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This Survey is published on the responsibility of the Economic and Development Review Committee of the OECD, which is charged with the examination of the economic situation of member countries.

The economic situation and policies of Greece were reviewed by the Committee on 1 March 2007. The draft report was then revised in the light of the discussions and given final approval as the agreed report of the whole Committee on 14 March 2007.

The Secretariat's draft report was prepared for the Committee by David Turner, Vassiliki Koutsogeorgopoulou and Pamfili Antipa under the supervision of Peter Hoeller.

The previous Survey of Greece was issued in September 2005.

BASIC STATISTICS OF GREECE (2005)

THE LAND

Area (1 000 km^2)		Major urban areas (2001 census, thousand inhabitants)	
Total	132.0	Greater Athens (including Piraeus)	3 762
Agricultural (2003)	39.7	Greater Thessaloniki	1 058

THE PEOPLE

Population		Total labour force (thousands)	4 628
Thousands	11 104	Civilian employment (% of total)	
Increase 2000-05 (annual average, %)	0.3	Agriculture, forestry and fishing	12.4
Number of inhabitants per km^2	84	Industry and construction	22.4
		Services	65.2

PRODUCTION

Gross domestic product		Gross fixed capital investment	
In billion €	228	In % of GDP	23.4
Per head ($)	25 570	Per head ($)	5 984

THE GOVERNMENT

Public consumption (% of GDP)	14.2	Composition of Parliament (seats)	300
General government (% of GDP)		New Democracy	165
Current expenditure	34.5	Panhellenic Socialist Movement	117
Current revenue	31.7	Communist Party of Greece	12
Net debt	71.8	Coalition of the Radical Left	6
		Last general elections: March 2004	

FOREIGN TRADE

Exports of goods and services (% of GDP)	18.4	Imports of goods and services (% of GDP)	25.6
Main commodity exports (% of total)		Main commodity imports (% of total)	
Manufactured goods	20.5	Machinery and transport equipment	28.9
Food and live animals	14.8	Mineral fuels, lubricants, related materials	17.9
Chemicals and related products	14.6	Chemicals and related products	14.4
Miscellaneous manufactured articles	13.7	Manufactured goods	13.4

THE CURRENCY

Monetary unit: euro		Currency unit per $, average of daily figures	
		Year 2006	0.797
		February 2007	0.764

Executive summary

Growth performance over the last decade has been among the best in the OECD, though a precise calibration is not yet possible following the recent revisions to GDP data. High growth has been driven by a range of factors, some of which are transitory. It is particularly encouraging that growth has been sustained over the last two years, despite substantial fiscal consolidation, mainly being driven by investment and exports. However, significant further reforms are needed to ensure that good performance is sustained in the years to come. It is imperative to use this period of strong performance to tackle remaining weaknesses in product and labour markets and move fiscal policy further towards a sustainable position by vigorous continued consolidation and pension reform. The key challenge, in terms of political economy, is to manage the required reforms in a context where society may be unduly complacent because the "good times" appear to be continuing.

			Ranking among	
			12 euro area countries	30 OECD countries
Overall performance	Growth in GDP per capita	1995-2005	2nd	2nd
Employment rates	Prime age males	2005	2nd	8th
	Older workers	2005	7th	21st
	Young workers	2005	11th	27th
	Women	2005	11th	27th
Human capital	Average years of education, population 25-64	2004	9th	24th
	Tertiary graduates, share of population aged 20-29	2004	11th (out of 11)	27th (out of 29)
	Flexibility of tertiary education system	2004	11th (out of 11)	28th (out of 28)
Product market	Competition-friendly product market regulation	2003	11th	25th
	Competition-friendly regulation of network industries	2003	11th (out of 11)	21st (out of 21)
	Inward foreign direct investment (% of GDP)	2000-05	12th	29th

Fiscal consolidation has been substantial and should continue. *Government debt and estimates of the prospective increase in fiscal costs from ageing are among the highest in the OECD. There is considerable scope for fiscal savings from reducing the high cost of public administration, raising efficiency in state-owned enterprises and further efforts to tackle tax evasion. But ensuring long-run fiscal sustainability will also require a fundamental overhaul of the pension system. There are substantial benefits from taking action early: debt service costs would be lowered; the tax burden would be much less skewed towards later generations; there will be more time for people to adapt; and fiscal policy would have scope to play a counter-cyclical role.*

Labour market flexibility needs to be raised. *While overall labour utilisation is quite high, overly rigid labour market institutions contribute to a low employment rate among the old, young and women. In particular the retirement income system provides strong disincentives to continue working, and the setting of minimum wages and strict employment protection legislation makes it difficult for first time entrants (mainly the young) and re-entrants (mainly women) to join the job market.*

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Human capital needs to be increased through improvements to the education system. *A particular priority is reform of tertiary education where Greece currently has one of the most centralised and least flexible systems in the OECD. The recent reform is a clear and essential move in the right direction.*

Product market regulation which hinders competition needs to be further improved. *It has inhibited inward foreign investment in the past and has contributed towards a poor innovation performance. A particular priority is to further raise competition in network industries.*

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Assessment and recommendations

Recent growth performance has been strong

Over the past decade, Greece has progressed rapidly in closing the income gap with the best performing economies, particularly once the recent 26% upward revision to the level of GDP is taken into account. This data revision is largely the result of improved measurement of the fast-growing services sector, while, contrary to many press headlines, the contribution from the inclusion of illegal activities was less than 1% of GDP. A full assessment of growth performance is difficult because data revisions prior to 2000 have yet to be published, but it is likely that growth in GDP per capita over the past decade has exceeded 4½ per cent per annum, which would rank Greece second highest (after Ireland) in the OECD. Explanations for the rapid catch-up in living standards include: financial market liberalisation coupled with membership in monetary union, which led to a substantial reduction in borrowing costs; buoyant activity in export markets in south-eastern Europe; and the fiscal stimulus and focal point given by the Olympic games in 2004. The fact that strong growth has continued since 2004 in the context of substantial fiscal consolidation is consistent with enhanced robustness stemming from structural reforms. The strong performance over the last decade has occurred despite product and labour market regulations which are still strict in international comparison. However, product market regulations have been eased and there has been a large boost to productivity growth given an initially weak starting position. In addition, a large informal sector exists and tight regulation may be less of an impediment to growth if it is not strictly enforced. An example is the employment of illegal immigrants which has satisfied a latent demand for less-skilled workers that labour market rigidities helped to create. However, competition-impeding regulations that are weakly enforced and a large informal sector are clearly second best to a well-performing regulatory framework with people working in regular jobs, particularly because the former combination gives rise to tax evasion on a large scale.

Strong growth is likely to continue but headwinds are building

Contrary to expectations of a post-Olympics slump, the economy has continued to grow briskly in 2005 and 2006 during a period of substantial fiscal consolidation. The government deficit has been substantially cut from a peak of 7¾ per cent of GDP in 2004 to an estimated 2½ per cent in 2006 (based on the unrevised GDP data, which are the basis for judging compliance with the Excessive Deficit Procedure, pending confirmation of the revised GDP data by Eurostat). This is the first time the deficit has been brought below 3%

since the adoption of the euro. While strong growth of around 4% is expected to continue for some years, headwinds are likely to become stronger over time. The clearest sign of macroeconomic tension is an increase in the current account deficit to about 9½ per cent of revised GDP in 2006. In the absence of currency risk, this mainly serves to highlight concerns about a continuing loss in competitiveness, with consumer price inflation running at about 3¼ per cent at the end of 2006, having remained persistently above the euro area average for many years. Relatively high inflation implies low real interest rates, which fuel domestic demand. However, losses in competitiveness may ultimately undermine growth performance. They may continue for some time in a favourable external environment, but the longer they last, the larger and more protracted the adjustment in relative prices and wages that may be needed to restore competitiveness.

There is still considerable scope to improve labour and product market policies

While short-run prospects remain good, sustaining robust growth over the longer term will necessitate further product market reforms – and their effective implementation – as well as the mobilisation of the large unused potential of labour inputs, especially among the old, young, and women and improvements in human capital. While there is considerable scope for action over a wide range of policies, the particular focus of the current *Survey* is on the five structural priorities identified in the OECD's recent *Going for Growth* publication:

- Removing the financial disincentives to work at older ages which are inherent in the pension system while constraining the possibilities for early retirement.
- Reducing the minimum cost of labour by introducing a sub-minimum wage for young people and lowering social security contributions for the low-paid.
- Reforming employment protection legislation. In particular, rebalancing employment protection across different occupations.
- Reducing barriers to entry and promoting competition in network industries.
- Making tertiary education more efficient and raising its standards to international levels.

The most pressing macroeconomic policy challenge is to continue fiscal consolidation

Having front-loaded the reduction in the fiscal deficit, the government's main macroeconomic objective is to more gradually reduce the deficit, by about ½ per cent of GDP per annum until the budget is in balance or surplus by 2012 at the latest. As the government debt-to-GDP ratio is high and prospective pressures of population ageing on public health and pension spending are estimated to be among the largest in the OECD, fiscal consolidation should continue, possibly at a more rapid pace than planned taking advantage of strong economic growth. Currently Greece is the only euro area country which does not include quantitative long-term fiscal projections in the annual stability programme. To raise awareness of the impending problems a long-term fiscal scenario to mid-century should be published to show how fiscal policy will cope with the expected spending pressures from ageing. In this context, delaying fiscal consolidation might have longer-term costs in terms of additional debt service costs, including an increase in the risk premium paid on government debt, and higher taxes, which would also be more heavily

skewed towards future generations. However, aggressive fiscal consolidation is at best a stop-gap. A preferable approach is for a far-reaching pension reform to be put in place soon. Achievement of the government's medium-term objective might be an adequate platform for ensuring future fiscal sustainability, if also accompanied by reforms which would help to contain future spending pressures on health, and especially, pensions.

Fiscal consolidation should focus both on reducing primary current expenditure and broadening the tax base

There has been substantial consolidation since 2004. Future consolidation should pursue a better control of primary current spending, and in particular increased efficiency of public administration. There is also scope for enhancing tax revenues further through fighting tax evasion and through other measures to broaden the tax base. Success in these efforts should allow more rapid debt reduction as well as providing resources for spending on alleviating poverty. As previously noted, ensuring long-run fiscal sustainability will also require structural reforms in the key area of health and, above all, a timely decision to comprehensively reform the pension system.

Public sector reform needs to continue

Spending on public administration absorbs a much higher percentage of total government outlays than in most other OECD countries, with no evidence that the services delivered are superior. This suggests that important social, political and economic goals could be achieved with significantly fewer resources. Recent improvements in the client friendliness of public services, notably the establishment of "one-stop shops" (Citizen Centres) for the provision of administrative services, and changes to lighten the burden of administrative regulations on business are welcome. Further steps towards simplifying procedures are nevertheless warranted. For example, the number of procedures and the time taken for starting a small business are still among the highest in the OECD, and further simplification would not only help to establish businesses, but would also require less resources to administer. A further important objective is to reduce over-staffing and raise productivity in the public sector to enhance the quality of services and contain wage pressures. Initiatives underway to improve performance evaluation and tighter recruitment procedures are therefore welcome and should be implemented without delay. Improving the performance of public enterprises should also remain a policy priority. The operating losses of such companies stood at around ½ per cent of GDP in 2006, with a similar share projected for 2007. In this context, the new law rationalising the operation of public enterprises is a step in the right direction. The rapid implementation of the new Management Information System that will improve the control and operation of public enterprises is of great importance. It will link the financial departments of the public enterprises, allowing the monitoring of their performance and the evaluation of outcomes compared with budget targets. A general concern that remains is that there has often been a gap between legislation passed on public sector reforms and their timely implementation. Thus, a focal point of public sector reform should be to ensure that policies are fully implemented once the legislation has been passed.

There is scope for further tax reform

There is scope to make the tax system more lucrative and less distortionary at the same time. A number of reforms have been undertaken to improve the functioning of the tax system, with particular emphasis on its simplification. Recently, corporate tax rates have been reduced to promote business activity and investment and attract foreign direct investment (FDI). Another focus of the reforms is the reduction of tax evasion *via* an upgrading of tax auditing and the restructuring of audit services. The need to ensure that the tax system is more efficient and competitive limits the scope for raising revenue through higher corporate tax rates and/or increasing social security contributions, especially in view of an already high tax wedge. There is some scope to raise the rate of consumption taxes, although the indirect to direct tax ratio is already high. Accordingly efforts to raise revenue should focus on further reductions in tax evasion and a broadening of the tax base by phasing out remaining distortionary exemptions. This could be achieved by ending the preferential treatment of some products, professions and regions and eliminating many of the remaining exemptions in corporate taxation. Moreover, the remaining stamp duties and distortionary "third-party" taxes should be abolished.

More determined reforms to improve the efficiency of health care are needed

As in other OECD countries, population ageing and non-demographic factors, such as technical progress and relative price movements, will put upward pressure on public health care spending. Improving the efficiency of health care services would help to contain future cost pressures. A high level of private spending on health care largely reflects inefficiencies in the public health care system that leads to excessive waiting lists. Long-standing problems include the inefficient operation of public hospitals and the lack of an effective primary health care system. On-going initiatives to tackle these weaknesses have focused on modernising the structure of the National Health Service, upgrading its management and rationalising health expenditure in critical areas. But the full effect of the reforms in containing spending is yet to come.

Additional measures will be needed to restrain health care expenditure and improve the quality of services. These include better pricing and costing mechanisms, which are part of the government's longer-term reform agenda, announced in 2004. A pricing scheme for the reimbursement of public hospitals for different types of in-patient services, if implemented, would be an important step forward. Regarding primary care, the fast development of a well-functioning network – indispensable for the reduction of geographic disparities in the provision of health services and for providing a "gatekeeper" to specialists and out-patient care – would depend largely on the incentive schemes for general practitioners and other medical personnel. International evidence suggests that a more diversified system of payments, including a fee-for-service component, would reduce waiting lists for elective surgery and raise the activity rates of physicians, while simultaneously ensuring that more attention is paid to patients' preferences. A move towards a more accountable hospital management, together with a pricing system and well-developed primary care would provide a better basis for containing costs while addressing shortfalls in the quality of health services.

Above all, a major pension reform needs to be implemented soon

A major pension reform is urgently required primarily to ensure fiscal sustainability, but also to eliminate disincentives to work at older ages and enhance the effectiveness of the system in alleviating poverty. Pensions are mostly provided by a large number of earnings-related schemes. They are run by the public sector on a pay-as-you-go defined-benefit basis with practically complete coverage of the population. A defining characteristic of the pension system is the high degree of fragmentation both across sectors of employment and economic activity. While there is clearly a wide range of possible reform options, certain elements would seem to be key to any reform.

- On unchanged policies, spending on pensions is projected to increase to mid-century by most in the OECD. Reform is required not only to ensure fiscal sustainability, but also because otherwise pension outlays will account for more than one-fifth of unrevised GDP and inevitably crowd out other necessary social expenditure. A fall in pension benefits relative to average wages (through a lowering of the replacement rate and/or indexation to prices) will inevitably need to figure as one important element of any reform, although the extent of this adjustment can be limited by reforms which reduce disincentives to continue work in old age and by curtailing the many alternative early retirement pathways.
- Financial disincentives to continue working at older ages are among the highest in the OECD, and have led to a low employment rate among older workers. The pension system discourages continued work at older ages because of high statutory replacement rates, with tenuous links between contributions and benefits and a range of special provisions that allow early retirement before the "normal" retirement age of 65. Pensions should be linked to lifetime contributions to remove disincentives while the wide range of early retirement schemes should be phased out. The most blatant case for reform is the favourable conditions granted for early retirement from occupations which are classified as "arduous or unhygienic". There is a valid argument for preferential treatment when employment in a particular occupation leads to a lower life expectancy. However, the scale on which these provisions are currently granted (40% of all male retirees and 15% of female retirees, under the main employee pension fund) as well as the extensive list of occupations to which they apply, suggests that the current provisions go far beyond the aforementioned rationale. Once the normal age of retirement has been established as a genuine benchmark against which earlier or later retirement is judged and appropriately compensated, then consideration would need to be given to periodically increasing it in line with increases in life expectancy.
- Despite high aggregate pension outlays, the diversity in replacement rates across different funds means that pension expenditure is not always targeted to those most in need. Reducing overall pension expenditure while more effectively tackling poverty in old age is likely to mean that any safety net pension benefit will be available only at the official age of retirement in place of current minimum pension arrangements which severely distort incentives to retire early. There is a range of options for the safety net pension. It might, for example, be means-tested (to keep the fiscal costs down, but with potential adverse effects on savings) or alternatively could be universally available subject to legal residency requirements (though creating adverse incentives for

immigration) or could even be based on current minimum pensions (but only available at the official age of retirement).

- The main pension system for the self-employed is similar in some respects to those for employees, but with important differences in the assessed earnings against which the pension is evaluated and contributions are determined. Assessed earnings are unrelated to actual earnings and instead correspond to notional income classes which, depending on the fund, increase with years of experience. The resulting share of social security contributions by the self-employed in aggregate appears low compared to their share in total employment, and also in comparison with other European countries. The implication is that notional income underestimates actual income, and that the implied lower cost of pension contributions is a problem because it represents a distortion in favour of self-employment over dependent employment (rather than a financial sustainability problem). Ideally it would make sense to switch the basis for self-employed pensions from notional to actual earnings or some proxy measure such as turnover. A prerequisite for such a change would be further improvement in the tax auditing of the self-employed. If such a switch is not feasible, then the level of notional income bands against which the self-employed make contributions would need to be raised.

Labour market entry problems need to be addressed

The standardised unemployment rate has fallen from a peak of 12% of the labour force in 1999 to around 9% in 2006, but still remains among the highest in the OECD. High unemployment is particularly prevalent among certain vulnerable groups, particularly first-time job seekers (mainly the young) and labour market re-entrants (mainly women); at the same time the unemployment rate for prime-age males is slightly below the OECD average, while it is double for prime-age females and the young. A range of other indicators – including the high incidence of long-term unemployment, low monthly outflows from unemployment, long average job tenure, and low gross labour flows between industries – suggest that labour mobility, broadly defined, is relatively low. There is scope for policy to improve labour market flexibility, such as actions that reduce minimum labour costs and ease the relatively strict employment protection legislation, although this is not currently on the government's reform agenda. Other important policy changes such as greater support for active labour market measures and childcare will probably have to await a further improvement in the fiscal situation. Greece will participate in the OECD school-to-work transition review, being reviewed during 2008, and this may shed further light on the appropriate policy responses to reduce the persistently high rate of unemployment among young people.

The minimum cost of labour needs to be reduced

A recent OECD review of the available cross-country evidence suggests that, while minimum wages may sometimes play a useful supporting role in a broader anti-poverty programme, there is potential harm to job creation when minimum wage levels are high, particularly where no adequate allowance is made for youth and other vulnerable groups. For Greece, minimum wages, as a share of the median wage, are not exceptional in

international comparison. However, the absence of a specific sub-minimum means that they do rank among the highest for youth. Minimum wages do differ by experience and family circumstances, but such differences do not appear to be sufficient to protect the most vulnerable groups. Any adverse effect on employment is exacerbated by relatively high social security contributions of employers which further increase the minimum cost of labour. An unusual, but not unique, feature is that legally binding minimum wages are set by the social partners and apply to the whole economy. Moreover, there is a close correlation between changes in minimum wages and average wages, suggesting that the process of setting minimum wages is closely integrated with aggregate wage determination. In setting minimum wages, the social partners should take into account high unemployment rates of youth and women. In order to reduce the minimum cost of labour, social security contributions for the low-paid should also be cut further, with this move being financed by public spending restraint. A more favourable treatment of low-income earners with families should be accomplished through the benefit system rather than through differentiated minimum wages. Given that unit labour cost increases have outstripped those in the rest of the euro area and thereby eroded competitiveness, the government should also consider ways to encourage more decentralised bargaining. This might be achieved by avoiding the administrative extension of collective agreements (at the industry or occupational level) to enterprises not represented in the negotiations. The government should continue to aim for more moderate increases in the wages of its own employees, as in 2005 and 2006, recognising that they often play a leading role in aggregate wage developments.

Strict employment protection for white collar workers and temporary workers needs to be eased

Employment protection legislation (EPL) across all occupations is roughly in line with the average for the other EU countries which are OECD members, but it is much stricter for white than blue collar workers, due to higher severance payments. While differentiated regulations for dismissals of white and blue collar workers are also in place in other OECD countries, this difference is much greater in Greece. This distorts the labour market, reduces labour market turnover and harms the employment prospects of groups which are most subject to entry or re-entry problems, such as the young, women and the long-term unemployed. Accordingly severance payments for white collar workers (especially those with relatively short tenure with the same employer) should be reduced and brought into line with those for blue collar workers. Consideration should also be given to bolder options, such as transforming severance pay legislation into a system of individual accounts as pioneered in Austria. Moreover, although the restrictiveness of EPL for temporary employment has decreased over the last decade, it remains among the most stringent in the OECD. Temporary employment can, however, be a first step towards career progression as it facilitates labour market entry for youth. Given the high rate of youth unemployment combined with the difficulties in entering the labour market, EPL on temporary employment should be reduced further. In addition, if temporary employment is to facilitate labour market entry, complementary reforms have to ensure that youth who start in temporary jobs move into permanent arrangements. Loosening EPL on temporary employment should hence be combined with reducing the level of protection for permanent workers.

Reforms to increase the responsiveness and flexibility of tertiary education are needed to catch up with other OECD countries

Human capital needs to be raised through improvements to the education system. A particular priority is reform of tertiary education where Greece currently has one of the most centralised and least flexible systems in the OECD. This is reflected in the poor quality of tertiary education outcomes: graduation rates are low, studies take a long time and student drop-out rates are high. The government has recently enacted a reform, which includes a series of important measures which will improve the governance of universities, ensure independent evaluation, limit the duration of academic study and raise the provision of student loans. Regarding the establishment of private universities, the first constitutional hurdle has been passed, based on the government's majority in parliament, but an enhanced majority is still required after the election. While such changes appear modest in relation to how far Greece lags behind other OECD countries, they have met with great resistance, but are an essential step in the right direction. Such changes could lay the basis for further reforms, such as providing universities with greater autonomy in deciding on staffing and educational outputs and better governance. Private universities should be allowed as they would raise competition in the sector. The funding of universities should be linked to performance evaluations. Consideration should also be given to introducing tuition fees, which are currently only allowed for post-graduate studies, at a moderate level – rates of return to tertiary education are low in international comparison for men, but close to average for women. Tuition fees would raise the responsiveness of universities as well as injecting more resources into tertiary education, with likely gains to the quality of educational outcomes. The introduction of tuition fees should be accompanied by income-contingent loans to ease liquidity constraints faced by students from poorer families.

Product market regulations which hinder competition need to be further scaled back, especially in network industries

While there has been considerable progress over the past decade, product market regulations which hinder competition remain stringent. This has held back productivity growth, inhibited inward foreign investment and contributed to a poor innovation performance. Specific areas where there is most scope for improvement include: reducing the number of procedures and the time taken for starting a business; easing regulation of professional services, which remains among the most restrictive in the OECD, especially because of licensing requirements and restrictions on fees or prices charged; easing regulation in the retail sector, which is among the most restrictive in the OECD due to licensing requirements, specific regulations relating to large outlets, protection of existing firms and regulation of shop hours; and eliminating discriminatory procedures that have been used to discourage foreign investment. Positive steps in this direction have already been taken, such as on the development of large-scale tourist resorts and on the deregulation of shop hours.

Effective competition in the network industries remains weak. Many state-owned enterprises have been fully or partly privatised, but the stake of the government in key public utilities remains high, and price regulation is still pervasive, especially in the

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transport sector. Regarding energy, there has been considerable progress in transposing EU Directives in the electricity and gas markets into domestic legislation. Nevertheless, effective competition is still absent in the electricity market, despite the issuance of generation licenses, as the sector continues to be characterised by a high level of public ownership and vertical integration. The operations of the incumbents in the electricity and gas sector should be unbundled and non-discriminatory access to the grid secured. Cross-subsidies and preferential tariffs should be removed and licensing procedures for energy-related infrastructure eased. Last, but certainly not least, strong and effective regulators are critical in raising competition in the energy sector.

Competition has evolved more favourably in the telecommunications market with tangible benefits for consumers, both in terms of services provided and lower telephone charges. Access to broadband services is rapidly increasing, but remains very limited, as the unbundling of the local loop has progressed only little so far. Concerning the postal sector, the restructuring of Hellenic Post needs to continue to prepare it for privatisation. Universal service provision after the market is fully liberalised should be managed in a way that does not distort the market. Steps also need to be taken in the transport sector, where substantial regulatory challenges remain for road freight; barriers to entry and pricing restrictions should be eliminated. In the railway industry, reforms need to continue to establish a framework that will allow competition among several providers of railway services. On the other hand, there has been commendable progress in opening up the domestic ferry sector.

Public sector reforms are crucial for sustaining strong growth and ensuring fiscal sustainability

This *Survey* presents a long list of recommendations that appear crucial for sustaining strong growth. Many, though not all of them, are on the government's reform agenda. Commendable progress has been made on fiscal consolidation and the government has also moved ahead in implementing structural reforms. Yet, much remains to be done. In the network industries or health care reforms, the crux lies in the effective implementation of the reform agenda. Similarly, Greece is slow in implementing European internal market directives into national law and faces a high number of infringement cases relating to poor quality transposition and/or incorrect application of internal market rules. At the same time, the government has to convince the public, which is often reluctant to embrace reforms, of the need to modernise and to move to international best practice. The current reform of the university system, for instance, was highly controversial even though it is essential. Moreover, the public still needs to be convinced of the required deep reform of the pension system that constitutes a *sine qua non* for achieving sustainable fiscal policy. Pushing ahead with reforms and their effective implementation will require a deep restructuring of the public sector.

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Chapter 1

Recent performance and key challenges

There has recently been a major revision to the national accounts, increasing the level of real GDP by over one quarter since 2000. Understanding the nature of this revision is important for assessing growth performance, but there are limitations due to the absence of a consistent historical series.

Growth in GDP per capita over the last decade has been among the most rapid in the OECD. Most of the explanations for this strong growth performance – notably the effect of a large reduction in competition-curbing product market regulation and financial market deregulation – are of a transitory nature. This raises two questions with important policy implications. Firstly, what is the risk that the current period of strong growth will end with a hard landing? Secondly, what should the policy priorities be to sustain strong growth over the longer term?

Signs of macroeconomic tensions are manifest in a continuing loss in competitiveness, rapid growth in consumer credit and a ballooning current account deficit. The risks of this resulting in a hard landing are, however, reduced by a number of factors: the absence of currency risk; the fact that that household credit is still relatively low in relation to income; and the increasing diversity in export markets. Past experience from other euro area countries which have been in a similar position suggests that it will be important to ensure that there is scope to allow the automatic fiscal stabilisers to operate. In this context the recent reduction in the government deficit to below 3% of GDP is an important development. A further rapid decline in the deficit is needed, while growth prospects remain strong because of the high level of government debt and prospective fiscal costs of ageing.

There is considerable scope for policies to improve the performance and flexibility of both labour and product markets. The focus of the present Survey *is on the five structural priorities identified in the recent OECD publication* Going for Growth *which recommends policy action in the areas of pensions, minimum labour costs, employment protection, network industries and tertiary education.*

The GDP revision and growth performance over the last decade

The recent revision to GDP data

The Greek authorities recently revised up the *level* of GDP by just over one quarter in 2000, although the *growth rate* of real GDP in subsequent years is little affected. This revision incorporates more up-to-date and direct benchmarks provided by the recent population census and various enterprise survey data which were not previously available (Box 1.1). However, the historical series prior to 2000 consistent with this data revision was not available for this publication, which hampers any historical analysis of growth during the 1990s.

Box 1.1. **The recent GDP revision**

In September 2006 the Greek authorities revised the national accounts, with a consequent upward revision to the level of GDP in the year 2000 of 26% (Table 1.1). The level of GDP in subsequent years was correspondingly revised up, but growth rates were little changed.

