INVESTING IN Portugal

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On the tipping point of transition

The government's structural reforms are beginning to pay off, writes **Peter Wise**

Teacher tensions: José Sócrates faced one of the biggest and most heated demonstrations against his reforms in March when tens of thousands of teachers protested Reuters

For the first time in its history, Portugal is exporting more technology than it imports. Business services have overtaken cheap textiles and footwear, the country's traditional industrial breadwinners, as export earners. More money is being invested in science and research than ever before.

Other trends, including a shift in investment away from labour-intensive industry to more technologically-advanced sectors, suggest Portugal has reached the tipping point in a gradual transition from a low-cost manufacturing economy to a provider of knowledge-based services.

Qualified software engineers, consultants and accountants are replacing unskilled, low-cost factory hands as an attraction for foreign investors. "The skills offered by bright university graduates at relatively low levels of remuneration place Portugal in a competitive position in this area," says José Gonzaga Rosa, a Lisbon-based partner with Ernst & Young.

A growing number of high-tech Portuguese companies such as Chipidea, Critical Software, Outsytems, Siscog, Skysoft, YDreams and others, are tapping into the same pool of young talent to develop successful international businesses, often built on innovative software solutions to complex problems.

For José Sócrates, the Socialist prime minister who has just completed three years in office, these tendencies are evidence of a "paradigm shift" in the structure of the economy. "The country is evolving fast and we are now on the radar of multinational companies making big technological investments," he said recently.

His government has begun implementing many of the long-postponed reforms Portugal needs to accelerate this transition. But, as Martin Wolf points out on Page 2 of this report, there is a long way to go. The country, he says, still needs to achieve "a massive upgrade of its productive base, a more flexible economy, far higher national savings and a more efficient public sector".

In the energy sector, investment is moving away from fossil fuels into wind, solar and wave power. Manuel Pinho, economy minister, says Portugal is among Europe's top five producers of energy from renewable sources and is well placed to reap the benefits of a coming "industrial revolution" geared to the use of clean energy.

Mr Sócrates, who trained as an environmental engineer, is also keen to move a much bigger share of investment into R&D and high-tech production. His Technological Plan, a central pillar of government policy, is designed to lift public and private spending on research, expand training in advanced technologies and increase the scientific output of universities.

Partly as a result of this plan, he has announced that 2008 will be the first year in which public spending on science and technology reaches more than 1 per cent of gross domestic product, up from 0.47 per cent in 2003. From one of the lowest levels in the European Union, the number of researchers and patents is also growing fast, he says.

Mr Sócrates has underlined his commitment to innovation by increasing the budget of the ministry for science, technology and higher education by more than 60 per cent at the same time as he imposed tough spending cuts on other ministries as part of an austerity drive to bring the country's spiralling budget deficit under control.

In this sphere too, the government has achieved a first. In March, Mr Sócrates announced that the 2007 budget deficit had fallen to 2.6 per cent of gross domestic product, the lowest level since Portugal returned to democracy following the overthrow of the Salazar-Caetano regime 34 years ago.

When it came to office three years ago, it inherited a 2004 deficit of 6.8 per cent of GDP, by far the highest in the EU, and was forced take

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Inside this issue

Island reaps the benefits of tight EU regulation

MADEIRA'S IBC

Peter Wise on a scheme aimed at diversification

Germany's recent tax-evasion quarrel with Liechtenstein, which has been labelled an "unco-operative tax haven" by the Organisation for Economic Co-operation and Development, has highlighted how tight regulation of tax jurisdictions can be used as a competitive advantage to attract legitimate investors.

Madeira's International Business Centre (IBC) has adopted this approach since it began offering investors substantial tax benefits 20 years ago as a means of helping the semi-tropical Portuguese island overcome its disadvantages as a small, peripheral economy lacking in natural resources.

"We have always insisted on total compliance with European Union and OECD rules on transparency, the exchange of information and supervision," says Francisco Costa, the IBC's founder and chief architect.

"The fact that we are not a tax haven or an offshore zone, but a well-regulated business centre operating within the EU under EU rules is crucial to our success."

Madeira gained a further seal of approval from the European Commission in June last year when, after a long period of evaluation, it approved the extension of the IBC's preferential tax regime until 2020. It had previously been due to expire in 2011. Under the agreement, Madeira can continue to licence companies to operate in the IBC until 2013.

"The Commission's approval of a large extension is a vote of confidence in the IBC that sends an important signal to international markets and highlights Madeira's credibility as a

> 'We have always insisted on total compliance with European Union and OECD rules on transparency'

properly supervised and efficiently run jurisdiction," says Mr Costa, who is chairman of the Madeira Development Company (SDM), which runs the centre.

The IBC comprises an international services centre, an industrial free trade zone and an international shipping register.

Designed to diversify Madeira's economy, which depends mainly on tourism, it accounts for about 3,000 jobs in close to 4,000 companies, including 54 manufacturing plants. The total share capital of these companies is more than €11.3bn.

More than 70 per cent of them originate in other EU countries and more than 90 per cent are from OECD countries. "We have always focused on investors from developed countries as a means of ensuring the long-term stability of jobs and investment," says Mr Costa.

Under the new regime, companies newly licensed by the IBC will enjoy a corporate tax rate of 3 per cent up to 2009, 4 per cent to 2012 and 5 per cent to 2020.

They will also be exempt from capital duty and from withholding taxes on dividends and royalty payments. To enjoy these benefits, companies are required to have a physical presence in Madeira and to employ at least one person.

However, since 2003, the Commission has imposed limits on the amount of company earnings that can benefit from these low corporate tax rates. Above these limits, the standard 20 per cent rate of Madeira corporate tax applies. The ceilings range from €2m a year for a company employing up to two people to €150m for companies with more than 100 workers. "To keep Madeira competitive," says Mr Costa, "we will continue to press for a substantial increase in these ceilings."

Struggling to tackle bad fiscal behaviour

THE ECONOMY

Martin Wolf explains why growth is still far too slow to achieve a sustained catch-up

It was not always like this. In the late 1980s and again in the late 1990s, Portugal had a dynamic economy. But it set itself upon the path towards the euro and, partly in consequence, suffered a cycle of boom and bust.

