rate of enterprises**

An enterprise birth amounts to the creation of a combination of production factors with the restriction that no other enterprises are involved in the event. Births do not include entries into the population due to mergers, break-ups, split-off or restructuring of a set of enterprises. It does not include entries into a subpopulation resulting only from a change of activity. A birth occurs when an enterprise starts from scratch and actually starts activity. An enterprise creation can be considered an enterprise birth if new production factors, in particular new jobs, are created. If a dormant unit is reactivated within two years, this event is not considered a birth.

#### Bond yields (EMU convergence criterion)

This concerns the Treaty on European Union (Maastricht Treaty) EMU convergence criterion series for long-term interest rates. Selection guidelines require data to be based on central government bond yields on the secondary market, gross of tax, with a residual maturity of around 10 years.

# **Broadband**

Broadband lines are defined as those with a capacity equal to or higher than 144 kbit/s.

#### **Bunkers**

International marine bunkers cover the quantities of oil delivered to ships of all flags that are engaged in international navigation. International navigation may take place at sea, on inland lakes and waterways, and in coastal waters. Excluded is consumption by ships engaged in domestic navigation. The domestic/international split should be determined on the basis of port of departure and port of arrival, and not by the flag or nationality of the ship. Also excluded are consumption by fishing vessels and consumption by military forces.

#### **Business services**

Technical services such as engineering, architecture and technical studies; computer services such as software design and database management; and other professional services such as legal, accounting, consultancy and management services.

#### **Candidate countries**

Croatia and Turkey are two candidate countries with which accession negotiations have started (in October 2005). The former Yugoslav Republic of Macedonia is a candidate country with which accession negotiations have not yet started (at the time of drafting). The European Council granted the former Yugoslav Republic of Macedonia the status of a candidate country in December 2005.

# С

#### **Carcass weight**

Pigs: weight of the slaughtered pig's cold body, either whole or divided in half along the mid-line, after being bled and eviscerated and after removal of the tongue, bristles, hooves, genitalia, flare fat, kidneys and diaphragm.

Cattle: weight of the slaughtered animal's cold body after being skinned, bled and eviscerated, and after removal of the external genitalia, the limbs, the head, the tail, the kidneys and kidney fats, and the udder.

Sheep and goats: weight of the slaughtered animal's cold body after having been bled, skinned and eviscerated, and after removal of the head, feet, tail and genital organs. Kidneys and kidney fats are included in the carcass.

Poultry: weight of the cold body of the slaughtered farmyard poultry after being bled, plucked and eviscerated; includes poultry offal, with the exception of foie gras.

For other species: carcass weight is considered to be the weight of the animal's cold body.

# Catch

Catches of fishery products (fish, molluscs, crustaceans and other aquatic animals, residues and aquatic plants) taken for all purposes (commercial, industrial, recreational and subsistence) by all types and classes of fishing units (fishermen, vessels, gear, etc.) operating both in inland, fresh and brackish water areas, and in inshore, offshore and high-seas fishing areas. The production from aquaculture is excluded. Catch is normally expressed in live weight and derived by the application of conversion factors to the landed or product weight. As such, the catch statistics exclude quantities which are caught but which, for a variety of reasons, are not landed.

### Cattle

Domestic animals of the species Bos taurus, Bubalus bubalus and Beefalo. A distinction can be made by age (less than one year old, aged between one and two years, and two years and over) with a further distinction between male and female bovines. Female bovines aged two years and over are distinguished between heifers (female bovines that have not calved) and cows, the latter being distinguished between dairy cows and others.

# **Causes of death**

Data are based on the underlying cause of death. Causes of death are defined on the basis of the World Health Organisation's international classification of diseases (ICD). Although definitions are harmonised, the statistics may not be fully comparable as classifications may vary when the cause of death is multiple or difficult to evaluate and because of different notification procedures.

#### **Central government**

All administrative departments of the State and other central agencies whose responsibilities extend over the whole economic territory, except for the administration of the social security funds.

# Cereals

Cereals include wheat (common wheat and spelt and durum wheat), rye, maslin, barley, oats, mixed grain other than maslin, grain maize, sorghum, triticale, other cereals, and rice.

#### **Comparative price levels**

Comparative price levels are the ratio between purchasing power parities and market exchange rates for each country (see purchasing power parities).

#### **Compensation of employees**

All remuneration in cash and in kind by employers in return for the work done by their employees during the relevant period. The payments cover gross wages and salaries, employers' actual social contributions and imputed social contributions (those directly supplied by the employers to their employees without involving a social security fund, an insurance enterprise or an autonomous pension fund).

# **Completed fertility (by generation)**

The mean number of children born to women of a given generation at the end of their childbearing years. This is calculated by adding the fertility rates by age of the mother observed for successive years, when the cohort has reached the age in question (in general, only ages between 15 and 49 years are considered). In practice, the fertility rates for older women can be estimated using the rates observed for previous generations, without waiting for the cohort to reach the end of the reproductive period.

Annexes

#### **Consumer price indices (CPI)**

Eurostat compiles harmonised indices of consumer prices (HICPs), designed for international comparisons of consumer price inflation. HICPs are used, among others, by the European Central Bank for monitoring inflation in the economic and monetary union and for the assessment of inflation convergence as required under Article 121 of the Treaty of Amsterdam (see also convergence criteria).

# **Consumption of fixed capital**

Value, at current replacement costs, of the reproducible fixed assets used up during an accounting period (usually one year) as a result of normal wear and tear, foreseeable obsolescence and a normal rate of accidental damage. Unforeseen obsolescence, major catastrophes and depletion of natural resources are not included.

#### **Convergence criteria**

Convergence criteria for European Monetary Union (EMU) are as follows:

- Price stability: Member States should have a price performance that is sustainable and an average rate of inflation, observed over the period of one year before the examination, that does not exceed by more than 1.5 percentage points that of, at most, the three best-performing Member States in terms of price stability.
- Government budgetary position: Member States are to avoid situations of excessive government deficits, that is to say that their ratio of planned or actual government deficit to GDP should be no more than 3 %, and that their ratio of (general) government debt to GDP should be no more than 60 %, unless the excess over the reference value is only exceptional or temporary or the ratios have declined substantially and continuously.
- Exchange rates: Member States should have respected the normal fluctuation margins of the exchange rate mechanism (ERM) without severe tensions for at least the two years before the examination. In particular, the Member State shall not have devalued its currency's bilateral central rate against any other Member State's currency on its own initiative over the same period.
- Long-term interest rates: Member States should have had an average nominal long-term interest rate over a period of one year before the examination that does not exceed by more than 2 percentage points that of, at most, the three bestperforming Member States in terms of price stability.

## **Crop output**

The concept of output comprises sales, changes in stocks, and crop products used as animal feeding stuffs, for processing and own final use by the producers.

# Current taxes on income, wealth

Current taxes on income and wealth cover all compulsory unrequited payments, in cash or in kind, levied periodically by general government and by the rest of the world on the income and wealth of institutional units, and some periodic taxes which are assessed neither on the income nor the wealth.

#### **Current transfers**

Current transfers cover transactions in which goods, services or financial items are transferred between units (whether in the domestic economy or across international borders) without something of economic value being received in return.

# D

# Dairy cows

Cows are female bovines that have calved (including any aged less than 2 years). Dairy cows are cows kept exclusively or principally for the production of milk for human consumption and/or dairy produce, including cows for slaughter (fattened or not between last lactation and slaughter).

#### Day-to-day money rates

Day-to-day money rates refer to deposits or loans on the money market with a maturity of one business day.

#### **Defoliation, degree of**

The extent of visually assessed defoliation of trees, as developed by the International Cooperative Programme of the Executive Committee for the Convention on Long-range Transboundary Air Pollution in Europe. Damage classes are from 0 to 4.

Class	Needle/leaf loss	Degree of defoliation
0	up to and including 10 %	none
1	>10 to 25 %	slight (warning stage)
2	>25 to 60 %	moderate
3	>60 to < 100 %	severe
4	100 %	dead

# **Discharges from hospitals**

Discharge is the formal release of a patient from a hospital after a procedure or course of treatment. A discharge occurs anytime a patient leaves because of finalisation of treatment, signing out against medical advice, transferring to another healthcare institution, or death. A discharge can refer to inpatients or day cases. Transfers to another department within the same institution are excluded.

# **Distributive trades**

Wholesale trade, wholesale agents, retail trade and repair of household goods and vehicles (NACE Section G).

#### Divorce

Divorce is possible in all EU Member States, except Malta. In almost all countries divorces are registered at a court.

#### Dwelling

A room or a suite of rooms and its accessories, lobbies and corridors in a permanent building or a structurally separated part thereof which, by the way it has been built, rebuilt or converted, is designed for habitation by one private household all the year. A dwelling is either a one-family dwelling in a house or an apartment in a block of flats. Dwellings include garages for residential use, even when apart from the habitation or belonging to different owners.

# E

# **Early school leavers**

Early school leavers is the percentage of the population aged 18 to 24 with at most lower secondary education and not in further education or training. It refers to persons aged 18 to 24 in the following two conditions:

- the highest level of education or training attained is ISCED 0,
  1, 2 or 3c short; and
- respondents declared not having received any education or training in the four weeks preceding the (LFS) survey numerator).

The denominator consists of the total population of the same age group, excluding no answers (in the LFS) to the questions, 'highest level of education or training attained' and 'participation to education and training'.

#### Earnings, gross

Remuneration (wages and salaries) in cash paid directly to the employee before any deductions for income tax and social security contributions paid by the employee.

# Earnings, net

Net earnings are calculated from gross earnings by deducting social security contributions and income taxes payable by employees and by adding family allowances if there are children in the family.

#### **E-commerce**

An electronic transaction is the sale or purchase of goods or services, whether between businesses, households, individuals or private organisations, conducted over computer-mediated networks. The goods and services are ordered over those networks, but the payment and the ultimate delivery of the good or service may be conducted on or offline. This covers orders which are transmitted via Internet or other computer networks.

#### **Economic territory**

The economic territory of a country consists of the geographical territory administered by a government; within the territory, people, goods and capital circulate freely. It also includes the national air space, the territorial waters, the natural deposits in international waters if worked by resident units, the territorial enclaves abroad (own representations, own military bases, etc.) but excludes extra-territorial enclaves (diplomatic representations of foreign countries or of the European Union's institutions, etc.).

#### Ecu

The former European currency unit could be considered as the cornerstone of the European Monetary System (EMS), which was designed to limit exchange rate movements among EU currencies. The ecu was composed of a basket of EU currencies. In addition to its official use in the EMS, a private market for the ecu developed, allowing its use in monetary transactions and for denominating financial instruments including bonds. The ecu was replaced by the euro, the new European single currency, on 1 January 1999 at a ratio of 1:1.

## **EEA countries**

The European Economic Area (EEA) consists of the EU Member States and all EFTA countries (Iceland, Liechtenstein and Norway) except for Switzerland. The Agreement entered into force 1 January 1994. The objective of the agreement is to strengthen trade and economic relations between the contracting parties with the view to creating a homogenous European Economic Area by promoting free movement of goods, persons, services and capital. Comparable statistics are considered as relevant to the four freedoms and included in the agreement. The enlargements of the EU had direct bearings on the EEA Agreement, and the enlarged EEA includes 30 countries.

# **EFTA**

The European Free Trade Association (EFTA) is an intergovernmental organisation established by seven European countries in 1960. Since 1995 its Member States are Iceland, Liechtenstein, Norway and Switzerland. The association is responsible for the management of the free trade between the EFTA States, EFTA's participation in the European Economic Area (EEA), which includes the European Union (EU), and EFTA's worldwide network of free trade agreements.

## **Emigrants**

People leaving their country of usual residence and effectively taking up residence in another country. According to the United Nations recommendations on statistics of international migration (revision 1) published in 1998, such a person is a long-term emigrant if he/she leaves his/her country of previous usual residence for a period of 12 months or more. However, few countries are able to supply statistics based on these definitions. The statistics shown in this publication are generally based on national definitions that may differ from the UN recommendations. Not all countries collect statistics on emigrants, and, in those that do, data sources and the scope of the collection vary.

## **Employed person (LFS)**

For the labour force survey, employed persons are defined as persons aged 15 and over (Spain, United Kingdom: 16 and over; Denmark, Estonia, Latvia, Hungary, Finland, Sweden: 15 to 74; Iceland, Norway: 16 to 74) who during the reference week performed work, even for just one hour per week, for pay, profit or family gain or were not at work but had a job or business from which they were temporarily absent because of, for example, illness, holidays, industrial dispute and education or training. This definition follows guidelines of the International Labour Organisation (ILO).

#### **Employees (LFS)**

For the labour force survey, employees are defined as persons who work for a public or private employer and who receive compensation in the form of wages, salaries, fees, gratuities, payment by results or payment in kind; non-conscripted members of the armed forces are also included.