There are a number of institutional reasons why the GDP revision took place. In particular, according to the European System of Accounts (ESA95) there should be a revision of the base year of the national accounts every five years; the revision was necessary to respond to previously expressed reservations by the EU's Gross National Income (GNI) Committee regarding the estimation of GNI; and there was also a need to reduce discrepancies between national accounts data for "the rest of the world" with balance of payments statistics compiled by the Bank of Greece. In undertaking the revision a number of new data sources were utilised, including: the population and dwellings census of 2001; various statistical surveys, mainly on enterprises, which were not previously conducted; and administrative data such as value added tax (VAT) statements.

Most of the revision is accounted for by improved measurement of the fast-growing services sector; two-thirds of the increase in gross value added is accounted for by six service industries, the largest of which are trade, hotels and restaurants and construction (Table 1.2). Conversely, contrary to the impression from many press headlines, the contribution from the inclusion of illegal activities was less than 1% of GDP. Employment was also revised up by 10.4% as a consequence of using the 2001 census.

The largest revisions by industry are as follows:

- The largest contribution to the revision of gross value added was in wholesale and retail trade, which was mainly due to improvements in the measurement of trading margins which are now updated on the basis of regular survey data (whereas previous estimates applied margins estimated for the year 1988).
- Revisions to hotels and restaurants are now based on regular enterprise surveys rather than estimates using expenditure data from the family budget survey.
- An increase in construction gross valued added was mainly due to improved estimates of the price of new dwellings which utilised new data from the tax authorities.

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Table 1.1. **Revisions to GDP data in 2000**

	Revised data	Previous data	Difference (%)
In billion euros			
GDP production approach	156.5	124.4	25.6
Output (basic prices)	239.6	187.2	27.9
Intermediate consumption	99.0	78.6	25.8
Gross value added (basic prices)	140.6	108.5	29.4
GDP expenditure approach	156.5	124.4	25.6
Household final consumption	106.3	86.9	22.1
General government final consumption	24.6	21.6	13.9
Gross fixed capital formation	36.3	28.7	26.1
Exports of goods and services	33.8	31.1	8.7
Imports of goods and services	51.2	44.7	14.5
GDP income approach	156.5	124.4	25.6
Compensation of employees	49.1	40.9	24.4
Gross operating surplus – mixed income	91.1	67.2	32.6
Consumption of fixed capital	16.8	10.9	53.2
Net operating surplus – mixed income	74.3	56.3	28.4
Net taxes on production	16.2	16.2	0.0
In million persons			
Total employment	4.3	3.9	10.4
Employees	2.6	2.2	17.7
Self-employed	1.7	1.7	0.9

Source: Ministry of Economy and Finance.

Table 1.2. **Main contributions to Gross Value Added (GVA) revision by industry**

2000

	In billion €		Per cent	
	Revised data	Previous data	Difference	Contribution to total GVA revision
Wholesale and retail trade	17.4	13.8	26.6	11.4
Hotels and restaurants	12.9	8.0	61.2	15.4
Construction	11.5	8.0	43.8	11.1
Other entrepreneurial activities	6.1	2.9	107.5	10.0
Public administration and defence, compulsory social security	10.3	7.6	34.0	8.2
Water transport	4.6	2.7	66.4	5.8
Recreational, cultural and sporting activities	3.3	1.5	115.7	5.6

Source: Ministry of Economy and Finance (2005), *2006 Budget*, Athens.

In addition to evaluating growth performance the revised GDP figures are important because many variables are commonly expressed as a share of GDP, and the scale of the revision to GDP is large enough that such ratios change significantly (Table 1.3). Throughout this *Survey*, unless explicitly noted, such ratios are evaluated with respect to the revised GDP. There is, however, one important general exception to this rule, namely the revised GDP data is *not* used when calculating ratios that apply to fiscal policy. In this case the GDP data used as the denominator for calculating key fiscal ratios (such as deficit and debt as a share of GDP) are the "old" data (*i.e.* those prior to revision). This is because prior to acceptance of the GDP revision by Eurostat it has been agreed that European fiscal commitments, including the Excessive Deficit Procedure to which Greece is currently subject, will be judged on the basis of the unrevised GDP data. For the same reason the latest official Budget and Stability Programme projections also use the unrevised GDP data. Hence to remain consistent with

Table 1.3. **The effect of the national accounts revision on key macroeconomic ratios**

	2000	2001	2002	2003	2004	2005	2006[1]
GDP at current prices (billion €)							
Unrevised	124.4	133.1	143.5	155.5	168.4	181.1	195.3
Revised	156.5	168.0	181.0	196.6	212.7	228.2	245.6
Change (%)	25.8	26.2	26.2	26.4	26.3	26.0	25.8
General government deficit							
In % of unrevised GDP	–4.0	–4.9	–5.2	–6.1	–7.8	–5.2	–2.5
In % of revised GDP	–3.2	–3.9	–4.2	–4.9	–6.1	–4.0	–2.0
General government debt							
In % of unrevised GDP	114.9	114.9	110.7	107.8	108.5	107.5	104.1
In % of revised GDP	90.1	90.4	87.8	85.3	85.9	85.3	83.2
Current account balance[2]							
In % of unrevised GDP	–8.5	–8.0	–7.5	–7.2	–6.4	–8.1	–12.1
In % of revised GDP	–6.8	–6.3	–5.9	–5.7	–5.0	–6.4	–9.6

1. Estimates from end 2006.
2. Bank of Greece balance of payments measure.
Source: Ministry of Economy and Finance; Bank of Greece (2007), *Bulletin of Conjunctural Indicators*.

these sources all fiscal ratios in this *Survey* (below and in Chapters 2 and 3), unless otherwise explicitly noted, are calculated on the basis of the unrevised GDP data.

Why has growth performance over the last decade been so impressive?

Growth in GDP per capita has averaged around 4% per annum between 2000 and 2005, among the fastest in the OECD. On the (probably conservative) assumption that half of the extra GDP consistent with the recent GDP revision was generated over the second half of the 1990s, then the average growth rate in GDP per capita over the last decade has been about 4½ per cent, which would rank Greece second only to Ireland among all OECD countries (Figure 1.1). On the revised data, GDP per capita has surpassed the average of the EU19, with Greece now ranking between Italy and Germany (Figure 1.2).

While a formal growth accounting analysis of developments over the last decade is currently hampered by the lack of consistent historical data it is clear that most of the growth spurt in GDP per capita is accounted for by rapid productivity growth rather than increased labour input; the increase in total employment relative to the total population can account for just over ½ per cent per annum of the growth in GDP per capita, while average hours worked per person employed fell slightly. The implied strength in productivity growth over the last decade may be, at first sight, puzzling; while a decade ago the gap with the best performing economies was very wide so that the scope for catch-up was great, it is also clear from Figure 1.1 that there were many OECD countries with a similar gap which did not experience such a spectacular growth performance. Moreover, despite recent progress (Table 4.A1.1), according to many indicators Greece continues to rank poorly in terms of the flexibility of labour and product markets and is still lagging in terms of human capital formation and innovation performance. There is a range of complementary explanations for the strong productivity performance:

1. *Improvements in product market regulation.* Even though Greece still lags behind most OECD countries, there has been considerable progress towards making regulation of product markets more conducive to competition. Indeed, judged by the *absolute change* in the OECD's indicator of product market regulation, recent progress (between 1998 and 2003) has been among the most rapid in the OECD (Figure 1.3). Moreover, the effect of this

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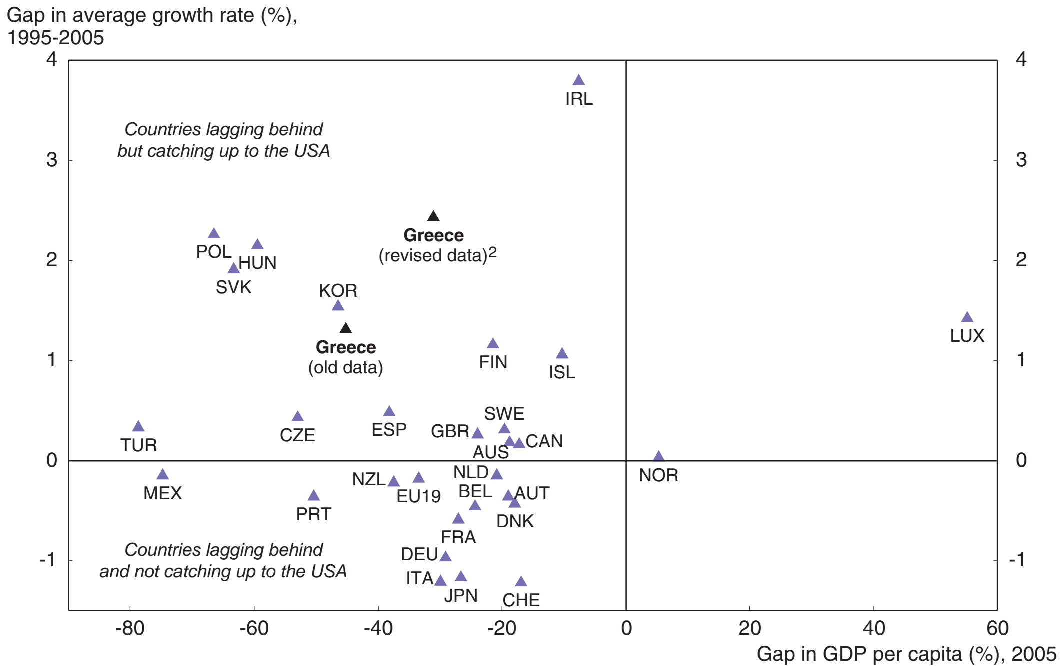
Figure 1.1. **Gaps in GDP per capita levels and growth rates**[1]

Relative to the United States

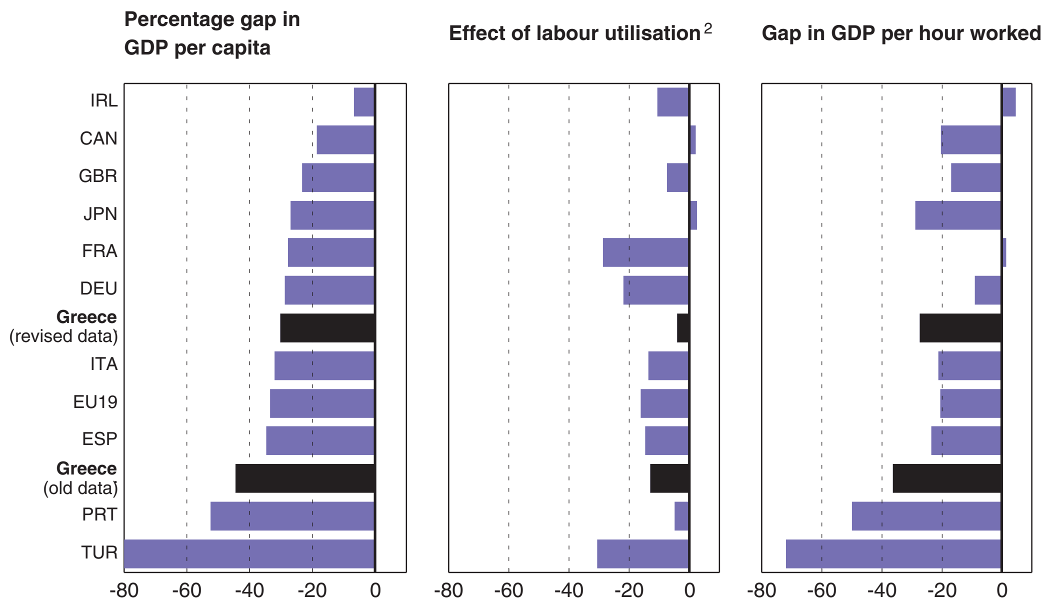


1. GDP in volume converted to US dollars using constant purchasing power parities.
2. Assumes that half of the GDP revision was generated over the period 1995-2000.

Source: OECD (2006), *Productivity Database*, September, *www.oecd.org/statistics/productivity*.

Figure 1.2. **Sources of real income differences**

Percentage point differences in GDP per capita with respect to the United States, 2005[1]

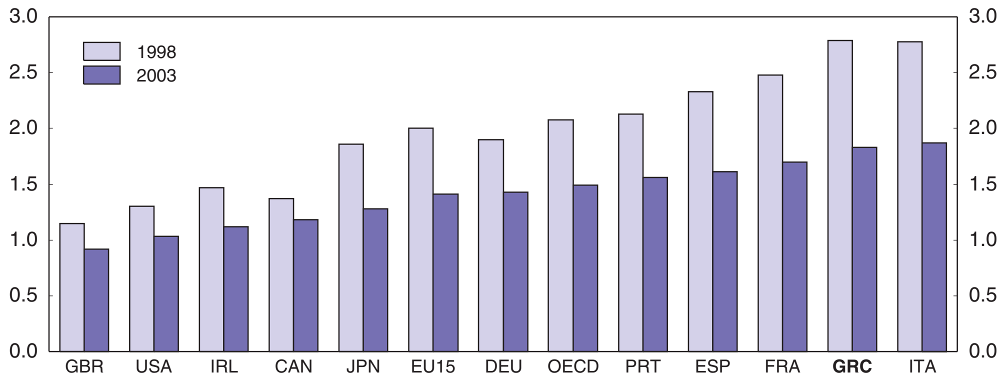


1. Based on 2005 purchasing power parities. France includes overseas departments and GDP for Turkey is based on the 1968 System of National Accounts. The EU19 aggregate covers all EU members that are also OECD members.
2. Based on total hours worked per capita.

Source: OECD (2006), *Productivity Database*, September, *www.oecd.org/statistics/productivity*.

Figure 1.3. **OECD product market regulation indicator**[1]

The scale of indicators is 0-6, from least to most restrictive



1. EU15 and OECD are unweighted averages excluding Luxembourg and the Slovak Republic in 1998.

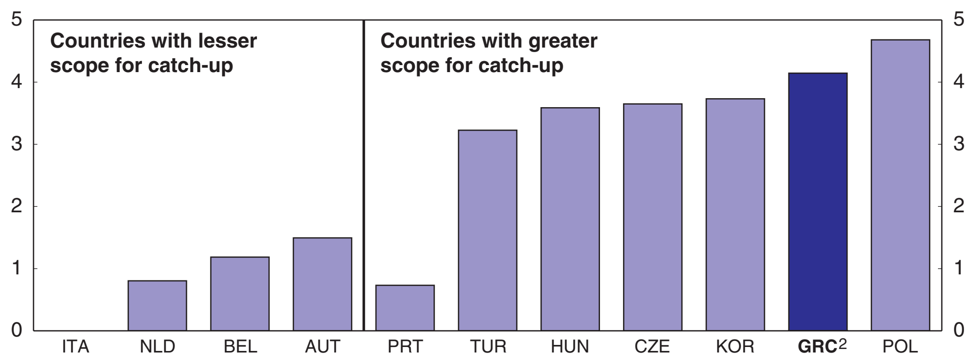
Source: OECD (2006), *International Regulation Database*, *www.oecd.org/eco/pmr*.

improvement on performance may have been enhanced by the relatively large initial distance from the production possibility frontier and so raised the potential for catch-up. Indeed, such a non-linear relationship appears to be borne out by the recent experience among OECD countries; considering only those countries which have experienced a large improvement in product market regulation (taken to be a fall in the OECD's product market regulation indicator of at least 0.8 over the period 1998-2003), those for which the income gap with the United States was initially larger experienced much larger productivity growth than those for which the gap was smaller (Figure 1.4).

2. *Financial market liberalisation.* There has been a rapid expansion of household credit since the banking sector was liberalised and quantitative credit controls were abolished in the mid-1990s. Since then growth in household credit has exceeded 30% in most years and consumption growth has also often outstripped growth in household disposable income.

Figure 1.4. **Increased competition has a stronger effect on productivity where scope for catch-up is greater**[1]

Average productivity growth, per cent per annum, 1998-2005



1. Countries shown are all those experiencing a fall in the OECD's product market regulation index of at least 0.8 between 1998 and 2003. Countries in the left hand panel are those for which the level of productivity was within 10% of the United States in 1998, countries in the right hand panel are those where the difference exceeded 10%.
2. Assuming additional GDP from the revision was generated evenly over the 1990s.

Source: OECD (2006), *OECD Economic Outlook: Statistics and Projections*, No. 80 – online database and *International Regulation Database*, *www.oecd.org/eco/pmr*.

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While there has been a sharp rise in household indebtedness, it remains at a relatively modest level in relation to income compared with the euro area average.

3. *Membership in EMU*. Membership in the economic and monetary union (EMU) has led to a major reduction in borrowing costs; in 1997 the differential with German short-term and long-term rates was more than 700 and 400 basis points, respectively, whereas currently the differential on short rates is negligible and on 10-year bonds is just over 30 basis points. A further monetary stimulus has occurred as the relatively low interest rates that have prevailed in the euro area since 2002 were coupled with a persistent inflation differential between Greece and the rest of the euro area; consequently real short-term interest rates have been substantially negative since late 2002.
4. *The stimulus and focal point given by the Olympic games in 2004*. The successful staging of the Olympics in 2004 provided a stimulus to demand as well as providing a focal point for much needed infrastructure investment, especially in transport and tourism. International Monetary Fund (IMF) estimates suggest that Olympics-related spending may have raised demand by 0.6% per annum over the period 2002-04, although the subsequent withdrawal of the stimulus reduced growth by 1½ per cent in 2005 (IMF, 2006). Less tangible, but potentially more important effects on medium-term growth may have come through raising Greece's international profile as a tourist destination and business location.
5. *Buoyant activity in export markets in south-eastern Europe*. Greece has benefited from its geographical proximity to some of the fastest growing export markets, particularly in the Balkans, Central and Eastern Europe and the Middle East. The opening up of trade in the Balkans as well as Central and Eastern Europe has coincided with a major shift in the geographic structure of trade; the share of goods exports going to the Balkans has nearly tripled to 17% between the first half of the 1990s and the first half of this decade. Conversely, the share of goods exports to euro area countries has fallen from 55% to 35% over the same period.
6. *Strong immigration* during the 1990s increased the labour force by between 5% and 10% and their employment in the informal sector may have reduced the economic cost of rigidities, such as the minimum wage, in the formal labour market (OECD, 2005). Illegal immigration may also have led to an under-reporting of employment and so artificially raised productivity growth. Recent IMF estimates suggest that measurement problems associated with immigration may have added ¼ percentage point to annual total factor productivity growth over the last decade (IMF, 2006).

Most of these explanations of rapid growth over the last decade are by their nature likely to prove transitory, prompting two policy-related questions, which are taken up below. Firstly, what is the risk of an abrupt hard landing? Secondly, what policies need to be pursued to ensure that over the longer term growth performance remains strong?

Recent macroeconomic performance and short-term prospects

Recent growth has been surprisingly strong

Recent strong growth has not only confounded expectations of a post-Olympics slump, but has continued during a period of substantial fiscal consolidation; real GDP has grown by 4.3% in 2006, close to its trend rate, and slightly higher than growth projected in the OECD *Economic Outlook* published in December 2006 (Table 1.4).

Table 1.4. **Recent growth and prospects**

Percentage change

	Outcomes			Projections		
	2003	2004	2005	2006	2007	2008
In constant prices						
Gross domestic product (GDP)	**4.9**	**4.7**	**3.7**	**4.0**	**3.8**	**3.8**
Private consumption	4.2	4.6	3.7	3.6	3.5	3.5
Government consumption	–1.3	2.5	–0.5	2.0	1.8	1.3
Gross fixed investment	13.3	5.8	0.2	7.1	6.1	5.8
Private sector	13.0	5.5	1.8	7.5	6.3	5.9
Government	15.9	8.5	–13.5	3.7	4.7	4.9
Stockbuilding[1]	–0.3	–0.1	–0.1	0.1	–0.2	0.0
Total domestic demand	**5.1**	**4.5**	**2.3**	**4.7**	**4.1**	**4.2**
Exports of goods and services	4.0	7.5	3.7	5.4	4.8	6.7
Imports of goods and services	4.9	5.6	–2.1	7.3	5.7	6.8
Net exports[1]	–0.7	–0.3	1.3	–1.1	–0.8	–0.7
Memorandum items						
Potential output	3.8	3.9	3.8	4.0	4.0	3.8
Output gap (% of potential GDP)	0.9	1.7	1.5	1.5	1.3	1.3
Consumer price index (harmonised)	3.4	3.0	3.5	3.4	2.9	2.8
Employment	1.3	2.9	1.3	1.5	1.4	1.5
Unemployment rate (% of labour force)	10.4	11.0	10.4	9.6	9.2	8.8
Government net lending (% of unrevised GDP)	–4.9	–6.1	–4.0	–2.6	–2.6	–2.6

1. Contribution to GDP growth.

Source: OECD (2006), *OECD Economic Outlook: Statistics and Projections*, No. 80 – online database.

Investment activity recovered in 2006 due to a sharp rebound in public construction spending from its post-Olympics slump, as well as a substantial strengthening in business and residential investment. The strong increase in residential construction activity reflects a surge in building permits in 2005, prior to the introduction of tax measures in 2006. Consumer spending has remained robust, underpinned by a still rapid credit expansion, low real interest rates, rising incomes and employment gains. The contribution of net exports, on the other hand, turned negative in 2006, due to a surge in imports, although export growth remained strong at 5%.

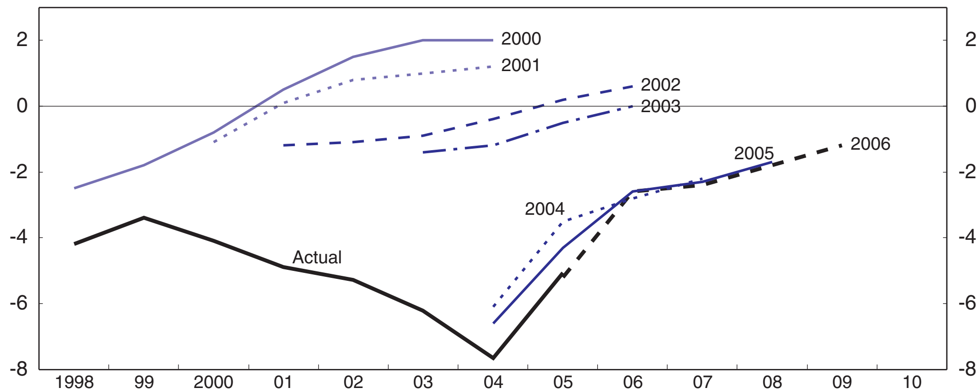
While the standardised unemployment rate declined to around 9% in 2006, its lowest level in more than a decade, it is still high in international comparison. The persistence of high unemployment, despite more than a decade of sustained strong growth is indicative of structural labour market weaknesses which are discussed further below.

The fiscal deficit has been brought down, but further reduction is needed

The fiscal deficit has been substantially reduced from a peak of 7¾ per cent of GDP in 2004 to about 2½ per cent in 2006, the first time the deficit has been brought below 3% since EMU entry. The achievement of the government's fiscal targets is restoring the credibility of fiscal policy after years of repeated slippage and the upward revision of the public finance statistics in 2004 which raised the deficit above 3% of GDP in every year since 1997 (Figure 1.5). However, further fiscal consolidation is required, not least because general government debt is still 104% of GDP and because the additional public spending associated with ageing to mid-century is estimated to be among the highest in the OECD. Even if the government meets its objective to achieve balance or surplus on the budget

Figure 1.5. **Successive Stability Programme projections: general government fiscal balance**[1]

In per cent of unrevised GDP



1. In December of each year except for 2004, which is the revised version released in March 2005.

Source: Ministry of Economy and Finance, *Stability and Growth Programmes*.

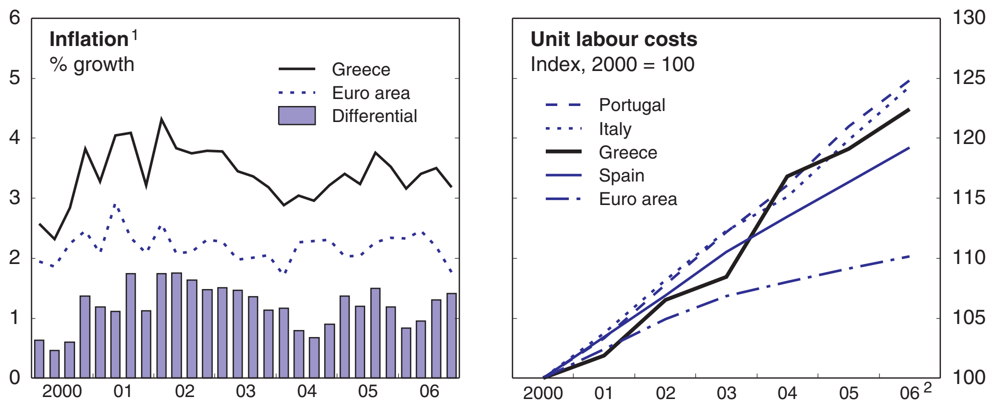
by 2012 at the latest, without a further change in policies (*i.e.* assuming the aggregate tax rate and other expenditures remain a stable share of GDP after 2012), demographic-related spending pressures would put debt on an explosive path according to a mechanical extrapolation, pushing it in excess of 350% of GDP by 2050. Such a mechanical extrapolation is implausible, but it does serve to emphasise that the relevant policy question is not whether further fiscal consolidation is needed, but rather how and when it is best achieved. These issues are addressed in Chapter 2 and the options for pension reform, which constitute the largest part of the ageing-related expenditure increase, are discussed in Chapter 3.

There has been a cumulative loss in competitiveness and widening current account deficit

The most visible sign of macroeconomic tension is an increase in the current account deficit which averaged over 6% of GDP between 2000 and 2005 and has reached 9½ per cent of GDP in 2006. A large part of the deficit is due to the fact that an economy undergoing income convergence is likely to have high financing needs and monetary union has substantially improved borrowing conditions.[1] A smaller part of the current account deficit – probably less than 1% of GDP – is explained by the relative cyclical position of the economy.[2] A consequence of persistent high current account deficits is that the negative "international investment position" (*i.e.* net external debt) has increased to 65% of (revised) GDP by end- 2005. While this does not lead to a currency risk because of EMU membership, the servicing of the debt absorbs resources with adverse implications for income growth. It also provides an additional reason for further fiscal consolidation.

The current account deficit also serves to highlight concerns about a continuing loss in competitiveness. Consumer price inflation, which was about 3¼ per cent at the end of 2006 (harmonised basis), has remained persistently above the euro area average, with the differential averaging about 1¼ per cent since 2000 (Figure 1.6, left hand panel). This also reflects a steady loss in relative unit labour costs in relation to most other euro area countries (Figure 1.6, right hand panel). For a country which is undergoing income convergence, a higher rate of inflation need not necessarily imply a loss in competitiveness

Figure 1.6. **Competitiveness has deteriorated**



1. Measured by the year-on-year percentage change of the harmonised index of consumer prices.
2. Projections.

Source: OECD (2006), *OECD Economic Outlook: Statistics and Projections*, No. 80 and *OECD Main Economic Indicators* – online databases.

to the extent that it concerns goods and services that are not internationally traded (the so-called Balassa-Samuelson effect).[3] Recent estimates by various international institutions suggest that about half of the recent inflation differential with the euro area might be explained by such an effect (Bank of Greece, 2003). On the other hand, the applicability of the Balassa-Samuelson effect to Greece is not so obvious (Bank of Greece, 2006a); the distinction between traded and non-traded goods is not clear cut, especially because services (notably tourism) are an important component of exports; and the tradable goods sector does not lead wage determination (as in the Balassa-Samuelson model), rather this is a role often taken by the public sector. This underscores concerns about the way in which wages are determined, in particular whether there is sufficient flexibility to cope with the new environment of monetary union, an issue which is considered in Chapter 4.

Short-term outlook and risks

Output is expected to continue to grow at just below trend over the next two years. While tighter monetary conditions would tend to moderate domestic demand growth, investment should be supported by a number of initiatives including a gradual lowering of company tax rates, a new investment incentives law and legislation covering public-private partnerships. Despite a cumulative weakening of price competitiveness, export growth may also remain robust partly because of buoyant external demand.