Instead of converging upon the standards of living of other European countries, it has been falling further behind.

This is a disturbing tale. Is it, under the present reforming government of José Sócrates, coming to an end? The answer is that a start has been made on necessary reforms, but the country has a long way to go.

Long-run performance has been depressing. Gross domestic product per head has fallen from just over 80 per cent of the average of the European Union of 25 (without Bulgaria and Romania) in 1999, to just over 70 per cent in 2006.

It has fallen far behind its Spanish neighbour. Moreover, since 2000, the Czech Republic, Greece, Malta and Slovenia have all surpassed Portugal's average income per head.

Fiscal policy has been at best a struggle. The general government financial deficit peaked at 6.1 per cent of GDP in 2005.

Even on a cyclically-adjusted basis, as measured by the Organisation for Economic Co-operation and Development, the deficit was as high as 4.4 per cent of GDP in that year.

Indeed, Portugal was the first member of the eurozone to be threatened with sanctions by the European Commission under the stability and growth pact.

Yet the cyclically-adjusted deficit had been even higher in the early 2000s, at 4.6 per cent of GDP in 2000 and 5.4 per cent in 2001.

This was a time of overheating, when actual deficits were a more modest 3 per cent and 4.3 per cent of GDP, respectively.

In all, then, Portugal has shown chronic fiscal misbehaviour.

To its credit, the present socialist government has struggled to tackle the fiscal irresponsibility, cutting the deficit to just 2.6 per cent in 2007 and a forecast of 2.2 per cent this year.

It has restricted public sector wages and numbers of public servants, as well as putting in place substantial reforms of a public administration largely formed by the Salazar dictatorship.

The ratio of public spending to GDP has fallen quite sharply, from the excessive level of 47.7 per cent of GDP in 2005 to a forecast of 45.0 per cent this year.

Yet important though reform of the public service and control over public spending and deficits unquestionably are, this is not the heart of Portugal's problem.

That is, rather, the combination of feeble growth with large current account deficits (see chart). Thus, from 2001 to 2007, inclusive, the current account deficit averaged 8.6 per cent of GDP and the economic growth rate 1 per cent.

Moreover, this large current account deficit does not coincide with a high rate of investment, but rather with a low rate of saving.

Portugal's investment rate fell from a peak of 28.1 per cent of GDP in the first quarter of 2000 to just 20.9 per cent in the fourth quarter of 2006, before making a modest recovery (see chart). Meanwhile, the gross savings rate fell from 17 per cent in 2000 to a mere 12.3 per cent in 2006, before bouncing back to 15.1, partly because of the fiscal improvement, in 2007.

The combination of low economic growth with a huge current account deficit and declining rates of investment suggests a chronic lack of external competitiveness – that is, an overvalued real exchange rate.

The question, after all, is why such a small open economy was unable to generate stronger external demand, thereby compensating for the weakness in domestic demand. That would have simultaneously reduced the current account deficit and increased economic growth.

Yet export performance has not been bad: the volume of exports of goods and services rose by 31 per cent between 2000 and 2007, a compound rate of 3.9 per cent. Moreover, there is little sign of any substantial loss of competitiveness.

According to the OECD, Portugal's relative unit labour costs, in dollars, were much the same in 2007 as in 1998, just before the euro was launched (see chart). This was a considerably better performance than Spain or Italy, though worse than Germany's.

The explanation lies with Portugal's comparative advantage.

As an exporter of relatively unsophisticated labour-intensive manufactures, Portugal was vulnerable to the two big changes in the global environment of the 1990s and early 2000s: the European Union's eastern enlargement and China's entry into world markets.

Thus, even quite a good record on relative labour costs was insufficient to generate the growth of exports that the country needed to offset the weakness of domestic demand.

Portugal has no control over its monetary policy and will have to pursue a tight fiscal policy for many years. If the country is to cease being a "new sick man of Europe", as the Economist recently called it, it will have to achieve a massive upgrade of its productive base, a more flexible economy, a better educated work force, far higher national savings, higher productivity and a more efficient public sector.