Annexes

# **Employees (SBS)**

For structural business statistics employees are defined as those persons who work for an employer and who have a contract of employment and receive compensation in the form of wages, salaries, fees, gratuities, piecework pay or remuneration in kind. The relationship of employer to employee exists when there is an agreement, which may be formal or informal, between an enterprise and a person, normally entered into voluntarily by both parties, whereby the person works for the enterprise in return for remuneration in cash or in kind. A worker is considered to be a wage or salary earner of a particular unit if he or she receives a wage or salary from the unit regardless of where the work is done (in or outside the production unit). A worker from a temporary employment agency is considered to be an employee of the temporary employment agency and not of the unit (customer) in which they work. In particular, the following are considered as employees:

- paid working proprietors;
- students who have a formal commitment whereby they contribute to the unit's process of production in return for remuneration and/or education services;
- employees engaged under a contract specifically designed to encourage the recruitment of unemployed persons;
- homeworkers if there is an explicit agreement that the homeworker is remunerated on the basis of the work done and they are included on the payroll.

Employees include part-time workers, seasonal workers, persons on strike or on short-term leave, but excludes those persons on long-term leave. Employees do not include voluntary workers.

# **Employment rate**

Persons in employment as a percentage of the population of the same age.

#### EMU (economic and monetary union)

The union of 15 EU Member States which have adopted the single currency, the euro. These countries are officially considered to have fulfilled the convergence criteria. Stage III of EMU began on 1 January 1999, when 11 member currencies were permanently fixed to the euro, joined by the Greek drachma on 1 January 2001. The coins and notes were introduced on 1 January 2002 and national currencies progressively withdrawn (see euro). On 1 January 2007, euro notes and coins also came into circulation in Slovenia, and on 1 January 2008 in Malta and in Cyprus. Note that, unless otherwise specified, all statistics for the euro area in this publication refer to a euro area composed of the 13 Member States participating in the euro in 2007 for the complete time-series.

# **Energy dependency rate**

Net imports of energy as a percentage of gross inland energy consumption plus bunkers.

#### **Energy intensity**

This indicator is the ratio between gross inland consumption of energy and gross domestic product (GDP) for a given calendar year. It measures the energy consumption of an economy and its overall energy efficiency. Gross inland consumption of energy is calculated as the sum of gross inland consumption of five energy types: coal, electricity, oil, natural gas and renewable energy sources. The GDP figures are taken at constant prices to avoid the impact of the inflation. The energy intensity ratio is determined by dividing the gross inland consumption by the GDP. Since gross inland consumption is measured in kgoe (kilogram of oil equivalent) and GDP in EUR 1 000, this ratio is measured in kgoe per EUR 1 000.

## **Environmental protection expenditure**

Environmental expenditure concerns how much has been spent to protect the environment. It includes both investments and current expenditure.

#### **Equivalised income**

Equivalised income is used for the calculation of poverty and social exclusion indicators. In order to take account of differences in household size and composition, the household's total income from all sources is divided by its 'equivalent size', computed using the modified OECD equivalence scale. This scale gives a weight of 1.0 to the first adult, 0.5 to the second and each subsequent person aged 14 and over, and 0.3 to each child aged less than 14 in the household.

#### **ESA**

European system of (integrated economic) accounts, the methodology of national accounts in Europe. The current version, ESA 95, is fully consistent with the worldwide guidelines on the national accounts, the SNA 93.

#### **Esspros**

The European system of integrated social protection statistics (Esspros) is built on the concept of social protection. Social protection is defined as the coverage of risks and needs that are precisely defined, including: health, disability, old age, family and unemployment. Esspros records the receipts and the expenditure of the various organisations (or schemes) intervening in the field of social protection. Social benefits are broken down by type and functions. The type of social protection refers to the form in which benefits are provided: in cash or in kind, for example. Social protection functions gather the needs covered by benefits: thus, income maintenance can be paid in respect of health, but also of disability, old age, maternity or unemployment. Receipts are broken down by type: social contributions, general government contributions and other receipts.

# Euro

Stage III of European monetary union began on 1 January 1999 with the introduction of the euro, the single European currency. It replaced the ecu on a 1:1 basis. Since that date, the national currencies of 11 EU Member States (Belgium, Germany, Ireland, Spain, France, Italy, Luxembourg, the Netherlands, Austria, Portugal and Finland) were fixed to the euro at irrevocable conversion rates. They were joined by Greece on 1 January 2001. The euro existed until the end of 2001 as book money only (cheque, transfer, payment by card) and its use was voluntary (no compulsion - no prohibition). Euro coins and notes were introduced on 1 January 2002, when use of the euro became compulsory and national currencies were progressively withdrawn. On 1 January 2007, euro notes and coins also came into circulation in Slovenia. Note that, unless otherwise specified, all statistics for the euro area in this publication refer to a euro area composed of 13 Member States for the complete time-series. Fixed conversion rates (EUR 1 =)

13.7603	ATS
40.3399	BEF
0.585274	CYP
1.95583	DEM
166.386	ESP
5.94573	FIM
6.55957	FRF
340.750	GRD
0.787564	IEP
1 936.27	ITL
40.3399	LUF
0.429300	MTL
2.20371	NLG
200.482	PTE
239.568	SIT

Note that, as of 1 January 2008, Cyprus and Malta became members of the euro area (however, as this publication was produced in 2007 this change is not reflected in the coverage of data presented in tables and graphs).

#### **Europa**

Europa is the portal of the European Union (http://europa.eu). It provides up-to-date coverage of European Union affairs and essential information on European integration. Users can also consult all legislation currently in force or under discussion, access the websites of each of the EU institutions and find out about the policies administered by the European Union under the powers devolved to it by the Treaties.

#### **European Patent Office (EPO)**

The European Patent Office (EPO) is the executive arm of the European Patent Organisation, an intergovernmental body set up under the European Patent Convention (EPC), which was signed in Munich on 5 October 1973 and which entered into force on 7 October 1977. Members of the European Patent Organisation are the EPC contracting States. The EPO grants European patents for the contracting states to the EPC. The activities of the EPO are supervised by the Organisation's Administrative Council, composed of delegates from the contracting States.

# **European Union (EU)**

Established on 1 November 1993 when the Treaty on European Union (Maastricht Treaty) entered into force. On 31 December 1994, the EU had 12 Member States: Belgium, Denmark, Germany, Ireland, Greece, Spain, France, Italy, Luxembourg, the Netherlands, Portugal and the United Kingdom. From January 1995, the EU grew with the addition of three Member States: Austria, Finland and Sweden. In May 2004, 10 more Member States joined the EU: the Czech Republic, Estonia, Cyprus, Latvia, Lithuania, Hungary, Malta, Poland, Slovenia and Slovakia. On 1 January 2007, Bulgaria and Romania become members of the EU.

#### **Euro area**

Countries initially participating in monetary union in January 1999: Belgium, Germany, Ireland, Spain, France, Italy, Luxembourg, the Netherlands, Austria, Portugal and Finland. On 1 January 2001, Greece joined the euro area. The euro existed until the end of 2001 as book money only (cheque, transfer, payment by card) and its use was voluntary (no compulsion – no prohibition). Euro coins and notes were introduced on 1 January 2002, when use of the euro became compulsory and national currencies were progressively withdrawn. On 1 January 2007, Slovenia joined the euro area. Note that all data in this publication refers to a euro area aggregate composed of all 13 Member States (unless otherwise stated). Note that, as of 1 January 2008, Cyprus and Malta became members of the euro area (however, as this publication was produced in 2007 this change is not reflected in the coverage of data presented in tables and graphs).

# EU-SILC (Community statistics on income and living conditions)

Output-harmonised data collection which is designed to be the reference source of information on income, poverty, social exclusion and related social issues, containing regular cross-sectional and longitudinal elements and a varying annual modular element, and placing greater reliance on existing national sources than its predecessor (the ECHP survey) in an attempt to improve timeliness and flexibility.

#### **EU-Switzerland bilateral agreement**

A bilateral agreement between the European Community and Switzerland on cooperation in the field of statistics came into force 1 January 2007. The Agreement enables Switzerland to access the pan-European data for the countries within the European Economic Area and guarantees comparability of statistics. All four Member States of EFTA are subsequently members of the European statistical system (ESS).

#### **Expenditure on pensions**

The pensions aggregate comprises part of periodic cash benefits under the disability, old-age (retirement), survivors and unemployment functions. It is defined as the sum of the following social benefits: disability pension, early-retirement due to reduced capacity to work, old-age pension, anticipated old-age pension, partial pension, survivors' pension, early-retirement benefit for labour market reasons.

Annexes

# **Extra-EU flows**

All transactions between EU countries and countries outside the EU (non-member countries).

# F

# Fatal accidents at work

A fatal accident at work is a discrete occurrence in the course of work with physical or mental harm, leading to death within one year of the accident. It excludes accidents on the way to or from work, occurrences having only a medical origin, and occupational diseases.

## Fertility rate, by age of mother

Also known as age-specific fertility rate. The number of births to mothers of age x to the average female population of age x. Depending on the country, the age is either the age reached during the year or the age at last birthday. Eurostat converts the rates established using the age at last birthday into rates based on the age reached during the year in order to produce comparable data between countries.

# Final consumption expenditure

Final consumption expenditure consists of expenditure incurred by resident institutional units on goods or services that are used for the direct satisfaction of individual needs or wants or the collective needs of members of the community.

#### **Final energy consumption**

Final energy consumption covers energy supplied to the final consumer's door for all energy uses.

# **Fishery products**

For foreign trade in fishery products the following products are considered:

- edible fishery products: fresh, chilled, frozen, salted, smoked and dried fish; fish preserves and conserves; fresh, chilled, frozen, dried and smoked crustaceans and molluscs; preparations and conserves of crustaceans and molluscs.
- inedible products: meals and solubles; oils and fats; sponges, corals, etc.
- aquatic plants.

# **Fishing fleet**

In general the data refer to the fleet size on 31 December of the reference year. The data are derived from the national registers of fishing vessels which are maintained pursuant to Council Regulation (EC) No 26/2004 which contains information on the vessel characteristics to be recorded on the registers.

# Foreign direct investment (FDI)

Foreign direct investment (FDI) is the category of international investment within the balance of payment accounts that reflects the objective of obtaining a lasting interest by a resident entity in one economy in an enterprise resident in another economy. The lasting interest implies the existence of a long-term relationship between the direct investor and the enterprise, and a significant degree of influence by the investor on the management of the enterprise. Formally defined, a direct investment enterprise is an unincorporated or incorporated enterprise in which a direct investor owns 10 % or more of the ordinary shares or voting power (for an incorporated enterprise) or the equivalent (for an unincorporated enterprise). FDI flows and positions: through direct investment flows, an investor builds up a foreign direct investment position that features on the international investment position of the economy. This FDI position (or FDI stock) differs from the accumulated flows because of revaluation (changes in prices or exchange rates), and other adjustments like rescheduling or cancellation of loans or debt-equity swaps.

## Foreign direct investment intensity

Average of inward and outward FDI flows divided by GDP. The index measures the intensity of investment integration within the international economy.

#### **Forest trees**

Forest is defined as land with tree crown cover (or equivalent stocking level) of more than 10 % and area of more than 0.5 ha. The trees should be able to reach a minimum height of 5 m at maturity in situ.

## Fruit

Fruit includes apples, pears, stoned fruits (for example, peaches or apricots), nuts (for example, walnuts or hazelnuts), other top fruits (for example, figs or kiwi), berries, citrus fruits, grapes, olives and wild fruits.

# G

#### Gender pay gap (unadjusted form)

The gender pay gap is given as the difference between average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees. The population consists of all paid employees aged 16 to 64 who are at work 15 or more hours per week.

#### **General government**

The general government sector includes all institutional units whose output is intended for individual and collective consumption, and mainly financed by compulsory payments made by units belonging to other sectors, and/or all institutional units principally engaged in the redistribution of national income and wealth. The general government sector is subdivided into four subsectors: central government, State government, local government, and social security funds. Total gross debt at nominal value outstanding at the end of the year and consolidated between and within the subsectors of general government (see also convergence criteria).

#### Geonomenclature

Δnnexes

The nomenclature of countries and territories for the external trade statistics of the Community and statistics of trade between Member States is an essential element in compiling statistics. In particular, it makes it possible to identify those involved in trade, in other words the reporting country and the partner country. If necessary the geonomenclature is subject to annual revision in order to incorporate the adjustments needed for statistical purposes and to take into account any geopolitical change that may have occurred.

# Government budget appropriations or outlays for research and development (GBAORD)

Government budget appropriations or outlays for research and development (GBAORD) are a way of measuring government support to R & D activities and include all appropriations allocated to R & D in central (or federal) government budgets. Provincial (or State) government is only included if the contribution is significant, whereas local government funds are excluded.

#### **Greenhouse gases**

The six greenhouse gases covered by the Kyoto Protocol are the non-fluorinated gases (CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O) and the fluorinated gases (HFC, PFC and SF<sub>6</sub>).

#### Gross domestic expenditure on R & D (GERD)

Gross domestic expenditure on R & D (GERD) is composed of: business enterprise expenditure on R & D, higher education expenditure on R & D, government expenditure on R & D and private non-profit expenditure on R & D.

#### Gross domestic product (GDP at market prices)

Final result of the production activity of resident producer units. It corresponds to the economy's total output of goods and services, less intermediate consumption, plus taxes less subsidies on products.