The persistence of recent imbalances raises the possibility of a hard-landing, although this is certainly not a central scenario. Moreover, although there are some similarities between the present position of Greece and that of Portugal in 2000, just before the latter experienced a recession and a prolonged period of slow growth (National Bank of Greece, 2006), there are a number of reasons why Greece is in a stronger position to avoid such a marked slowdown. The Portuguese economy had experienced a long period of strong growth, but monetary tightening exposed major imbalances including a substantial current account deficit (10% of GDP in 2000), a rapid run up in household debt and a weak fiscal position. Greece is, however, currently in a stronger position to deal with monetary tightening: trade is not as heavily dependent on the euro area and so would be less affected by a downturn in the area; household indebtedness remains significantly below that

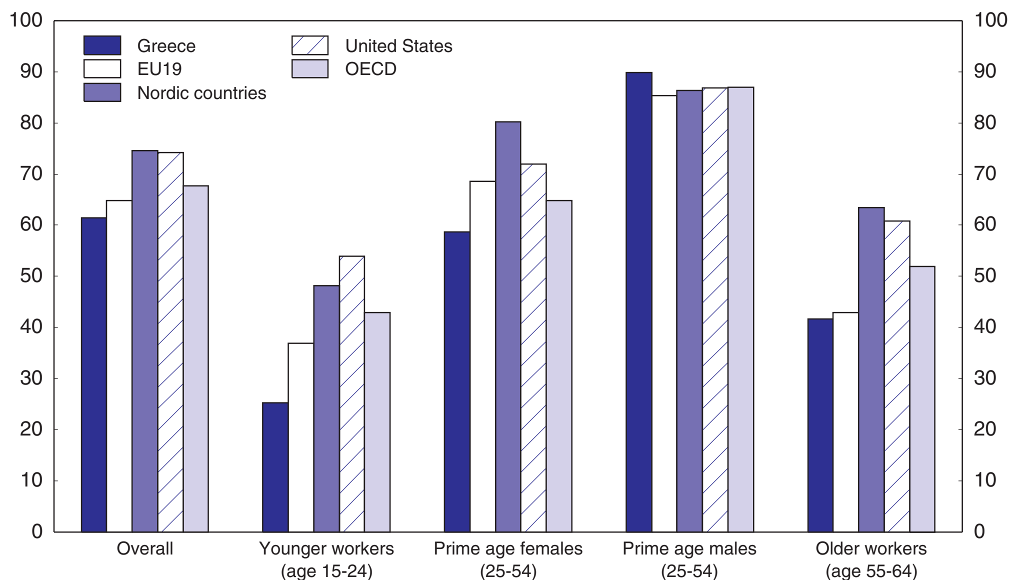
reached by Portugal in 2000 and is below the euro area average;[4] and the fiscal deficit has already been brought down below 3% of GDP. The last factor does, however, serve to emphasise the importance of a further reduction in the deficit so that the automatic stabilisers can function in the future.

The scope for improving labour utilisation

The overall level of labour utilisation is high (Figure 1.2) particularly because average hours worked are among the highest in the OECD and employment rates of prime-age males are also high in international comparison. Despite this, employment rates are relatively low among the young, old and women (Figure 1.7). Also unemployment rates among the young (25% in 2005) and women (15% in 2005) are among the highest in the OECD.

Figure 1.7. **Employment rates are lagging behind**

Employment as a percentage of population in the same age group, 2005



1. Denmark, Finland, Iceland, Norway and Sweden.

Source: OECD (2006), *Database on Labour Force Statistics*, October, *www.oecd.org/els/employment/stats*.

The low employment rate among older workers highlights the strong disincentives to continue work that are inherent in the retirement income system at older ages; standardised measures of such disincentive effects suggest that they are among the strongest in the OECD both for the regular old-age pension system and for a range of alternative early retirement pathways. This provides a further reason to reform the retirement income system, as discussed in Chapter 3, and is one of the five structural priorities identified for Greece in the OECD's *Going for Growth* (OECD, 2007). Moreover, reforms which remove disincentives to continue work and so raise the employment rate of older workers will help to contain future pension expenditure and thus imply that less of the burden for fiscal adjustment falls on the pension replacement rate.

The weak labour market performance of first-time job seekers (mainly the young) and labour market re-entrants (mainly women) suggests that labour market institutions may be hampering entry into the labour market. Further evidence of this problem is the high

incidence of long-term unemployment; those unemployed for more than 12 months were nearly 54% of total unemployment in 2005, the second highest in the OECD. The scope for tackling labour market entry problems through changes to various labour market institutions is considered in Chapter 4, with particular emphasis on the need to change employment protection legislation and policies related to the setting of minimum wage cost, which are two of the structural priorities identified in *Going for Growth*.

The scope for improving productivity performance

The gap in GDP per capita with the best performing OECD economies is mainly explained by a shortfall in productivity (Figure 1.2), which leads to the consideration of the role for policies to improve product market regulation, human capital and innovation.

The scope to promote competition through reduced product market regulation

OECD cross-country empirical evidence suggests that increased competition boosts multi-factor productivity (Nicoletti and Scarpetta, 2005) and labour productivity (Conway *et al.*, 2006). Moreover, better product market regulation is also associated with increased foreign investment inflows (Nicoletti *et al.*, 2003), whereas inward foreign direct investment is low (as a share of GDP) in international comparison. Despite considerable progress towards making regulation of product markets more conducive to competition, the current degree of product market regulation remains high. The gains from further moves towards a pro-competition regulatory stance are considerable; OECD simulations suggest that aligning regulation with best practice in seven non-manufacturing industries (used as a proxy for economy-wide product market regulation) would have generated annual productivity gains of around 1¾ percentage points over the period 1995 to 2003 (Conway *et al.*, 2006). Specific areas where there is most scope for improvement, some of which are on the government's reform agenda, include the following:

- The number of procedures and the time taken for starting a business is still among the highest in the OECD, despite improvements over the past three years. More generally estimates of the administrative costs incurred by enterprises, citizens and public authorities in meeting legal obligations to provide information on their activities are estimated to be the highest in the EU (European Commission, 2006a).
- An additional factor hindering the set-up and expansion of business is the lack, until recently, of any coherent national policy as regards the designation of land use.[5] Rather decisions appear to lack consistency, with existing rules often ignored. The legislative framework is fragmented, there is a multiplicity of laws and regulations and the system has not been effective in controlling land use. Despite the wide array of regulations and enforcement procedures, development often takes place outside the planning system, with the legalisation of development taking place after a period of time (European Commission, 1997). A reversal of this approach is, however, underway, signalled by the recent approval for the development of a € 1.2 billion integrated resort on Crete (Hope, 2006). More generally, the authorities have explained that land planning is an area where policy action is already taking place.
- Regulation of professional services remains among the most restrictive in the OECD, judged on the basis of OECD indicators that cover the legal, accounting, engineering and architectural professions, where competition is inhibited by licensing requirements and restrictions on fees or prices charged.

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- There is considerable scope to reduce the cost and improve the timeliness and predictability of bankruptcy procedures.[6] Moreover, bankrupt entrepreneurs immediately lose their trading capacity and are therefore excluded from any commercial or industrial profession. Given that failed entrepreneurs are often more successful at the next attempt, giving non-fraudulent bankrupts the opportunity to try again is likely to be beneficial to growth. This is an area where reform is planned; draft legislation is currently undergoing a process of public consultation.
- Overall regulation in the retail sector is among the most restrictive in the OECD due to licensing requirements, specific regulations relating to large outlets and protection of existing firms. However, regulation of shop hours (for which Greece scored poorly on the OECD indicator in 2003) has been relaxed through a law passed in July 2005 which extended shop-opening hours and established a single nationwide framework, irrespective of location, season and line of business.
- Greece is one of the few OECD countries that does not have specific provisions requiring explicit recognition of the national treatment principle when applying regulations, so as to guarantee non-discrimination between foreign and domestic firms, goods or services.
- Regulation in the key network industries – in energy, communications, and transport – is among the strictest in the OECD. The conditions under which network industries operate are of critical importance to aggregate output performance because they provide essential inputs to all other sectors of the economy. Reform in this area is one of the structural priorities identified in *Going for Growth* and is the focus of Chapter 6.

The scope to raise human capital

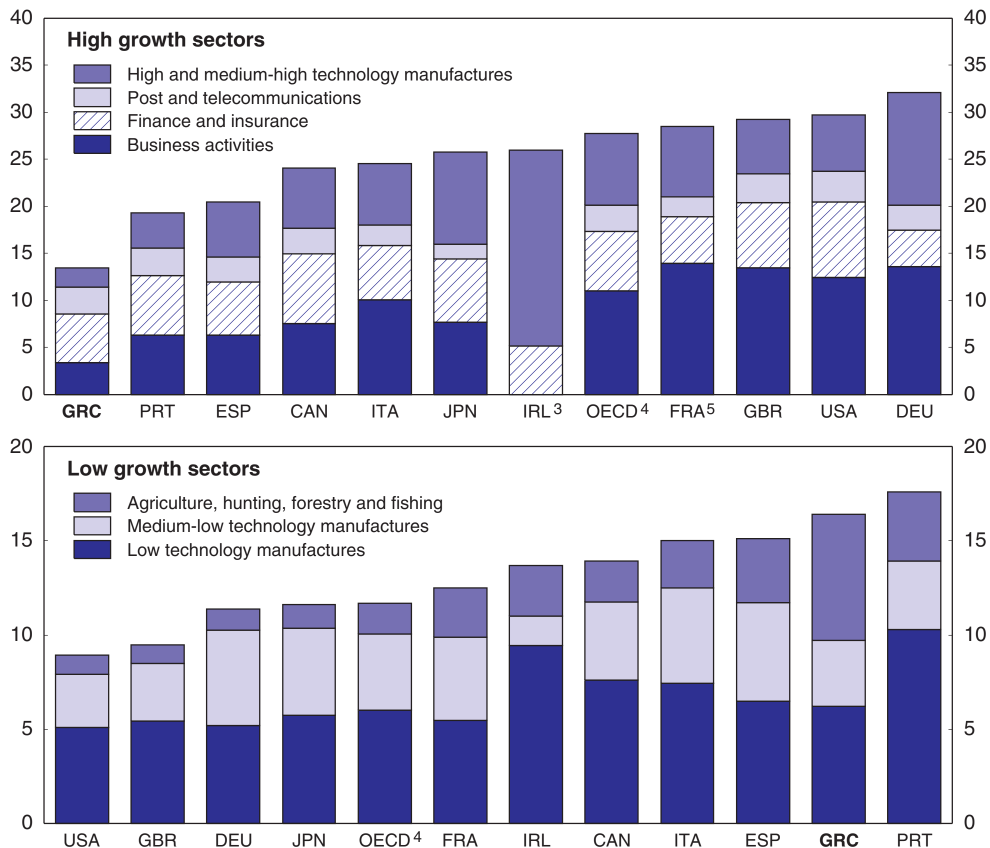
The OECD *Growth Project* highlighted the importance of human capital in explaining differences in growth performance among OECD countries (OECD, 2003). The level of educational attainment, as proxied by the average number of years spent in education, is the 7th lowest in the OECD (OECD, 2006a). Applying the results from the *Growth Project* suggests that raising human capital just to the level of the OECD average could raise GDP per capita by between 4 and 7½ per cent, while raising it to the level of the United States would more than double this effect.[7] However such crude quantitative indicators almost certainly understate the scope for improvement because the quality of educational outcomes in Greece also appears poor. For example, the average of the standardised PISA tests of proficiency in mathematics, reading and science at age 15 is the third lowest in the OECD (OECD, 2004). There is also evidence of poor quality in tertiary education outcomes: student drop-out rates are high, graduation rates are low and the time taken to complete studies is long. At the same time the tertiary education system is among the most centralised and least flexible in the OECD. Reform of tertiary education is one of the structural priorities identified in *Going for Growth* and is featured in Chapter 5. The chapter reviews recent reforms which are an essential step in the right direction.

The scope to raise innovation performance

On a range of indicators – R&D intensity, patenting, take-up of information and communication technology (ICT) investment, number of researchers – the innovation performance of the Greek economy appears poor in international comparison (OECD, 2005). To some extent this reflects the structure of the economy, in particular the preponderance of small firms and the small share of output accounted for by high technology sectors (Figure 1.8). Recent OECD research shows that framework conditions

Figure 1.8. **Value added by activity in high and low growth sectors**[1]

Per cent of total value added, 2003[2]



1. For the classification of industries by their technology intensity, see Annex 1 of OECD (2003), *Science, Technology and Industry Scoreboard*.
2. 2002 for Canada, Germany and Ireland; 2001 for Portugal, Spain and the OECD average.
3. No breakdown available for post and telecommunications or business activities.
4. Average of 18 OECD countries.
5. 2002 for high and medium-high technology manufactures.

Source: OECD (2006), *STAN Indicators Database*, *www.oecd.org/sti/stan/indicators*.

are also important in determining innovation performance. Moreover, cross-country evidence suggests that a high degree of product market regulation holds back investment in ICT (Conway *et al.*, 2006), and it may also hinder the evolution of the economy towards high growth and high technology sectors. A well-performing tertiary education sector and strong links with business are important in fostering innovation. Indeed the tertiary education sector would appear to be particularly important for Greece as it performs a relatively high proportion of total R&D; just under half compared to an OECD average of about one fifth (OECD, 2006b). These considerations, together with the tight fiscal position, suggest that improvements in innovation performance should focus on improving framework conditions, particularly product market regulation, as well as improving the functioning of universities, rather than providing increased fiscal inducements to foster innovation.

Shrinking the informal economy

The size of the informal economy is large and bringing more of it within the scope of regular economic activity is an important challenge, particularly for coping with fiscal pressures. While estimates of the size of the informal economy are inevitably imprecise, Greece is usually estimated to have one of the largest shadow economies in the OECD; a recent estimate for 2002/03 suggested the shadow economy was 28% of unrevised GDP which was the highest among 21 OECD countries considered (Schneider and Enste, 2000; Schneider, 2004).[8] A focus for current government policy is improving tax audit procedures, including the electronic cross-checking of tax data, as well as a publicity campaign to shame tax evaders and highlight the opportunity cost of the foregone tax revenues. Other important issues relating to taxation and the informal economy, considered in Chapter 2, include whether changes in the tax mix and tax structure can reduce the extent of tax evasion.

Consideration of policies to regularise the informal economy should, however, go beyond the realms of tax policy. For example, links between the public health system and the informal economy are alleged to have been extensive, particularly in the procurement of infrastructure for hospitals (Sotiropoulos, 2004), underlining the importance of public procurement policies (Chapter 2). More generally, an important reason for the size of the informal economy is the importance of small firms and self-employment where opportunities for evasion may be greater; 57% of total employment is accounted for by enterprises that have less than 10 employees, by far the highest share in the EU15 (European Commission, 2002); and self-employment accounted for over 36% of total employment in 2005, the second highest share (after Turkey) in the OECD. While to a large extent this may reflect the sectoral mix of the economy (in particular the relative importance of agriculture and tourism), it is also important to consider whether government policies are inadvertently favouring such a mix (or hampering its evolution). A bias against larger firms would certainly seem to be a feature of some aspects of product market regulation, as discussed above, and an overly stringent degree of overall product market regulation has probably discouraged foreign direct investment by large multinationals. The system of pension contributions also appears to be biased in favour of self-employment over dependent employment (Chapter 3). Tight labour market regulation has also led to growth in the informal sector (especially in sectors like construction) particularly through the employment of illegal immigrants (OECD, 2005). A general point that follows is that the direct gains from improving regulation in labour and product markets are likely to be reinforced by shrinking the informal economy.

Notes

1. Recent reduced form estimates suggest that EMU membership reduced the current account deficit by 4% to 5% of GDP for an economy with per capita GDP of 70% of the euro area average (European Commission, 2006b), although following the revision to Greek GDP, the income gap with other euro area countries is much smaller than is incorporated in this analysis.
2. The output gap for Greece in 2006 is estimated to be positive at 1½ per cent of GDP compared to minus 1¼ per cent for the euro area as whole, but such a difference (applying average import propensities) accounts for less than 1 percentage point of the Greek current account deficit.
3. The Balassa-Samuelson effect occurs when a country is in the process of convergence and higher productivity in the tradable goods sector leads to higher wage rises (without adversely affecting unit labour costs or prices in this sector). However, if high wages are diffused in the non-tradable sector, where productivity growth remains lower, then this may lead to an acceleration in the

prices of non-tradables hence a pick-up in aggregate inflation and a convergence in the aggregate price level.

4. Bank loans to households (including securitised loans) were 44% of unrevised GDP (or 35% of revised GDP) in 2006, compared to a euro area average of 54% in 2006. Moreover, detailed analysis of a specially commissioned household survey suggests that the proportion of households judged to be particularly vulnerable to financial stress has fallen slightly in recent years (Bank of Greece, 2006b). There remains, however, a significant minority (12%) of households who have received loans, for which debt service costs exceed 40% of their income.
5. Land planning is not a component of the OECD's product market regulation indicators.
6. Bankruptcy procedures are not a component of the OECD's product market regulation indicators. However, according to the World Bank's *Doing Business* study, Greece compares poorly on many aspects of bankruptcy procedures; on average, bankruptcy procedures last 2 years (compared to an OECD average of 1.4 years), costs are high and are coupled with a recovery rate of only 46% (OECD average of 74%). Differences are much more marked compared with those countries that are considered to follow best practice.
7. The *Growth Project* results suggest that a 10% increase in the stock of human capital (proxied by the average years of schooling) raises per-capita GDP by between 4% and 7% (OECD, 2003), whereas in 2004 the average years of schooling in Greece was 10.9 compared to an OECD average of 11.9 and 13.3 in the United States (OECD, 2006a).
8. There are several methods which are used to estimate the size of the informal economy. A common approach is to assume that the growth of the informal economy can be inferred from the growth in currency demand (based on the idea that transactions in the shadow economy are entirely conducted in cash). A similar approach is to assume that the official and shadow economy together grow in line with electricity consumption. For an overview providing a statistical perspective see Blades and Roberts (2002).

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ANNEX 1.A1

Progress in structural reform

Recommendations	Action taken since the previous *Survey*
Fiscal policy	
Budget and debt	
Primary spending especially the public wage bill should be reduced.	Public sector wages were restrained notably in 2005, and hiring restricted.
Indicative expenditure ceilings that extend beyond each fiscal year should be introduced; the announced establishment of an independent body of fiscal inspectors and the introduction of internal auditing services in every ministry should be implemented without delay.	Fiscal audits are being implemented and the public expenditure management system is being reformed *via* the implementation of a comprehensive information system, the application of the double entry system for the public sector and the introduction of programme-based budgeting.
The primary surplus should be raised to levels targeted by the Stability Programme; the "below-the-line" debt creating factors should be phased out, helping to achieve the 60%-of-GDP debt target of EMU and enhancing transparency.	The magnitude of stock-flow adjustment has recently been smaller than over the 1990s, when it was among the largest in the OECD. An average stock-flow adjustment of around ½ per cent of GDP for the period 2007 to 2009 is projected by the latest Stability Programme.
Public administration	
Administrative procedures should be simplified further and efforts to improve regulation should continue.	The Citizen Service Offices have been improved, by issuing more forms online.
The management of public administration should be improved: by 1) focusing on the recruitment of high-quality entrants, 2) improving the incentive structure to encourage better productivity, 3) continuing to only partially replace retirees.	The new Code of Civil Servants implies that a civil servant may be reassigned or seconded from one public authority to another.
Health care	
Reforms addressing the chronic lack of funding of public hospitals, the dearth of an effective national primary health care and prevention system, and the shortage of specialised staff should be implemented without delay, and on the basis of a clear time frame. The efficiency of pharmaceutical spending should be enhanced.	A 2005 law includes measures to modernise the organisation of the National Health system, upgrade its management and rationalise health expenditure in critical areas, such as procurement.
Tax reform	
Future reforms should aim at the elimination of the many remaining exemptions and deductions in corporate taxation, and removing the bias in the taxation system in favour of the self-employed.	The tax free amount was increased and the tax rates have been reduced. The tax rate of general and limited partnerships and civil-law associations will decrease from 22% in 2006 to 20% in 2007. The tax rate for joint ventures and civil partnerships will decrease from 29% in 2006 to 25% in 2007.
The large number of earmarked "third-party taxes" should be abolished. Social security charges for the self-employed should be proportional to their net earnings, while high contributions on dependent employees should be reduced.	No action.
Many more stamp duties should be eliminated and the concomitant revenue losses offset for example by an extension of VAT on house construction and/or by an ending of the preferential treatment of some products, certain professions (*e.g.* lawyers, notaries) and the Aegean islands.	The stamp duties for construction licenses were partially abolished in 2006. New buildings, constructed under a license issued after January 2006 are subject to VAT (19%), but only when built by enterprises and not by individuals. The stamp duty on profits of unincorporated enterprises has been abolished as well as the stamp duty on the rent of dwellings.

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Recommendations	Action taken since the previous *Survey*
A coherent property tax system should be introduced, and as a prerequisite a National Land Registry implemented, and the local tax system overhauled.	A database on property is being constructed and the value assessment system is being reformed. A National Land Registry is underway but it will take some time to be completed. The property transfer tax on the sales of real estate was abolished in 2006.
Ensuring sustainable retirement income	
Pension reform should aim to link pensions to lifetime earnings, as increasingly the case in other OECD countries.	No action.
Incentives for early retirement should be removed, particularly the eligibility criteria for disability pensions, and the definition of arduous work should be revised.	A recent law redefines professions falling under regulation of arduous occupations starting in 2008. A Scientific Committee will investigate whether occupations should fall under such regulations.
The distortionary effects of high minimum pensions should be removed by making pension accruals more even throughout the working life and more reflective of the contributions made.	No action.
Private pensions should be encouraged.	No action.
Labour market	
Increase labour cost flexibility	
Lower the minimum wage for "vulnerable workers" (especially the young).	No action.
Simplify and decentralise the wage bargaining process.	No action.
Reduce non-wage costs.	Legislation was passed in early 2004 to reduce non-wage costs for vulnerable groups, for example reducing employers' social security contributions on unemployed young people and women with children. However, in practise it appears that this provision has not yet been implemented.
Promote labour market flexibility and mobility	
Ease employment protection legislation. Reduce severance costs for white collar workers and align them with those for blue collar workers.	No action.
Increase flexibility in working time. Further encourage the taking up of part-time work by reducing remaining disincentives.	Introduction of a 4 month reference period for working time arrangements (additional to the annualisation of working time over a 12 month period already in place). Extension of legal opening hours for certain businesses. Reduction of compensation for overtime for the 41st to the 45th weekly hour of work (pay increase of 50% instead of 25%) Reduction of compensation for overtime exceeding maximum working hours (pay increase of 100% instead of 150%).
Improve the efficiency of active labour market policies	
Develop training programmes. Active labour market programmes (ALMPs) should put more emphasis on training. Improve further the quality and job-linkage of vocational training.	Programmed Contracts of Guaranteed Employment are signed between the Manpower Employment Organisation (OAED) and enterprises for training and employing unemployed persons. After encouraging results, the programme is now co-funded by the EU.
Complete the reform of OAED and implement the individualised approach for all unemployed. Provide service with adequate resources. Speed up the establishment of a comprehensive system of assessing and evaluating ALMPs.	OAED's Action Plan (2004-06) comprises the creation of a network of 121 offices and the coverage of 100% of the people searching employment.
Improve labour force skills and competencies	
Enhance the transition from school to working life. Encourage training of those already in the labour force. Increase investment in human capital.	The framework of vocational education encompasses the reinforcement of practical training of students in public and private institutions. New law on life long learning.
Raise the quality of formal education. Improve evaluation of outcomes. Introduce performance based funding and allow for non-profit private universities. Increase universities' autonomy in selecting the number and profiles of students. Impose limits on the study duration and consider introducing study fees accompanied by a loan scheme with income-contingent repayment.	Introduction of a law on quality assurance of higher education. The independent body has been established and information is being disseminated to the institutions. There is a plan to cut study times and allow private universities.

Recommendations	Action taken since the previous *Survey*
Product markets	
Enhance product market competition	
Enhance the effectiveness of anti-trust policies. Give the Competition Committee more political support to establish a "competition culture". Clarify the Committee's interaction with sectoral regulators.	New competencies are granted by the new legal framework in the energy market to the Regulatory Authority for Energy and Natural Gas for more effective market monitoring.
Foster liberalisation in sectors dominated by the public sector. Abolish the privatisation limits for all public enterprises and continue the privatisation process. Enhance competition in the electricity market; speed up the announced liberalisation of the gas market.	Abolition of the minimum limit of Hellenic Republic's ownership in Hellenic Telecommunications (OTE) (one-third of the share capital). The Interministerial Privatisation Committee decided to proceed with the listing of Public Gas Corporation (DEPA) on the Athens Exchange. The acceleration of the electricity market liberalisation and the liberalisation of the natural gas market were approved by Parliament in December 2005. The new energy framework fully incorporates the EU Directives concerning internal market rules on electricity and gas. A law for the promotion of electricity generated by renewable energy sources was passed that will reduce red-tape in the licensing process significantly.
Promote technology and innovation	
Improve support to research and development (R&D) innovation programmes. Increase further R&D spending. Timely implementation of the Operational Programme for the Information Society.	A new Digital Strategy will be implemented over the period 2006-13. Within this framework the "Broadband Action Plan to 2008" allocates € 450 million for the development of broadband infrastructure.
Improve the climate for entrepreneurship	
Facilitate the creation and exit of companies. Reduce regulatory burden and monetary costs of establishing new enterprises further. Reform bankruptcy procedures.	The Bankruptcy Code is being revised.
Enhance the efficiency of financial markets	
Continue liberalisation of financial markets and withdrawal of the state from commercial banking. Privatise remaining state-controlled banks.	Sale of 7.2% of the share capital of ATE Bank and of 34.8% of in the Postal Savings Bank SA (PSB) through an initial public offering and the listing of PSB in Athens Exchange.

Source: Ministry of Economy and Finance.

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Chapter 2

The gains from prompt fiscal consolidation

A major achievement has been the reduction in the fiscal deficit since 2004 by over 5% of GDP to below the 3% limit in 2006. The government plans a more gradual reduction over coming years so that overall balance or surplus is reached no later than 2012. However, fiscal consolidation should continue, possibly at a more rapid pace than planned given the high level of government debt, favourable outlook for output growth, and long-term fiscal costs of ageing which are estimated to be among the largest in the OECD. There are as yet no specific proposals to reform pensions, which account for most of the prospective ageing-related increase in public expenditure, although the government is expected to announce reforms later this year. Delaying fiscal consolidation, particularly the urgently needed pension reform, would have substantial longer-term costs in terms of higher taxes and additional debt service costs, including an increase in the risk premium paid on government debt. In addition, this would heavily skew the tax burden towards future generations. Consolidation should focus on reducing primary spending and on enhancing tax revenues. This can be achieved particularly through increased efficiency of public administration and by tackling tax evasion and other measures to further broaden the tax base. Ensuring long-run fiscal sustainability will further require the implementation of wide-ranging reforms in the key area of health care, as well as an early decision to introduce a comprehensive reform of the pension system.