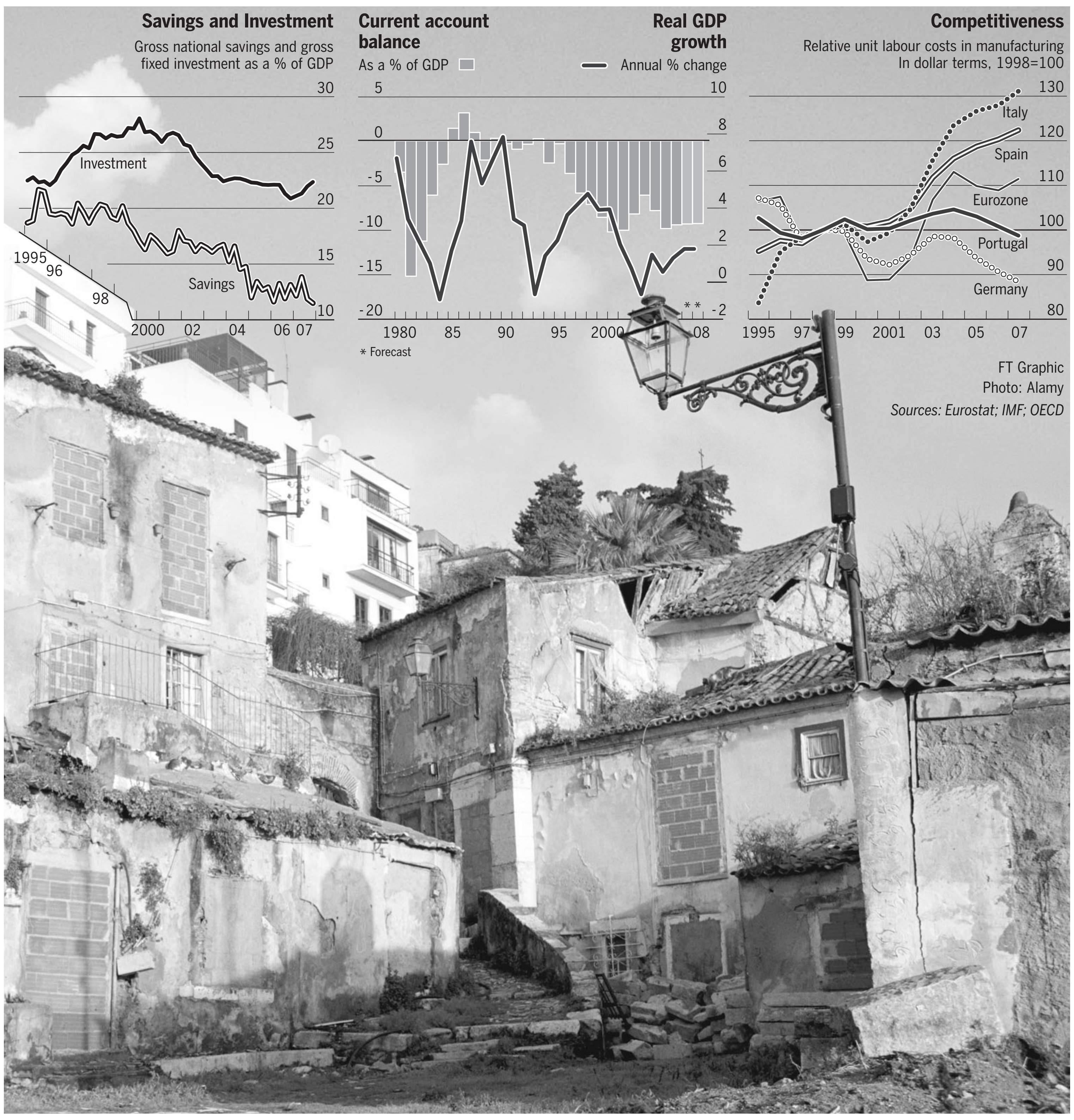
> Portugal will have to work hard to achieve the sustained improvement in performance that it desperately needs

The government recognises the challenge. A recent meeting with Manuel Pinho, minister of the economy, in Lisbon, made this quite clear.

Growth performance has also improved somewhat. But it is still far too slow to achieve a sustained catch-up on the standards of living of its richer neighbours.

Moreover, the economic environment is becoming much tougher: the soaring external value of the euro; the global credit crunch; and the deterioration in the economic performance of Spain, as the latter's construction boom comes to an end.

Portugal will have to work hard to achieve the sustained improvement in its economic performance that it desperately needs.



Ramshackle: instead of converging upon the standards of living of other European countries, Portugal has been lagging behind

Tough cuts to strengthen confidence

INTERVIEW

Fernando Teixeira dos Santos, the finance minister talks to **Peter Wise**

When Fernando Teixeira dos Santos joined the Socialist government as finance minister in July 2005, Portugal was mired in pessimism, economic growth was close to zero and the threat of European Union sanctions hung over a country that had allowed its budget deficit to soar out of control.

Less than three years on, he was able to announce in March a record cut in the deficit – from 6.1 per cent of gross domestic product in 2005 to 2.6 per cent in 2007 – bringing Portugal below the 3 per cent maximum allowed under the EU's stability and growth pact a year ahead of schedule.

This momentous reduction in the deficit to a 30-year low, achieved through tough spending cuts, structural reforms and a sharp increase in tax revenue, will "restore Portugal's credibility in international markets and strengthen confidence in the economy", he says.

As a consequence, he has announced a cut in value added tax from 21 to 20 per cent from July, attenuating the 2 percentage point increase that José Sócrates, the prime minister, announced immediately on taking office in March 2005 – breaking an election pledge not to increase taxes – as an emergency measure to help cope with the deficit crisis.

But Mr Teixeira dos Santos is cautious about any further relaxation of fiscal policy: "We cannot afford to jeopardise the results we have achieved so far or the targets we are committed to in the future."

Under a growth and stability programme agreed with the EU, Portugal will seek to cut its budget deficit to 0.2 per cent of GDP by 2011.

Media commentators and opposition leaders depict the VAT cut as the first of a series of vote-seeking measures they expect ahead of the next general election in 2009. But the minister firmly rules out any question of reducing taxes or relaxing fiscal rigour as a result of media pressure or for electoral advantage. "There can be no relaxation. We have to keep working to reduce the budget deficit and public debt," he says.

Public debt fell to 63.6 per cent of GDP in 2007, the third-weakest ratio in the eurozone, but almost 6 percentage points lower than initial government forecasts. By 2011, Portugal is committed to bringing public debt below 57 per cent of GDP, but will not be able to count so much on privatisation revenue to achieve the improvement.

Rather than a cause for loosening fiscal policy, Mr Teixeira dos Santos sees success in defusing the deficit crisis as a bulwark against the turbulence of international financial markets and the consequences of economic slowdowns in Portugal's main export markets.

"Because of the fiscal consolidation we have achieved over the past two years, and as a result of the structural reforms that underlie that correction, the Portuguese economy has grown more robust and is now in a better condition to face the uncertainties and challenges of the international situation."

Portugal, like the rest of Europe, does not suffer from the same "economic imbalances" now troubling the US, he says.

But as a small, open economy with sparse natural resources, the country is particularly vulnerable to global economic trends.

The most serious threat to Portugal, and to Europe as a whole, arising from the US subprime crisis and international credit crunch, he says, is the potential to undermine confidence.

"The fundamentals of European economies, including Portugal's, are strong," he says. "But confidence, the central issue in the situation unfolding in international markets, could be affected by what is happening in the US. It's an important matter of concern that requires careful monitoring."

He is confident the resilience shown by the Portuguese economy through the recent period of stringent budget cuts will be strong enough to counteract the potential negative effects of the international liquidity crisis. "Despite increased oil and commodity prices, the appreciation of the euro against the dollar and a restrictive fiscal policy, Portugal achieved growth of almost 2 per cent last year."