# Gross domestic product (GDP in purchasing power standards)

Gross domestic product (GDP) converted into the artificial currency unit PPS (purchasing power standard) through a special conversion rate called a PPP (purchasing power parity). The GDP in PPS represents pure volume, after price-level differences between countries have been removed by the special conversion rate PPP.

# **Gross electricity consumption**

Gross electricity generation is measured at the outlet of the main transformers, i.e. the consumption of electricity in the plant auxiliaries and in transformers is included.

## Gross fixed capital formation (GFCF)

Gross fixed capital formation (GFCF) consists of resident producers' acquisitions, less disposals, of fixed assets during a given period plus certain additions to the value of non-produced assets realised by the productive activity of producers or institutional units. Fixed assets are tangible or intangible assets produced as outputs from processes of production that are themselves used repeatedly, or continuously, in processes of production for more than one year.

### Gross inland (energy) consumption

Gross inland consumption represents the quantity of energy necessary to satisfy inland consumption of the geographical entity under consideration. Gross inland consumption is calculated as follows: primary production + recovered products + net imports + variations of stocks – bunkers. It corresponds to the addition of consumption, distribution losses, transformation losses and statistical differences.

#### Gross national income (GNI)

Gross national income (GNI) equals GDP minus primary income payable by resident units to non-resident units, plus primary income receivable from the rest of the world. It is conceptually identical to gross national product (GNP, the concept in ESA 79), though GNP was calculated differently in ESA 79.

#### **Gross national product (GNP)**

See gross national income.

#### Gross operating rate (SBS)

The gross operating rate is calculated as the ratio of gross operating surplus (see below) to turnover.

# Gross operating surplus (national accounts)

Gross domestic product at market prices minus compensation of employees paid by resident employers, net taxes (= taxes minus subsidies) on production and imports levied by general government and by the rest of the world, including EU institutions. The operating surplus corresponds to the income which production units obtain from their own use of their production facilities.

# Gross operating surplus (SBS)

For structural business statistics gross operating surplus is that generated by operating activities after the labour factor input has been recompensed. It can be calculated from value added at factor cost less personnel costs. It is the balance available to a unit which allows it to recompense the providers of own funds and debt, to pay taxes and eventually to finance all or a part of its investment. Income and expenditure classified as financial or extraordinary in company accounts is excluded from gross operating surplus.

## Gross value added at market prices

Final output (at basic prices) minus intermediate consumption (at purchasers' prices). Gross value added can be broken down by industry. For the economy as a whole, it usually makes up more than 90 % of GDP.

Annexes

# Η

# Healthcare expenditure

Sickness/healthcare expenditure is defined according to the European system of integrated social protection statistics (Esspros) and covers: cash benefits that replace in whole or in part loss of earnings during temporary inability to work due to sickness or injury; and medical care provided in the framework of social protection to maintain, restore or improve the health of the people protected.

# Healthy life years expectancy (HLYE)

The healthy life years expectancy (HLYE) measures the number of remaining years that a person of a specific age is expected to live in a healthy condition. A healthy condition is defined by the absence of limitations in functioning/disability. Therefore, the indicator is also called disability-free life expectancy (DFLE).

#### HICP

Harmonised indices of consumer prices (HICPs) provide the best statistical basis for comparisons of consumer price inflation within the EU. The methodology ensures comparability between Member States. Eurostat publishes the HICPs monthly, about 14 to 16 days after the end of the reporting month. The HICP series started in the mid-1990s and are presented with a common reference year: 2005=100. See also consumer price indices (CPI).

# **High-technology patents**

High-technology patents are counted following the criteria established by the trilateral statistical report, where the subsequent technical fields are defined as high technology groups in accordance to the international patent classification (IPC): computer and automated business equipment; micro-organism and genetic engineering; aviation; communication technology; semiconductors; and lasers.

# **High-technology sectors**

The classification of high- and medium-high-technology manufacturing sectors is based on the notion of R & D intensity (ratio of R & D expenditure to GDP). Following this criterion, hightechnology manufacturing comprises manufacturing of office machinery and computers, manufacturing of radio, television and communication equipment and apparatus, and manufacturing of medical precision and optical instruments, watches and clocks. Medium-high-technology manufacturing includes the manufacture of chemicals and chemical products, manufacture of machinery and equipment n.e.c., manufacture of electrical machinery and apparatus n.e.c., manufacture of motor vehicles, trailers and semi-trailers, and manufacturing of transport equipment. Following a similar logic as for manufacturing, Eurostat defines the following sectors as knowledge-intensive services (KIS): water transport; air transport; post and telecommunications; financial intermediation; insurance and pension funding (except compulsory social security); activities auxiliary to financial intermediation; real estate activities; renting of machinery and equipment without operator and of personal and household goods; computer and related activities; research and development; other business activities; education; health and

social work; and recreational, cultural and sporting activities. Of these sectors, post and telecommunications, computer and related activities, and research and development are considered high-technology KIS.

#### **Hospital beds**

Hospital beds are those which are regularly maintained and staffed and immediately available for the care of admitted patients. These include:

- beds in all hospitals, including general hospitals, mental health and substance abuse hospitals, and other specialty hospitals,
- occupied and unoccupied beds;

# and exclude:

- surgical tables, recovery trolleys, emergency stretchers, beds for same-day care, cots for healthy infants,
- beds in wards which were closed for any reason,
- provisional and temporary beds,
- beds in nursing and residential care facilities.

#### Household

For surveys on household incomes (e.g. EU-SILC) or household budget surveys, households are defined in terms of having a shared residence and common arrangements. A household comprises either one person living alone or a group of people, not necessarily related, living at the same address with common housekeeping, i.e. sharing at least one meal per day or sharing a living or sitting room.

# Household consumption/expenditure

The value of goods and services used for directly meeting human needs. Household consumption covers expenditure on purchases of goods and services, own consumption such as products from kitchen gardens, and the imputed rent of owner-occupied dwellings (= the rent that the household would pay if it were a tenant).

#### Human resources in science and technology (HRST)

Human resources in science and technology (HRST) are individuals who have:

- successfully completed education at the third level; or
- not formally qualified as above but employed in an S & T occupation where the above qualifications are normally required.

Core HRST are individuals who both have successfully completed education at the third level and are employed in an S & T occupation.

# 

#### **Immigrants**

Persons arriving or returning from abroad to take up residence in the country for a certain period, having previously been resident elsewhere. According to the United Nations recommendations on statistics of international migration (Revision 1) published in 1998, such a person is a long-term immigrant if he/she stays in his/her country of destination for a period of 12 months or more, having previously been resident elsewhere for 12 months or more. However, few countries are able to supply statistics based on these definitions. The statistics shown in this publication are generally based on national definitions that may differ from the UN recommendations. Not all countries collect immigration data, and, in those that do, data sources and the scope of the collection vary.

#### Implicit price index, GDP

Indicator of price evolution of all goods and services that make up GDP.

#### Inactive

People not in the labour force; they are neither employed nor unemployed (International Labour Organisation definition).

#### Incineration

Incineration without energy recovery is one method of final treatment for the disposal of waste. It covers incineration without energy recovery on land and at sea. Incineration with energy recovery (in other words, re-use as a fuel) is one form of recovery.

## Incumbent (in fixed telecommunications)

The incumbent is defined as the enterprise active on the market just before liberalisation.

#### Indicator A (of the income from agricultural activity)

Indicator A corresponds to the deflated (real) net value added at factor cost of agriculture, per total annual work unit; the implicit price index of GDP is used as deflator.

#### **Industrial wastes**

Industrial wastes cover wastes of industrial non-renewable origin (solids and liquids), combusted directly for the production of electricity and/or heat.

# Inequality of income distribution

The ratio of total income received by the 20 % of the population with the highest income (top quintile) to that received by the 20 % of the population with the lowest income (lowest quintile). Income is based on equivalised disposable income.

# **Inflation rate**

The inflation rate is calculated from harmonised indices of consumer prices (see HICP and consumer price indices (CPI)).

#### Inland waterway, navigable

A stretch of water, not part of the sea, over which vessels of a carrying capacity of not less than 50 tonnes can navigate when normally loaded. This term covers both navigable rivers and lakes and navigable canals. The length of rivers and canals is measured in mid-channel. The length of lakes and lagoons is measured along the shortest navigable route between the most distant points to and from which transport operations are performed. A waterway forming a common frontier between two countries is reported by both.

#### **Interest rate**

An interest rate is the cost or price of borrowing, or the gain from lending, normally expressed as an annual percentage amount.

# Intermediate consumption

Intermediate consumption consists of the value of the goods and services consumed as inputs by a process of production, excluding fixed assets whose consumption is recorded as consumption of fixed capital. The goods and services may be either transformed or used up by the production process.

#### **Intra-EU flows**

All transactions declared by EU countries with other EU Member States.

# Irrigable area (agricultural holdings)

The maximum area which could be irrigated in the reference year using the equipment and the quantity of water normally available on the holding.

# **ISCED**

The international standard classification of education (ISCED) is an instrument for compiling statistics on education that are internationally comparable. It covers two cross-classification variables: levels and fields of education with the complementary dimensions of general/vocational/prevocational orientation and educational/labour market destination. The current version, ISCED 97, was implemented in EU countries for the collection of data from the school year 1997/98 onwards. This change in the ISCED classification has affected the comparability of chronological series, especially for level 3 (upper secondary education) and for level 5 (tertiary education). ISCED 97 introduced a new level, ISCED level 4: post-secondary non-tertiary education (previously included in ISCED levels 3 and 5). ISCED 97 level 6 only relates to PhD or doctoral studies.

The classification comprises 25 fields of education (at two-digit level) which can be further refined into three-digit level. Empirically, ISCED assumes that several criteria exist which can help allocate education programmes to levels of education. Depending on the level and type of education concerned, there is a need to establish a hierarchical ranking system between main and subsidiary criteria (typical entrance qualification, minimum entrance requirement, minimum age, staff qualification, etc.). An abbreviated list of the ISCED classification is provided later in this annex, see page 552.

# J

# Jobless households

Households where no one is working.

# Job vacancy

A job vacancy is defined as a post (newly created, unoccupied or about to become vacant):

- for which the employer is taking active steps to find a suitable candidate from outside the enterprise concerned and is prepared to take more steps; and
- which the employer intends to fill either immediately or in the near future.

## Job vacancy rate (JVR)

This measures the proportion of total posts that are vacant, according to the definition of job vacancies above, expressed as a percentage:

JVR = number of job vacancies/(number of occupied posts + number of job vacancies) \* 100.

# Κ

Knowledge-intensive services (KIS) See high-technology sectors.

# L

Labour costs, direct See total labour costs.

# Labour costs, indirect

See total labour costs.

# Labour force

People in the labour market, i.e. employed and unemployed people.

# Labour force survey (LFS)

A labour force survey is an inquiry directed to households designed to obtain information on the labour market and related issues by means of personal interviews. The EU LFS covers the entire population living in private households and excludes those in collective households such as boarding houses, halls of residence and hospitals. The definitions used are common to all EU countries and are based on international recommendations by the International Labour Organisation (ILO).

# Labour market policy (LMP)

The labour market policy (LMP) database covers all labour market measures which can be described as public interventions in the labour market aimed at reaching its efficient functioning and to correct disequilibria and which can be distinguished from other general employment policy measures in that they act selectively to favour particular groups in the labour market. Public interventions refer to measures taken by general government in this respect which involve expenditure, either in the form of actual disbursements or of forgone revenue (reductions in taxes, social contributions or other charges normally payable). The scope of the database is also limited to labour market measures which are explicitly targeted in some way at groups of people with difficulties in the labour market – referred to here as target groups. In broad terms, this covers people who are unemployed, people in employment but at risk of involuntary job loss, and inactive persons who are currently not part of the labour force (in the sense that they are not employed or unemployed according to the ILO definitions) but who would like to enter the labour market and are disadvantaged in some way.

#### Labour productivity

Various measures of labour productivity are available. For structural indicators, this measure is based on GDP in PPS either relative to the number of persons employed or to the number of hours worked; in both cases it is then expressed as an index. Within national accounts and structural business statistics, labour productivity is often defined as value added per person employed.

#### Landfill

Landfill is defined as deposit of waste into or onto land, including specially engineered landfill, and temporary storage of over one year on permanent sites. The definition covers both landfill in internal sites (i.e. where a generator of waste is carrying out its own waste disposal at the place of generation) and in external sites.

# Leading operator (in mobile telecommunication)

The leading operator is identified on the basis of the estimates of the number of mobile subscribers.

#### Life expectancy at birth

The mean number of years a newborn child can expect to live if subjected throughout his or her life to the current mortality conditions (age-specific probability of dying).

#### **Lifelong learning**

Lifelong learning indicators refer to persons aged 25 to 64 who answered (the labour force survey, LFS) that they received education or training in the four weeks preceding the survey (numerator). The denominator consists of the total population of the same age group, excluding no answers to the question 'participation to education and training'.

Lifelong learning is computed on the basis of the variable 'participation in education and training in the last four weeks' from the LFS. From 2004, this variable is derived from two variables 'participation in regular education' and 'participation in other taught activities'; self-learning activities are no longer covered.