Recent fiscal developments

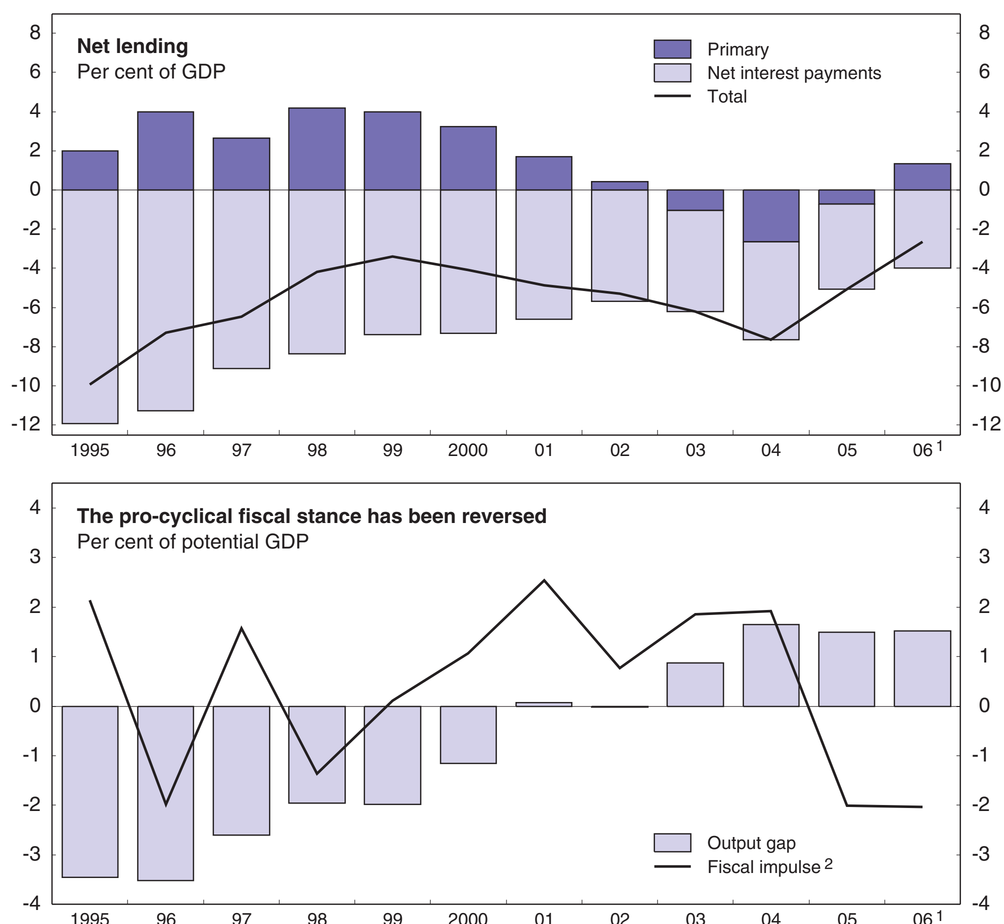
The deficit has been brought down to below 3% of GDP

Reversing the relentless rise in the deficit since the late 1990s has been the overriding objective of economic policy since the current government took office in March 2004. Following large revisions in the public finance statistics, which raised the general government deficit to above 3% of GDP for every year since 1997,[1] Greece was placed under the EU's Excessive Deficit Procedure (EDP) in June 2004, with the requirement to bring the deficit to below 3% of GDP by 2006. The latest official estimates, incorporated in the 2007 Budget, suggest that this requirement has been met with an estimated general government deficit of 2.6% of GDP for 2006 (based on the unrevised GDP data, which are the basis for judging compliance with the Excessive Deficit Procedure, pending confirmation of the revised GDP data by Eurostat, and is also the basis of all calculations cited in this chapter) (Figure 2.1). This reduction in the deficit has coincided with a marked reversal of the previously strong pro-cyclical fiscal stance.

The swing in the deficit between 2004 and 2006 from 7¾ per cent of GDP to an estimated 2½ per cent of GDP is explained by a combination of factors (Table 2.1), the largest of which are: a fall in capital expenditure of just under 2% of GDP, much of which is due to the ending of Olympics-related expenditure;[2] an increase in "other revenues" of about 1½ per cent of GDP partly related to one-off items[3] and partly to the inclusion of revenues from taking over a bank pension fund, although the latter will lead to future government spending of a roughly similar magnitude spread over a number of years; and a reduction in debt service payments by ¾ per cent of GDP. The sizeable fall in Olympics-related capital outlays is consistent with government investment reverting to its long-term trend as a share of GDP. However, there may be only limited scope for further reductions as business surveys rate Greece poorly on the adequacy of its basic infrastructure (World Economic Forum, 2006).

While the deficit reduction achieved since 2004 is welcome, the contribution from reducing current primary expenditure was only about ½ per cent of GDP.[4] This has mainly been achieved by restraining the growth of the public sector wage bill, although partially offset by an increase in social transfers (Table 2.1). Average gross earnings in central government rose by only 2.3% in 2005, the first time they had grown by significantly less than in the private sector in more than a decade (Figure 4.2). However, growth in central government average gross earnings has picked-up again again, to 4.3% in 2006 (Bank of Greece, 2007). The absence of any evidence of sustained reductions in primary current expenditure is a matter for concern both because there is scope to reduce primary spending as a share of GDP (as discussed further below) and in light of its potential to generate durable fiscal consolidation and better economic performance.[5]

Figure 2.1. **Developments in general government fiscal balances**



1. Projections.
2. Measured by the change in the cyclically adjusted government primary deficit, a positive value represents stimulus.

Source: OECD (2006), *OECD Economic Outlook: Statistics and Projections*, No. 80 – online database.

But the debt ratio remains high

The general government debt burden (on a Maastricht definition), has fallen from a peak of 114% of GDP in 2001 to around 104% of GDP in 2006 but still remains among the highest in the OECD area and well above the 60% Maastricht reference value. The main reason for this reduction has been strong growth of nominal GDP and the lower interest rate paid on debt, with the primary balance playing a smaller role (Bank of Greece, 2006a). Various financial transactions, which do not affect the deficit but are included in general government debt (the so-called "stock-flow adjustment"), have prevented a faster reduction in indebtedness. The magnitude of this stock-flow adjustment has recently been much smaller than over the 1990s, when it was among the largest in the OECD, though it amounted to 1.7% of GDP in 2006. Given the increasing emphasis being given to debt in European fiscal commitments and that a number of researchers (for example Koen and van den Noord, 2005) and financial market analysts have used stock-flow adjustments as a short-hand measure of "fiscal gimmickry", it is important that current and projected movements in the stock-flow adjustment continue to be explained and there is a clear

Table 2.1. **General government revenues and expenditure**

In per cent of GDP

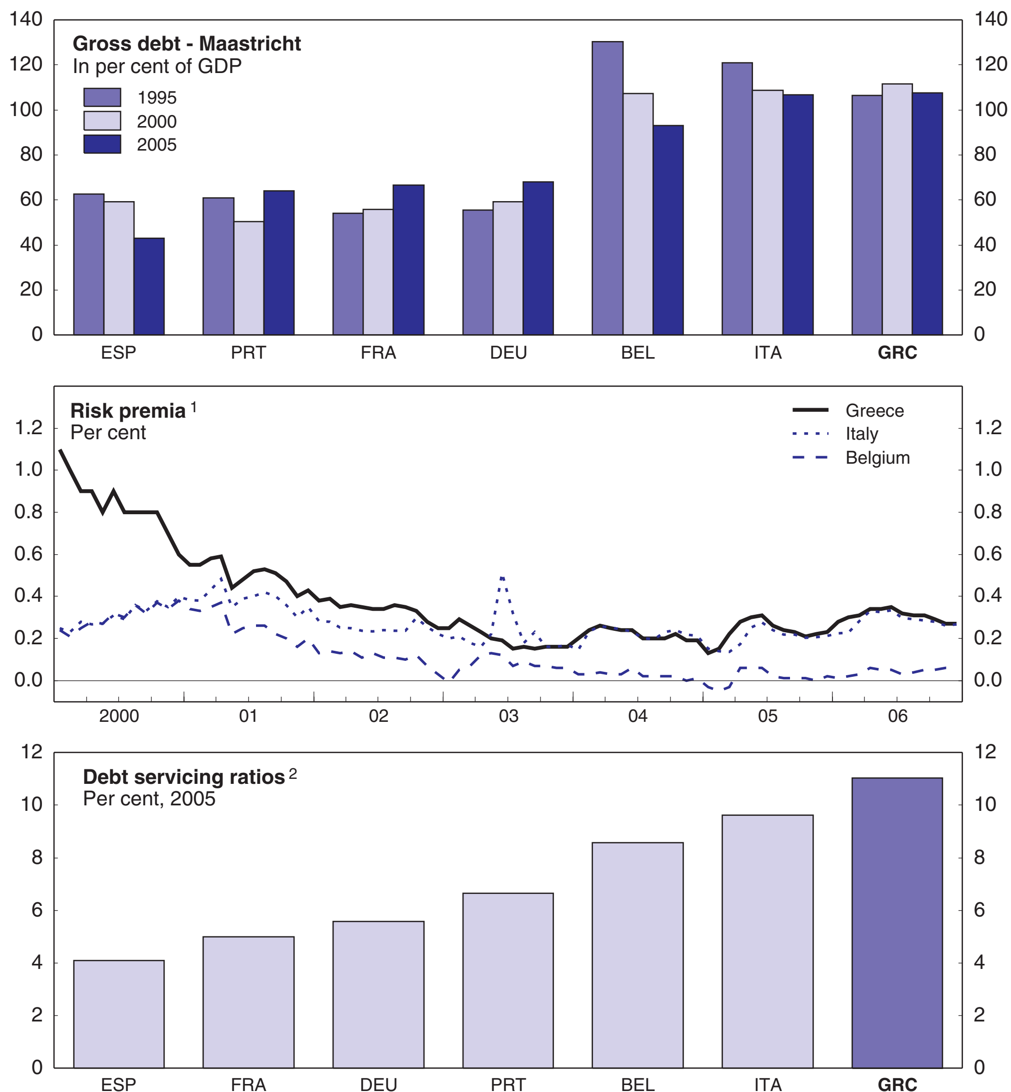
	Level						Change	
	2004	2005	2006	2007	2008	2009	2004-06	2007-09
Taxes	21.6	21.8	22.0	22.2	22.4	22.7	0.5	0.5
On production and imports	12.8	12.6	13.1	13.4	13.6	13.8	0.2	0.5
On income and wealth	8.7	9.3	9.0	8.9	8.8	8.9	0.2	0.0
Social contributions	14.6	14.4	14.5	14.7	14.9	15.2	–0.2	0.5
Other current revenues	2.1	2.5	3.6	3.0	2.9	2.8	1.5	–0.3
Total current revenues	**38.3**	**38.8**	**40.1**	**39.9**	**40.2**	**40.6**	**1.8**	**0.7**
Capital transfers received	2.0	1.7	2.1	2.2	2.2	2.3	0.1	0.1
Total revenues	**40.3**	**40.5**	**42.2**	**42.1**	**42.5**	**42.9**	**1.8**	**0.8**
Government final consumption expenditure	16.6	16.4	16.0	15.6	15.2	14.8	–0.5	–0.8
of which: Compensation of employees	12.5	12.1	12.0	11.9	11.8	11.7	–0.5	–0.2
Social transfers other than in kind	17.1	17.4	17.4	17.7	18.1	18.5	0.2	0.9
Primary current expenditure	**35.4**	**35.5**	**34.9**	**34.8**	**34.7**	**34.7**	**–0.5**	**–0.1**
Interest	5.3	4.7	4.5	4.3	4.1	4.0	–0.8	–0.3
Total current expenditure	**40.8**	**40.2**	**39.4**	**39.1**	**38.8**	**38.7**	**–1.3**	**–0.4**
Capital expenditure	7.2	5.4	5.3	5.4	5.4	5.4	–1.9	0.0
Gross fixed capital formation	4.2	3.5	3.5	3.5	3.5	3.4	–0.7	0.0
Other capital expenditure	3.1	1.9	1.8	1.9	1.9	1.9	–1.2	0.0
Total expenditure	**48.0**	**45.6**	**44.7**	**44.4**	**44.2**	**44.1**	**–3.3**	**–0.4**
Balance	–7.7	–5.1	–2.5	–2.3	–1.8	–1.2	5.1	1.2
Gross debt (consolidated)	108.5	107.5	104.1	100.1	95.9	91.3	–4.4	–8.8
Primary surplus	–2.3	–0.4	2.0	2.0	2.4	2.9	4.3	0.9

Source: Ministry of Economy and Finance (2006), "The 2006 Update of the Hellenic Stability and Growth Program 2006-2009", December.

rationale for the transactions underlying them that goes beyond any immediate effect they may have on reducing the recorded fiscal deficit. Conversely, while providing information on the expected evolution of the aggregate stock-flow adjustment to 2009, the latest Programme does not detail the factors underlying these projected adjustments.

In general, a higher level of government debt is associated with increased debt service costs through a higher risk premium on government debt. However, for Greece, EMU membership has considerably reduced such costs; the average risk premium on 10-year bonds (judged relative to German bonds) narrowed from 220 basis points over the three years prior to joining EMU to an average of only 35 basis points since. Nevertheless, a risk premium that is some multiple of 10 basis points (rather than multiples of 100 basis points) can still cumulate to a substantial deadweight debt service cost when debt remains a high share of GDP over a period of decades. On the other hand, even within EMU the risk premium (relative to German bonds) is higher in Greece and Italy than it is in Belgium, despite the fact that all three countries have similar debt-to-GDP ratios (Figure 2.2). One explanation is that the debt ratio in Belgium has been on a decisive downwards trend following substantial primary surpluses – thus financial markets may be anticipating a further sustained fall in the debt ratio. A possible complementary explanation, supported by recent empirical research by Bernoth *et al.* (2004), is that markets focus on the ratio of debt-service to government revenues as a better measure of the government's ability to finance debt. On this basis the relative position of Greece is less favourable than either that of Italy or Belgium (Figure 2.2, lower panel), perhaps partly reflecting the difficulty which Greece has in extracting tax revenues from GDP given widespread tax evasion. Bernoth

Figure 2.2. **Debt and debt service**



1. Long-term interest rate less German rate.
2. Net interest payments as a percentage of current receipts (excluding interest receipts).

Source: OECD (2006), *OECD Economic Outlook: Statistics and Projections*, No. 80 – online database.

et al. (2004) also speculate that since the start of EMU the focus of financial markets has shifted from the debt and deficit-to-GDP ratios to the debt-service-to-revenue ratio in the assessment of credit risk, because the latter measure is less amenable to accounting gimmickry, especially as it is not one of the ratios against which European commitments are formally judged. A corollary of the finding that the debt-service-to-revenue ratio is important in determining the risk premium is that, although the recent large upward revision to the level of GDP (Chapter 1) would significantly reduce the projected deficit-GDP and gross debt-to-GDP ratios (respectively, by around ½ and 20 percentage points in 2006), there may be little improvement in the risk premium paid on government debt.

The government's medium-term objectives

The 2007 Budget, and the 2006 update of the Stability Programme, target only a modest further reduction of the general government deficit from 2.6% of GDP in 2006 to 2.4% of GDP in 2007. The underlying improvement is somewhat larger, around ½ per cent of GDP, given the need to compensate for deficit-reducing temporary measures which reduced the deficit by about 0.4% of GDP in 2006. There is no reliance on such temporary measures for 2007. The budget includes future reductions in personal income tax, on top of cuts in the corporate tax rate already announced. The cost of these tax measures will be compensated by indirect tax increases (included in the package of revenue-enhancing measures introduced in 2006), and further efforts to reduce tax evasion.

While cuts in income tax are welcome from a structural perspective, a more prudent fiscal policy might be to wait until the full impact of measures to combat tax evasion and structural measures on the expenditure side have all generated the expected fiscal savings, before committing to personal income tax cuts over the period 2007-09. Moreover, while there is an argument for pre-announcing future changes in the corporate tax rate to provide businesses with a more certain environment to plan investment, it is less clear why there is a need to commit to future personal income tax cuts given the still fragile fiscal position, especially given the strong underlying growth of the economy.

The latest Stability Programme projects a decline in the general government deficit to 1.2% by 2009, consistent with a primary surplus of nearly 3% (Table 2.1). The projected improvement in the primary balance (0.8 of the 0.9 percentage points) is mostly achieved through higher revenues, mainly through increased indirect tax revenue and receipts from social security contributions. Detailed measures underlying this revenue improvement include: measures for tackling tax evasion, and a gradual increase of the excise tax on fuel to comply with the minimum required EU level. Primary current expenditure, on the other hand, remains broadly unchanged as a share of GDP, with a decline in government consumption offset by higher outlays on targeted income support.[6] The projected primary surpluses, combined with declining deficit-debt adjustments and strong growth rates, are projected to bring down the general government debt ratio by 13 percentage points between 2006 and 2009, to 91% of GDP.

Medium-term fiscal objectives should be more ambitious

From the middle of the next decade, public spending is expected to come under considerable pressure as ageing raises spending on pensions and health care. Indeed, the additional public expenditure associated with ageing to mid-century is estimated to be among the highest in the OECD. Even if the government meets its objective of moving to a fiscal position of balance or surplus by 2012, without a further change in policies demography-related spending pressures would put debt on an explosive path according to a mechanical extrapolation, pushing it up to more than 350% of GDP by 2050. Such an exercise is implausible, but it emphasises that the relevant policy question is not whether further fiscal consolidation is needed, but rather how and when it is best achieved. In this context, Greece is the only euro area country which does not include quantitative long-term fiscal projections as part of its annual Stability Programme. This may be partly explained by the lack of specific proposals to reform pensions, although the government is expected to announce plans for reform following the report from an advisory committee of experts later this year. Taking into account this longer term perspective, the next section

discusses the areas where fiscal consolidation efforts should be focused, although pension reforms are considered in detail in the next chapter. This is followed by a section which attempts to quantify the costs of delaying action where the time horizon considered is to mid-century. A final section provides a summary of the main findings and recommendations.

Further budget consolidation can be achieved on the expenditure side

The persistent weakness in public finances lies largely on the expenditure side. Aggregate current primary expenditure at around 36% of GDP in 2005 is 5 percentage points of GDP below the euro area average, but this gap has halved over the last decade while the euro area expenditure share has remained relatively stable. Gaining better control over primary spending trends through improved public expenditure management and greater fiscal transparency is essential to provide a basis for a sustained improvement of fiscal performance. Areas of potential saving, discussed in detail below, are improving budgetary control over public enterprises, making public investment more efficient and reducing expenditure on public administration. There should also be scope for further reducing military expenditure (not discussed below), which as a share of GDP was the highest in the euro area and 1½ per cent of GDP above the euro area average in 2004. To ensure long-term fiscal sustainability in-depth measures are required to contain spending on health and, especially, pensions.

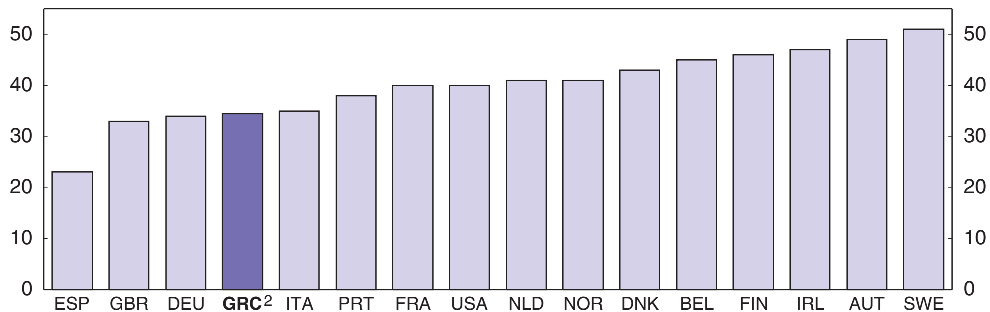
Enhancing public expenditure management and improving transparency

Improvements in the process of budget preparation, monitoring and evaluation would enhance efficiency in the allocation of public funds, paving the way for stronger and more transparent government finances. Efforts under way to develop programme-based budgeting, which has become the norm in most OECD countries at the central government level, are therefore welcome. There have also been recent improvements in fiscal auditing through the setting up of a new directorate of fiscal audit and the introduction of internal auditing units in every sizeable public entity.[7] It is important to ensure that the directorate of fiscal audit is adequately staffed with qualified employees able to monitor the effectiveness of spending programmes, rather than simply ensuring the legal conformity of such programmes.[8]

As noted in the previous *Survey*, budget planning and control of expenditure would be improved by the introduction of indicative expenditure ceilings that extend beyond each fiscal year and apply to all levels of the public sector. While the government has announced its intention to move to a multi-year budgetary framework there is no timetable for its implementation.

Quantitative measures of fiscal transparency suggest Greece ranks low in international comparison, although the positive impact on transparency of recent improvements in the quality and timeliness of fiscal data reporting and from enhanced auditing procedures are not yet reflected in these measures (Figure 2.3). The full integration of the budgeting process with the programme-based approach, currently still under development, is of major importance for the evaluation of the effectiveness of spending initiatives and should be implemented without a delay.[9] Conducting fiscal risk analysis, especially with regards to loan guarantees and contingent liabilities involved in public-private partnership (PPP) projects, as well as reporting the results in the budget documents, is also identified as an area of reform priority by the 2006 *IMF Report on the*

Figure 2.3. **An index of fiscal transparency**[1]



1. This index captures the degree to which fiscal bookkeeping is being audited and the extent to which the information of this auditing becomes public knowledge.
2. As originally calculated the index for Greece took a value of only 4. However this was based on an incorrect interpretation of the relevant Survey responses. The index reported here is recalculated based on the correct responses.

Source: Bernoth, K. and G.B. Wolff (2006), "Fool the Markets? Creative Accounting, Fiscal Transparency and Sovereign Risk Premia", *DNB Working Paper*, No. 103, De Nederlandsche Bank, Amsterdam, June.

Observance of Standards and Codes on Fiscal Transparency for Greece, as is the reporting of financial details on interventions with regard to public enterprises. Further gains in terms of transparency and accountability would be achieved by concentrating debt management in a single agency.[10] The current arrangement may be a source of misreporting, reduced accountability and lack of transparency (IMF, 2006). Empirical evidence suggests that more transparent fiscal procedures would help to lower risk premia and hence borrowing costs (Bernoth and Wolff, 2006).

Establishing budgetary control over public enterprises

There is an urgent need for better control of spending by public enterprises. Based on the latest budget, such companies incurred losses of around 0.6% of GDP in 2005 and 2006 with a similar share projected for 2007. In addition to grants to cover their deficits (such as those to the railways and urban transport organisations, which are not included in general government), the budget is burdened by requirements for capital injections and loan guarantees (Bank of Greece, 2006b). Mainly reflecting the sharp rise in public enterprise borrowing, the outstanding balance of state-guaranteed loans edged up from 6¼ per cent of GDP in 1999 to 9% in 2006, so raising public indebtedness. Aiming to improve the operation of public enterprises should be high on the agenda and recent initiatives, through the introduction of a new institutional framework for public enterprises and organisations (Chapter 6), are steps in the right direction.[11] An important issue in this regard is the timely application of the new Management Information System – expected to be introduced in 2008 – that will be linked to the financial departments of the public enterprises, allowing the monitoring of their performance and the evaluation of the outcomes achieved compared with budget targets.

Making investment more efficient

The ratio of general government investment to GDP has fallen back since 2004 and is now close to its long-run average, but this fall mainly reflects the ending of Olympics-related expenditure. Large public investment programmes are currently under way to expand the stock of infrastructure, and the ratio of public investment-to-GDP is expected

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to continue to exceed the euro area average in the medium term. However, such expenditure is probably warranted as sound infrastructure is of major importance for sustaining high rates of output growth and business surveys rate Greece poorly on the adequacy of its basic infrastructure. It will, however, become increasingly important to secure the best value for money as projects with high rates of return become scarcer. One means by which this can be achieved, although initially on a small scale, is by making better use of public-private partnerships (Box 2.1).

Box 2.1. **Public-private partnerships**

The 2005 legislation established a legal framework for public-private partnerships (PPPs) and is a welcome step towards increasing the efficiency of public investment. Under the recent law, the cost of projects included in the PPP provisions could be paid either by the state, through availability payments, or by the end-users.* In the former case, the government repays the costs of infrastructure gradually as well as paying on a current basis for the service provision incurred by private entities; in the latter, its liability is limited to that of monitoring the entity's compliance with the terms of the contract. All the eight PPP projects approved so far will be reimbursed *via* availability payments by the contracting authorities, and include automatic penalties for non-compliance in service delivery by the private-sector partner. The "good performance" of the private entity will be certified through a monitoring mechanism established by the government. The government is now considering moving towards PPP projects paid by the end-users.

The recently adopted PPP framework could improve service delivery, while reducing immediate budgetary pressures. In implementing the new law it would be vital to ensure that PPP arrangements are accompanied by full transparency about future government liabilities. A careful assessment of alternatives, an objective selection of partners, and rigorous cost-benefit calculations of potential projects are also indispensable. Although it is still early to assess the benefits of PPPs, the government's decision to subject such projects to cost-benefit analysis is welcome. A well-functioning and independent PPP taskforce – established to guide the PPP process – would also be vital to ensure the choice of projects of the highest economic payoff. Finally, clearer reporting and accounting requirements of ministries and agencies which are responsible for the supervision of PPPs is needed (IMF, 2006).

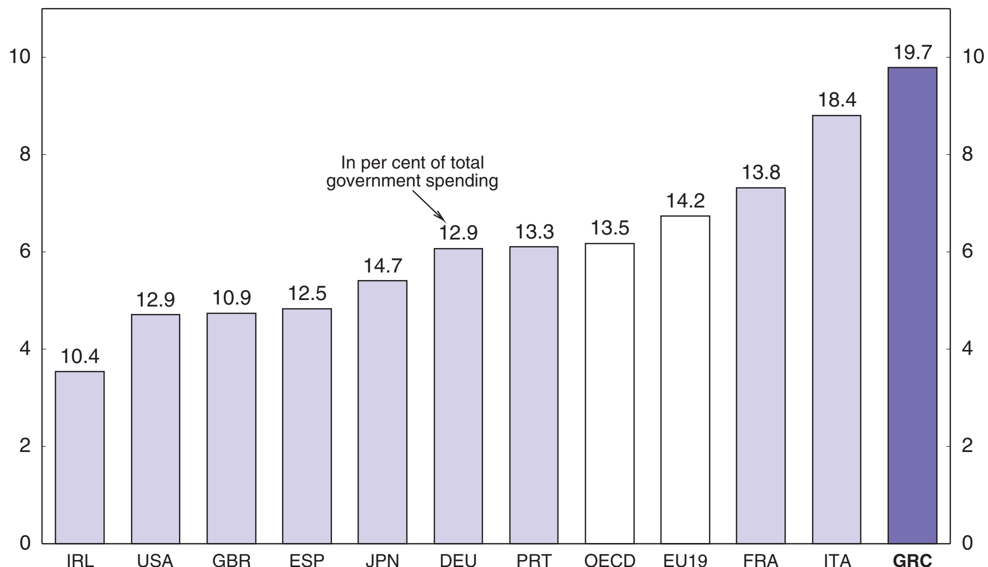
* According to the 2005 law, the cost of the project may not exceed € 200 million (around 0.1% of 2006 GDP). The law excludes any form of PPP agreement with respect to services which are provided solely by the state (for example, police and judicial services).

Public administration performance needs to improve further to match best practice

Greece is reforming and modernising its public administration. It needs to move faster, however. Expenditure on general public administration was the highest in the OECD in 2004, both in relation to GDP and as a percentage of total government outlays (Figure 2.4). Moreover, there is no evidence that the quantity or quality of services provided are superior which suggests that substantial reductions in expenditure on public administration can be achieved through greater efficiency. Public efficiency analysis by Afonso *et al.* (2003) concludes that Greece could have achieved the same level of public sector outputs (including administration, health and education) employing only 71% of the inputs it is currently using.

Figure 2.4. **Expenditure on general public administration**[1]

General government sector, in per cent of GDP, 2004[2]



1. General public services comprising: executive and legislative organs, financial and fiscal affairs, external affairs, foreign economic aid, general services, basic research, research and development, public debt transactions and other general public services.
2. The EU19 and OECD aggregates are unweighted averages. EU19 covers all EU members that are also OECD members. The OECD aggregate excludes Australia, Canada, Mexico, New Zealand, Switzerland and Turkey.

Source: OECD (2007), *National Accounts of OECD countries* – online database, February.

A number of measures aim to improve the efficiency of the public sector and enhance the quality of its services. Important initiatives include: the establishment of "one-stop shops" (Citizen Centres) for the provision of administrative services; the simplification of administrative procedures, including those affecting businesses; and the implementation of information projects for the development of electronic governance.[12] An appraisal system for the issuance of new legislation will be introduced whereby new legislation will be assessed on specific criteria, such as the necessity of the legislation, its clarity of expression, its conformity with EU and international law, and its efficiency and effectiveness. Quality evaluation reports are obligatory for every primary law and secondary regulation and following the implementation of the law its effects will be assessed.