In 2007, GDP growth of 1.9 per cent exceeded international and government forecasts and represents Portugal's strongest upturn since 2002. The government forecast for this year has been revised upwards to 2.2 per cent, with growth poised to rise above the EU average for the first time since 2001.

Mr Teixeira de Santos says this relative buoyancy rests largely on the vitality of Portugal's private sector. "Despite a difficult economic environment, Portuguese companies have succeeded in diversifying their export markets, increasing the technological content of their exports and gaining export market share in some regions."

"Recent announcements of important investments in areas such as energy, tourism and oil refining are a signal of long-term confidence in our economy," he says. "I believe the spirit of struggle and resilience shown by the private sector in Portugal will stand the country in good stead and enable us to respond positively, even when circumstances are difficult."

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On the tipping point of transition

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emergency measures to avoid disciplinary measures for breaching the growth and stability pact, the rules underpinning the euro, which require governments to keep budget deficits below 3 per cent of GDP.

Mr Sócrates, a market-friendly Socialist inspired by what he calls "Nordic social democracy", has had to face down strikes and protests from almost every sector of the public administration, including judges, the police, the armed forces and doctors, as he imposed stringent spending cuts, held down pay, reduced sick leave and raised the minimum retirement age for state employees from 60 to 65.

The reduction of the deficit by more than 3 percentage points in three years was achieved partly by severe cuts in public spending and investment, and partly by a sharp increase in tax revenue after the government recruited a private-sector banker to spearhead a crackdown on tax fraud and evasion.

But the disciplining of Portugal's public finances also reflects the impact of important structural reforms, particularly a social security reform that Mr Sócrates describes as the "most ambitious and comprehensive" in Europe.

Fernando Teixeira dos Santos, finance minister, says that an extensive restructuring of Portugal's state bureaucracy, which begins to take practical effect this year, will also improve performance and cut costs.

"From now on, governments will be able to run the public administration in accordance with the demands of budget management and not, as it has been in the past, the other way round," he says.

Mr Sócrates faced one of the biggest and most heated demonstrations against his reforms in March when tens of thousands of teachers staged a one-day strike and organised marches to protest against the way the country's first system of teacher evaluation is being introduced.

Tensions caused by the transition society is undergoing are felt most keenly in education. The most important area for the country's future is also where some of its biggest failings lie.

The same system that is producing a growing cohort of highly-qualified graduates to lead the scientific leap forward that Mr Sócrates envisages also ranks among the worst performers in the western world.

Over the past decade, about half the country's young people left school at 15 before they had completed a full secondary education. The drop-out rate has since fallen below 40 per cent, but is still more than double the EU average of about 16 per cent.

Given that almost all students who leave school at 18 now apply for higher education, Portugal will not be able to lift the percentage of the population with a university education from the current level of 12 per cent – compared with an EU average of 24 per cent – until more young people are encouraged to stay at school longer.

Until the educational level of the workforce reflects the shift from low-cost, unskilled manufacturing to more sophisticated sectors, the country also faces the threat of growing unemployment. Despite the creation of more than 100,000 jobs since 2005, the unemployment rate has almost doubled over the past six years to 8 per cent.

Tourism, forecast to account for almost 23 per cent of employment within 10 years, is growing at a healthy pace and attracting inward investment in five-star developments.

But investment in construction, Portugal's other big job-creating sector, has fallen 20 per cent over the past five years and is not likely to pick up until several big projects, including a new Lisbon airport and high-speed rail links, begin in the next few years.

"Capital-intensive industries are leading the transformation of the Portuguese economy, but we need to accelerate the pace of change," says Mr Pinho.

Ahead of the sun, sea and breeze game

RENEWABLE ENERGY

Peter Wise looks at how the nation is meeting its electricity requirements

Outside the white-walled town of Moura in the rolling plans of southern Portugal, more than 240,000 solar panels covering an area equivalent to 150 football pitches are slowly being manoeuvred into position in what will be the world's biggest photovoltaic power plant.

A few kilometres away, at Alqueva, the Guadiana river has been dammed to create the largest reservoir in western Europe and one of 18 hydroelectric power projects under way in Portugal's river valleys.

In the north-west Alto Minho region, one of the world's biggest wind farms is under construction.

Off the coast, south of Porto, wave energy converters are being moored to the seabed in readiness for the start-up of the world's first commercial wave-driven power plant

These projects reflect an ambitious government policy to produce up to 60 per cent of the country's electricity from wind, sun, wave and other renewable sources by 2020.

Success will make Portugal a world leader in the move to replace oil, gas and coal with clean energy.

"The cost of doing nothing is very high," says Manuel Pinho, the economy minister.

"We have to turn the challenge of higher fuel prices and climate change into an opportunity to create jobs, promote new industries and encourage innovation."

Portugal is already well ahead of the field.

Last year, renewable sources accounted for 40.7 per cent of total electricity production. This compares with about 5 per cent in the UK, for example.

Having already passed the 39 per cent target that the European Union has set for Portugal for 2010, the government has voluntarily lifted its clean energy goal to 45 per cent of total power generation by that year, and Mr Pinho believes 55 to 60 per cent by 2020 is "perfectly feasible".

Sunbathing: the world's largest photovoltaic plant, consisting of more than 240,000 solar panels, is under construction in southern Portugal AP

In 2005 and 2006, Portugal's wind power capacity increased fourfold, faster than in any other EU country, to more than 2,000 megawatts, making it one of the world's top 10 producers of wind energy in absolute terms.

Three of the world's biggest solar power stations are being built in Portugal and €2.6bn is being invested in 18 hydro-power projects with a total capacity of 2,830 MW.

Portugal is embracing renewable energy partly because it has no fossil fuel resources of its own.

It depends on imports for up to 85 per cent of its primary energy needs. A doubling in oil prices since the government took office three years ago has underlined the country's exposure to volatile international energy markets.

Portugal's geographic location, climate, long coastline and abundance of rivers help provide ideal conditions for wind, solar and wave energy. Big investments in hydro power plants will also tap unused potential.