# Live births

Births of children that showed any sign of life; the number of births excluding stillbirths (total births include live births and stillbirths).

#### Live births outside marriage

Live births where the mother's marital status at the time of birth is other than married.

#### Live weight of fishery products

Live weight of fishery products is derived from the landed or product weight by the application of factors and is designed to represent the weight of the fishery product as it was taken from the water and before being subjected to any processing or other operation.

#### **Livestock density**

The livestock density index provides the livestock unit (LSU) per hectare of utilised agricultural area.

## Livestock unit (LSU)

The LSU is a reference unit which facilitates the aggregation of livestock from various species and ages. Eurofarm LSU coefficients are established by convention (originally, they were related to the animals' feed requirements, the reference being a dairy cow with an annual yield of 3 000 kg of milk, without additional concentrated feedingstuffs).

#### Local calls

A local call is a call within local networks.

## Local government

All types of public administration whose competence extends to only a local part of the economic territory apart from local agencies of social security funds.

#### Long-distance call

A long-distance call is a call from one local network to another.

#### Long-term unemployment

Long-term unemployed are persons who have been unemployed for one year or more. Unemployed persons are defined as persons aged 15 to 74 (in Spain, the United Kingdom, Iceland, Norway: 16 to 74) who were without work during the reference week, were currently available for work and were either actively seeking work in the last four weeks or had already found a job to start within the next three months. The duration of unemployment is defined as the duration of a search for a job or as the length of the period since the last job was held (if this period is shorter than the duration of the search for a job). This definition follows the guidelines of the International Labour Organisation.

# Μ

#### Manufacturing

All activities included within Section D of NACE Rev. 1.1. Both cottage industry (crafts) and large-scale activity are included. It should be noted that the use of heavy plant or machinery is not exclusive to manufacturing. It covers activities such as manufacture of non-metallic mineral products; chemicals; manmade fibres; manufacture of metal articles; food, drinks and tobacco; textiles; leather and leather goods; timber and wooden furniture; manufacture of paper and paper products, including printing and publishing; and processing of rubber and plastics; excluded are mining and extraction, energy and water, building and civil engineering.

#### **Meat production**

The carcass weight of animals (for example, bovine, pigs, sheep and goats) slaughtered (in slaughterhouses and on the farm) whose meat is declared fit for human consumption.

#### Mercosur (Southern Cone Common Market)

AR: Argentina; BR: Brazil; PY: Paraguay; UY: Uruguay.

#### Milk

A distinction should be made between milk collected by dairies and milk production on the farm. Milk collection is only a part of the total use of milk production on the farm. The other part of the use of milk produced on the farm generally includes domestic consumption, direct sale and cattle feed.

#### Minimum wage

The minimum wage is fixed at an hourly or monthly rate by the government, usually following consultation with unions and employers, and is enforced by law. The minimum wage usually applies nationwide to all full-time employees and all occupations, but may be modified to take into account age, length of service, skills or the physical and mental abilities of an employee or the economic conditions in which an enterprise is operating. The laws governing such systems also contain mechanisms for reviewing the minima, often involving tripartite bargaining between government, unions and employers, in the light of changes in prices, wages and other economic factors. The minimum wage may be subject to automatic reassessment (indexed in line with the consumer price index or economic growth) or to discretionary updates (increased by legislation). Minimum wages are gross amounts, that is, before deduction of income tax and social security contributions; such deductions vary between countries.

#### Modal split (of transport)

Indicates the share of each mode of transport based on passenger-kilometres (pkm) for passenger transport and tonnekilometres (tkm) for goods (freight) transport. Modes of transport include train, sea, inland waterways and air (for goods and passengers), as well as passenger car, powered two-wheelers, bus, coach, tram, metro for passengers and pipelines for goods. In practice, an analysis of the modal split may exclude certain modes, for example it may be limited to inland transport and therefore exclude sea transport.
Annexes

# Mortality rate, crude

Deaths per 1 000 inhabitants.

### Mortality, infant

Deaths per 1 000 live-born children aged less than one year.

#### Motorway

Road, specially designed and built for motor traffic, which does not serve properties bordering on it, and which:

- is provided, except at special points or temporarily, with separate carriageways for the two directions of traffic, separated from each other, either by a dividing strip not intended for traffic, or exceptionally by other means;
- does not cross at level with any road, railway or tramway track, or footpath;
- is specially signposted as a motorway and is reserved for specific categories of road motor vehicles.

Entry and exit lanes of motorways are included irrespectively of the location of the signposts. Urban motorways are also included.

#### **Municipal waste**

Municipal waste consists of waste collected by or on behalf of municipal authorities and disposed of through the waste management system. Municipal waste mainly consists of waste generated by households, though it also includes similar wastes from sources such as commerce, offices and public institutions. In some countries the coverage of the municipal waste collection scheme is not complete; in such cases an estimate of the waste generated in the areas not covered has been added to the total.

# Ν

### NACE Rev. 1.1

NACE Rev. 1.1 is a revision of NACE Rev. 1, the general classification of economic activities in the European Community. An abbreviated list of the NACE classification is provided later in this annex, see page 551. Note that a revised classification (NACE Rev. 2) was adopted at the end of 2006, and its implementation has begun in 2007 – the first reference year for NACE Rev. 2 will be 2008.

# NAFTA (North American Free Trade Agreement)

CA: Canada; MX: Mexico; US: United States.

#### **National citizens**

Persons who are citizens of the country in which they are currently resident.

#### Net electricity generation

Gross electricity generation less the consumption of the auxiliary services of power stations.

#### Net imports (of energy)

Net imports are calculated as total imports minus total exports.

## **Net migration**

The difference between immigration to and emigration from a given area during the year (net migration is negative when the number of emigrants exceeds the number of immigrants). Since many countries either do not have accurate figures on immigration and emigration, or have no figures at all, net migration reported here is estimated as the difference between total population change and natural increase during the year. Net migration gives no indication of the relative scale of the separate immigration and emigration flows to and from a country; a country may report low net migration but experience very high immigration and emigration flows.

#### Nights spent (in hotels and similar establishments)

A night spent by a resident or a non-resident person (overnight stay) is each night that a guest actually spends (sleeps or stays) or is registered (his/her physical presence there is not necessary) in a hotel or similar establishment.

#### Non-financial business economy

The term non-financial business economy is generally used within business statistics to refer to economic activities covered by Sections C to I and K of NACE Rev. 1.1 and the units that carry out those activities.

#### **Non-nationals**

Persons who are not citizens of the country in which they are currently resident.

## Non-profit institutions serving households

Non-profit institutions serving households include for example religious societies, sports and other clubs, and political parties.

#### NUTS

A regulation on the classification of territorial units for statistics, the nomenclature of territorial units for statistics (NUTS), was approved in 2003 (Regulation (EC) No 1059/2003) and amended in 2006 (Regulation (EU) No 105/2007). The purpose is to provide a single and coherent territorial breakdown for the compilation of EU regional statistics. An amending regulation extending the NUTS to the 10 Member States that joined the EU in 2004 was adopted on 26 October 2005 (Regulation (EC) No 1888/2005) and an amendment that extends the NUTS to cover Bulgaria and Romania was adopted on 20 February 2008 (Regulation (EC) No 176/2008). The current NUTS (version 2006) subdivides the territory of the European Union (EU-27) into 97 NUTS level 1 regions, 271 NUTS level 2 regions and 1 303 NUTS level 3 regions.

Note: as of 1 January 2008, the Member States will send data following a new NUTS classification (version 2006), which introduces a number of changes to the classification. An abbreviated list of the NUTS classification – version 2006 – is provided later in this annex, see page 547. Otherwise, a complete listing of the classification is available at: http://ec.europa.eu/eurostat/ramon/nuts/codelist\_en.cfm?list=nuts.

# 0

# Oceania

AU: Australia; FJ: Fiji; FM: Federated States of Micronesia; KI: Kiribati; MH: Marshall Islands; NC: New Caledonia; NR: Nauru; NZ: New Zealand; PF: French Polynesia; PG: Papua New Guinea; PN: Pitcairn; PW: Palau; SB: Solomon Islands; TO: Tonga; TV: Tuvalu; VU: Vanuatu; WS: Samoa; XF: Wallis and Futuna; and southern polar regions.

# Official lending rates for loans (central bank interest rates)

Central bank interest rates are key reference rates set by the European Central Bank and national central banks. The central bank interest rates, also called official interest rates, are the main instrument of the monetary policy of a central bank.

## **Old-age-dependency ratio**

The ratio of the number of elderly persons of an age (65 or more) when they are generally economically inactive to the number of persons of working age (15-64 years old).

# OPEC (Organisation of Petroleum Exporting Countries)

AE: United Arab Emirates; DZ: Algeria; ID: Indonesia; IQ: Iraq; IR: Iran, Islamic Republic of; KW: Kuwait; LY: Libyan Arab Jamahiriya; NG: Nigeria; QA: Qatar; SA: Saudi Arabia; VE: Venezuela.

## **Organic farming**

For the EU, farming is only considered to be organic if it complies with Council Regulation (EEC) No 2092/91. Organic farming involves holistic production management systems for crops and livestock, emphasising the use of management practices in preference to the use of off-farm inputs. This is accomplished by using, where possible, cultural, biological and mechanical methods in preference to fertilisers and pesticides.

## **Output price indices (STS)**

Also referred to as producer price indices; output price indices are business-cycle indicators showing the development of transaction prices of economic activities. They can be an early indicator of inflationary pressures in the economy, but also record the evolution of prices over longer periods of time.

The output price index for an economic activity measures the average price development of all goods and related services. The prices collected in period t should refer to orders booked during period t (moment of order) and not the moment when the commodities leave the factory gates.

The indicators of domestic and non-domestic prices require separate output price indices to be compiled according to the destination of the product. The destination is determined by the residency of the third party that has ordered or purchased the product. The domestic market is defined as third parties resident in the same national territory as the observation unit.

Price indices are calculated as a weighted average for the relevant products.

# **Overcrowded houses**

Overcrowded conditions are where there is more than one person per room.

## **Overweight people**

Overweight people are those with a body mass index (BMI) greater than or equal to 25. This includes people who are severely overweight (obese), having a BMI greater than or equal to 30. The BMI is a measure of the body fat content of adults calculated as the ratio between the weight measured in kilograms, and the square of the height measured in metres.

# Ρ

# Paper and paperboard

The sum of graphic papers; newsprint; sanitary and household papers; packaging materials and other paper and paperboard; it excludes manufactured paper products such as boxes, cartons, books and magazines, etc.

# Passenger car

Road motor vehicle, other than a motor cycle, intended for the carriage of passengers and designed to seat no more than nine persons (including the driver). The term passenger car therefore covers microcars (which need no permit to be driven), taxis, and hired passenger cars, provided that they have fewer than 10 seats; this category may also include pick-ups.

## Patents

Patents are one of a number of intellectual property rights, which fall into two broad categories:

- industrial property, chiefly in technical inventions, trademarks and industrial designs; and
- copyright, chiefly in literary, musical, artistic, photographic and audiovisual works, including some software.

Patents are issued by authorised bodies to inventors to make use of and exploit their inventions for a limited period of time. They are granted to firms, individuals or other entities as long as the invention is novel, non-obvious and industrially applicable. As a means of protecting inventions, patents may be interpreted as indicators of invention. Before an invention can become an innovation, further entrepreneurial efforts are required to develop, manufacture and market it.

## People killed in road accidents

Fatalities caused by road accidents include drivers and passengers of motorised vehicles and pedal cycles as well as pedestrians, killed within 30 days from the day of the accident.

Annexes

### Personnel costs (SBS)

Personnel costs are defined as the total remuneration, in cash or in kind, payable by an employer to an employee (regular and temporary employees as well as home-workers) in return for work done by the latter during the reference period. Personnel costs also include taxes and employees' social security contributions retained by the unit as well as the employer's compulsory and voluntary social contributions. Personnel costs are made up of:

wages and salaries,

employers' social security costs.

# **PhD graduates**

See ISCED (level 6).

### Pigs

Domestic animals of the species Sus; a distinction is made between piglets, pigs, fattening pigs and breeding pigs.

#### Population, average/mid-year/mean

The average population during a calendar year is generally calculated as the arithmetic mean of the population on 1 January of two consecutive years (it is also referred to as the mean population). However, some countries calculate it differently, use the population based on registers or estimate it on a date close to 1 July (mid-year population). Mid-year population data in this publication is sourced to the UN, while Eurostat data generally refers to the population as of 1 January in each reference year.

#### **Population density**

Number of inhabitants per square kilometre. For the calculation of population density, the land area concept (excluding inland water bodies like lakes or rivers) should be used wherever available. In several countries the total area, including area of lakes and rivers, is used because it is the only concept for which data are available.

#### **Population increase, natural**

Births minus deaths.

#### **Population, on 1 January**

The inhabitants of a given area on 1 January of the year in question (or, in some cases, on 31 December of the previous year). The population is based on data from the most recent census adjusted by the components of population change produced since the last census, or based on population registers.