Initiatives also focus on human resources management. Recent actions include a life-long training programme and a new *Code of Civil Servants* that regulates personnel management matters, including hiring and compensation rules. The new regulation aims at enhancing evaluation procedures and introducing merit-based promotions, while providing for a greater mobility of public sector employees between services.

Improvements in the client friendliness of the public administration and, more recently, changes to lighten the burden of administrative regulations on business, are welcome. Further steps towards simplifying procedures are nevertheless warranted. For example, despite improvements over the past three years, the number of procedures and the time taken for starting a small business are still among the highest in the OECD. More generally, there is often a gap between legislated reforms and their timely implementation.

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Thus, a focal point of public administration reform should be to ensure that policies are fully and efficiently implemented once the legislation has been passed.

An equally important objective is to reduce over-staffing and raise productivity in the public sector, indispensable not only to enhance the quality of services and assist the government's consolidation policy, but to also contain wage pressures, given that wages in the public sector often play a leading role in aggregate wage developments (Chapter 4). Initiatives underway towards a stronger system of performance evaluation, tighter recruitment procedures, and greater mobility of public servants are therefore welcome and should be implemented without delay. Taking advantage of natural wastage, through policies of partial replacement of retirees from the public sector, would be a step in the right direction.[13]

Ensuring high quality of health care services while containing costs

At 5% of GDP, government expenditure on health and long-term care is lower than the OECD average by around 2 percentage points. However, population ageing and non-demographic factors, such as technology and relative-price movements in the supply of health services, and the "cost-disease effect"[14] in the case of long-term care, will raise costs of provision over time. OECD estimates under a "cost-pressure scenario" suggest that public spending on health and long-term care could more than double as a share of GDP by 2050, approaching the area-wide average in the absence of any policy actions (OECD, 2006). Even under an alternative "cost-containment" scenario,public expenditure on health and long-term care could rise to around 9% of GDP by 2050 (compared with an OECD average of 10%).

Improving the efficiency of health care services would help to contain future cost pressures. Despite improvements in recent years, service delivery by the National Health System (NHS) is unsatisfactory, in spite of ample supply.[15] A high level of private spending on health care (out-of-pocket payments are just under half of total health expenditure, among the highest in the OECD) in large part reflects inefficiencies in the public health system that leads to excessive waiting lists, although *ceteris paribus* this may help contain pressures on public expenditure. Quantitative indicators of performance of the health sector, in particular waiting times for different types of surgery and treatment, should be more systematically collected and made publicly available. Previous OECD *Surveys* highlighted the main problems of the public health care system. These include the inefficient operation of public hospitals and the lack of an effective national primary health care system. On-going initiatives to tackle these structural weaknesses have focused on modernising the structure of the NHS, upgrading its management and rationalising health expenditure in critical areas (Annex 2.A1). Measures to rationalise public procurement and simplify ordering procedures, along with improvements in public hospital management, are welcome to prevent further hospital debt accumulation in the future.[16] Greater involvement of the private sector though PPPs in areas such as the provision of in-patient services and building of public hospitals may also help to raise efficiency and cost-effectiveness.

However, additional measures will be needed to control health care expenditure more decisively and improve the quality of services. These include better pricing and costing mechanisms, and enhanced auditing of social services, which are part of the government's longer-term reform agenda, announced in 2004. A pricing scheme for the reimbursement of public hospitals for different types of in-patient services, if implemented, would be an

important step forward. Regarding primary care, the development of a well-functioning network – indispensable for the reduction of geographic disparities in the provision and coverage of health services and for providing a "gatekeeper" to specialists and out-patient care – would depend largely on the incentive schemes for general practitioners and other medical personnel. International evidence suggests that a more diversified system of payments, including a fee-for-service component (instead of payment entirely by salary or capitation) would reduce waiting lists for elective surgery (Siciliani and Hurst, 2004) and raise the activity rates of physicians (Simoens and Hurst, 2006) while possibly also ensuring that more attention is paid to patients' preferences. Making hospital management accountable, together with a better pricing system and well-developed primary care, would provide a better basis for containing costs while addressing shortfalls in the quality of health services. Quantitative and qualitative benefits depend critically, however, on the rigorous and timely implementation of the government's reform strategy.

Improving revenue collection and broadening the tax base

Reforms have been undertaken since 2001 to improve the functioning of the tax system, with particular emphasis on its simplification following the report of a Tax Reform Commission.[17] Efforts under way aim at reducing the tax burden and making the tax system less complex and more competitive by international standards, so as to promote business activity and investment and attract foreign direct investment (Box 2.2). A focal

Box 2.2. **Recent tax reform initiatives – main measures**

Personal income tax

- Law 3296/2004 provided for an increase in tax-free income and for reductions in the tax rate for general and limited partnerships (dropping from 25% in 2004 to 20% in 2007).
- A law submitted to Parliament provides for a further increase of the tax free amount and a reduction in the number of tax brackets from four to three. It also introduces a gradual reduction of the income tax rates over the period 2007-09, while retaining the highest tax rate of 40% for incomes of € 30 000 and above.

Corporate income tax

- Law 3296/2004 provided for a gradual reduction in the corporate tax rate from 35% in 2004 to 25% in 2007. It also introduced tax relief for the merger of medium-sized enterprises and a reduction in the advance corporate tax payment for newly established corporations by 50% during their first three years.

Tax on property

- Law 3427/2005 provides, among other points, for the introduction of VAT on sales of new buildings and the taxing of capital gains. The tax replaces the tax on property transfers which is phased out.

Tax audit directorate

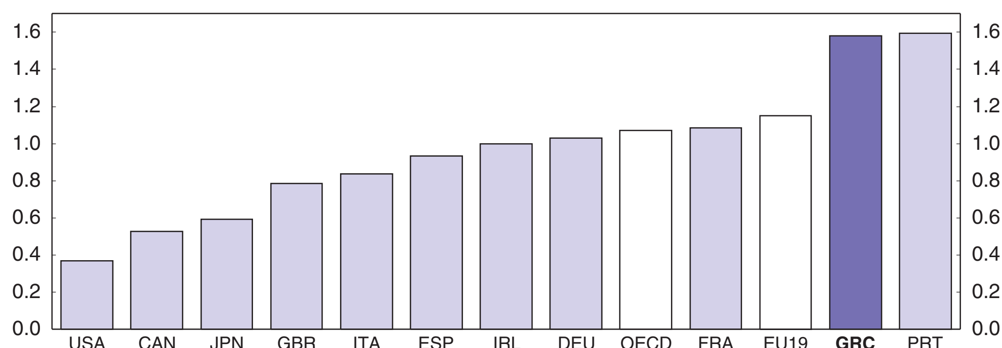
- Measures to reduce tax evasion include: the development of an integrated information system and data base (focusing on the upgrading of the TAXIS system with cross-examination of data and information regarding taxpayers); and the restructuring and up-skilling of audit services and audit centres.

point of the reform process is the reduction of tax evasion *via* an upgrading of tax auditing and control mechanisms and the restructuring of audit services.

The need to render the tax system more efficient and competitive limits the scope for raising revenue through higher corporate tax rates and/or increasing social security contributions and payroll taxes, especially in view of an already high tax wedge (Chapter 4). Consumption taxes have the advantage of being neutral towards saving decisions and create fewer disincentives to work than labour taxes. A conventional argument against them is that they are regressive, although in the case of Greece there is the counter-argument that widespread evasion of direct taxes is probably more prevalent among high income earners. Nevertheless, the ratio of indirect to direct taxation is already high in international comparison and the number of zero or low-rated VAT items in Greece is quite small (Figure 2.5). While there may be some scope to raise consumption taxes, efforts to raise revenue should focus on tackling tax evasion and a broadening of the tax base by phasing out remaining distortionary exemptions, as discussed below.

Figure 2.5. **Ratio of indirect to direct taxation**[1]

2005[2]



1. Taxes on goods and services divided by taxes on income, profits and capital gains.
2. 2003 for Portugal, 2004 for Greece. The EU19 and OECD aggregates are unweighted averages of the latest year of data available. EU19 covers all EU members that are also OECD members.

Source: OECD (2006), *Revenue Statistics 1965-2005*, OECD, Paris.

Estimates of tax evasion, although inherently speculative, suggest it may have reached nearly 15% of GDP in 1997, equivalent to nearly two-thirds of that year's budgeted tax revenue.[18] This means that there is considerable scope for cutting tax rates, if evasion can be brought down. Important factors explaining poor tax compliance are the large number of small enterprises and the high share of self-employed workers. Tax administration measures – ranging from the improved organisation of auditing agencies to increased penalties and fines – should therefore be accompanied by other measures to ensure that policy settings are not biased in favour of self-employment and employment in small enterprises.

Progress in combating tax evasion is evident in particular in the strong growth of VAT receipts relative to consumption spending in 2006. Steps to strengthen tax administration include the electronic cross-examination of data and information regarding taxpayers, the restructuring of audit services, and a focus of tax audits on larger cases. The introduction of VAT on housing construction should also help to limit tax evasion by reducing the occurrence of informal activity in the construction sector. Moreover, the authorities expect

benefits in the form of reduced tax evasion from the recent cuts in income tax rates, as they reduce incentives for income under-reporting. However, tax evasion remains a significant problem undermining fiscal consolidation and acting as a burden on those in the formal economy. Recent efforts to tackle the problem should therefore continue and intensify. Implementing more electronic services offered to tax payers and their agents could reduce risks from non-compliance by improving the monitoring of tax collection.

Ongoing initiatives to reform tax administration should be combined with a further simplification of the tax system in order to curtail evasion. Despite reforms since 2001, there is still room for reducing the remaining complexity and compliance costs of the system. As noted in the previous *Survey*, this could be achieved by abolishing remaining stamp duties and ending preferential VAT treatment of some products (for example, soft drinks, restaurants, electricity), professions (*e.g.* lawyers and notaries) and regions (Aegean islands). Stamp duties are levied on a variety of transactions and may result in allocative inefficiencies. For example, they increase borrowing costs when they are levied on financial contracts such as mortgages and loans. In the case of housing, such taxes affect liquidity adversely by adding to the transaction costs associated with the buying and selling of property. Further tax reform should focus on the elimination of many of the remaining exemptions and deductions in corporate taxation, leading to an uneven effective taxation of corporations. Broadening the tax base in this way would permit lower rates overall, thereby further weakening incentives for tax evasion. The complexity of the tax system is magnified by the large number of "third-party taxes" – essentially earmarked levies that fund various institutions (*e.g.* pension fund of lawyers, engineers and media workers)[19] – which continue to distort resource allocation, are inequitable and reduce transparency, and should thus be phased out.

The costs of delaying fiscal reform

The additional future public spending associated with ageing is estimated to be among the largest of any OECD country. Given the initial starting point, particularly with respect to high government debt, and the prospective increase in public expenditure due to ageing (especially on pensions), the relevant policy question is not *whether* fiscal consolidation takes place, but *when*. This in turn raises the issue of the costs of delaying fiscal reform.

In order to consider the nature of these costs, as well as attempting to quantify them, a number of illustrative hypothetical scenarios use a simple model based on the identity linking changes in government debt with the primary balance (see Annex 2.A2 and Koutsogeorgopoulou and Turner, 2007). In the absence of fiscal consolidation the primary balance would steadily deteriorate as ageing-related spending increases. A strong assumption in the model, is that the risk premium on government debt rises as the ratio of debt service to government revenues deteriorates on the basis of recent empirical work by Bernoth *et al.* (2004). Once implemented, fiscal consolidation is assumed to take three forms:

- A reduction in primary expenditure equivalent to 5% of GDP over the ensuing decade. It is often argued that, especially for countries where aggregate taxes are already high, fiscal consolidation will have more favourable macroeconomic effects if achieved through curbing expenditure than tax increases (Cournède and Gonand, 2006). However, beyond a certain threshold, it is likely that the economic and political costs of further reductions in primary expenditure will increase sharply. In the case of Greece, as previously argued, it is likely that substantial reductions in expenditure on public administration can be achieved

through greater efficiency. In addition, there is scope to improve the efficiency of the health system, which would help to contain future cost pressures.

- A major pension reform is phased in. The desirable features of any pension reform are discussed in detail in Chapter 3. However, to capture the fiscal effects of such a reform it is here assumed for illustrative purposes that the reform leads to a change in the "pension benefit ratio" similar to that expected on average across the other EU15 countries (Box 2.3). This would eventually more than halve the further increase in pension expenditure as a share of GDP.

Box 2.3. **Assumptions regarding the modelling of pension reform**

Public expenditure on pensions to mid-century is expected to rise by over 11% of GDP. A major reason why this projected increase is much larger for Greece than for other EU countries is that pensions decline by much less relative to output per worker (Chapter 3). This is in turn related to the absence of major reforms in the last decade. To quantify this difference a profile for pension expenditure is generated by imposing the same decline in the pension benefit ratio as is expected for the rest of the EU15. This suggests that the saving on pension expenditure from reform on a similar scale to that adopted in the rest of the EU15 would be 6½ per cent of GDP, although pension expenditure would still rise by 4¾ per cent of GDP between now and 2050. The timing of any expenditure reductions would obviously depend on the speed with which any reform is announced and subsequently phased in, allowing for the fact that large and/or sudden changes to pensions are inequitable and hence undesirable (Barr and Diamond, 2006) and in any event likely to be politically difficult to implement. The illustrative projections in Figure 2.6 assume there is no effect on pension expenditure in the 15 years following the announced reform, effectively grandfathering at least all workers in their fifties when the reform is introduced, with the change in the benefit ratio then being introduced gradually over the following 10 years. It should, however, be emphasised that ensuring fiscal sustainability is not the only reason for reforming the pension system. As argued in Chapter 3, reforms should also aim to reduce disincentives to continue working, as well as to reduce administrative costs by reducing fragmentation of the system, and both factors would further reduce pension expenditure as a share of GDP.

Figure 2.6. **Future pension expenditure depends on the timing of reform**

In per cent of GDP

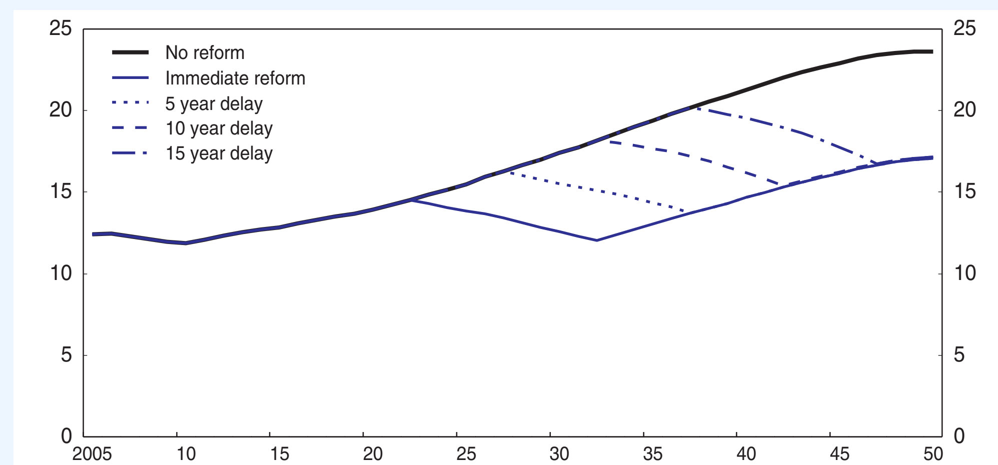
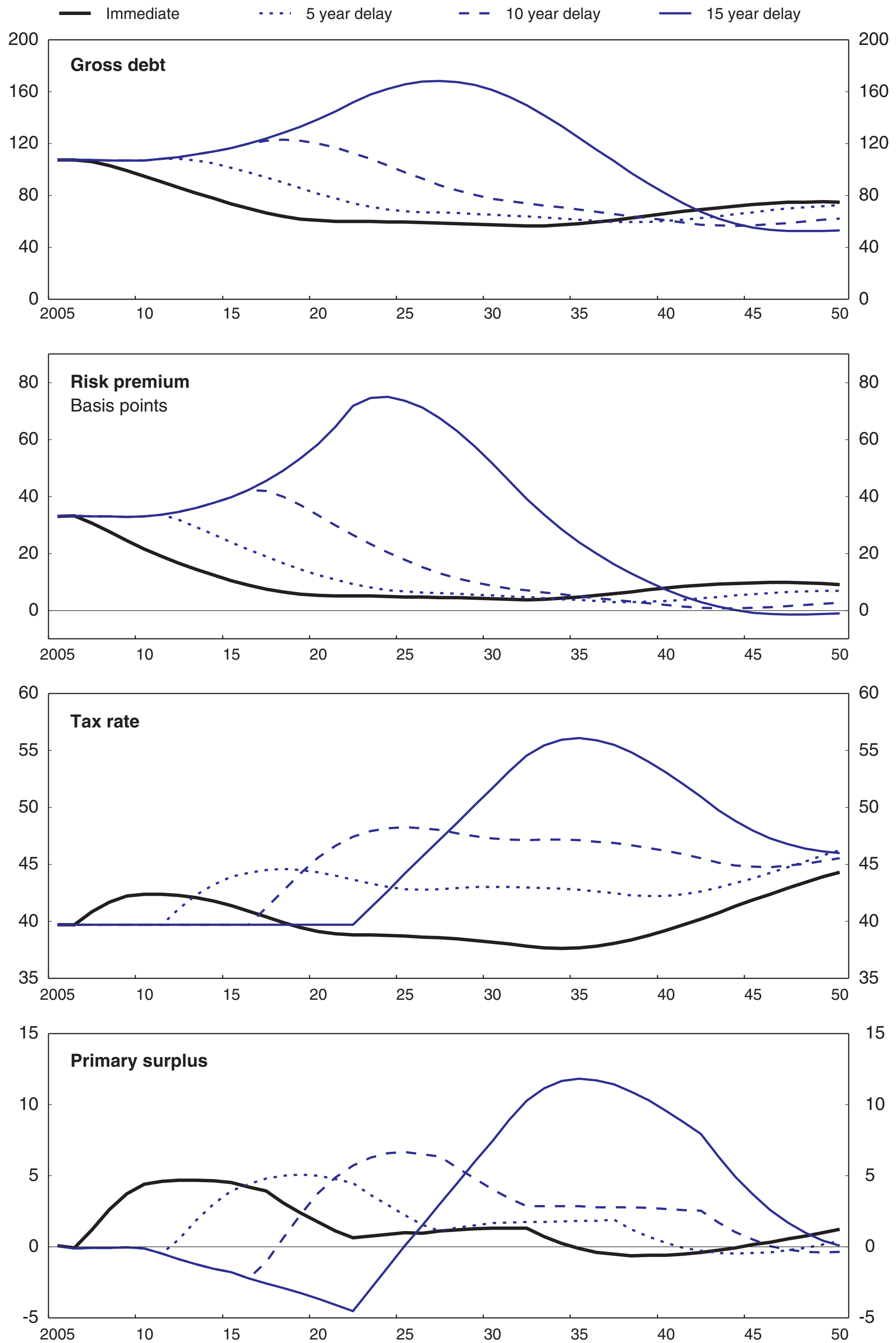


Figure 2.7. **Alternative fiscal consolidation scenarios**

In per cent of GDP



- Finally taxes are raised to the extent necessary to bring the government gross debt ratio down to a target of 60% of GDP, although subject to the condition that they do not increase by more than 2% of GDP in any one year.

Four scenarios are considered, corresponding to an immediate start to fiscal consolidation (in 2007) and after a delay of 5, 10 and 15 years, with the main results summarised in Figure 2.7 and Table 2.2. The main costs of delaying fiscal reform are:

1. *Deadweight debt service costs from delaying fiscal consolidation rise disproportionately with the length of the delay.* The increased borrowing associated with delayed consolidation inevitably raises debt service costs, but a part of this debt service, here referred to as the "deadweight" component, is attributable entirely to the risk premium. Delaying five years rather than acting immediately increases cumulative deadweight interest payments by 1½ per cent of GDP, whereas delaying 10 or 15 years raises this deadweight cost by 4½ and 16% of GDP, respectively. The main reason for this is the progressive rise in the risk premium; delaying 5 years has little effect on the risk premium and the increase in debt is minimal, delaying 10 years leads to an increase in the risk premium of 9 basis points, whereas delaying 15 years implies an increase of 42 basis points, with the gross debt ratio reaching a peak of 168% of GDP.
2. *The tax burden on future workers rises disproportionately with the length of delay.* If fiscal consolidation is implemented immediately or with only a five year delay then the average tax rate faced by workers over the next two decades is much the same as over the two decades prior to 2050. However if fiscal consolidation is delayed 10 or 15 years then future workers will pay higher average taxes than current workers by an average equivalent to 3½ per cent and nearly 11% of GDP, respectively.
3. *Delaying fiscal consolidation is likely to severely constrain the use of automatic stabilisers during a cyclical downturn.* If fiscal consolidation is immediate then the deficit would be kept under 3% of GDP over the entire period, whereas delaying progressively lengthens the period of time in which the deficit is close to, or exceeds 3% of GDP.
4. The need for a larger and more sustained improvement in the primary balance increases progressively with the length of delay in beginning consolidation. This in turn may mean that sustained fiscal consolidation becomes less and less politically feasible. Thus, immediate fiscal consolidation requires a sustained improvement in the primary balance of 4½ per cent of GDP over a 4-year period, well within the historical experience of OECD countries. Conversely, delaying 15 years would require a sustained

Table 2.2. **The costs of delaying fiscal consolidation**

	Units	Immediate	5-year delay	10-year delay	15-year delay
Peak gross debt ratio	% of GDP	108	108	123	168
Peak risk premium	Basis points	33	34	42	75
Cumulative deadweight debt cost	% of GDP	3.2	4.7	7.6	19.1
Difference in average tax rate between 2028-50 and 2005-27	% points of GDP	–0.5	1.0	3.4	10.7
Number of years in which total budget deficit exceeds 3% of GDP	Years	0	5	13	20
Peak fiscal consolidation effort (improvement in primary balance)	% of GDP	4.5% over 4 years to 2010	5.3% over 6 years to 2017	8.5% over 7 years to 2023	16.1% over 12 years to 2034

improvement in the primary balance of 16% of GDP over 12 years, which has no precedent among OECD countries.

Finally, there are a couple of features which have *not* been included in the model, which if they had, would tend to further accentuate the costs of delaying fiscal consolidation:

- Higher taxes may have a detrimental effect on labour supply and/or capital accumulation (Cournède and Gonand, 2006). Thus delaying fiscal consolidation, because it implies higher average taxes, may adversely affect potential growth with detrimental consequences for the underlying fiscal position.
- While the risk premium included in the current modelling exercise does increase non-linearly with the debt service ratio, the extent of this non-linearity is quite modest. Moreover the empirical experience on which this is based does not include a debt ratio of the order of magnitude which might occur if fiscal consolidation was substantially delayed. For example if financial markets came to expect that the debt-to-GDP ratio might approach 200% of GDP, then the punitive risk premium might substantially exceed that modelled here.

Furthermore, one benefit of pension reform not modelled here is that there could be a major reduction in the disincentives to continue work at older ages which are inherent in the current system. This could lead to increases in the employment rate of older workers and hence higher GDP, which in turn would further improve fiscal sustainability.

In summary, there would appear to be a "window of opportunity" over the next five years for implementing fiscal consolidation, which would need to include announcing the phase-in of a major pension reform. Postponing action beyond this window is likely to lead to a progressive escalation of cost in terms of: an increased risk premium on government debt; higher deadweight debt service costs; a more unfair inter-generational distribution of taxes; reduced ability to use automatic stabilisers in an economic downturn; and greater political costs in terms of the sustained effort that would eventually be needed to get fiscal policy back on track, as well as likely negative feedback effects on the rest of the economy.

Summary of main findings and recommendations

Greece has made commendable progress in cutting its fiscal deficit over the last two years, although, given the high debt-to-GDP and large prospective costs associated with ageing, further consolidation efforts are required. A summary of recommendations how such consolidation might be achieved is detailed in Box 2.4. The quantification of the costs of delaying fiscal consolidation efforts underlines the case for front-loading policy actions. It is, however, difficult to assess current government fiscal objectives – at least balancing the budget no later than 2012 – in the absence of any proposals for dealing with the longer term costs of ageing. Achieving budget balance by 2012 might be an adequate platform for ensuring future fiscal sustainability, *if* also accompanied by reforms which would ensure the containment of future spending pressures on health, and especially, pensions.

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Box 2.4. **Summary of recommendations regarding fiscal policy**

Aggregate fiscal policy

- Fiscal consolidation should continue, possibly at a more rapid pace of deficit reduction by ½ per cent of GDP, taking advantage of strong economic growth.
- A long-term fiscal scenario should be published annually to show how fiscal policy will cope with the expected increased spending pressures from ageing to mid-century and to raise public awareness of the need for adjustments.
- Medium-term fiscal objectives should include a specific target for the debt-to-GDP ratio which should be given as much weight as any target for the deficit.

Budget and debt

- Primary spending trends should be monitored closely; there is particular scope to reduce public spending as a share of GDP on public administration, financial assistance to public enterprises as well as military spending. Reforms to public health and pension systems (considered below) are both required to contain future spending pressures.
- The process of budget preparation, monitoring and evaluation needs to be improved by moving swiftly toward a programme-based budget structure that identifies clearly the government's objectives and enables an assessment of outcomes in a medium-term budget framework.
- Enhance fiscal transparency by further reducing "stock-flow adjustments", and clearly explaining the rationale for them when they are necessary.
- Ensure that the directorate of fiscal audit is adequately staffed with qualified employees.
- Conduct fiscal risk analysis, especially with regard to government loan guarantees or contingent liabilities involved in public-private partnerships, and report the results in the budget documents.

Public administration

- International comparison suggests there is scope for major savings in expenditure on public administration. This can be achieved by: further simplifying procedures; a timely and rigorous implementation of the recent provisions for an increased *ex ante* control of the quality of new laws; and a stronger system of performance evaluation, tighter recruitment procedures, and greater mobility of public servants through the prompt approval and application of the *New Code of Civil Servants*.
- Policies of only partial replacement of retirees from the public sector would be advisable.

Public enterprises

- Implement rigorously the 2005 law on the improvement of the operation and efficiency of public enterprises and organisations. The timeframe for the application of the new Management Information System – enabling monitoring of the performance of the public enterprises and the evaluation of the outcomes achieved compared with budget targets – should be respected.

Health care

- Implement speedily, and on the basis of a clear timeframe, the announced reforms to tackle the shortcomings of the health care system, including the inefficient operation of public hospitals and the lack of an effective national primary health care system, in order to contain costs and improve the quality of the provided services.

Box 2.4. **Summary of recommendations regarding fiscal policy** *(suite)*

- A modern system of public procurement should be implemented rapidly. Better pricing and costing mechanisms, together with enhanced auditing of social services, are essential for expenditure restraint.
- The rapid development of a well-functioning network of primary care is indispensable for containing health care spending by providing a "gatekeeper" to specialists and out-patient care. A more diversified system of payments, including fee-for-service arrangements, would be advisable.
- Quantitative performance indicators for the health care sector, in particular waiting times for different types of surgery and treatment, should be more systematically collected and made publicly available.

Pensions

- Following the publication of the report from the committee of experts, expected in autumn 2007, the government should move quickly to outline reform plans that will contain future pension expenditure (specific OECD proposals in this regard are given in Chapter 3). Given that a major reform is likely to involve a phase-in period, possibly a period of decades, the government should legislate any changes during the next electoral period.

Tax reform

- Recent efforts to curb tax evasion should continue and controls should be intensified. The tax system should be simplified further to reduce compliance costs and incentives for tax evasion.
- Future reforms should eliminate the remaining stamp duties and broaden the tax base (*e.g.* by an ending of the preferential treatment of some products, certain professions, and regions and the elimination of many of the remaining exemptions and deductions in corporate taxation).
- The large number of earmarked "third-party taxes" should be phased out to reduce distortions in resource allocation and enhance budgetary transparency.