"We have enormous hydro capacity that was not being utilised," says Mr Pinho. "It was as if Venezuela was not using its oil."

The new plan is aimed at lifting total hydro capacity to 7,000MW by 2020, representing 70 per cent of the country's total estimated hydro potential, up from a current level of about 46 per cent.

More hydro capacity is needed partly to realise the full potential of wind farms. Excess wind energy generated at night will be used to pump water to the top of dams, ready to produce power when the wind drops.

However, hydro plants are facing increasing opposition from environmentalists. They say a controversial project in northern Portugal, the €354m Baixo Sabor dam, could cause irreparable damage to the ecology of the Sabor river valley, described as the last remaining "wild river" in Europe and a habitat for rare Bonelli's eagles.

But the project's owner, Energias de Portugal, the country's dominant power utility, has won government and EU approval and, during the 75-year life of the dam, will place €750,000 a year – 3 per cent of estimated revenue – into an independently-managed fund to be used to protect the local environment.

As suitable locations for dams and onshore winds farms become harder to find, interest in the wave power potential of Portugal's 832 kilometres of coastline is expected to increase.

Potential investors include EdP, the former state power monopoly, which has begun to focus strongly on renewables. Last year it paid $2.2bn for Horizon, a leading US wind energy company, making the Portuguese group the world's fourth largest wind energy producer.

> 'The global energy market is changing and the trend towards renewables is unstoppable'

Later this year, EdP hopes to follow the lead of Spain's Iberdrola with a stock market flotation of its renewables division, selling up to 25 per cent of a company with an estimated value of between €8bn and €10bn.

"The global energy market is changing and the trend towards renewables is unstoppable," says António Mexia, EdP's chief executive. "Wind and hydro will be EdP's key drivers over the next five years."

Mr Mexia has acknowledged that the group also has alternative plans should financial markets prove too volatile for the planned initial public offer of EdP Renováveis.

The alternatives under consideration are understood to include an issue of convertible bonds or the sale of non-core assets to fund investment in clean energy.

"The planned IPO is a clear sign that renewables are a core option for EdP," says Mr Mexia. "It will help fund investments that will keep the group at the forefront of the global renewables market."

Making waves with new power generation technology

CASE STUDY

Harnessing the sea's energy is making the country a leader in the field, writes **Peter Wise**

A string of three red steel tubes, each the size of a railway carriage, lies low in the water off the northern coast of Portugal.

As the snub-nosed apparatus rises and dips in the Atlantic waves, it becomes immediately clear why this pioneering energy technology is called Pelamis after a mythical giant sea snake.

Later this year, these wave energy converters, developed over many years of testing by Edinburgh-based Pelamis Wave Power, will be pumping electricity into Portugal's national grid, making it the first country in the world to harness wave energy on a commercial basis.

Surfing the wave: power from the Atlantic

"Portugal has the opportunity to do for wave power what Denmark has done for wind energy," says Ian Sharpe of Australia's Babcock & Brown, the leading partner in the project through Enersis, its Portuguese renewable energy company.

In two years, 23 of these converters, moored to the seabed about seven kilometres off the coast south of Porto, should be in operation, with a total capacity of 22.5MW. But Enersis has its sights on a more ambitious project involving an investment of up to €1.5bn in Portuguese wave energy farms with a total capacity of 500MW, enough to power 450,000 homes.

"Scale is essential to reduce manufacturing and operational costs," says Mr Sharpe, a member of Babcock & Brown's European infrastructure team. "At 500MW, we envisage wave energy will begin to converge with wind power in terms of cost per kilowatt-hour."

The Lisbon government's decision to embrace wave power is partly aimed at creating an industry "cluster", including a manufacturing base for wave energy converters and related equipment. In this way, it hopes to gain first mover's advantage in establishing the country as an international centre of know-how for an emerging technology.

Part of Portugal's attraction for Babcock & Brown is its policy of paying renewable energy producers feed-in tariffs, an incentive that guarantees the sale of all the power they produce at stable prices above the rates paid for electricity produced from fossil fuels.

"This is a much better approach that the systems used in many other countries, including the US and the UK," says Mr Sharpe.

Portugal has also designated a special maritime zone for pilot wave power projects and will ensure transmission capacity on the national grid. The measures are designed as extra incentives in addition to the country's natural advantages for tapping wave energy.

Besides the huge energy potential of the waves that crash into Europe's westernmost shore, all Portugal's big population centres are located along the coast, reducing the cost of transmitting electricity from offshore wave farms to end users. Officials estimate wave power could eventually supply 20 per cent of the country's electricity needs.

> Portugal has the opportunity to do for wave power what Denmark has done for wind energy

"This is a real opportunity for Portugal and the government is clearly committed to making it happen," says Mr Sharpe.

"Denmark became a manufacturing hub for wind turbines by promoting wind energy more than any other country. Portugal can do the same for wave power."

Enersis's interest in wave energy began several years before 2005, when Babcock & Brown acquired 100 per cent of the company from Sempapa, a Portuguese cement group, for an enterprise value of €1.3bn. It had already built a seabed cable in preparation for transmitting wave farm energy to the national grid.

After early trials with other prototypes, Enersis established a partnership with Pelamis Wave Power, whose technology is widely acknowledged to be most advanced in terms of commercial energy production. Enersis owns 70 per cent of its Portuguese joint venture with the Scottish company.

In addition to its ground-breaking wave energy project, Enersis's wind farm portfolio in Portugal and France is expected to reach a capacity of 1,000MW next year, up from 170MW when it was acquired by Babcock & Brown.

Although Pelamis Wave Power engineers have tested their wave converter system off the Orkneys, Scotland does not yet have the transmission capacity in the required locations to make a commercial project viable.

But Portugal is committed to investing in this transmission capacity and, in four to five years, should be benefiting from large-scale commercial wave energy production.

In the Pelamis system, energy is created as waves cause the hinged joints of the semi-submerged steel cylinders to move, pumping high-pressure oil through hydraulic motors that drive electricity generators.

Power from these joints is fed down a single "umbilical cord" to a junction on the seabed. Several devices can be linked together and connected to the shore through a single cable.