#### **Population, total**

This can be either the population on 1 January or the average population during the year; unless otherwise stipulated, the population on 1 January is used.

### **Poultry**

Hens, chicken, ducks, turkey, guinea fowls and geese.

#### **Practising physicians**

Practising physicians provide services directly to patients. Practising physicians' tasks include: conducting medical examination and making diagnosis, prescribing medication and giving treatment for diagnosed illnesses, disorders or injuries, giving specialised medical or surgical treatment for particular types of illnesses, disorders or injuries, giving advice on and applying preventive medicine methods and treatments.

# Premium unleaded gasoline (95 RON), price of

This indicator presents the average unleaded gasoline/petrol (Euro-super 95) consumer prices at the pump; prices are most frequently those on the 15th of each month.

#### **Present smokers**

A person is a present smoker if he/she declares that he/she smokes tobacco daily or occasionally.

#### Price convergence

If the coefficient of variation of the comparative price levels for the EU decreases/increases over time, the national price levels in the Member States are converging/diverging (see comparative price levels).

# PRODCOM

PRODuction COMmunautaire – statistics on the production of manufactured goods; these are surveyed annually and normally measured by value and volume.

### Producer price indices, of agricultural production

Indices that give information on the trends in the producer prices of agricultural production as a whole. Sub-indices are weighted by values of sales. Nominal indices are deflated by means of harmonised indices of consumer prices (HICPs).

### **Production index (STS)**

This index is a business-cycle indicator showing the output and activity of industry. It measures changes in the volume of output at close and regular intervals. It provides a measure of the volume trend in value added at factor cost over a given reference period. The data necessary for the compilation of such an index are, however, not available on a monthly basis. In practice, suitable proxy values for the continuation of the indices are:

- gross production values (deflated);
- volumes (data in physical quantities);
- turnover (deflated);
- work input;
- raw material input;
- energy input.

In construction, the index is split between building construction and civil engineering, according to the classification of types of construction (CC).

### **Production of primary energy**

Any kind of extraction of energy products from natural sources to a usable form is called primary production. Primary production takes place when the natural sources are exploited, for example, in coal mines, crude oil fields, hydro power plants or fabrication of biofuels. Transformation of energy from one form to another, such as electricity or heat generation in thermal power plants, or coke production in coke ovens, is not primary production.

# Public balance (net borrowing/lending of general government)

Net borrowing (+)/net lending (-) of general government is the difference between the revenue and the expenditure of the general government sector. The general government sector comprises the following subsectors: central government, State government, local government, and social security funds. The public balance is often expressed relative to GDP (see also convergence criteria).

#### Public expenditure on education

Generally, the public sector funds education either by bearing directly the current and capital expenses of educational institutions (direct expenditure for educational institutions) or by supporting students and their families with scholarships and public loans as well as by transferring public subsidies for educational activities to private firms or non-profit organisations (transfers to private households and firms). Both types of transactions together are reported as total public expenditure on education.

#### **Public water supply**

Water supplied by economic units engaged in collection, purification and distribution of water (including desalting of sea water to produce water as the principal product of interest, and excluding system operation for agricultural purposes and treatment of wastewater solely in order to prevent pollution); corresponds to NACE Division 41.

# Purchase price indices, of the means of agricultural production

Indices giving information on the trends in purchase prices of the means of agricultural production as a whole. The sub-indices are weighted by values of purchases. Nominal indices are deflated by means of harmonised indices of consumer prices (HICP).

## Purchasing power parities (PPPs)

Monetary exchange rates should not be used to compare the volumes of income or expenditure because they usually reflect more elements than just price differences (e.g. volumes of financial transactions between currencies, expectations in the foreign exchange markets). In contrast, purchasing power parities (PPPs) are established to eliminate the differences between price levels in different countries. Therefore, they truly reflect the differences in the purchasing power, for example, of households. Purchasing power parities are obtained by comparing price levels for a basket of comparable goods and services that are selected to be representative of consumption patterns in the various countries. Purchasing power parities convert every national monetary unit into a common artificial currency unit, the purchasing power standard (PPS).

PPPs are, at the lowest level, bilateral price relatives between tightly defined individual items (e.g. one loaf of bread in the United Kingdom, GBP 1.50, to EUR 2.00 in Germany). Subsequently, these relatives are turned into multilateral relatives and scaled to the EU average and aggregated to more and more complex aggregates (e.g. food) and finally to GDP.

# Purchasing power standards (PPS)

The purchasing power standard is an artificial currency unit. One PPS can buy the same amount of goods and services in each country, while, due to different price levels in the countries, different numbers of national currency units are necessary to buy this amount of goods and services. PPS are derived by dividing any economic aggregate of a country in national currency by its respective PPP (see above).

# R

#### Railway

Line of communication made up by rail exclusively for the use of railway vehicles.

#### **Railway line**

One or more adjacent running tracks forming a route between two points. Where a section of network comprises two or more lines running alongside one another, there are as many lines as routes to which tracks are allotted exclusively.

### **Real values**

Calculated by deflating an economic variable at current prices by the price index of another variable, for example deflating the compensation of employees by the price index of household consumption. This is typically the case for financial and income flows. For instance, to deflate an income, an appropriate price index is based on a basket of goods and services reflecting how this income is spent.

Annexes

#### **Recovered products**

Recovered products include slurries, combustible waste-heap shale, recycled lubricants and certain products recovered in industry.

#### Refugee

Someone with a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion (according to Article 1 of the 1951 United Nations Convention relating to the status of refugees).

It should be noted that many countries allow applicants for asylum to remain on a temporary or permanent basis even if they are not deemed to be refugees under the 1951 convention definition. For example, asylum applicants may receive a positive response to their application on humanitarian grounds.

#### **Renewable energies**

Renewable energies cover hydro power, wind energy, solar energy, biomass and wastes, and geothermal energy.

### Research and development (R & D)

Research and development comprises creative work undertaken on a systematic basis in order to increase the stock of knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications.

# Research and development (R & D) expenditure, intramural

Intramural expenditures are all expenditures for R & D performed within a statistical unit or sector of the economy, whatever the source of funds. Expenditures made outside the statistical unit or sector but in support of intramural R & D (for example, purchase of supplies for R & D) are included. Both current and capital expenditures are included.

# Research and development (R & D) personnel and researchers

Research and development personnel are all persons employed directly on R & D; also included are those providing direct services such as R & D managers, administrators, and clerical staff. Researchers are professionals engaged in the conception or creation of new knowledge, products, processes, methods and systems and also in the management of the projects concerned.

#### **Researchers**

Researchers are professionals engaged in the conception or creation of new knowledge, products, processes, methods and systems, and in the management of the projects concerned.

#### **Resident producer units**

Units whose principal function is the production of goods and services and whose centre of economic interest is on the economic territory of a country.

### **Roundwood production**

Roundwood production (the term is used as a synonym for removals) comprises all quantities of wood removed from the forest and other wooded land, or other felling site during a certain period of time.

# S

### Sawnwood

Sawnwood is wood that has been produced either by sawing lengthways or by a profile-chipping process and that, with a few exceptions, exceeds 6 mm in thickness.

#### Seasonally adjusted (STS)

Seasonal adjustment, or the adjustment of seasonal variations, aims, after adjusting for calendar effects, to take account of the impact of the known seasonal factors that have been observed in the past. For example, in the case of the production index, annual summer holidays have a negative impact on industrial production. The level of this impact depends on the countries and whether or not observation units close. It also depends on the area of activity concerned.

Within the framework of short-term statistics (STS), the Member States are encouraged to transmit seasonally adjusted data and trend-cycle indices. If they do not, Eurostat calculates the seasonal adjustment using the methods TRAMO (time-series regression with ARIMA noise, missing observations, and outliers) and SEATS (signal extraction in ARIMA time-series), referred to as TRAMO/SEATS. Eurostat aggregates Member States data to produce geographical aggregates, for example, for the EU-27 and euro area. Depending on the index and presentation form, the aggregation is different: seasonally adjusted and trend aggregates are based on the seasonal adjustment of the working day adjusted aggregates (for the production index, turnover indices in retail trade or gross aggregates for other indicators). The approach used for seasonal adjustment corresponds to the direct seasonal adjustment method.

#### Serious accidents at work

Number of accidents at work resulting in more than three days' absence. An accident at work is a discrete occurrence in the course of work that leads to physical or mental harm. This includes accidents in the course of work outside the premises of the person's business, even if caused by a third party, and cases of acute poisoning. It excludes accidents on the way to or from work, occurrences having only a medical origin, and occupational diseases.

#### Services

The terms service industry(ies), service sector(s) or simply service(s) are generally used to refer to economic activities covered by Sections G to K and M to O of NACE Rev. 1.1 and the units that carry out those activities. Non-financial services is an expression used within business statistics to refer to NACE Sections G to I and K.

#### **SMEs**

According to Commission Recommendation 2003/361/EC adopted on 6 May 2003, small and medium-sized enterprises are classified with regard to their number of employees, annual turnover, and their independence. For statistical purposes, small and medium-sized enterprises are generally defined as those enterprises employing fewer than 250 people: micro enterprises (less than 10 persons employed); small enterprises (10 to 49 persons employed); medium-sized enterprises are defined as those with 250 or more persons employed.

## Social benefits (other than social transfers in kind)

Social benefits (other than social transfers in kind) are those paid to households by social security funds, other government units, NPISHs (non-profit institutions serving households), employers administering unfunded social insurance schemes, insurance enterprises or other institutional units administering privately funded social insurance schemes.

#### **Social contributions**

Social contributions are paid on a compulsory or voluntary basis by employers, employees and self- and non-employed persons. There are two types of social contributions paid by the employer for the benefit of their employees: actual and imputed.

- Actual payments consist of payments made by employers for the benefit of their employees to insurers (social security funds and private funded schemes). These payments cover statutory, conventional, contractual and voluntary contributions in respect of insurance against social risks or needs.
- Employers' imputed social contributions represent the counterpart to unfunded social benefits paid directly by employers to their employees or former employees and other eligible persons without involving an insurance enterprise or autonomous pension fund, and without creating a special fund or segregated reserve for the purpose.

#### Social protection, expenditure on

Expenditure on social protection concerns: social benefits, which consist of transfers, in cash or in kind, to households and individuals to relieve them of the burden of a defined set of risks or needs; administration costs, which represent the costs charged to the scheme for its management and administration; other expenditure, which consists of miscellaneous expenditure by social protection schemes (payment of property income and other) – see also Esspros.

#### Social protection, receipts

Receipts of social protection schemes comprise social contributions, general government contributions and other receipts. Employers' social contributions are the costs incurred by employers to secure entitlement to social benefits for their employees, former employees and their dependants. Employers' social contributions may be actual or imputed; they can be paid by resident or non-resident employers – see also Esspros.

### Social security funds

Central, State and local institutional units whose principal activity is to provide social benefits, and which fulfil each of the two following criteria:

- by law or regulation (except regulations concerning government employees), certain groups of the population are obliged to participate in the scheme or to pay contributions;
- general government is responsible for the management of the institution in respect of settlement or approval of the contributions and benefits independently of its role as a supervisory body or employer.

## **Social transfers**

Social transfers include: old-age (retirement) and survivors' pensions; unemployment benefits; family-related benefits; sickness/invalidity benefits; education-related benefits; housing allowance; social assistance; other benefits.

#### **Stability and Growth Pact**

The Stability and Growth Pact has to be seen against the background of Stage III of economic and monetary union, which began on 1 January 1999. Its aim is to ensure that the Member States continue their budgetary discipline efforts once the single currency is introduced. In practical terms, the pact comprises a European Council resolution (adopted at Amsterdam on 17 June 1997) and two Council regulations of 7 July 1997 laying down detailed technical arrangements (one on the surveillance of budgetary positions and coordination of economic policies and the other on implementing the excessive deficit procedure). In the medium term, the Member States undertake to pursue the objective of a balanced or nearly balanced budget and to present the Council and the Commission with a stability programme each year. Along the same lines, Member States not taking part in Stage III of EMU are required to submit a convergence programme. The stability and growth pact opens the way for the Council to penalise any participating Member State which fails to take appropriate measures to end an excessive deficit. Initially, the penalty takes the form of a non-interest bearing deposit with the Community, but it could be converted into a fine if the excessive deficit is not corrected within two years.

### Standard death rate (SDR)

Death rate of a population adjusted to a standard age distribution. As most causes of death vary significantly with people's age and sex, the use of standard death rates improves comparability over time and between countries, as they aim at measuring death rates independently of different age structures of populations. The standard death rates used here are calculated on the basis of a standard European population (defined by the World Health Organisation).

# Standard International Trade Classification (SITC) Revision 3

A classification used for compiling international trade statistics on all merchandise entering international trade, and to promote international comparability of international trade statistics. The commodity groupings of SITC reflect (a) the materials used in production, (b) the processing stage, (c) market practices and uses of the products, (d) the importance of the commodities in terms of world trade, and (e) technological changes.

The statistics presented in this publication are based on the third revision of the classification; an abbreviated list of the SITC is provided later in this annex, see page 552. SITC Revision 4 was accepted by the United Nations Statistical Commission at its 37th session in 2006. The final text has (at time of writing) been submitted for printing.