Notes

1. The revision of the fiscal data was the result of the fiscal audit performed by the current government when it took office in March 2004, in close collaboration with Eurostat. The revisions were largely explained by an under-recording of military expenditure and an over-estimation of the surplus of social security funds. For a detailed discussion see OECD (2005).
2. Around € 2 billion expenditure (equivalent to approximately 1¼ per cent of GDP) in the Public Investment Programme for 2004 was Olympics-related infrastructure projects.
3. The Budget for 2006 incorporated temporary revenue measures, equivalent to 0.6% of GDP, including dividends and sale and extension of concession rights (airports, roads and casinos), but only measures equivalent to 0.4% of GDP were implemented.
4. For both 2005 and 2006 primary spending incorporated non-recurring items. These include in 2005 an additional € 345 million (0.19% of nominal GDP) primary spending for covering past obligations to the Agricultural Bank of Greece. In 2006, they include additional spending on the first instalment of the refund to pensioners of past contributions on behalf of the Solidarity Account of Social Security Funds (LAFKA), amounting to € 130 million (0.07% of GDP), and spending on elections for local government. Taking into account these items, the current primary spending was cut by 0.86% of GDP over these two years.
5. Alesina and Perotti (1996); Alesina and Ardagna (1998); and Alesina and Bayoumi (1996). Von Hagen *et al.* (2002) also find that the likelihood of sustaining consolidation efforts rises when

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governments tackle politically sensitive budget items such as transfers, subsidies and government wages.

6. For 2007, these include an increase in farmers' pensions and the special means-tested supplementary payment to low income pensioners, as well as the refund of the contribution on behalf of LAFKA.
7. The body of fiscal inspectors will scrutinise not only the lawfulness and effectiveness of the expenditure of the entity under its jurisdiction, but also the management of its assets, the receipt and correct accounting of its revenue and other activities, with the right to suspend the liable employee(s) (based on a reasoned decision) in case of important offences (Bank of Greece, 2006b).
8. For a detailed discussion of public expenditure in Greece, see OECD (2002).
9. The budget does not contain a classification of expenditure by programme or activities, except for EU co-financed capital expenditure. Appropriations are by inputs and they do not include any statements of the objectives or the goals of expenditure (IMF, 2006).
10. Under current arrangements, around 90% of the public debt is managed by the Public Debt Management Agency (PDMA), with the remaining share (comprising debt issuance for defense procurement and borrowing from non-commercial enterprises, among other activities) being the responsibility of the General Accounting Office (GAO).
11. The 2005 law defines as public organisations those legal entities under private law, the annual budget of which is financed at least by 50% by the state or by legal entities under public law. In general, the recent law aims at improving efficiency of such firms through a closer monitoring of their activities by the competent ministries and requirements for the preparation of business and operational plans, transparent and accountable corporate governance, and the adaptation of private-sector industrial relations (Bank of Greece, 2006b).
12. This is mainly through the Operational Programme for Information (OPIS) in the context of the third programme of the structural funds from 2001 onwards, complemented by the program POLITIA (2005-07), offering the ability to ministries and regions to implement new organisational methods as well as innovative applications in the areas of citizens' service and communication. A new five-year development programme (THESEUS) was introduced in 2005 focusing on the coordination of the individual local government policies (Ministry of Economy and Finance, 2005; 2006).
13. There is no formal rule determining the proportion between new hires in the public sector and employees leaving the sector. Human resources requirements are assessed and evaluated by a three-member ministerial committee approving hiring in the public sector on the basis of the data provided by each organisation.
14. That is, the relative price of long-term care increasing in line with average productivity growth in the economy because the scope for productivity gains in long-term care is more limited (OECD, 2006).
15. The number of physicians per head of population is among the highest in the OECD (OECD, 2005).
16. In 2005, the government proceeded with the restructuring of the accumulated debt to hospital suppliers, amounting to around € 2.1 billion (1.1% of GDP for 2006) over 2001-04.
17. For a discussion see OECD (2005).
18. Estimates are based on Tatsos (2001). The Bank of Greece is of the view that tax evasion is "actually larger" (Bank of Greece, 2006a).
19. These taxes are mostly collected directly by various agencies (*e.g.* banks, public utility companies, lawyers, etc.), distributed to the final recipient and often escape registration in the state budget. The Tax Reform Commission estimated that there were some 300 of these third-party taxes in 2002.

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ANNEX 2.A1

*Reforming the health care system**

Ongoing efforts to reform health care aim at modernising the sector and improving its efficiency (Law 3370/2005 on Public Health). The government further intends to modernize the fragmented social welfare system, which is expected to reduce dependency on benefits and promote employment. Initiatives underway focus upon:

- *The modernisation of the organisation of the National Health System.* A draft bill provides for: *i)* a reduction in the number of Regional Management Health Care Agencies (from 17 to 7), and the upgrading of their administrative capacity, in order to exploit economies of scale and simplify the monitoring and coordination procedures at the level of the central administration; and *ii)* the effective provision of primary health care services, through a new coordination model for health care providers, incorporating the possibility of direct collaboration with social insurance funds (such as IKA and others).
- *The upgrading of the health care system management,* through the introduction of modern management methods, based on best practices in the private sector, aiming to improve the cost-benefit analysis of the health services and the efficient use of resources. An important initiative in this respect is the development of an integrated information system (IASYS) for the National Health Care System, which is at a pilot stage, and is currently being assessed by the European Commission.
- *The strengthening of available resources* through the exploitation of new funding possibilities and the *rationalisation of expenditure* in critical areas, such as procurement. A new draft bill – currently under preparation – will establish a modern system of procurement and simplify the ordering procedures. It is estimated to achieve a 15% reduction in the cost of procurement.
- *The application of public-private partnerships to the health sector.* A plan of cooperation with private investors has been formed within the framework of public-private partnerships for the provision of auxiliary services (such as maintenance, food provision, sanitation, security and financial services), as well as for the construction and the operation of new health care units.

* *Source:* Ministry of Economy and Finance (2006), *National Reform Programme for Growth 2005-2008: Implementation Report*, October.

ANNEX 2.A2

The model used to generate the fiscal simulations

This annex describes the model which is used for the fiscal simulations described in the chapter. It is based on the familiar relationship between net debt and the primary balance:

(1) $$b = \frac{(1+R)}{(1+g)} . b_{-1} + e + age - t$$

where *b* is net debt, *t* is the aggregate tax rate and *e* is primary expenditure (all expressed as a share of GDP), *g* is the growth rate of GDP, *R* is the real interest rate paid on government debt and *age* is an extra term representing additional spending pressures which arise in the future from ageing.

The additional spending pressures are from health care, long-term care and pensions. The first two are quantified using the "cost-pressure scenarios" described in OECD (2006), which for Greece implies an additional 6½ per cent of GDP in spending by 2050. The increase in pension spending is based on reform scenarios discussed in the main chapter. Absent any pension reform, pension expenditure would increase by 11.2% of GDP by 2050, whereas with a major reform it increases by 4¾ per cent of GDP by 2050. The low pension expenditure track is only fully reached 25 years after the change is first announced.

Once fiscal consolidation is implemented, it is assumed to take three forms:

- A reduction in primary expenditure equivalent to 5% of GDP over the following ten years.
- A major pension reform is phased in along the lines discussed in the chapter, eventually more than halving the further increase in pension expenditure as share of GDP.
- Finally taxes are used as the residual instrument to steadily bring the government (gross) debt ratio down to 60% of GDP, although subject to the condition that they do not increase by more than 2% of GDP in any one year. This is implemented through a rule for the tax rate in a form common in large-scale macro models that track the accumulation of assets (see for example Bryant and Zhang, 1996), which reacts to deviations of the stock of debt from a target level as well as to the recent rate of increase in debt:

(2) $$\Delta t = \alpha_1 (b_{-1} - \bar{b}) + \alpha_2 \Delta b_{-1} \qquad \alpha_1 = 0.025, \ \alpha_2 = 0.20$$

For the sake of greater plausibility this reaction function is subject to the caveat that the increase in the tax rate cannot exceed a certain ceiling (in this case 2% of GDP) in a single year. While it is not very uncommon for there to be tax hikes, on a cyclically-adjusted basis, of more than 2 percentage points of GDP in a single year, it is unusual for this to occur over a run of consecutive years.

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The interest rate is determined as the sum of an exogenous component, which may be thought of as the real interest rate on German government debt, and a risk premium:

(3) $$R = \overline{R} + Rrisk$$

The risk premium term is modelled as a non-linear function of the ratio of debt service to government revenue:

(4) $$Rrisk = \beta_0 + \beta_1\left(\frac{R.b}{t}\right) + \beta_2\left(\frac{R.b}{t}\right)^2$$

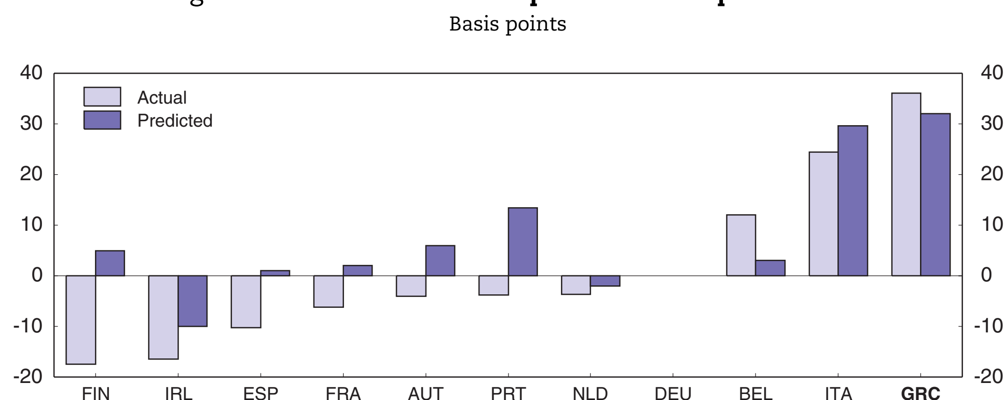
The empirical basis for the risk premium equation

The form and parameterisation of equation (4) for the risk premium is based on the empirical work by Bernoth *et al.* (2004) who examine bond yield differentials among EU Eurobonds, explicitly allowing for a break with the formation of the EMU. A number of fiscal variables, including both the deficit-to-GDP and debt-to-GDP ratios, reflecting the government's quality as borrower are considered in the empirical analysis. The fiscal variable which is found to have the most explanatory power in the post-EMU period is the ratio of debt service to government revenue. It is argued that this variable is closer in spirit to measures of borrower quality commonly used in corporate finance, and also allows for the fact that governments in different countries differ in their ability to raise revenues from a given GDP. Certainly such considerations help to explain why the risk premium (relative to German bonds) is much higher in Greece and Italy than it is in Belgium, despite the fact that all 3 countries have similar debt-to-GDP ratios. The authors also speculate that financial markets may perceive that deficit-to-GDP and debt-to-GDP ratios have less information content because they are part of the official assessments of the sustainability of government finances and therefore more prone to creative accounting.

Both the debt service ratio and the square of this term are found to be statistically significant in equations explaining the risk premium in the post-EMU period, implying a non-linear relationship. The estimated coefficients suggest that "*a debt service ratio of 5% above Germany's results in a yield spread of 3.75 basis points, while a debt service ratio exceeding Germany's by 10% results in a yield spread of 15 basis points*". While other variables are found

Figure 2.A2.1. **Actual *versus* predicted risk premium**[1]

Basis points



1. The actual risk premium is the difference between the interest rate on 10 year bonds of the country concerned and Germany in July 2006. The predicted risk premium is the author's calculation using the coefficients estimated by Bernoth *et al.* (2006) and debt service figures for 2005.

Source: Calculations based on OECD (2006), *OECD Economic Outlook: Statistics and Projections*, No. 79 – online database and Bernoth *et al.* (2004) , "Sovereign Risk Premia in the European Government Bond Market", *Working Paper*, No. 369, European Central Bank, Frankfurt.

to be significant in explaining the risk premium – in particular the "time to maturity" of the government bond issue – these are ignored for the purposes of this modelling exercise, and the difference between the current actual risk premium and that expected on the basis of the current debt service ratio is absorbed in the constant term in (4). However, at least for Greece, the debt service ratio appears to explain reasonably closely the current risk premium (Figure 2.A2.1).

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Chapter 3

Pensions: a comprehensive reform is urgently required

A major pension reform is urgently required to ensure fiscal sustainability, eliminate distortions against working at older ages and deal effectively with poverty issues.

First, pension expenditure is projected to increase to mid-century by more than for any other OECD country. Reform is required not only to ensure fiscal sustainability, but also because pension expenditure will otherwise account for more than one-fifth of (unrevised) GDP and inevitably crowd out other social outlays which are needed to support social cohesion and structural objectives. Judged against projections for other EU countries a fall in pension benefits relative to average wages is likely to bear the brunt of any adjustment, although the extent of this adjustment can be limited by reforms which reduce disincentives to continue work in old age and curtail the many alternative early retirement pathways.

Second, incentives to retire early are among the highest in the OECD, and have led to a low employment rate among older workers. There are tenuous links between contributions and benefits and a range of special provisions that allow early retirement before the "normal" retirement age of 65. To remove disincentives, pensions should be linked to lifetime contributions and greater actuarial fairness ensured, while the wide range of early retirement schemes should be phased out.

Third, despite high aggregate pension outlays, the diversity in replacement rates across different funds means that pension expenditure is not always targeted to those most in need. Reducing overall pension expenditure while improving the safety net against poverty in old age is likely to require that any safety net pension – whether means-tested, based on some criteria such as residency or based on the current minimum pension – is strictly available only at the official age of retirement, in contrast to the current situation where minimum pensions are available at much earlier ages and so severely distort incentives to retire early.

The pension system is highly fragmented

Pensions are almost entirely provided by a large number of earnings-related schemes run by the public sector on a pay-as-you-go (PAYG) defined-benefit basis with practically complete coverage of the population. A defining characteristic of the pension system is the high degree of fragmentation both across sectors of employment and economic activity and across types of protection (primary and supplementary pensions as well as separation payments).

There are three main primary insurance funds providing cover for retirement, disability and survivor pensions: IKA, the Social Insurance Institute, is the single largest provider and covers most private sector employees; OAEE covers most of the self-employed; and OGA covers farmers (Table 3.1). In addition there are over 20 other smaller specialised primary funds covering people such as lawyers, engineers and mariners. Civil servant pensions are paid directly out of the budget, while public enterprises and banks have enterprise-specific funds. Many of these organisations also provide health care insurance. In addition there are many more auxiliary funds providing supplementary pensions in addition to those from the primary funds. A significant reform in 1992 provided some degree of uniformity by imposing similar rules across all sectors (except agriculture) for all employees who began working after 1 January 1993. At the same time the system became less generous. This does, however, add a further layer of complication because of "grandfathering" rules, relating to these and other changes to the system, including mergers between providers. Fragmentation has a number of direct costs:

- There is considerable inequity in terms of substantial differences in pension levels, government subsidies and returns on contributions both across occupations and income levels, particularly in respect of pre-1993 labour market entrants. For example, retired lawyers and civil servants benefit from government transfers equal to more than three-quarters of the average pension received, whereas the equivalent share for private sector employees is less than one-fifth (O'Donnell and Tinios, 2003).
- The high degree of fragmentation in combination with PAYG financing and a range of cross-subsidies (including tied taxes) leads to a lack of transparency, which is further aggravated by a paucity of statistics for many of the smaller funds. This obscures budget

Table 3.1. **Summary of the main pension funds**

In 2006

	In thousands		Insured/ pensioners ratio	In % of GDP			
	Insured persons	Pensioners		Income	Expenditure	Assets	State subsidy
IKA – Main employees fund	2 080	865	2.4	4.5	4.0	2.9	0.9
OAEE – Collection of main self-employed funds	844	290	2.9	1.3	1.4	0.3	0.1
OGA – Farmers fund	721	519	1.4	0.4	0.4	1.1	1.3

Source: Ministry of Economy and Finance, Budget 2006 and other national sources.

constraints on individual funds and blunts incentives to control expenditure; it may also be a major obstacle to reform, even if the overall constraint on public finances becomes increasingly visible (Börsch-Supan and Tinios, 2001).

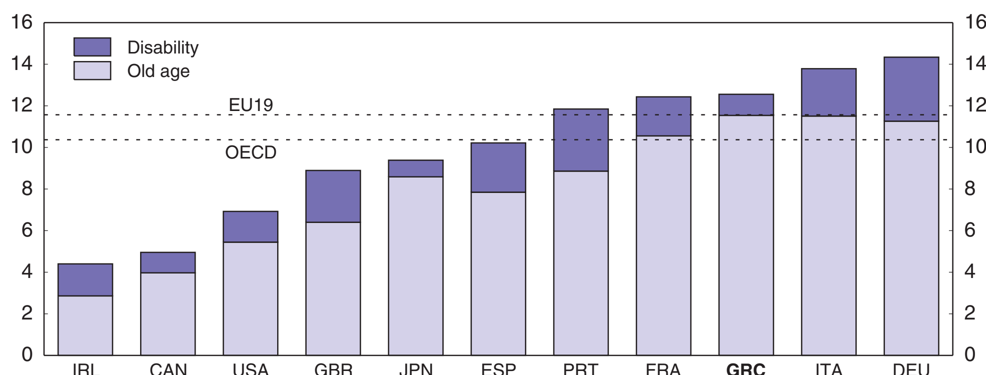
- Having many funds, including many smaller ones, substantially raises administrative costs.

The pension system is a fiscal time bomb

Total public spending on old-age pensions as a share of GDP is currently among the highest in the OECD at around 12½ per cent of (unrevised) GDP (Figure 3.1). Using the revised GDP data, such spending would be 10% of GDP, which would still rank Greece in the top quartile among all OECD countries. A major concern is that, according to the latest official national projections, the long-run increase in public spending on pensions, at over 10% of GDP to mid-century, is also among the largest in the OECD. Furthermore there is more uncertainty about such projections for Greece than for most other EU countries because they have not been updated recently. In particular, Greece was the only EU15 country which did not take part fully in the recent projection exercise concerning the long-term fiscal costs of ageing conducted by the Economic Policy Committee of the EU (EPC, 2006).

Figure 3.1. **Public expenditure on pensions**[1]

In per cent of GDP, 2003

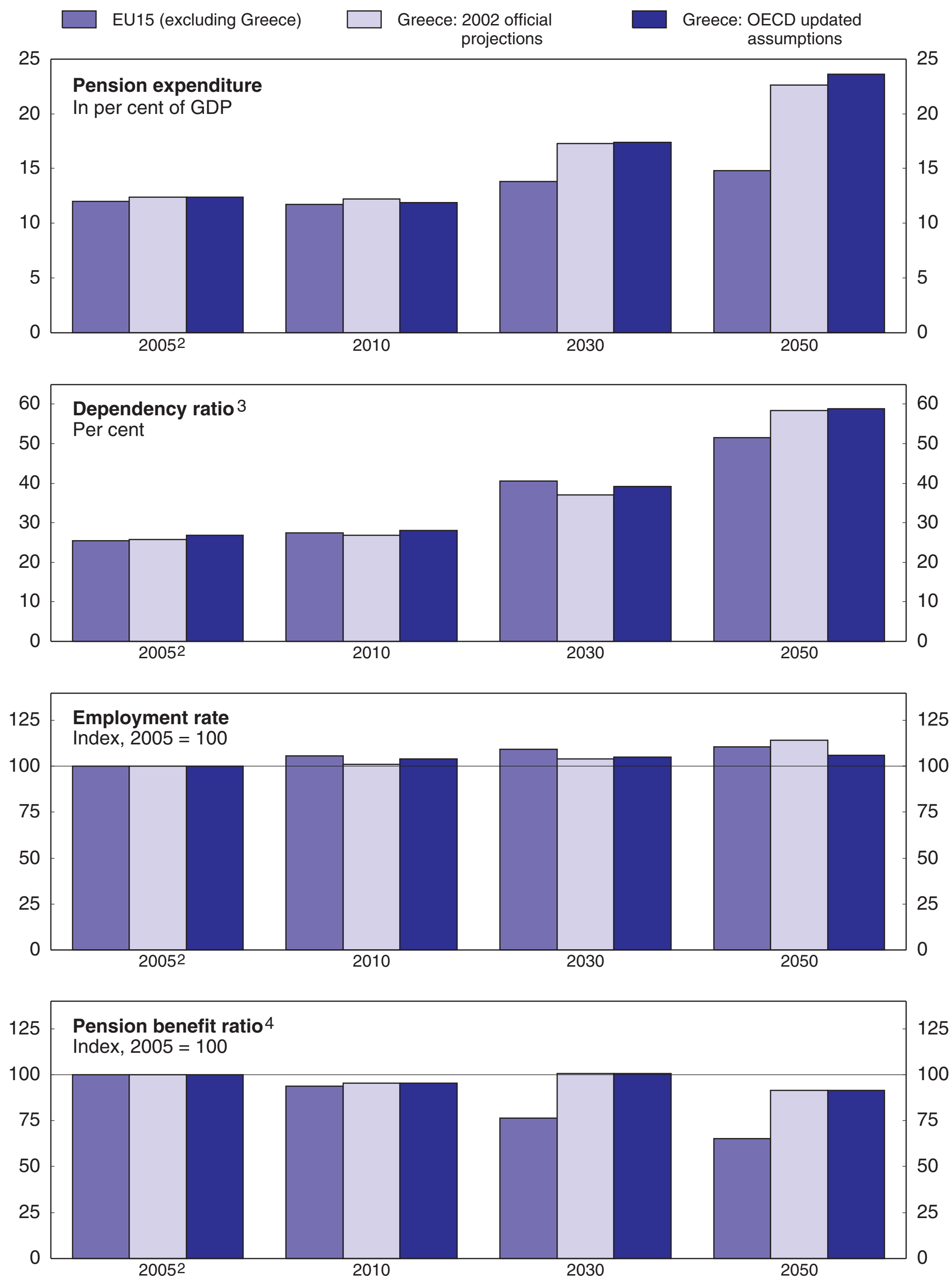


1. Public and mandatory private expenditure. The EU19 and OECD aggregates are unweighted averages. EU19 covers all EU members that are also OECD members, OECD excludes Turkey.

Source: OECD (2007), *OECD Social Expenditure Statistics* – online database.

Comparing the last official projections, which were made in 2002, with the 2006 EU EPC projections for the EU15,[1] the increase in pension expenditure as a share of GDP to 2050 is 10.2% of GDP for Greece but only 2.8% of GDP for the EU15 (Figure 3.2, upper panel). A part of this difference is explained by demography: while the old-age dependency ratio more than doubles to 2050 in both the EU15 and Greece, the increase is greater for Greece and adds about 2.5% of GDP to pension expenditure by 2050 (Figure 3.2, second panel). Some of this additional cost is offset by slightly more optimistic employment rate projections for Greece, although the difference is small. An OECD revision of the pension expenditure projections for Greece, which assumes the same profile for the pension benefit ratio as in the 2002 official Greek projections, but uses updated projections for the dependency ratio and the employment rate, implies a slightly larger increase in pension

Figure 3.2. **Explaining long-term projections of pension expenditure**[1]



1. Pension expenditure as a share of GDP can be expressed as the product of the dependency ratio, the pension benefit ratio and the reciprocal of the employment rate (see Annex 3.A1).
2. 2004 for the EU15.
3. Population aged 65 and over as a share of the population aged 15 to 64.
4. Average pension expenditure per person aged over 65 relative to output per worker.

Source: European Commission (2006), "The Impact of Ageing on Public Expenditure", *European Economy*, Special Report No. 1, Economic Policy Committee and European Commission, Brussels; Ministry of Employment and Social Protection and Ministry of Economy and Finance (2005), "The Greek National Strategy Report on Pensions" and (2002) "The Greek Report on Pensions Strategy", Athens.

expenditure of 11.2% of GDP to 2050, because of a slightly more pessimistic projection of the employment rate (Annex 3.A1).

By far the most important reason explaining the larger increase for Greece relative to the EU15 is the different profile of the "pension benefit ratio" (defined as average pension expenditure per person aged over 65 as a share of output per worker) which declines by 8% until 2050 for Greece, but by 35% for the EU15 (Figure 3.2, lower panel). These changes are most marked for those EU countries which have already enacted major pension reforms (especially Austria, France, Germany and Italy), particularly through making indexation rules less generous as well as increasing statutory retirement ages, curtailing access to early retirement, indexing benefits to longevity and reducing financial incentives to leave the labour force.

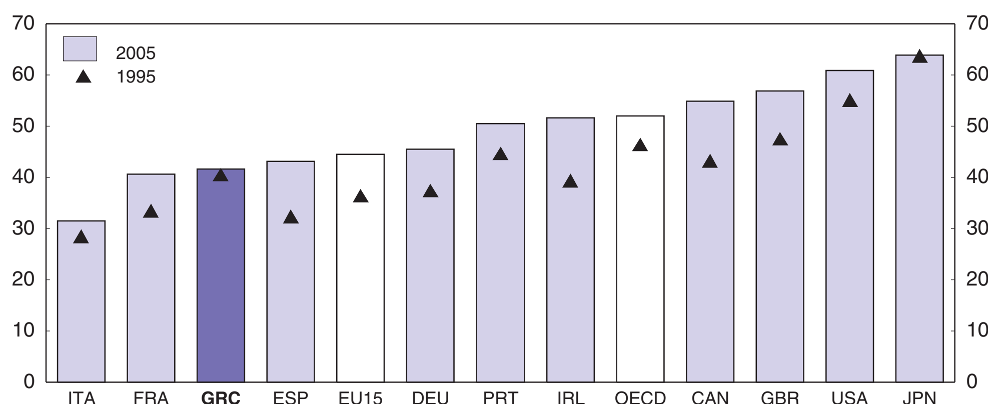
Given the scale of the spending increase, it is almost inevitable that ensuring future fiscal sustainability will require a reduction in pension income (relative to average wages) over coming decades or else a hefty rise in contribution rates. Given the already high tax burden on labour income, the former seems more reasonable as well as being consistent with pension reforms in other EU countries. The required adjustment will, however, depend on the capacity of the pension system to raise revenues by lengthening contribution periods and reducing disincentives to work at older ages – issues which are the focus of the remainder of the chapter.

The employment rate of older workers has remained low

The employment rate of older workers is low in international comparison (Figure 3.3). Moreover, there has been little trend improvement, in contrast to developments in most other OECD countries and particularly across most of Europe where there has generally been greater scope for catch-up; the average increase in the employment rate of workers aged 55 to 64 over the last decade has been 8 percentage points across all EU15 countries, but only 1 percentage point for Greece. For some countries this reflects reforms that tightened eligibility to early retirement pathways and/or improved incentives to work longer, while in Greece no major pension reform has been implemented since the early 1990s.

Figure 3.3. **Employment rates of older workers**

Employment as a percentage of population in the same age group (55-64)



Source: OECD (2006), *Database on Labour Force Statistics*, November, *www.oecd.org/els/employment/stats*.

The main pension system for employees (IKA) provides strong incentives to retire early

At the "normal" age of retirement of 65 for men, the statutory replacement rate in Greece and level of pension wealth (normalised on a measure of average wages) is among the highest in the OECD across a range of earnings levels (Box 3.1 and OECD, 2006). However, only around 15% of men retire on a full pension at the "normal" retirement age (Table 3.2), because the system provides both strong financial incentives and the means to retire early through a variety of early retirement pathways and consequently the effective replacement rate is typically much lower than the statutory rate.