"Wave as an energy resource is similar to wind, but we think it will be more stable," says Mr Sharpe. Some renewable energy specialists believe wave farms in Portugal could yield up to three times as much power as wind farms for the same investment cost.

New system reduces red tape tangles

BUSINESS PROCEDURES

Efforts to streamline bureaucracy are yielding results, says **Peter Wise**

Maria Manuel Marques, secretary of state for administrative modernisation, describes the tangle of red tape facing investors in Portugal before the current government took office three years ago.

"In 2005, it took 11 procedures and 78 days to start a business in Portugal, making it slower than the Democratic Republic of Congo," she says. "An entrepreneur would need 20 forms and documents, more than for any other European Union country."

In a paper written for the World Bank*, she recounts how, in only a few months, the government cut this to seven procedures and seven days, making Portugal one of the easiest countries in which to start a business.

Incorporating a new company through an innovative one-stop shop system called Empresa Na Hora (On-the-Spot Companies) now takes an average of only 46 minutes. The cost of start-up procedures has also been reduced to a quarter of the previous level.

At least 70 per cent of businesses are now started using the new system – more than 37,000 since it was launched – and a long list of countries has shown interest in emulating a system that has won international plaudits.

Streamlining business start-ups, as well as car registration, are the headline projects of a broader reform package called Simplex, designed to simplify as many administrative procedures as possible. In 2007, more than 86 of the 235 initiatives taken under the Simplex programme were suggested by private-sector businesses or members of the public.

"Portugal wants to be at the forefront of the electronic era, offering the public easy access to information and services," says Ms Marques. "We are working to make sure every procedure related to the business life cycle can be carried out online."

In a related initiative last year, the government approved a new regime for inward investment, known as PIN+, that guarantees a decision within two to four months on proposed projects valued between €60m and €200m.

Under the new legislation, all the different agencies and departments involved in the decision-making process will attend meetings designed to speed the approval of large-scale projects.

Reforms such as these are beginning to transform the traditional image of Portugal as a slow-moving bureaucracy.

In a 2007 survey by consultants Ernst & Young**, 81 per cent of 204 international business executives said they had noted an improvement in Portugal's public administration, particularly in the flexibility of administrative procedures and in the qualifications of staff handling foreign investment.

> Incorporating a new company through 'Empresa Na Hora' takes an average of only 46 minutes

"The government has made a good job...in terms of eliminating red tape and our survey shows this has helped increase...foreign investor satisfaction," says José Gonzaga Rosa, an Ernst & Young partner in Portugal.

In common with many European countries, however, investors continue to face bureaucratic hurdles and delays in dealing with local authorities and some public agencies.

"The basic process of licensing is still quite fraught with obstacles," says John Duggan, a Lisbon-based partner with PwC.

In a study published in February by AT Kearney, Portugal ranked as the 15th most preferred European destination for foreign investment, ahead of Austria, Denmark, Norway and Switzerland, among others. Martin Walker, a senior director with the consultants, said the fact that Portugal also came out ahead of Slovakia and Slovenia was significant given that both countries had more favourable tax regimes and lower labour costs.

He said foreign investors saw Portugal as offering positive factors, including rapid reform, stability and predictability, which offset the country being less competitive on labour costs, taxation or civil service efficiency.

According to the investors surveyed by Ernst & Young, Portugal's most attractive points are a stable social environment, quality of life and telecommunication infrastructure. They listed its main weaknesses as the level of corporate taxation (25 per cent of earnings), the relative inflexibility of labour legislation and the potential for productivity gains.

The Invest in Portugal Agency (API), which handles big foreign direct investment (FDI) projects, says the investment contacts it signed in 2006 tripled in value compared with the previous year to €2.18bn, up from about €700m in 2005 and €800m in 2004. Basilio Horta, the agency's chairman, says these investments secured 30,000 existing jobs and created 6,000.

Mr Gonzaga Rosa says the two sectors that attracted the highest number of FDI projects in 2006 were business services (15.8 per cent of the total) and transportat and logistics (10.5 per cent).

"Still industrial in many aspects, Portugal is also relying on its strengths in the knowledge economy, attracting technology-intensive investments and establishing new services and operations," he says. "In 2006, investment in headquarters, R&D operations and call centres represented almost a quarter of total FDI."

* *One-Stop Shopping in Portugal www.doingbusiness.org/features/PortugalShopping.aspx*

** *Ernst & Young Portuguese Attractiveness Survey 2007*

Five-star charge led by Algarve

TOURISM

Twenty-seven new hotels are planned for the region, writes **Jill James**

Set in national park land just outside Lisbon, the swish golf venue of Penha Longha has plans to become one of Europe's top resorts.

Oriol Montal, resort general manager, says that owners RREEF, a subsidiary of Deutsche Bank, have invested €30m, with a further €50m-€60m planned. Luxury villas and a hotel with apartments will be added to the existing spa, golf course and clubhouse.

In many ways, the Ritz-Carlton-managed resort typifies Portugal's drive for investment in five-star tourism. Tourism's contribution to gross domestic product (GDP) is expected to rise from 15.7 per cent (€26.6bn or $38.7bn) this year to 18.2 per cent (€48.1bn or $59bn) by 2018, according to the World Travel and Tourism Council.

Employment in the sector is expected to rise from 989,000 jobs – 19 per cent of total employment – this year, to 1.2m by 2018. Real GDP growth for the sector is expected to be 0.4 per cent this year and to average 4.1 per cent a year over the coming 10 years.

Nowhere is growth more emphatic than in Algarve, which continues to be popular with north European holidaymakers.

The region received a record number of visitors last summer with a 9 per cent increase from January to November compared with the same period in 2006.

Carlos Leal, general manager of United Investments Portugal, which owns the highly-rated Pine Cliffs resort near Albufeira, points to the growth of residential tourism. "Ten years ago the concept barely existed," he says. "Today everyone is developing with a residential element."

About €100m has been invested in UIP's Pine Cliffs resort, says Mr Leal, since it it started 17 years ago. A further €60m to €80m of investment is still to come.