#### State government

Separate institutional units exercising some of the functions of government at a level below that of central government and above that of the governmental institutional units existing at local level, except for the administration of social security funds.

#### **Stillbirths**

The expulsion or extraction from the mother of a dead foetus after the time at which it would normally be presumed capable of independent extra-uterine existence (commonly taken to be after 24 or 28 weeks of gestation). Infants who are born alive but die shortly after birth are excluded from this category.

### Stocks of foreign direct investment (FDI)

FDI stocks (or positions) are the value of the investment existing at a point in time (for example, the end of a year). FDI stocks are recorded in the international investment position. Outward FDI stocks are recorded as assets of the reporting economy, inward FDI stocks as liabilities, in a similar manner to flows – see foreign direct investment (FDI).

## Subscriptions (mobile phone)

Subscriptions to public mobile telecommunication systems using cellular technology. Active pre-paid cards are treated as subscriptions. One person may have more than one subscription.

## **Subsidies**

Current unrequited payments which general government or the institutions of the EU make to resident producers, with the objective of influencing their levels of production, their prices or the remuneration of the factors of production.

#### Taxes on production and imports

т

Compulsory, unrequited payments, in cash or in kind, levied by general government, or by the institutions of the EU, in respect of the production and importation of goods and services, the employment of labour, and the ownership or use of land, buildings or other assets used in production.

# Tax rate on low-wage earners: tax wedge on labour cost

The tax wedge on labour cost measures the relative tax burden for an employed person with low earnings.

### Tax rate on low-wage earners: unemployment trap

The unemployment trap measures what percentage of the gross earnings (from moving into employment) is taxed away by the combined effects of the withdrawal of benefits and higher tax and social security contributions.

### **Temporary employees**

A job may be considered temporary if employer and employee agree that its end is determined by objective conditions such as a specific date, the completion of a task or the return of another employee who has been temporarily replaced (usually stated in a work contract of limited duration). Typical cases are:

- persons with seasonal employment;
- persons engaged by an agency or employment exchange and hired to a third party to perform a specific task (unless there is a written work contract of unlimited duration);
- persons with specific training contracts.

# Three-month inter-bank rates

Three-month inter-bank rates apply to deposits or loans between banks with an original maturity of three months.

## Total general government expenditure

According to Commission Regulation (EC) No 1500/2000 of 10 July 2000, total general government expenditure comprises the following ESA 95 categories: intermediate consumption; gross capital formation; compensation of employees; other taxes on production; subsidies payable; property income; current taxes on income, wealth, etc.; social benefits other than social transfers in kind; social transfers in kind related to expenditure on products supplied to households via market producers; other current transfers; adjustment for the change in net equity of households in pension fund reserves; capital transfers payable; and acquisitions less disposals of non-financial non-produced assets.

#### Total general government revenue

According to Commission Regulation (EC) No 1500/2000 of 10 July 2000, total general government revenue comprises the following ESA 95 categories: market output; output for own final use; payments for the other non-market output; taxes on production and imports; other subsidies on production receivable; property income; current taxes on income, wealth, etc.; social contributions; other current transfers; and capital transfers.

#### **Total labour costs**

Total expenditure borne by employers in order to employ workers. For presentational purposes, total labour costs can be subdivided into direct and indirect costs. Direct costs include gross wages and salaries in cash (direct remuneration and bonuses) and wages and salaries in kind (company products, housing, company cars, meal vouchers, crèches, etc.). Direct costs are dominated by wages and salaries in cash.

Indirect costs cover employers' actual social contributions (i.e. statutory, collectively agreed, contractual and voluntary social security contributions); employers' imputed social contributions (mostly guaranteed remuneration in the event of sickness or short-time working, plus severance pay and compensation in lieu of notice); vocational training costs; recruitment costs and working clothes provided by the employer; taxes paid by the employer (based on the wages and salaries bill or on employment); minus subsidies received by the employer (intended to refund part or all of the cost of direct remuneration). Indirect costs are dominated by employers' actual social contributions, in particular by employers' statutory social security contributions.

### Total public expenditure on education

Generally, the public sector funds education either by bearing directly the current and capital expenses of educational institutions (direct expenditure for educational institutions) or by supporting students and their families with scholarships and public loans, as well as by transferring public subsidies for educational activities to private firms or non-profit organisations (transfers to private households and firms). Both types of transactions together are reported as total public expenditure on education.

### Tourist accommodation, supply of

This refers to the number of bed places in an establishment where people can stay overnight in permanent beds, discounting any extra beds set up at the customers' request.

#### **Tourists**

Visitors who stay at least one night in collective or private accommodation in the place/country visited are tourists (or overnight visitors).

### Trade integration (of goods and services)

Trade integration of goods/services as a percentage of gross domestic product (GDP). This is calculated as the average value of imports and exports of goods/services in the balance of payments divided by GDP. If the index increases over time it means that the country/zone studied is becoming more integrated within the international economy.

#### Trend cycle (STS)

The trend is a slow variation over a long period of years, generally associated with the structural causes of the phenomenon in question. In some cases the trend shows a steady growth; in others it may move either downwards or upwards. The cycle is a quasi periodic oscillation characterised by alternating periods of higher and lower rates of change possibly, but not always, involving expansion and contraction. In most cases it is related to fluctuations in overall economic activity. If the irregular component of the time-series is relatively important, the trendcycle series generally offers a better series for analysis of longerterm past developments. However, this advantage is less clear when analysing very recent developments. Trend-cycle values for recent periods may be subject to greater revisions than the equivalent seasonally adjusted values and hence the latter may be more appropriate for the analysis of very recent developments. This is particularly true around turning points. Trend-cycle series may, however, converge to stable results more guickly than seasonally adjusted series.

#### Turnover (SBS)

Turnover comprises the totals invoiced by the observation unit during the reference period, and this corresponds to market sales of goods or services supplied to third parties. Turnover includes all duties and taxes on the goods or services invoiced by the unit with the exception of the VAT invoiced by the unit vis-à-vis its customer and other similar deductible taxes directly linked to turnover. It also includes all other charges (transport, packaging, etc.) passed on to the customer, even if these charges are listed separately on the invoice. Reduction in prices, rebates and discounts as well as the value of returned packing must be deducted. Income classified as other operating income, financial income and extraordinary income in company accounts is excluded from turnover. Operating subsidies received from public authorities or the institutions of the EU are also excluded.

# U

### **Unemployed person**

Unemployed persons are persons aged 15 to 74 (in Spain, the United Kingdom, Iceland, Norway: 16 to 74) who were without work during the reference week, were currently available for work and were either actively seeking work in the last four weeks or had already found a job to start within the next three months. This definition follows the guidelines of the International Labour Organisation (ILO).

# Annexes

## **Unemployment rate**

Unemployed persons as a percentage of people in the labour force.

# **United Nations (UN)**

The United Nations (UN) was established on 24 October 1945 by 51 countries committed to preserving peace through international cooperation and collective security. Today, nearly every nation in the world belongs to the UN: membership totals 192 countries. When States become members of the United Nations, they agree to accept the obligations of the UN charter, an international treaty that sets out basic principles of international relations. According to the charter, the UN has four purposes: to maintain international peace and security; to develop friendly relations among nations; to cooperate in solving international problems and in promoting respect for human rights; and to be a centre for harmonising the actions of nations.

# Urban wastewater treatment

Urban wastewater treatment is all treatment of wastewater in urban wastewater treatment plants – the latter are usually operated by public authorities or by private companies working by order of public authorities.

# V

# Vegetables

Vegetables include brassicas (for example, cabbage, cauliflower and broccoli), other leafy or stalked vegetables (for example, celery, leeks, lettuce, spinach and asparagus), vegetables cultivated for fruit (for example, tomatoes, cucumbers, gherkins, melons, egg-plant (aubergine), pumpkins and red pepper), root and tuber vegetables (for example, turnips, carrots, onions, garlic, beetroot and radishes), pulses (for example, peas and beans), cultivated mushrooms, wild products and other fresh vegetables.

# Value added (SBS)

Value added at factor cost is the gross income from operating activities after adjusting for operating subsidies and indirect taxes. It can be calculated from turnover, plus capitalised production, plus other operating income, plus or minus the changes in stocks, minus the purchases of goods and services, minus other taxes on products which are linked to turnover but not deductible, minus the duties and taxes linked to production. Alternatively it can be calculated from gross operating surplus by adding personnel costs.

# Volume of sales index (STS)

The volume measure of the retail trade turnover index is more commonly referred to as the index of the volume of (retail) sales. In order to eliminate the price effect on turnover in retail trade a deflator of sales is used. The deflator of sales is an index with a similar methodology to that of an output price index adapted to the particularities of retail trade but reflecting price changes in the goods retailed rather than the retail service provided. It should be noted that the volume of sales is different from the volume of retail trade services. The latter takes account of changes in the quality of the trade service supplied. As such, the volume of sales is conceptually different from the index of production which takes account of quality changes (see also turnover).

# W

## Waste

Waste refers to materials for which the owners have no further use and which they discard, or intend, or are required to discard. Waste can be generated in any kind of production or consumption activity. Excluded are: residuals directly recycled or reused at the place of generation; waste materials that are directly discharged into ambient water or air.

# Waterway

River, canal, lake or other stretch of water which by natural or man-made features is suitable for navigation. Waterways of a maritime character (waterways designated by the reporting country as suitable for navigation primarily by seagoing ships) are included. Waterways also include river estuaries; the boundary being that point nearest the sea where the width of the river is both less than 3 km at low water and less then 5 km at high water.

# Working day adjusted (STS)

The adjustment of working days takes account of the calendar nature of a given month in order to adjust the index. The adjustment of working days is intended to adjust calendar effects, whatever their nature. The number of working days for a given month depends on the timing of certain public holidays (Easter can fall in March or in April depending on the year), the possible overlap of certain public holidays and non-working days (1 May can fall on a Sunday), the fact that a year is a leap year or not and other reasons.

# Y

# Young-age-dependency ratio

The ratio of the number of younger persons of an age (below 15) when they are generally economically inactive to the number of persons of working age (15-64 years old).

## Youth education attainment level

Youth education attainment level is defined as the percentage of young people aged 20 to 24 years having attained at least upper secondary education attainment level, i.e. with an education level ISCED 3a, 3b or 3c long minimum (numerator). The denominator consists of the total population of the same age group, excluding no answers (from the LFS) to the question 'highest level of education or training attained'.

# NUTS (NOMENCALATURE OF TERRITORIAL UNITS FOR STATISTICS)

# **EUROPEAN UNION: NUTS 2 REGIONS**

# **BELGIUM**

BE10 Région de Bruxelles-Capitale/Brussels Hoofdstedelijk Gewest BE21 Prov. Antwerpen BE22 Prov. Limburg (B) BE23 Prov. Oost-Vlaanderen BE24 Prov. Vlaams-Brabant BE25 Prov. West-Vlaanderen BE31 Prov. Brabant Wallon BE32 Prov. Hainaut BE33 Prov. Liège BE34 Prov. Luxembourg (B) BE35 Prov. Namur

### **BULGARIA**

BG31 Severozapaden BG32 Severen tsentralen BG33 Severoiztochen BG34 Yugoiztochen BG41 Yugozapaden BG42 Yuzhen tsentralen

# **CZECH REPUBLIC**

CZ01 Praha CZ02 Střední Čechy CZ03 Jihozápad CZ04 Severozápad CZ05 Severovýchod CZ06 Jihovýchod CZ07 Střední Morava CZ08 Moravskoslezsko

#### DENMARK

DK01 Hovedstaden DK02 Sjælland DK03 Syddanmark DK04 Midtjylland DK05 Nordjylland

### **GERMANY**

DE11 Stuttgart DE12 Karlsruhe DE13 Freiburg DE14 Tübingen DE21 Oberbayern DE22 Niederbayern DE23 Oberpfalz DE24 Oberfranken DE25 Mittelfranken DE25 Mittelfranken DE26 Unterfranken DE27 Schwaben DE30 Berlin DE41 Brandenburg — Nordost DE42 Brandenburg — Südwest DE50 Bremen DE71 Darmstadt DE72 Gießen DF73 Kassel DE80 Mecklenburg-Vorpommern DE91 Braunschweig DE92 Hannover DE93 Lüneburg DE94 Weser-Ems DEA1 Düsseldorf DEA2 Köln DEA3 Münster DEA4 Detmold DEA5 Arnsberg DEB1 Koblenz DFB2 Trier DEB3 Rheinhessen-Pfalz DEC0 Saarland DED1 Chemnitz DED2 Dresden DED3 Leipzig DEE0 Sachsen-Anhalt DEF0 Schleswig-Holstein DEG0 Thüringen

DE60 Hamburg

# **ESTONIA**

EE00 Eesti

## IRELAND

IE01 Border, Midland and Western IE02 Southern and Eastern

#### GREECE

GR11 Anatoliki Makedonia,Thraki GR12 Kentriki Makedonia GR13 Dytiki Makedonia GR14 Thessalia GR21 Ipeiros GR22 Ionia Nisia GR23 Dytiki Ellada GR24 Sterea Ellada GR25 Peloponnisos GR30 Attiki GR41 Voreio Aigaio GR42 Notio Aigaio GR43 Kriti