- *Early retirement after 35 years of work.* A maximum of 35 years of contributions counts towards the primary earnings-related public pension and early retirement without any reduction of benefits is possible once 37 years of contributions have been paid. Thus for a worker beginning a career at age 20 (the representative case considered in most OECD comparisons) there is no gain from the main public pension benefit from remaining in work beyond the age of 57. Under the supplementary earnings-related pension, more than 35 years of benefits can accrue and so the replacement rate continues to increase. However, once the individual qualifies for early retirement without benefit reduction (after 37 years of contributions) the overall implied change in pension wealth from continuing to work (in particular taking into account the additional years in which no pension is being received because of postponing retirement) is strongly negative. The strength of the disincentive effect to continue work, as summarised in measures of the "implicit tax on continuing work"[2] between the ages 55 and 60, as well as between 60 and 65, is among the highest in the OECD (Figure 3.4, upper two panels). This result needs to be qualified as it depends on the age at which the individual's career is assumed to begin; if the career begins at age 25 or 30 rather than 20, then disincentive effects are substantially reduced (OECD, 2007).
- *Early retirement on an actuarially reduced pension at age 60 or 55 with at least 15 or 35 years, respectively, of contributions.* While actuarial reductions are applied for early retirement (Table 3.3), what makes this option attractive to many workers is that the actuarial reduction is not applied to the minimum pension and, because the minimum pension

Table 3.2. **New pension awards by legal basis**

IKA, per cent of total, 2006

	Men	Women	Total
Old age pensions	**82.8**	**84.9**	**83.6**
"Normal" case[1]	15.8	29.6	20.7
Retirement after 35 years of service	9.1	0.4	6.0
Actuarially reduced[2]	4.6	17.0	9.0
Parent of dependent child[3]	. .	10.1	3.6
Arduous and unhygienic work[4]	40.3	14.0	30.9
Other special cases	13.0	13.8	13.2
Disability	**17.2**	**15.1**	**16.4**
Total pensions	**100.0**	**100.0**	**100.0**[5]

1. Men retiring at 65, women at 60.
2. Men retiring at 60, women at 55.
3. Women retiring at 50.
4. Includes construction workers who are covered under the same legal provision.
5. Total new pension awards: 52 723.

Source: Social Insurance Institution – Unified Insurance Fund of Employees (IKA-ETAM).

Box 3.1. **Key features of the main employee pension scheme (IKA)**

The system described here is that applying to labour market entrants from 1993.

Contribution rates

The standard contribution rates for a primary pension are 6.7% for the employee, 13.3% for the employer and 10% for the government. Higher contribution rates apply to jobs in "arduous and unhygienic" occupations. For supplementary pensions the standard rates are 3% for the employee and 3% for the employer.

Qualifying conditions

The notional standard age of retirement is 65 for men and 60 for women, equalised at 65 for women entering the labour force from 1993, and at this age requiring a minimum of 15 years of contributions. Workers with a contribution record of 37 years can retire on a full benefit regardless of age. There are concessions for people who work in arduous or hazardous occupations and for women with dependant or disabled children. The minimum social pension requires 15 years' contributions.

Benefit formula

For labour market entrants from 1993, the primary pension is 2% of earnings for each year of contribution up to 35 years. There is therefore a maximum replacement rate of 70% for people retiring at the normal age or earlier. It should be noted that based on Law 3029/2002, the replacement rates for those insured before 1993 with 35 years of contributions will also converge to 70% by 2017. However, if people work after age 65 and up to 67, there is a higher accrual of 3% per year, but there is no accrual rate for those working after 67 (implying a maximum replacement rate of 76%).

On top of this primary pension, a full supplementary pension is 20% of the earnings measure under the main component of the earnings-related scheme for workers with 35 years of contributions. The pension is proportionally reduced for shorter contribution periods, implying a linear accrual rate of 0.57%. The value is increased by 1/35th for each year of contributions (300 days) beyond 35 years.

The earnings measure against which the pension is calculated is the average over the last five years before retirement. However, for employees insured before 1993, the formula is based on the best five years of the last decade.

Minimum and maximum pensions

The minimum pension is set as 70% of the minimum wage for a married, full-time employee, equivalent to around 40% of average earnings.

There is a maximum pension, which, for a full-career worker, is equivalent to a ceiling on pensionable earnings of 325% of average earnings.

Late retirement

It is possible to retire after the normal pension age of 65. An increased accrual rate of 3% is applied in the main component and the maximum replacement rate and pension do not apply. The supplementary component also continues to accrue. It is possible to combine work and pension receipt as long as earnings are below € 700.

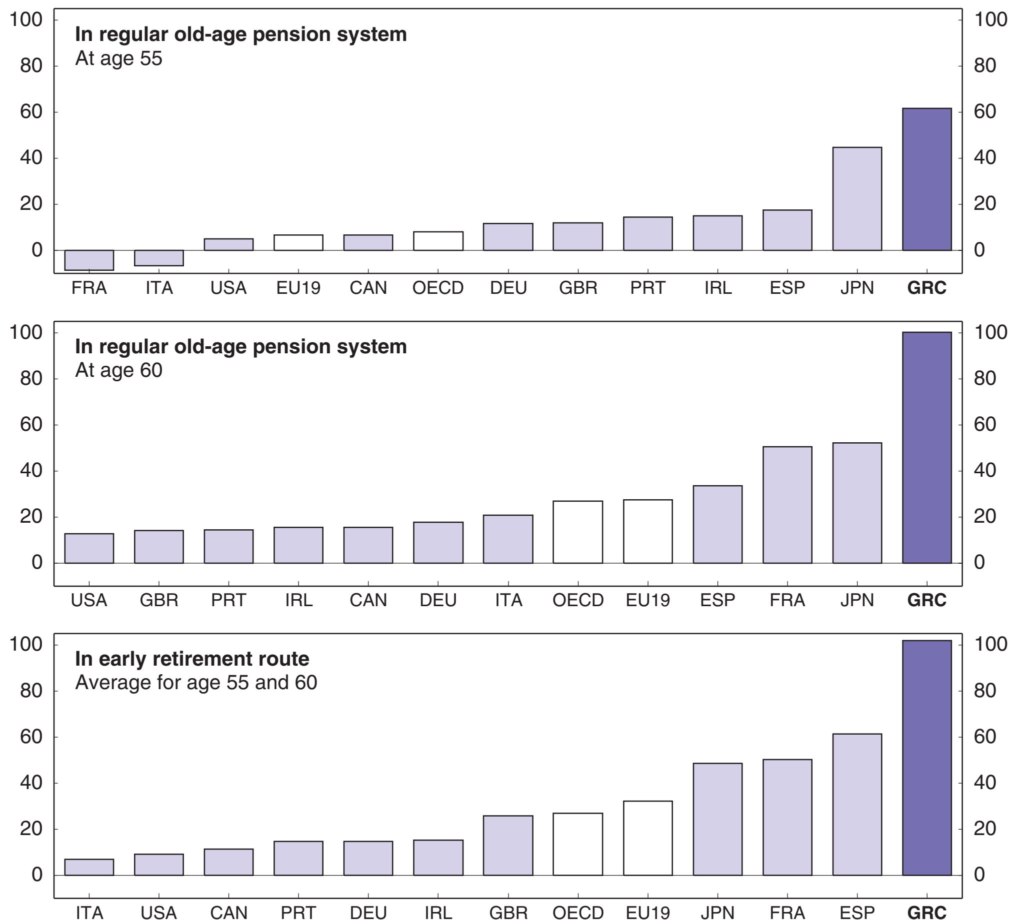
Taxation of pensioners

In general, benefits are subject to taxation with no special tax allowances or credits for older people.

Source: OECD (2007), *Pensions at a Glance: Public Policies across OECD Countries*, OECD, Paris.

Figure 3.4. **Implicit tax on continuing work for an additional five years**

Percentage of average worker earnings, 2005[1]



1. For a single worker with average production worker earnings. The OECD and EU19 aggregates are unweighted averages. EU19 covers all EU members that are also OECD members.

Source: OECD (2007), *Going for Growth*, Economic Policy Reforms, OECD, Paris.

Table 3.3. **Reductions in pension due to early retirement**

Number of years	Eligibility age	Conditions
15	65	No reduction
15	60	With reduction 4.5% per year
35	55	With reduction 4.5% per year
37	any	No reduction

(equivalent to about 40% of average earnings) is received by two-thirds of all IKA pensioners, it follows that the full actuarial adjustment is not applied in most cases. The high proportion of minimum pensions paid by IKA may be partly explained by irregular work histories, such as work abroad or in the case of successive insurance. It also probably reflects contribution evasion, as there are strong incentives to contribute the minimum 15 years of contributions and then leave the regular labour market to continue working in an undeclared job. This is further accentuated by high pension contribution rates and the existence of a large shadow economy.

- *Early retirement from occupations classified as "arduous or unhygienic"*. Retirement on a full pension is possible at age 55, provided the retiree has 35 years of contributions including 25 years working in "arduous" occupations. Alternatively, men are entitled to a full pension at age 60, and women at the age 55, if they have worked for 15 years with at least 12 years in an arduous occupation. There is a valid argument for preferential treatment (quantifiable on an actuarial basis) when employment in a particular occupation leads directly to a lower life expectancy. However, the scale on which these provisions are currently used (by 40% of all men retiring on an IKA pension and 16% of all women) as well as the extensive list of over 150 occupations to which they apply, suggests that the current provisions go far beyond this rationale.[3] Following a recent legislative provision this list of occupations is, however, currently being reviewed with a view to proposing a revised list by the end of 2007. Comparing this early retirement pathway with the dominant "alternative" (in the sense of being outside the regular old age pension system) early retirement pathways in other OECD countries (usually through unemployment, but sometimes through disability) again suggests that the disincentives to continue work are high in international comparison (Figure 3.4, lower panel). This is consistent with Greece having the highest share of any EU country of total pension expenditure accounted for by early retirement pensions (partial old age pensions or early-retirement benefit for labour market reasons, excluding disability) (Kubitza, 2005).
- *Women with dependent or disabled children can retire at 50*. Mothers of dependent or disabled children are eligible for a full pension at the age of 55, and a reduced pension at the age of 50, provided they have made contributions for at least 20 years. Again, the actual reduction for earlier retirement, in this case at age 50, may be small given that reductions are not applied beyond the level of the minimum pension. Mothers of disabled children get a full pension after 25 years of contributions without any age limit. Women with three or more children are eligible for full pensions at ages between 50 and 56, (calculated as 65 minus three years for every child up to a maximum of 15 years) after 20 years of contributions.
- *Early retirement through disability*. The age distribution of new disability retirees bears a close resemblance to that for old-age pensions leading Börsch-Supan and Tinios (2001) to argue that it is not consistent with being entirely caused by health status, but rather that disability pensions may also be substituting for regular old age pensions in cases where the retiree does not have sufficient contributions. The share of new IKA retirees retiring under conditions of disability is 20%, although this is not exceptional compared with some OECD countries. Nevertheless, strict gate-keeping through the use of independent specialised medical assessment is important, and may become more so, judging by the experience of other OECD countries, if access to other early retirement pathways is tightened.
- *Retirement under other special provisions*. About 10% of new IKA retirees are subject to a large number of special regimes. For example, Olympic Airways flying personnel receive full pension at age 45, with each year of contributions counting double (Börsch-Supan and Tinios, 2001).

One feature of employees' pensions which should be highlighted, given its divergence with increasingly common practice in other OECD countries (OECD, 2007), is that pensions are based on the last five years' earnings, rather than lifetime earnings. Establishing a clearer link between lifetime earnings, contributions and pensions will be important in reducing incentives to under-report income and evade contributions.

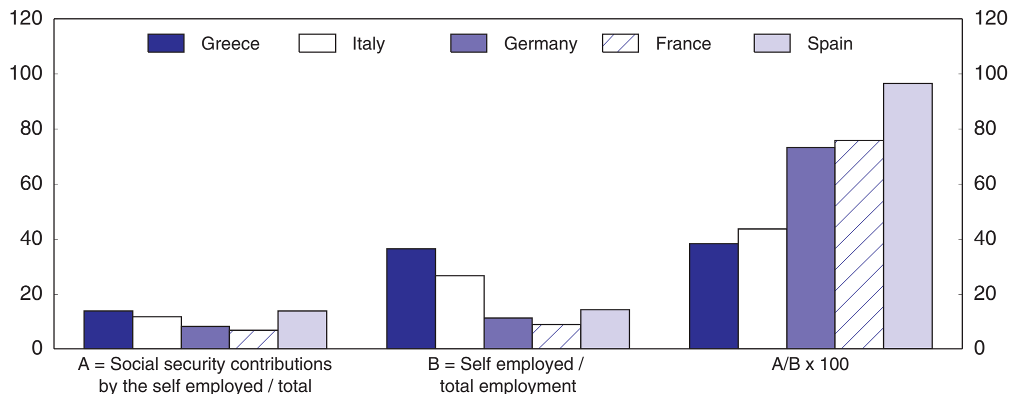
The main pension system for self-employed

Given that the self-employed represent nearly 40% of total employment, the pension arrangements for this group are of considerable importance in assessing the overall system. From 1999 the three main pension providers for the self-employed – TEBE (craftsmen and other professionals), TAE (retailers) and TSA (lorry drivers etc) – have been progressively integrated into a single fund, OAEE.

For post-1993 labour market entrants the parameters of the main pension system for the self-employed are similar to those for employees, but with some important differences with respect to how the assessed income against which contributions are determined and the pension is evaluated. Pension contributions are 20% of assessed earnings,[4] but these are unrelated to actual earnings and instead correspond to notional income classes which, depending on the fund, increase with years of experience. The calculation of pension rights is then based on the income classes over which contributions have been made. The resulting share of total social security contributions in aggregate appears low compared to their weight in total employment, and also in comparison with other European countries (choosing comparator countries where private pensions are also not widespread) (Figure 3.5). This would suggest that the level of notional incomes used to determine contributions should be raised. Ideally it would make sense to switch the basis for self-employed pensions from notional to actual earnings or some proxy measure such as turnover.[5] A prerequisite for such a change would be further improvement in the tax auditing of the self-employed. or, if this is difficult to reliably check, then some proxy measure such as turnover. If such a switch is not feasible, then the level of notional income bands against which the self-employed make contributions would need to be raised.

Figure 3.5. **The self employed and their social security contributions**

As a share of total, per cent, 2005[1]



1. 2004 for Greece.

Source: OECD (2006), *National Accounts of OECD Countries* – online database and *OECD Tax Statistics: Revenue Statistics 1965-2005* on CD-ROM, Vol. 2006/1.

Poverty in old age is relatively high

Reforms to the pension system over the last decade have focused on improving its safety net role. In particular, in 1998 a new government pension plan was introduced for farmers, previously a group particularly vulnerable to poverty in old age, which will eventually provide a full pension replacement rate of 50% to 70%. In 1996 a means-tested supplementary pension "EKAS" was introduced for those over the age of 60 (Box 3.2).

Box 3.2. **EKAS: A means-tested social solidarity benefit**

This scheme, introduced in 1996, is a non-contributory, means-tested benefit payable to low-income pensioners eligible under most schemes. Eligibility requires that total annual net income from all sources is less than € 7 165 (in 2006), total taxable income must not exceed € 7 656 and the total taxable family income, € 11 913.

Income level, lower limit	0	€ 6 526	€ 6 782	€ 6 952	€ 6 562
Benefit per month	€ 160	€ 120	€ 80	€ 40	0

The number of beneficiaries covered by this scheme in 2006 was 347 000.

Despite these reforms and high overall pension outlays, the diversity in replacement rates across different funds means that pension expenditure is not always targeted to those most in need. The at-risk of poverty rate for those aged over 65 in 2005 was among the highest in the EU both in absolute terms and relative to the rest of the population (Table 3.4).[6] This suggests that a further reason for pension reform is to ensure a more effective safety net to prevent poverty in old-age. Summary poverty statistics may, however, exaggerate hardship; in particular, low money incomes in rural areas may seriously overstate lack of resources because they neglect in-kind rents for home owners (97% of households in rural areas), consumption from own production and transfers within families and social circles (Börsch-Supan and Tinios, 2001). Nevertheless, long-term trends in demography and urbanisation are likely to increasingly weaken the cohesiveness of family and other informal support networks. Indeed, there has already been a marked fall in the number of the elderly still living with their adult offspring since the 1980s. At the same time the current high level of public expenditure on pensions, crowds out other forms of social transfers which may be in increasing demand in the future. For example, the combination of an ageing population, urbanisation, and the low fertility rate (implying the elderly of the future will have fewer children to care for them) is likely to increase the demand for formal long-term care services for the elderly. It will be difficult to contemplate meeting such demands from public expenditure if, as expected in the absence of reform, public expenditure on pensions almost doubles as a share of GDP to mid-century.

One option to provide a more cost effective safety net would be to strengthen EKAS so that it provides a minimum means-tested level of income in old-age, only available at the

Table 3.4. **Poverty risk for those aged over 65 and expenditure on old age benefits**

	At risk of poverty rate after social transfers,[1] 2005		Share of old age benefits[3] in total social benefits (%), 2004
	Absolute (%)	Relative to general population[2]	
Greece	**28**	**140**	**50.4**
Italy	23	121	61.3
Portugal	28	140	47.3
Spain	29	145	43.7
EU15	20	125	45.7

1. 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).
2. Index, general population at risk poverty rate = 100.
3. Including survivors benefits.

Source: Eurostat database, Population and Social Conditions, February 2007.

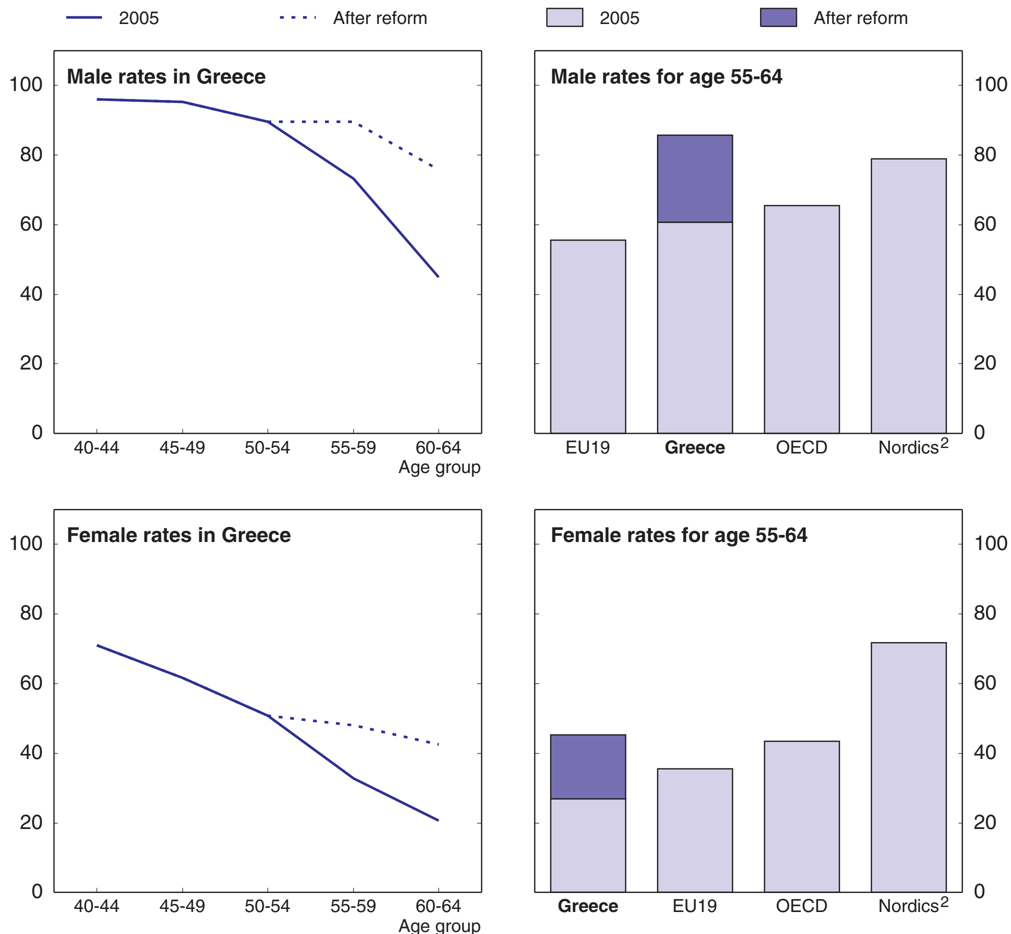
official age of retirement, while phasing out the minimum pensions which are guaranteed by each pension fund. While this would have the advantage of being cost-effective – which must be a paramount consideration given the current starting point – excessive reliance on means-testing does have the drawback of providing disincentives to save for retirement (OECD, 2005). An alternative option would be to provide a form of universal or citizen's pension (as in New Zealand). In the case of Greece, to avoid the risk of "benefit shopping", it might be necessary to supplement this with some form of legal residency requirement. Yet another alternative would be based on current minimum pensions, but ensuring they were strictly only available at the official age of retirement.

There are large potential gains to labour force participation from pension reform

A number of cross-country studies have found that financial incentives implied by old age pension systems as well as other early retirement pathways provide a strong

Figure 3.6. **The effect of pension reform on labour force participation rates**[1]

Labour force in per cent of population in the same age group



1. Effect of removal of early retirement pathways and imposition of actuarial neutrality in the old-age pension system using upper estimates in Duval (2003).
2. Denmark, Finland, Iceland, Norway, Sweden.

Source: Calculations based on Duval, R. (2003), "The Retirement Effects of Old-Age Pension and Early Retirement Schemes in OECD Countries", *OECD Economics Department Working Papers*, No. 370 and Eurostat population projections.

effect in explaining retirement behaviour (Blöndal and Scarpetta, 1998; Duval, 2003; Bassinini and Duval, 2006). Using such empirical results, the effect on labour force participation rates of reforming the retirement income system to an actuarially fairer basis can be estimated (Figure 3.6). These estimates suggest that the participation rate of older males (aged 55-64) could be raised by as much 25 percentage points, which would raise Greece from its current position below the OECD average to be among the leading countries. For older females the participation rate might rise by 18 percentage points which would bring it up above the OECD average, although still well below that in Nordic countries. The overall effect on aggregate labour force participation would tend to increase through time as older age groups become a larger share of the population of working age. On the basis of the demographic structure expected in 2050, the aggregate labour force participation rate could rise by 5 percentage points. Assuming this increased labour force participation translates into an equivalent increase in the employment rate, then the same level of pension expenditure would support a pension replacement rate around 8% higher than it otherwise would have been. More generally, this illustrates that removing the current distortions against continued working would also make a significant contribution towards ensuring long-run financial sustainability of the pension system and place less of the burden of adjustment on a less generous replacement rate.

Encouraging the development of private pensions

Voluntary saving *via* private pensions is currently negligible. Cross-country evidence suggests that this is mostly explained by the generosity of the mandatory pension system; countries with high pension replacement rates typically have little need for private pensions and workers are more likely to be liquidity-constrained where contribution rates are high (OECD, 2007). Thus, it is likely that if replacement rates are scaled back in the mandatory system, some of the slack would be taken up by growth in private pensions. In these circumstances the tax treatment of private pension savings will begin to matter more. Until recently, retirement saving was penalised in the tax system compared with other forms of saving, in contrast to the practice in most OECD countries. Saving in private pension funds was not deductible from taxable income, the associated investment income was not sheltered from taxation and withdrawal of the accumulated funds was also liable to tax at the same rate as earned income but unlike disposal of other financial assets. The Pension Act of 2002 has put in place tax arrangements for second-pillar occupational pension funds that are more in line with practices found elsewhere in the OECD. Thus, contributions are now exempt from taxable income, but pension payments are subject to tax. Furthermore, two new bodies, the Occupational Insurance Division of the Ministry of Employment and Social Protection and the (independent) National Actuarial Authority have been established and put in charge of supervising occupational pension funds.

Summary and recommendations

There has been no major reform of the pension system since the early 1990s, although the government has announced a consultation process on the long-term sustainability of the system, but will only introduce reforms after the next election.

Given the existing fragmented structure of pension funds, two very different strategies for reform could be envisaged. The first strategy would be to pass full responsibility for the

financial sustainability of pensions back to the individual pension funds (subject only to prudential regulation), effectively "privatising" them. This would involve some once-for-all financial settlement from government, which would depend on the circumstances of the individual fund and would be made on condition that the pension fund became fully funded (or else met some other sustainability criteria) at a specific date, say in 15 years. The merit of such a strategy is that it would make a virtue out of the current diversity of funds, which would come to resemble the private occupational funds which exist in other OECD countries, leaving the government to focus on the provision of a safety net against poverty in old-age. In practice such a strategy goes against the broad thrust of reforms which have been enacted since the early 1990s which have instead aimed to merge pension funds. Indeed, if government is to retain responsibility for the financial sustainability of pensions then there is a compelling need for pension funds to be merged and the parameters under which they operate made homogenous. Otherwise, while the lack of sustainability may be apparent at the macro level, how adjustment is divided between individual pay-as-you-go funds is likely to be unclear with a risk that such decisions become politicised.

Given the scale of the impending fiscal imbalance, it is almost inevitable that ensuring future fiscal sustainability will require a reduction in the total pension income (relative to average wages) received by the average pensioner over coming decades or a rise in contribution rates. Given the already high tax burden on labour income it would be preferable if the brunt of any such adjustment came about through lower accrual rates and a lower implied replacement rate, rather than through increased contributions.

The required adjustment to replacement rates will, however, depend on the capacity of the pension system to raise revenues by lengthening contribution periods and reducing disincentives to work at older ages. In order to maximise these effects, the general principles of any future pension reform should be to eliminate, or at least severely limit, the provisions that allow early retirement for a range of special groups, while at the same time ensuring that decisions to retire earlier or later than the "normal" retirement age are appropriately penalised or rewarded in close accordance with actuarial principles. This should entail pensions being explicitly linked to lifetime earnings, and the phased elimination of current minimum pension arrangements. Once the normal age of retirement has been established as a genuine benchmark against which earlier or later retirement is judged and appropriately compensated, then consideration should be given to periodically increasing it in line with increases in life expectancy.

Finally, as the mandatory public pension system becomes less generous there should be greater scope for the development of private pensions which hitherto have probably been crowded out by the generosity of the public system and further discouraged by their unfavourable tax treatment. To facilitate their development, the authorities need to remove the remaining tax disadvantages on private pensions and ensure regulatory and supervisory arrangements foster trust in the system.

A summary of more detailed recommendations for reform of the retirement income system is given in Box 3.3.

Box 3.3. **Recommendations for pension reform**

There are a range of possible options for reform. However, one way or another, many of the following will need to be implemented:

- To ensure fiscal sustainability statutory replacement rates, which are high in international comparison, need to be reduced by lowering accrual rates, although consideration should be given to raising accrual rates beyond the official retirement age. The scale of the required adjustment will depend on how successful other reforms are in reducing disincentives to continue working.
- Pensions should be based on lifetime earnings, as in the case of self-employed, rather than on the last five years' earnings as at present (for employees insured after 1992), in line with the majority of OECD countries.
- The length of a worker's career should not be allowed to override eligibility conditions based on age of retirement.
- Reducing overall pension expenditure while more effectively tackling poverty in old age is likely to mean that any safety net pension benefit will be available only at the official age of retirement in place of the current minimum pension arrangements which severely distort incentives to retire early. There is a range of options for the safety net pension; it might for example be means-tested (through expanding EKAS) or alternatively could be universally available subject to legal residency requirements or could even be based on current minimum pensions (but only available at the official age of retirement).
- The conditions for early retirement from occupations which are "arduous or unhygienic" should be restricted to those occupations where there is clear evidence that such work reduces life expectancy.
- Special conditions which encourage early retirement of mothers with dependent or handicapped children should be ended, and any support through public expenditure made independently of the system of retirement income.
- Access to a disability pension should be strictly enforced on medical criteria, judged by independent and specialised doctors.
- Some indexation rule for uprating pensions should be established (at present the uprating is discretionary and has varied considerably year-to-year and with the level of the pension). Given the need to reduce the generosity of pension benefits, awarded pensions might be routinely indexed to consumer prices or some mixed index of prices and earnings.
- Increase periodically the normal age of retirement in line with increases in life expectancy.
- Ideally it would make sense to switch the basis for self-employed pensions from notional to actual earnings or some proxy measure such as turnover. A prerequisite for such a change would be further improvement in the tax auditing of the self-employed. If such a switch is not feasible, then the level of notional income bands against which the self-employed make contributions would need to be raised.
- Accompany public pension reform with further encouragement of private pension arrangements through incentives to employees and employers as well as strong regulation and supervision based on OECD principles.