The resort is a prime example of the mixed development becoming popular throughout Algarve. Pine Cliffs includes a hotel, a holiday club and fractional ownership product, plus buy and let property estate options.

One of Algarve's most ambitious plans is a grand prix motor racing circuit. Algarve is bidding for a place on the Formula 1 calendar and a €200m track in Portimao is set for completion in October. The new circuit is already due to host the final round of the Superbike world championship in November.

Other developments in Algarve include a first six-star hotel, the 620-bed Conrad Hilton in Quinta do Lago, scheduled to open in 2009. Conrad's first European venture will include villas, apartments, gardens and a spa.

Eighteen other five-star hotels and nine four-stars are also planned for the region, along with 20 spas. And the area is preparing to embrace 18 golf courses to add to the existing 32.

However, according to this year's Euromonitor International report, fierce competition among hotels is curbing prices. The report says investment in outlets at national and international level by leading chained hotels, such as Sonae SGPS SA and Pestana Turismo, did not pay off in 2006.

"Prices have continued to be capped by tight consumer budgets," it adds. "Independent hotels have grown slowly, as in previous years, following the application of new legislation and very strict regulations. The necessary investment in hotel security and safety has had a negative impact on smaller independent hotels and may...lead to the sale of operations or the merger of brands."

Paula Oliveira, executive director of Turismo de Lisboa, says 37 per cent of Lisbon's current hotels belong to international chains: "In the upscale and luxury segments, Lisbon has more international brands than some competing cities such as Amsterdam, Vienna and Athens. If we don't take the Spanish brands into account, Lisbon has even more international hotel brands than Madrid and Barcelona...By 2017, and to meet our goals, we will need another 17,000 hotel beds."

The WTTC says that in Lisbon visitor spending is expected to grow by 6.3 per cent annually whereas in the whole of Portugal it will grow 4.5 per cent and the European Union by 3.4 per cent. Last year Lisbon hosted 2.5m foreign tourists and expects 3.8m by 2017.

Lisbon city council is assessing about 80 hotel-related projects, half of which are for new units and the others involving renovations and expansions. In addition there are around 20 boutique hotel projects.

In Portugal as a whole, the EU remains the main foreign capital source with Germany, Spain, France, the Netherlands, the UK, Belgium/Luxembourg and Finland all investing heavily.

Improvements in transport infrastructure has boosted investment. In addition to three international hubs (Lisbon, Oporto and Faro) Portugal has 11 airports.

Studies for construction of the new Lisbon Airport have just been completed as Portela, the existing airport, is upgraded and extended. Work is also due on adapting the former Beja military base for civil air transport.

Luxurious Lisbon: in the upscale segment, the city has more international brands than competing cities Getty

Strategic step with lasting impact

PARTNERSHIP

Academia gains much from MIT agreement, reports **Peter Wise**

The Massachusetts Institute of Technology, one of the world's most prestigious universities, is approached by numerous countries, many far richer than Portugal, in search of partnership agreements.

Why then did MIT agree to a proposal from Portugal's Socialist government for an international collaboration that aims to demonstrate that a focus on science, technology and higher education can have a "positive, lasting impact on the economy"?

The answer, says Daniel Roos, a director of the MIT-Portugal Programme, is the commitment shown by senior government officials led by José Sócrates, the prime minister, to investing in science, technology, research and advanced training.

"Historically a low-cost manufacturer that has been losing its markets to east European and Chinese competitors, Portugal is going through an economic transition in which it needs to move up the value chain," says Mr Roos.

"From MIT's point of view, Portugal offers us interesting projects, partners of a comparable intellectual capability and, above all, a rare level of dedication to scientific research and universities. Is there another country that has increased the budget of its ministry for science, technology and higher education by more than 60 per cent at a time when it was cutting back spending by every other ministry?"

The agreement with MIT provides for long-term collaboration to expand research and education in Portugal in the emerging field of engineering systems, which aims to integrate large-scale, complex networks with a strong social and economic impact in areas such as energy, transport, information systems and telecommunications.

MIT's Engineering Systems Division, of which Mr Roos is a founding director, is an interdisciplinary unit that involves engineering, management and social science faculty members.

"In the 21st century, people in leadership roles need to understand more than the technology," says Mr Roos. "They also require knowledge of global supply chains, management, policy and regulation. Portugal is taking an important strategic step by saying 'this is an area where we can establish a lead by working with MIT'."

Last September, more than 160 students began PhD and other advanced courses through the MIT-programme, which has targeted bio-engineering systems, engineering design and advanced manufacturing, sustainable energy and transport systems.

The wide-ranging initiative involves professors, researchers and students from a consortium of engineering, science and technology, economics and management faculties at seven Portuguese universities, together with a large number of associated research centres and laboratories. More than 40 faculty members from five MIT schools will also teach and take part in research as part of the programme.

Bringing seven Portuguese universities together in joint administration of advanced training courses is unprecedented and already a "beautiful result", says Paulo Ferrão, the project's national director.

"We are using this programme as a tool to accelerate university reform," says José Mariano Gago, minister for science, technology and higher education. "Bringing in a powerful international partner like MIT acts as a catalyst to speed up the process of capacity-building in terms of specific skills, collaboration between companies and universities, cooperation between academic institutions and extending the transatlantic dimension of Portugal's research networks."

Four similar programmes focused on other specialised areas are being developed with three other US universities, Carnegie Mellon, the University of Texas at Austin and Harvard Medical School, and with Germany's Fraunhofer Society.

> 'We are using this programme as a tool to accelerate university reform'
>
> **José Mariano Gago** Minister for science, technology and higher education

The Lisbon government is investing €80m in the first five years of the MIT programme – half of which will go to MIT and half to the Portuguese universities involved. The government is then expected to extend the project for five years, by which time it should be self-supporting.

"MIT faculty members will gradually fade out of the educational side of the programme and industry-based research will play an increasingly important role," says Mr Ferrão. "Most of our initial efforts went into developing curricula for seven new educational programmes, mostly at PhD and Masters level. Now they are up and running, we can concentrate more on developing ties between industry and research centres."