#### **SPAIN**

ES11 Galicia ES12 Principado de Asturias ES13 Cantabria ES21 País Vasco ES22 Comunidad Foral de Navarra ES23 La Rioja ES24 Aragón ES30 Comunidad de Madrid



ES41 Castilla y León ES42 Castilla-La Mancha ES43 Extremadura ES51 Cataluña ES52 Comunidad Valenciana ES53 Illes Balears ES61 Andalucía ES62 Región de Murcia ES63 Ciudad Autónoma de Ceuta ES64 Ciudad Autónoma de Melilla ES70 Canarias

# FRANCE

FR10 Île-de-France FR21 Champagne-Ardenne FR22 Picardie FR23 Haute-Normandie FR24 Centre FR25 Basse-Normandie FR26 Bourgogne FR30 Nord – Pas-de-Calais FR41 Lorraine FR42 Alsace FR43 Franche-Comté FR51 Pays de la Loire FR52 Bretagne FR53 Poitou-Charentes FR61 Aquitaine FR62 Midi-Pyrénées FR63 Limousin FR71 Rhône-Alpes FR72 Auvergne FR81 Languedoc-Roussillon FR82 Provence-Alpes-Côte d'Azur FR83 Corse FR91 Guadeloupe FR92 Martinique FR93 Guyane FR94 Réunion

#### ITALY

ITC1 Piemonte ITC2 Valle d'Aosta/Vallée d'Aoste ITC3 Liguria ITC4 Lombardia ITD1 Provincia Autonoma Bolzano/Bozen ITD2 Provincia Autonoma Trento ITD3 Veneto ITD4 Friuli-Venezia Giulia ITD5 Emilia-Romagna ITE1 Toscana ITE2 Umbria ITE3 Marche ITE4 Lazio ITF1 Abruzzo ITF2 Molise ITF3 Campania ITF4 Puglia **ITF5** Basilicata

ITF6 Calabria ITG1 Sicilia ITG2 Sardegna

CYPRUS CY00 Kypros/Kıbrıs

LATVIA LV00 Latvija

# LITHUANIA

LTOO Lietuva

LUXEMBOURG LU00 Luxembourg (Grand-Duché)

# HUNGARY

HU10 Közép-Magyarország HU21 Közép-Dunántúl HU22 Nyugat-Dunántúl HU23 Dél-Dunántúl HU31 Észak-Magyarország HU32 Észak-Alföld HU33 Dél-Alföld

#### MALTA

MT00 Malta

# **NETHERLANDS**

NL11 Groningen NL12 Friesland (NL) NL13 Drenthe NL21 Overijssel NL22 Gelderland NL23 Flevoland NL31 Utrecht NL32 Noord-Holland NL33 Zuid-Holland NL34 Zeeland NL41 Noord-Brabant NL42 Limburg (NL)

#### **AUSTRIA**

AT11 Burgenland (A) AT12 Niederösterreich AT13 Wien AT21 Kärnten AT22 Steiermark AT31 Oberösterreich AT32 Salzburg AT33 Tirol AT34 Vorarlberg

# POLAND

PL11 Łódzkie PL12 Mazowieckie PL21 Małopolskie PL22 Śląskie PL31 Lubelskie PL32 Podkarpackie
PL33 Świętokrzyskie
PL34 Podlaskie
PL41 Wielkopolskie
PL42 Zachodniopomorskie
PL43 Lubuskie
PL51 Dolnośląskie
PL52 Opolskie
PL61 Kujawsko-Pomorskie
PL62 Warmińsko-Mazurskie
PL63 Pomorskie

# PORTUGAL

PT11 Norte PT15 Algarve PT16 Centro (P) PT17 Lisboa PT18 Alentejo PT20 Região Autónoma dos Açores PT30 Região Autónoma da Madeira

# ROMANIA

RO11 Nord-Vest RO12 Centru RO21 Nord-Est RO22 Sud-Est RO31 Sud — Muntenia RO32 Bucureşti — Ilfov RO41 Sud-Vest Oltenia RO42 Vest

# **SLOVENIA**

SI01 Vzhodna Slovenija SI02 Zahodna Slovenija

# **SLOVAKIA**

SK01 Bratislavský kraj SK02 Západné Slovensko SK03 Stredné Slovensko SK04 Východné Slovensko

### **FINLAND**

FI13 Itä-Suomi FI18 Etelä-Suomi FI19 Länsi-Suomi FI1A Pohjois-Suomi FI20 Åland

#### **SWEDEN**

SE11 Stockholm SE12 Östra Mellansverige SE21 Småland med öarna SE22 Sydsverige SE23 Västsverige SE31 Norra Mellansverige SE32 Mellersta Norrland SE33 Övre Norrland

#### **UNITED KINGDOM**

UKC1 Tees Valley and Durham UKC2 Northumberland and Tyne and Wear UKD1 Cumbria UKD2 Cheshire UKD3 Greater Manchester UKD4 Lancashire UKD5 Merseyside UKE1 East Yorkshire and Northern Lincolnshire UKE2 North Yorkshire UKE3 South Yorkshire UKE4 West Yorkshire UKF1 Derbyshire and Nottinghamshire UKF2 Leicestershire, Rutland and Northamptonshire UKF3 Lincolnshire UKG1 Herefordshire, Worcestershire and Warwickshire UKG2 Shropshire and Staffordshire UKG3 West Midlands UKH1 East Anglia UKH2 Bedfordshire and Hertfordshire UKH3 Essex UKI1 Inner London UKI2 Outer London UKJ1 Berkshire, Buckinghamshire and Oxfordshire UKJ2 Surrey, East and West Sussex UKJ3 Hampshire and Isle of Wight UKJ4 Kent UKK1 Gloucestershire, Wiltshire and Bristol/Bath area UKK2 Dorset and Somerset UKK3 Cornwall and Isles of Scilly UKK4 Devon UKL1 West Wales and the Valleys UKL2 East Wales UKM2 Eastern Scotland UKM3 South Western Scotland UKM5 North Eastern Scotland UKM6 Highlands and Islands UKN0 Northern Ireland

# EFTA COUNTRIES: STATISTICAL REGIONS AT LEVEL 2

# ICELAND

ISOO Ísland

# LIECHTENSTEIN

LIOO Liechtenstein

# NORWAY

NO01 Oslo og Akershus NO02 Hedmark og Oppland NO03 Sør-Østlandet NO04 Agder og Rogaland NO05 Vestlandet NO06 Trøndelag NO07 Nord-Norge

# SWITZERLAND

CH01 Région lémanique CH02 Espace Mittelland CH03 Nordwestschweiz CH04 Zürich CH05 Ostschweiz CH06 Zentralschweiz CH07 Ticino

# CANDIDATE COUNTRIES: STATISTICAL REGIONS AT LEVEL 2

# CROATIA

HR01 Sjeverozapadna Hrvatska HR02 Središnja i Istočna (Panonska) Hrvatska HR03 Jadranska Hrvatska

# THE FORMER YUGOSLAV REPUBLIC OF MACEDONIA

MK00 Poranešna jugoslovenska Republika Makedonija

# TURKEY

TR10 İstanbul TR21 Tekirdağ TR22 Balıkesir TR31 İzmir TR32 Aydın TR33 Manisa TR41 Bursa TR42 Kocaeli TR51 Ankara TR52 Konya TR61 Antalya TR62 Adana TR63 Hatay TR71 Kırıkkale TR72 Kayseri TR81 Zonguldak TR82 Kastamonu TR83 Samsun TR90 Trabzon TRA1 Erzurum TRA2 Ağrı TRB1 Malatya TRB2 Van TRC1 Gaziantep TRC2 Şanlıurfa TRC3 Mardin

A full listing of the classification is accessible on the Eurostat website (http://ec.europa.eu/eurostat/ramon/nuts/codelist\_en.cfm ?list=nuts).

# NACE REV. 1.1 (CLASSIFICATION OF ECONOMIC ACTIVITIES IN THE EUROPEAN COMMUNITY)

- A Agriculture, hunting and forestry
- **B** Fishing
- C Mining and quarrying
- CA Mining and quarrying of energy-producing materials
- CB Mining and quarrying, except of energy producing materials
- **D** Manufacturing
- DA Manufacture of food products, beverages and tobacco
- 15 Manufacture of food products and beverages
- 16 Manufacture of tobacco products
- DB Manufacture of textiles and textile products
- 17 Manufacture of textiles
- 18 Manufacture of wearing apparel; dressing and dyeing of fur
- DC Manufacture of leather and leather products
- 19 Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear
- DD Manufacture of wood and wood products
- 20 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
- DE Manufacture of pulp, paper and paper products; publishing and printing
- 21 Manufacture of pulp, paper and paper products
- 22 Publishing, printing and reproduction of recorded media
- DF Manufacture of coke, refined petroleum products and nuclear fuel
- 23 Manufacture of coke, refined petroleum products and nuclear fuel
- DG Manufacture of chemicals, chemical products and man-made fibres
- 24 Manufacture of chemicals and chemical products
- DH Manufacture of rubber and plastic products
- 25 Manufacture of rubber and plastic products
- DI Manufacture of other non-metallic mineral products
- 26 Manufacture of other non-metallic mineral products
- DJ Manufacture of basic metals and fabricated metal products
- 27 Manufacture of basic metals
- 28 Manufacture of fabricated metal products, except machinery and equipment
- DK Manufacture of machinery and equipment n.e.c.
- 29 Manufacture of machinery and equipment n.e.c.
- DL Manufacture of electrical and optical equipment
- 30 Manufacture of office machinery and computers
- 31 Manufacture of electrical machinery and apparatus n.e.c.
- 32 Manufacture of radio, television and communication equipment and apparatus
- 33 Manufacture of medical, precision and optical instruments, watches and clocks
- DM Manufacture of transport equipment
- 34 Manufacture of motor vehicles, trailers and semi-trailers
- 35 Manufacture of other transport equipment
- DN Manufacturing n.e.c.
- 36 Manufacture of furniture; manufacturing n.e.c.
- 37 Recycling
- E Electricity, gas and water supply
- F Construction

- G Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods
- 50 Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel
- 51 Wholesale trade and commission trade, except of motor vehicles and motorcycles
- 52 Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods
- H Hotels and restaurants
- I Transport, storage and communication
- 60 Land transport; transport via pipelines
- 61 Water transport
- 62 Air transport
- 63 Supporting and auxiliary transport activities; activities of travel agencies
- 64 Post and telecommunications
- J Financial intermediation
- 65 Financial intermediation, except insurance and pension funding
- 66 Insurance and pension funding, except compulsory social security
- 67 Activities auxiliary to financial intermediation
- K Real estate, renting and business activities
- 70 Real estate activities
- 71 Renting of machinery and equipment without operator and of personal and household goods
- 72 Computer and related activities
- 73 Research and development
- 74 Other business activities
- L Public administration and defence; compulsory social security
- **M** Education
- N Health and social work
- O Other community, social and personal service activities
- 90 Sewage and refuse disposal, sanitation and similar activities
- 91 Activities of membership organizations n.e.c.
- 92 Recreational, cultural and sporting activities
- 93 Other service activities
- P Activities of households
- Q Extra-territorial organisations and bodies

A full listing of the classification is accessible on the Eurostat website (http://ec.europa.eu/eurostat/ramon/nomenclatures/ index.cfm?TargetUrl=ACT\_OTH\_BUILD\_TREE&StrNom= NACE\_1\_1&StrLanguageCode=EN).

Note that a revised classification (NACE Rev. 2) is in the process of being implemented and that data based on this classification will be collected for reference year 2008 onwards.

0 Food and live animals

Annexes

- 1 Beverages and tobacco
- 2 Crude materials, inedible, except fuels
- 3 Mineral fuels, lubricants and related materials
- 4 Animal and vegetable oils, fats and waxes
- 5 Chemicals and related products, n.e.s.
- 6 Manufactured goods classified chiefly by material
- 7 Machinery and transport equipment
- 8 Miscellaneous manufactured articles
- 9 Commodities and transactions not classified elsewhere in the SITC

A full listing of the classification is accessible on the UN website (http://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=14). Note that a revised classification (SITC Rev. 4) was accepted by the United Nations Statistical Commission in March 2006. The final text of SITC Rev. 4 has (at the time of drafting) been submitted for printing (http://unstats.un.org/unsd/trade/ SITC%20Rev%204%20FINAL.pdf).

# ISCED (INTERNATIONAL STANDARD CLASSIFICATION OF EDUCATION)

The classification comprises 25 fields of education (at two-digit level) which can be further refined into three-digit level. For the purpose of this publication only the following nine broad groups (at one-digit level) are distinguished:

- 0 general programmes
- 1 education
- 2 humanities and arts
- 3 social sciences, business and law
- 4 science
- 5 engineering, manufacturing and construction
- 6 agriculture
- 7 health and welfare
- 8 services

Empirically, ISCED assumes that several criteria exist which can help allocate education programmes to levels of education. Depending on the level and type of education concerned, there is a need to establish a hierarchical ranking system between main and subsidiary criteria (typical entrance qualification, minimum entrance requirement, minimum age, staff qualification, etc.). The following ISCED levels can be distinguished:

- 0 Pre-primary education: the initial stage of organised instruction. It is school- or centre-based and is designed for children aged at least three years.
- Primary education: begins between four and seven years of age, is compulsory in all countries and generally lasts from five to six years.
- 2 Lower secondary education: continues the basic programmes of the primary level, although teaching is typically more subject-focused. Usually, the end of this level coincides with the end of compulsory education.
- 3 Upper secondary education: generally begins at the end of compulsory education. The entrance age is typically 15 or 16 years. Entrance qualifications (end of compulsory education) and other minimum entry requirements are usually needed. Instruction is often more subject-oriented than at ISCED level 2. The typical duration of ISCED level 3 varies from two to five years.
- 4 Post-secondary non-tertiary education: these programmes straddle the boundary between upper secondary and tertiary education. They serve to broaden the knowledge of ISCED level 3 graduates. Typical examples are programmes designed to prepare students for studies at level 5 or programmes designed to prepare students for direct labour market entry.
- 5 Tertiary education (first stage): entry to these programmes normally requires the successful completion of ISCED level 3 or 4. This level includes tertiary programmes with academic orientation (type A) which are largely theoretically based and tertiary programmes with occupation orientation (type B) which are typically shorter than type A programmes and geared for entry into the labour market.
- 6 Tertiary education (second stage): reserved for tertiary studies that lead to an advanced research qualification (PhD or doctorate).

A full listing of the classification and more details are accessible on the UNESCO website (http://www.uis.unesco.org/ev\_en.php? IDI=3813\_201&ID2=DO\_TOPIC).

# STATISTICAL SYMBOLS, ABBREVIATIONS AND ACRONYMS

### STATISTICAL SYMBOLS

Statistical data are often accompanied by additional information in form of statistical symbols (also called 'flags') to indicate missing information or some other meta-data. In this yearbook, the use of statistical symbols has been restricted to a minimum. The following symbols are included where necessary:

- *Italic* Value is either a forecast, provisional or an estimate and is therefore likely to change
- : Not available, confidential or unreliable value
- Not applicable or zero by default
- 0 Less than half the final digit shown and greater than real zero

Breaks in series are indicated in the footnotes provided with each table and graph.

In the case of the EU Member States, even when data are not available, these countries have been included in tables and graphs systematically (with appropriate footnotes for graphs indicating that data are not available, while in tables use has been made of the colon (:) to indicate that data are not available). For nonmember countries outside of the EU, when data are not available for a particular indicator the country has been removed from the table or graph in question.

### **GEOGRAPHICAL AGGREGATES AND COUNTRIES** European Union, euro area and Member States

EU European Union

- EU-27 <sup>(121)</sup> European Union of 27 Member States from 1 January 2007 (BE, BG, CZ, DK, DE, EE, IE, EL, ES, FR, IT, CY, LV, LT, LU, HU, MT, NL, AT, PL, PT, RO, SI, SK, FI, SE, UK)
- EU-25 European Union of 25 Member States from 1 May 2004 to 31 December 2006 (BE, CZ, DK, DE, EE, IE, EL, ES, FR, IT, CY, LV, LT, LU, HU, MT, NL, AT, PL, PT, SI, SK, FI, SE, UK)
- EU-15 European Union of 15 Member States from 1 January 1995 to 30 April 2004 (BE, DK, DE, IE, EL, ES, FR, IT, LU, NL, AT, PT, FI, SE, UK)
- Euro area <sup>(122)</sup> At the time of writing the euro area is composed of BE, DE, IE, EL, ES, FR, IT, LU, NL, AT, PT, SI, FI. The euro area was initially composed of 11 Member States (BE, DE, IE, ES, FR, IT, LU, NL, AT, PT, FI) – as of 1 January 2001 Greece joined, and as of 1 January 2007 Slovenia joined; Cyprus and Malta became members of the euro area in 2008 (however, as this publication was produced in 2007 this change is not reflected in the coverage of data presented in tables and graphs).
- EA-13 Euro area of BE, DE, IE, EL, ES, FR, IT, LU, NL, AT, PT, SI, FI.
- EA-12 Euro area of BE, DE, IE, EL, ES, FR, IT, LU, NL, AT, PT, FI
- EA-11 Euro area of BE, DE, IE, ES, FR, IT, LU, NL, AT, PT, FI
- (121) Note that EU aggregates are back-calculated when sufficient information is available – for example, data relating to the EU-27 aggregate is often presented for periods prior to the accession of Bulgaria and Romania in 2007 and the accession of ten new Member States in 2004, as if all 27 Member States had always been members of the EU. A footnote is added when this is not the case and the data for the EU refers to either another aggregate (EU-25 or EU-15) or to a partial total that has been created from an incomplete set of country information (no data for certain Member States).
- (122) Note that the euro area aggregate is back-calculated when sufficient information is available – for example, data relating to the euro area is often presented for periods prior to the accession of Slovenia in 2007 and Greece in 2001, as if all 13 Member States had always been members of the euro area. A footnote is added when this is not the case and the data for the euro area refers to another aggregate based on either 11 (EA-11) or 12 (EA-12) participating Member States.

BE	Belgium	CURRENCIES	
BG	Bulgaria	ECU	European currency unit, used up to 31 December
CZ	Czech Republic		1998
DK	Denmark	EUR	euro, used from 1 January 1999 onwards
DE	Germany	ATS (*)	Austrian schilling
EE	Estonia	BEF (*)	Belgian franc
IE	Ireland	BGN	Bulgarian lev
EL	Greece	CYP(*)	Cyprus pound
ES	Spain	CZK	Czech koruna
FR	France	DEM (*)	German mark
IT	Italy	DKK	Danish crown (krone)
CY	Cyprus	EEK	Estonian kroon
LV	Latvia	ESP (*)	Spanish peseta
LT	Lithuania	FIM (*)	Finnish markka
LU	Luxembourg	FRF (*)	French franc
HU	Hungary	GBP	Pound sterling
MT	Malta	GRD (*)	Greek drachma
NL	Netherlands	HUF	Hungarian forint
AT	Austria	IEP (*)	Irish pound
PL	Poland	ITL (*)	Italian lira
PT	Portugal	LTL	Lithuanian litas
RO	Romania	LUF (*)	Luxembourg franc
SI	Slovenia	LVL	Latvian lats
SK	Slovakia	MTL (*)	Maltese lira
FI	Finland	NLG (*)	Dutch guilder
SE	Sweden	PLN	Polish zloty
UK	United Kingdom	PTE (*)	Portuguese escudo
		RON	New Romanian leu.
European Union acceding and candidate countries		SEK	Swedish crown (krona)
HR	Croatia	SIT (*)	Slovenian tolar

SKK

HR	Croatia
MK (123)	the former Yugoslav Republic of Macedonia

TR Turkey

Annexes

(123) The code MK is provisional and does not prejudge in any way the definitive nomenclature for this country, which will be agreed following the conclusion of negotiations currently taking place on this subject at the United Nations. (\*) Former currencies of Member States which use the euro.

Slovak koruna

The euro replaced the ecu on 1 January 1999; on 1 January 2002, it also replaced the notes and coins of 12 Community currencies with the introduction of the euro to the euro area (EA-12) members; on 1 January 2007, the euro came into circulation in Slovenia; on 1 January 2008, the euro came into circulation in Cyprus and Malta (however, as this publication was produced in 2007 this change is not reflected in the coverage of data presented in tables and graphs).

HRK	Croatian kuna
MKD	former Yugoslav Republic of Macedonia denar
TRL	former Turkish lira
TRY	new Turkish lira
CHF	Swiss franc
ISK	Icelandic króna
NOK	Norwegian krone
JPY	Japanese yen
USD	US dollar

OTHER ABBREVIATIONS AND ACRONYMS		GERD	gross domestic expenditure on R & D
AA	agricultural area	GHGs	greenhouse gases
ACC	Acceding countries	GNI	gross national income
ACP	African, Caribbean and Pacific countries	GNP	gross national product
APEC	Asia Pacific Economic Co-operation	GVA	gross value added
ASEAN	Association of South-East Asian Nations	HICP	harmonised index of consumer prices
BERD	expenditure on R & D in the business enterprise sector	ICT	information and communication technology
BOD	biochemical oxygen demand	ILO	International Labour Organisation
BSE	bovine spongiform encephalopathy	IMF	International Monetary Fund
CAP	common agricultural policy	IPC	international patent classification
СС	1. candidate country(ies)	IPI	industrial production index
	2. the classification of types of construction	ISCED	international standard classification of education
CDR	crude death rate	ISPO	Information Society Promotion Office
CEECs	central and east European countries	IT	information technology
CHP	combined heat and power	KIS	knowledge-intensive services
Cif	cost, insurance and freight	LFS	labour force survey
CIS	Commonwealth of Independent States	LMP	labour market policy
COD	1. chemical oxygen demand	Mercosur	Southern Cone Common Market
	2. causes of death	MSTI	main science and technology indicators (OECD)
DAEs	dynamic Asian economies	MUICP	monetary union index of consumer prices
DFLE	disability-free life expectancy	NACE	general industrial classification of economic activities
DG	directorate-general		within the European Community
DMC	domestic material consumption	NAFTA	North American Free Trade Agreement (CA, MX, US)
DOC	Department of Commerce (US)	n.e.c.	not elsewhere classified
ECB	European Central Bank	n.e.s.	not elsewhere specified
ECHP	European Community Household Panel	NIS	new independent States (of the former Soviet Union)
ECSC	European Coal and Steel Community	NPISHs	non-profit institutions serving households
EEA	European Economic Area	NUTS	classification/nomenclature of territorial units for
EFTA	European Free Trade Association		statistics (Eurostat) (NUTS 1, 2, etc.)
EICP	European index of consumer prices	ODs	overseas departments
EITO	European Information Technology Observatory	OECD	Organisation for Economic Cooperation and
EMS	European Monetary System		Development
FPO	European Patent Office	OPEC	Organisation of Petroleum Exporting Countries
FPC	European Patent Convention	R & D	research and development
FRM	exchange rate mechanism	RON	research octane number
FRTMS	European Bailway Traffic Management System	S&T	science and technology
FSA	1 European system of national and regional accounts	SAARC	South Asian Association for Regional Cooperation
2071	(FSA 95)	SBS	structural business statistics
	2 European Space Agency	SDIs	sustainable development indicators
Esspros	European system of integrated social protection	SESAR	Single European Sky ATM Research
2000100	statistics	SI(s)	structural indicator(s)
FU	European Union	SiF	Statistics in Focus
EU-SILC	Community statistics on income and living conditions	SII C	see EU-SII C
Eurofarm	A project for standardisation of methods for obtaining	SITC Rev 3	standard international trade classification third
Larolann	agricultural statistics: provides an overview of farm	Since new. s	revision
	structure agricultural holdings wine growing and	ςνα	System of National Accounts (LIN)
	orchard fruit trees	STS	Short-term statistics
Furostat	the statistical office of the European Communities	UNCAT	United Nations Convention Against Torture and other
Eurydice	information network on education in Europe	onera	forms of cruel or inhuman treatment
Euryaree	(http://www.eurydice.org/)	UN	United Nations
FAO	Food and Agriculture Organisation (LIN)	Unesco	United Nations Educational Scientific and Cultural
fob	free on board	onesco	Organisation
FDI	foreign direct investment	UNECE	United Nations Economic Commission for Europe
FTF	full-time equivalent	UNHCR	Office of the United Nations High Commissioner for
GBAORD	government budget appropriations or outlaws for	GRATIEN	Refugees
SEACID	research and development	USPTO	United States Patent and Trademark Office
GDP	aross domestic product	VAT	value added tax
GECE	gross fixed capital formation	WHO	World Health Organisation
51 51	gross med capital formation		



### UNITS OF MEASUREMENT

%	percent(age)
AWU	annual work unit
BMI	body mass index
GT	gross tonnage
GW	gigawatt
GWh	gigawatt-hour
ha	hectare (1 ha = 10 000 square metres)
HLY	healthy life years
kbit	kilobit
kbit/s or kbps	kilobit per second.
kg	kilogram
kgoe	kilogram of oil equivalent
km	kilometre
km²	square kilometre
kW	kilowatt
kWh	kilowatt-hour
LSU	livestock unit
m	metre
m²	square metre
m³	cubic metre
MW	megawatt
MWh	megawatt-hour
pkm	passenger kilometre
PPP	purchasing power parity
PPS	purchasing power standard
SDR	standard death rate
t	tonne
tkm	tonne kilometre
toe	tonne of oil equivalent
UAA	utilised agricultural area

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This publication also includes a CD-ROM with the content of the yearbook, comprising an electronic version in PDF format, tables and graphs in spreadsheet format, and further background information. Furthermore, it contains PDF versions of the pocketbook Key figures on Europe and the end-of-year brochure *Statistical Portrait of the European Union — European Year of Intercultural Dialogue*.

The yearbook may be viewed as an introduction to European statistics and provides guidance to the vast range of data freely available from the Eurostat website at :

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