The MIT name has stimulated strong interest from leading companies based in Portugal, with more than 20 already signing up to the project's industrial affiliates programme. "Our collaboration with MIT's industrial liaison programme, which has a superlative reputation in this area, will be of immense value to Portugal in building bridges between companies and universities," says Mr Ferrão.

Bar raised for home-trained talent

SCIENCE

The country has never suffered from a brain drain, says **Peter Wise**

Cristiano Ronaldo, Manchester United football club's star striker, and José Mourinho, the manager whose successful run at Chelsea made him a household name in Britain, personify world-class talent produced in Portugal.

But their careers overseas make them the exception rather than the rule. Portugal, unlike Ireland and Greece and other European countries of a comparable size, has never suffered a significant "brain drain".

In science and technology, in particular, gifted researchers often work and study abroad, but generally opt to bring their talents home.

"The return rate of our young scientists has been extremely high over the past 30 years," says José Mariano Gago, minister for science, technology and higher education. "Our scientific development began at the right time for young people to find good jobs."

Between 1976 and 2001, the number of students enrolling in Portuguese universities grew faster than in any other European Union country, increasing by an annual average of almost 6 per cent compared with an average of just over 3 per cent for the pre-enlargement EU of 15 countries.

The growth rate for science and technology students has been even stronger at 7 to 10 per cent a year.

The number of PhDs awarded has also risen exponentially, from fewer than 100 a year in the 1970s to more than 1,000. Portuguese institutions now produce more than 4,000 scientific papers a year compared with only a couple of hundred in 1981.

In 2001, Portugal joined the restricted group of "countries of excellence" that contribute to the top 1 per cent of the world's most highly cited scientific publications.

Figures like these attest to the exceptional growth in advanced training in science and technology that Portugal has achieved in recent decades.

"The best and brightest Portuguese scientists are of a world-class standard," says Daniel Roos, an engineering systems professor at the Massachusetts Institute of Technology.

> 'By law, every research project and institution in Portugal that receives public funding has to be evaluated by an international panel'

"In bio-engineering, for example, every one of the top people at MIT, including a Nobel Prize winner, is collaborating with Portuguese colleagues.

"In the field of wave energy, MIT colleagues readily acknowledge that they are learning from Portuguese researchers who are more advanced than they are."

The growth in the size and competence of Portugal's scientific community is becoming increasingly attractive to foreign investors. In a recent example, Malaysian-based Agni has opted to invest €65m in a hydrogen fuel cell plant and research centre, choosing Portugal after a two-year search for the best location for its first European operation.

Citing the availability of qualified scientists and technicians, including future graduates of the MIT-Portugal programme, as one of the deciding factors for its investment, Agni has also raised the possibility of setting up a Portuguese plant to supply Europe and the US with hydrogen-powered cars.

Despite the strong expansion of recent years, however, the country's scientific community remains small and is still at a relatively early stage of development.

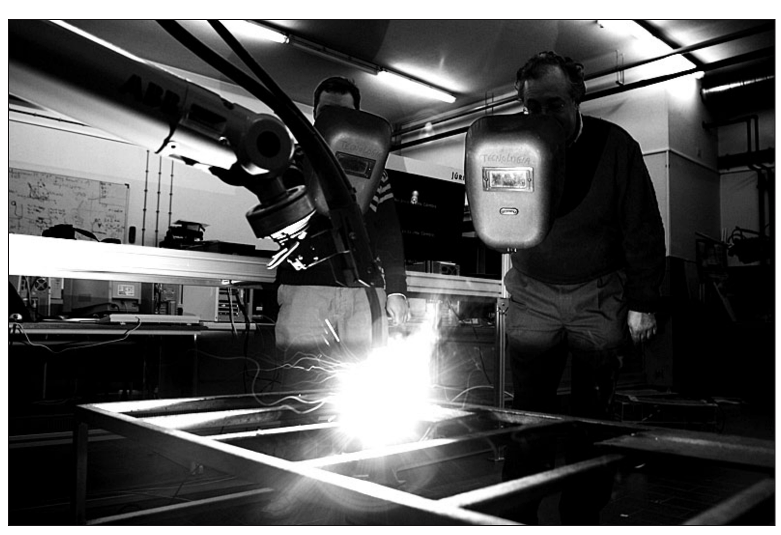
In the words of a recent government report, the freedom of thought required for scientific development was largely denied the country during the 48 years of the Salazar-Caetano regime.

When democracy was restored in 1974, only about 2 per cent of the population had completed a university education, compared with 11 per cent in 2001.

Portugal has been catching up at a considerable pace, but scale remains a challenge. For every 1,000 workers, it has only about 3.6 researchers, against an EU average of 5.4 and eight in the US.

Under the government's Technological Plan, Portugal aims to lift the number of researchers to six per 1,000 workers by 2010.

The plan also envisages increasing public investment in research from 0.47 per cent of GDP in 2003 to 1 per cent by 2010 and encouraging the private sector to increase its low level of R&D spending – 0.26 per cent of GDP in 2003 against an EU average of 1.23 per cent – to 0.75 per cent by the end of the decade.



Blast off: gifted scientists usually bring their talents home

Mr Mariano Gago sees a strong international dimension as fundamental to the credibility of Portuguese research and the growing collaboration between companies and universities.

"By law, every research project and institution in Portugal that receives public funding has to be evaluated by an international panel," he says.

"Portugal is too small a country and the scientific community is growing too fast to allow the complacency that national evaluation might tolerate."

The government has also extended international assessment and accreditation to higher education as whole, commissioning the Organisation for Economic Co-operation and Development and the European Network for Quality Assurance in Higher Education to examine the performance of Portuguese universities and make recommendations for improvement.

Mr Mariano Gago says international monitoring not only lifts standards and ensures the credibility of the system, but also strengthens the already extensive international dimension of Portuguese universities, whose courses are open to foreigners on a free competition basis.

"Hundreds of foreign academics visit Portugal every year," he says. "They arrive as evaluators and go back as collaborators."