Notes

1. The 2002 Greek projections of pension expenditure are taken from the 2002 Greek Report on Pensions Strategy which included updated demographic projections relative to those used in the 2001 EU EPC report on the fiscal effect of ageing.
2. Changes in net pension wealth from working for an additional year (additional benefits minus additional contributions) can be regarded as an implicit marginal tax (if negative) or subsidy (if positive) on continued work, provided that the individual is already eligible for a pension, and that the receipt of a pension cannot be combined with earnings from work. Remaining in the labour market for an additional year implies foregoing one year of benefits. If the cost in terms of foregone pensions and contributions paid is exactly offset by an increase in future pension benefits, the pension system is said to be "actuarially neutral", but if this cost is not offset, there is an implicit tax on continued work.
3. There are currently 150 different categories of "arduous or unhygienic work", most of which comprise several occupations. These include, for example, mining and asbestos-related work, but many less expected occupations including work in construction, nursing, car production, production of cheese and salami, production of perfume, make-up or medication, car washers, bakery employees and presenters of the state-run television channels. The percentage of pensioners benefiting from these provisions is expected to decline gradually over time for a variety of reasons: the declining trend in most of the qualifying professions; the stricter eligibility criteria for females insured after 1993 (which have been equated to those for males), combined with the increasing participation of females in the labour market; and the gradual evolution of Greece towards a "services-based" economy. Nevertheless, given the current level of such provisions, this gradual future decline should not be viewed as a reason to avoid reform.
4. Corresponding to the sum of employee's and employer's contribution rates under the main employee scheme, IKA.
5. Actual earnings are the basis for the determination of contributions and the pension level for the self-employed in a number of OECD countries, including Czech Republic, Hungary, Korea, Portugal, Slovak Republic, Switzerland and the United States, where salaried employees and the self-employed are covered by essentially the same scheme.
6. The at-risk-of-poverty threshold, which is held at 60% of national median disposable income (after transfers), but in this context pensions are counted as income before transfers and not social transfers.

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ANNEX 3.A1

Pension expenditure projections

This annex explains why the projected increase in public pension expenditure for Greece is so large compared with other EU15 countries and also explains how the 2002 official projections have been updated by the OECD to take account of more up-to-date demographic projections and alternative labour market projections.

Comparing official Greek and EU15 pension projections

The last official Greek projections, which were made in 2002, are here compared with the 2006 EU EPC projections for the EU15. The 2002 Greek projections of pension expenditure are taken from the 2002 *Greek Report on Pensions Strategy* which included updated demographic projections relative to those used in the 2001 EU EPC report on the fiscal effect of ageing. For the purposes of this comparison the share of pension expenditure in GDP is decomposed into three components as follows:

$$(1) \quad \frac{\text{Pension expenditure}}{\text{GDP}} = \text{Pension benefit ratio} \times \text{Dependency ratio} \times \frac{1}{\text{Employment rate}}$$

where:

$$\text{Pension benefit ratio} = \frac{\text{Pension expenditure/Population 65+}}{\text{GDP/Employment}}$$

$$\text{Dependency ratio} = \frac{\text{Population 65+}}{\text{Population 15-64}} \qquad \text{Employment rate} = \frac{\text{Employment}}{\text{Population 15-64}}$$

The increase in pension expenditure as a share of GDP to 2050 is only 2.8% of GDP for the EU15 as compared to 10.2% of GDP for Greece (Figure 3.2, upper panel). A part of this difference is explained by demography: while the old-age dependency ratio more than doubles to 2050 in both the EU15 and Greece, the increase is greater for Greece and adds about 2.5% of GDP to pension expenditure by 2050 (Figure 3.2, second panel). Some of this additional cost is offset by slightly more optimistic employment rate projections for Greece, although the difference is small.

By far the most important reason explaining the larger increase in pension expenditure for Greece relative to the EU15 is the different profile of the "pension benefit ratio" [defined as in expression (1)] which declines by 8% until 2050 for Greece but by 35% for the EU15 (Figure 3.2, lower panel). The much larger decline in the benefit ratio in the EU15 reflects both a fall in the average pension relative to the average wage, as well as a decline in the number of people receiving a pension relative to the population aged over 65. These changes are most marked for those EU countries which have already enacted major

pension reforms (especially Austria, France, Germany and Italy), particularly through making indexation rules less generous as well as increasing statutory retirement ages, curtailing access to early retirement, indexing benefits to longevity and reducing financial incentives to leave the labour force.

Updating official Greek pension projections

The pension expenditure projections for Greece were updated by assuming the same profile for the pension benefit ratio as in the 2002 official Greek projections, but using updated projections for the dependency ratio and the employment rate (represented by the third bar in each set in Figure 3.2). The updated demographic projections are the most recently available from *Eurostat* from which labour force participation projections are derived following the OECD method described in Burniaux *et al.* (2004).* It projects participation by age group and sex and, in particular, allows for a cohort effect which tends to increase female participation. To derive a projection for the employment rate it is further assumed that the unemployment rate gradually falls to 7% (the same assumption adopted in the recent EU EPC exercise). The resulting projections for pension expenditure is slightly higher than suggested by the 2002 official Greek projections, rising by 11.2% of GDP to 2050, because of a slightly more pessimistic projection of the employment rate.

* Burniaux J., R. Duval and F. Jaumotte (2004), "Coping with Ageing: A Dynamic Approach to Quantify the Impact of Alternative Policy Options on Future Labour Supply in OECD Countries", *OECD Economics Department Working Papers*, No. 371, OECD, Paris.

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Chapter 4

Easing entry into the labour market

Unemployment remains high, particularly among first-time labour market entrants (mainly the young) and re-entrants (mainly women), while the long-term unemployed account for a high share of the total. There is scope for policy to facilitate entry to the labour market particularly by reducing minimum labour costs and easing the relatively strict employment protection legislation. Neither is currently on the government's policy agenda.

The level of minimum wages is not exceptional in international comparison. However the absence of a specific sub-minimum means that they do rank more highly for youth. Adverse effects on employment are exacerbated by high employers' social security contributions. An unusual feature is that legally binding minimum wages are set by the social partners and apply to the whole economy; also, the government can under certain conditions extend collective agreements at the industry or occupational level to cover the entire industry or occupation rather than just the parties to the agreement. In setting minimum wages, the social partners should take into account high unemployment rates of youth. Social security contributions for the low-paid were reduced in 2000 but they should be reduced further, financed by spending restraint. A well-targeted tax and benefit system rather than differentiated minimum wages should be the instrument to address the needs of low income earners with families.

Employment protection legislation (EPL) across all occupations is roughly in line with the EU19 average, although it is much stricter for white than blue collar workers, due to higher severance payments. These differences may reduce labour market turnover and harm the employment prospects of groups which are most subject to entry or re-entry problems, such as the young, women and the long-term unemployed. Severance payments for white collar workers should be reduced and brought into line with those for blue collar workers.

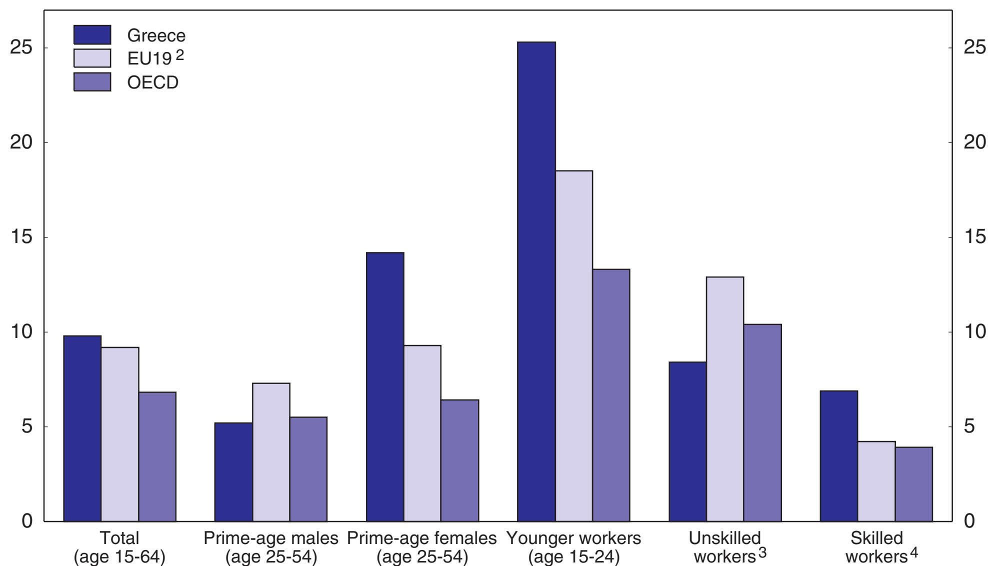
Other policy changes which would improve the labour market situation, but which should await an improvement in the fiscal situation, include greater support for active labour market measures and childcare.

Recent labour market performance

The standardised unemployment rate has fallen from a peak of 12% in 1999 to around 9% in 2006, but still remains among the highest in the OECD. High unemployment is particularly prevalent among certain vulnerable groups; while the unemployment rate for prime-age males is slightly below the OECD average, for prime-age females and the young it is about double the OECD average (Figure 4.1). A range of other indicators – including the high incidence of long-term unemployment, low monthly outflows from unemployment, long average job tenure, and low gross labour flows between industries – suggest that labour mobility, broadly defined, is relatively low in comparison with other OECD countries (Kongsrud and Wanner, 2005). Much of the poor labour market performance, particularly problems relating to labour market entry, can be explained by relatively rigid labour market institutions. The remainder of this chapter begins by examining the institutional setting for wage determination, which seems of particular relevance as high wage settlements have led to a considerable deterioration in competitiveness as measured by relative unit labour costs (Figure 1.6). It then focuses on the scope for facilitating entry into the labour market by changes to minimum labour costs and employment protection legislation,

Figure 4.1. **Unemployment rates**

Unemployment as a percentage of the labour force in the same age group, 2005[1]



1. 2004 for skilled and unskilled.
2. EU19 covers all EU members that are also OECD members.
3. Persons who have not completed upper secondary education.
4. Persons who have completed tertiary education.

Source: OECD (2006), *Database on Labour Force Statistics*, November, *www.oecd.org/els/employment/stats*; *OECD Employment Outlook* and *Education at a Glance*, OECD, Paris.

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which are two of the structural priorities identified in *Going for Growth* (OECD, 2007). The scope for facilitating labour market entry through changes to active labour market measures and greater support for childcare are subsequently considered. A final section provides a summary and offers a set of policy recommendations.

The wage formation system and levels of bargaining

Legislation passed in 1990 ended state intervention in private sector wage formation in the form of compulsory state arbitration between the social partners. It established the Mediation and Arbitration Organisation (OMED), an independent body that provides mediation and arbitration services when negotiations are at an impasse. The law also changed the legal framework for collective bargaining by introducing the possibility of sectoral and enterprise-level agreements. National General Collective Labour Agreements (NGCLA) are negotiated between the Greek General Confederation of Labour (GSEE) representing all private employees (although only 20% of the salaried workforce are unionised),[1] and a number of organisations representing employers' interests.[2] The NGCLAs determine national minimum wage levels (the "basic" wage, as well as the allowance for married workers and allowances linked to length of service), and minimum standards for other working conditions, such as the length of parental leave, paid vacation or the level of severance payments in case of dismissal. Although the government has no legal power to participate in the negotiations or influence their outcome, it sometimes ratifies provisions relating to general working conditions (*e.g.* maternity leave, or severance pay) so that they apply to all employees in the non-general government sector. Regarding minimum wage increases no such ratification is necessary as they are automatically legally binding for all workers. The national collective agreements set a floor so that additional agreements at the industry, occupational or enterprise level can only lead to wages or conditions of employment that are more favourable for employees. In terms of wages, the NGCLAs are binding only as far as *levels* are concerned; thus rates of wage increases can be lower in industry, occupational or enterprise agreements. Also, in areas of high unemployment employers can opt out from sectoral agreements and apply the lower national minimum wage, although this opt-out possibility is rarely used (Sabethai, 2000).

Decentralised bargaining can take place at the industry or enterprise level and agreements can cover particular occupations either at the national or local level. Intermediate level agreements (by industry or occupation) together with general national agreements apply to 99% of Greek enterprises and cover nearly three-quarters of employees.[3] There is some cross-country evidence that suggests that an intermediate level of wage negotiations is inferior to either centralisation or decentralisation in terms of unemployment outcomes (Calmfors and Driffill, 1988 and OECD, 2006a). Sectoral level negotiations hinder matching of wages and productivity at the company level, thus hampering flexibility. In addition, intermediate level bargaining does not take advantage of potential macroeconomic benefits that stem from coordination at the national level, for example by enforcing wage restraint in periods of rising unemployment (OECD, 2005a). Countries where bargaining takes place at the industry level, such as Greece, tend therefore to have higher aggregate wage and unemployment outcomes than countries where wages are set centrally. Moreover, whenever employers party to an agreement provide work for 51% of the workforce in an industry or occupation, agreements become legally binding (subject to ministerial decision) for the whole industry or occupation. The government

should thus refrain from extending collective agreements to parties that are not directly represented in the original agreements.

Decentralisation of collective bargaining to the enterprise level has in practice progressed only gradually. Due to the particular structure of the Greek economy (high self-employment, high incidence of very small companies) enterprise-level agreements are concluded by less than 0.01% of companies. Enterprise level agreements, however, introduce more flexibility since negotiations at this level facilitate matching of wage increases with productivity growth. As the size of enterprises increases enterprise level agreements might become more widespread. Thus, although the 1990 legislative changes aimed at decentralising wage bargaining they have so far only bolstered sectoral bargaining bringing about the aforementioned adverse consequences.

The macroeconomic gains from wage moderation

An issue for concern, already highlighted in Chapter 1, is that wage increases over recent years have led to a continuous deterioration in unit labour cost competitiveness relative to the rest of the euro area as well as a sustained positive price inflation differential (Figure 1.6). Moreover, as previously argued, little of this differential can easily be attributed to being an inevitable consequence of convergence with other euro area countries (*i.e.* any Balassa-Samuleson effect is probably weak). On the other hand, differences in the cyclical position explain part of the current inflation differential; over recent years Greece has sustained a positive output gap and the euro area a negative one, and it is therefore unsurprising that this has led to higher wage growth. Nevertheless, a major concern is that the wage setting framework will not deliver sufficient flexibility to recoup competitiveness losses swiftly should the cyclical position normalise or reverse. A counterfactual simulation of the Bank of Greece's economic model highlights the potential gains from wage restraint. It suggests that if nominal earnings since 2003 had converged towards the sum of productivity growth and the inflation rate in the euro area, then inflation would have been brought down to the euro area average, employment growth would have been stronger and the *ex post* increase in real earnings would only have been marginally weaker (Bank of Greece, 2005). To help achieve such an outcome, the government should consider ways to encourage more decentralised bargaining. This might be achieved by avoiding the administrative extension of collective agreements (at the industry or occupation level) to enterprises not involved in the wage negotiations.

An alternative or complementary means of achieving wage restraint is for the government to aim for more moderate increases in the wages of its own employees. The public sector often plays a leading role in aggregate wage developments because it accounts for a relatively high share of all employees in dependent employment (given the importance of self-employment in the rest of the economy) and because the rate of unionisation is much higher than in the private sector. Over the last decade, however, wages in central government (and even more so in public enterprises) have usually out-paced wage increases in the (non-bank) private sector, sometimes by a wide margin (Figure 4.2) (Bank of Greece, 2006a and 2007). It is only since 2005 that central government average gross earnings grew by less than in the private sector.

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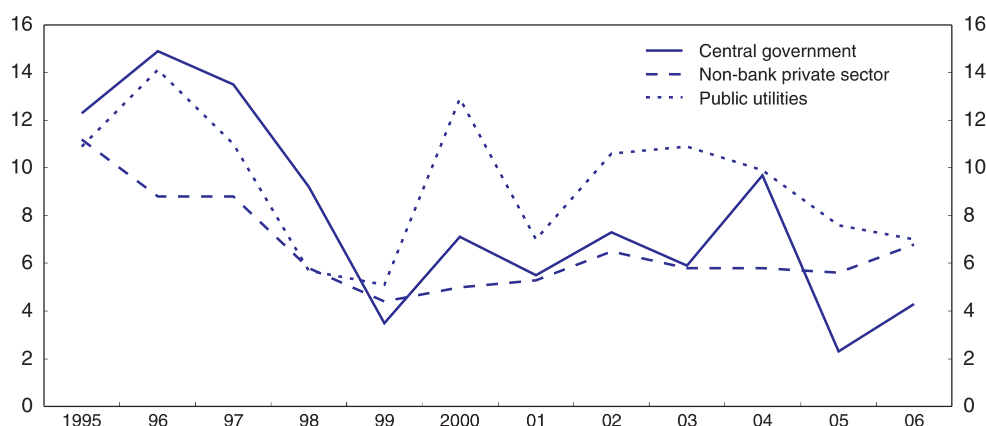
Figure 4.2. **Government and private sector wage increases**

Annual percentage change



Source: Bank of Greece (2006), *Annual Report 2005* and Bank of Greece (2007), *Monetary Policy 2006-2007*, Athens.

Minimum wages hamper entry into the labour market

Greece is unusual, although not unique, in the OECD in that minimum wages are determined by the social partners with no direct input from the government (Box 4.1). Agreements at the industry and the occupational level are immediately applicable to those who are parties to the agreement; under certain circumstances they can, however, be administratively extended (by ministerial decision, following the opinion of a tripartite body) to whole industries or occupations.

The recent OECD review of the available cross-country evidence suggests that, while minimum wages can play a useful supporting role in a broader anti-poverty programme, there is potential to harm job creation when minimum wages are high, particularly where no adequate allowance is made for youth and other vulnerable groups (OECD, 2006b). However, when comparing minimum wages across countries it is important to consider on which measure of average wages they are normalised on. An arithmetical mean measure of wages may be unrepresentative if the earnings distribution is skewed due to the presence of very high earnings for instance. This bias seems to be particularly important in the case of Greece: income inequality measured by the Gini-coefficient is high in comparison to the EU15 average (European Commission, 2005); and the ratio of the arithmetic mean to median earnings is higher in Greece than in most other EU countries (Mittag, 2006). For the purposes of cross-country comparison minimum wages are thus normalised over median wages as the latter are more representative of the typical wage. While recent data on median wages is available for many OECD countries, it is not readily available for Greece. To overcome this problem, an up-to-date measure of mean earnings is scaled by a less up-to-date ratio of mean to median earnings (Annex 4.A1).

In Greece, there are 20 different levels of the minimum wage set according to family and professional status as well as work experience (Annex 4.A1). The lowest minimum wage for a single blue collar worker with no work experience is about 45% of the median wage,[4] which is close to the OECD average (Figure 4.3). The effect of a change in marital status moving from single to married, holding experience constant, increases the minimum wage by 10%.[5] Thus, for a married blue collar worker with no experience the minimum wage ratio rises further to 50%.

Box 4.1. **Institutional arrangements for setting minimum wages across OECD countries**

A majority of OECD countries has some form of statutory minimum wage set either by law or through collective agreements. In most of these countries, minimum wages are set by the government, in some cases, following consultations with a tripartite body. In these countries a single national minimum rate is set that covers practically all sectors of the economy, while often allowing for sub-minimum rates for youth or apprentices (13 out of 21 OECD countries that set statutory or national minimum wages) (OECD, 1998).

Among these countries the United Kingdom is notable because the government is advised by an independent body of experts, the Low Pay Commission (LPC). Although the LPC does not set the minimum wage, the government usually implements the LPC's proposals. Following the UK example, Ireland and Australia have also introduced independent expert bodies advising the government regarding minimum wages, although in the case of Australia, the Fair Pay Commission, rather than the government sets minimum wages.

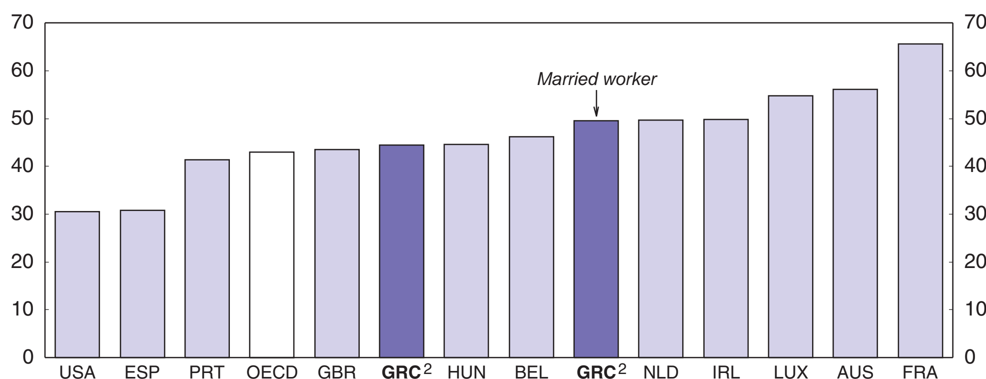
In the Nordic countries centralised wage agreements between the social partners, sometimes with direct or indirect government involvement (for example in the form of promises of future tax cuts for moderate outcomes), set entire wage grids for industries or occupations, although this also implies a minimum wage in low wage occupations (OECD, 2005a). The wage minima differ somewhat by sector or occupation.

It is only in Greece and Belgium that a nationwide minimum wage is set through agreements between the social partners. Bipartite negotiations between employees and employer organisations in Belgium take place in the National Labour Council. Intersectoral agreements cover employers that are not members of the signatory organisations, except if the individual contract of employment includes clauses negating these agreements. Intersectoral agreements can become binding for all employers by royal decree, an extension procedure that is used quite often. However, in 1996, the government passed a law "relating to the promotion of employment and the maintenance of competitiveness". This law sets a ceiling for wage increases as a function of what is happening in the three main trading partners (France, Germany and Netherlands). Wage increases are negotiated on the basis of past inflation and the wage ceiling. The ceiling is legally built into the intersectoral agreements, which are negotiated every two years (EIRO, 2005).

Although minimum wages vary by experience, an additional three years of work experience increases the minimum wage by 5% up to a maximum of 15 years, there is no specific sub-minimum wage for youth. The lowest minimum wage cost for a single blue collar worker without any experience ranks highly in comparison with the minimum wage that applies to youth in other OECD countries (as a ratio to the median wage) (Figure 4.4). This is one reason why entry into the Greek labour market is difficult: the youth unemployment rate is 25% as compared to a total unemployment rate of 9%.[6] The introduction of a sub-minimum wage for apprentices and young workers could help tackle unemployment rates that have remained stubbornly above 25% for these groups. Moreover, international evidence shows that the incidence of low pay among the young decreases over time as exit rates from low pay are relatively high and, more importantly, higher than exit rates from unemployment. Thus, it appears to be better for career progression to be working in a low paid job than to have no job at all (Quintini and Martin, 2006).

Figure 4.3. **Minimum wages**[1]

For a single blue-collar worker without any work experience, per cent of median wage, 2005

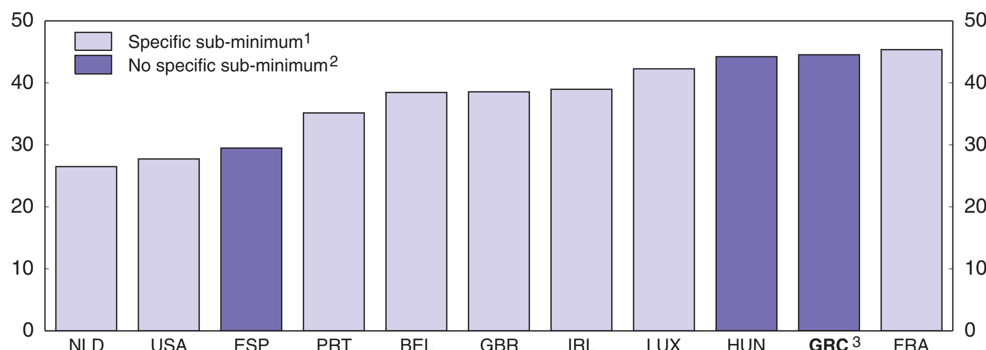


1. Missing countries do not have a statutory minimum wage.
2. See Annex 4.A1 for further information.

Source: OECD (2007), *Going for Growth*, Economic Policy Reforms, OECD, Paris.

Figure 4.4. **Minimum wage rates applying to youth**

In per cent of the median wage, 2004



1. For young workers aged 15 to 18 or 21, depending on the country concerned.
2. Standard minimum wage applies. Greece does not have a sub-minimum wage as adult rates apply as from age 15; data shown are the lowest level of minimum wages for a single, blue collar, inexperienced worker.
3. See Annex 4.A1 for further information.

Source: Calculations based on the *OECD Database on Labour Force Statistics*, May 2006, *www.oecd.org/els/employment/stats,* and national data sources.

High social security contributions further depress labour demand

A high minimum wage is likely to lead to more adverse effects on unemployment when the tax wedge is high. Employers cannot shift the tax burden onto wages when the minimum wage is binding. High minimum wages therefore increase the tax wedge's adverse effect on labour demand. Recent OECD research suggests that an increase in the ratio of minimum to median wages by 10% increases the tax wedge's impact on unemployment by 50% in the "average" OECD country (OECD, 2006b).

Employers' social security contributions amount to 28% of gross earnings in Greece compared with a euro area average of around 25% and an OECD average of 20% (OECD, 2005b). If the worker is engaged in occupations which are classified as "arduous or unhealthy" (a classification which is loosely determined covering nearly 31% of all employees, see Chapter 3) contributions increase to over 30%. Thus, the minimum wage in

combination with high non-wage costs can push up total compensation to where it becomes uneconomic to hire inexperienced and other low-skilled workers (Burtless, 2000) and is also likely to lead to the employment of informal labour in sectors such as construction.

A measure to reduce labour costs relating to the employment of low-paid workers was introduced in 2000. With effect from January 2001 employers' social security contributions (that amounted to 28.6% of gross pay) were reduced by 2 percentage points for low-wage workers (for the purpose of this reduction, workers were classified as low-wage if their monthly earnings, without including overtime remuneration, amounted to approximately € 600 at the time the law was passed; this threshold has been adjusted since then). The adverse effects of non-wage costs in increasing the minimum cost of labour for vulnerable groups was also recognised in legislation passed in early 2004. Notably, in relation to the present discussion, employers who hire unemployed youth up to 25 years old would be granted a reduction of 50% of their social security contribution. The legislation would also reduce social security contributions for other vulnerable groups (subject to various other requirements), including people aged over 55, unemployed women with children and subsidised unemployed persons (OECD, 2005c). However, in practice it appears that this provision has not yet been implemented; this represents another example of the "implementation deficit" whereby worthy legislation is not implemented in a timely fashion.

Social objectives would be better accomplished by a well-designed benefit system

Around two-thirds of low-wage employees in Greece (working at least 15 hours per week) live in households where the equivalised income[7] is equal to or above 60% of the national median equivalised income (EIRO, 2002). Consequently, these employees can not be considered as poor. Moreover, the extended family network provides greater support than in most other OECD countries.[8] Greater flexibility in the setting of minimum wages could reduce unemployment without significantly increasing hardship, especially if combined with measures that increase the income of wage earners living in poor households. Earned income tax credits, as used in the United States, for example, help poor households without having adverse effects on employment (Burtless, 2000).

Indeed, due to the lack of an adequate benefit system (including tax credits), minimum wages are practically the only policy instrument for tackling poverty prior to retirement in Greece. This is illustrated by the fact that for a single person receiving minimum wages, minimum take-home pay is not significantly higher than minimum labour costs, in contrast to the experience in most other OECD countries (Figure 4.5). Extending this comparison to a family with a single earner (also paid the minimum wage) and two children, labour cost and net take home pay increase in parallel by 10%. Again this is due to an increase in the minimum wage level and underlines the absence of any child or family benefits. While there are indeed different levels of minimum wages set for different circumstances, these do not necessarily protect the most vulnerable groups: a single parent for example cannot benefit from the 10% increase in the minimum wage, as this increase is related to marital status and not parenthood.[9] Minimum wages can play a useful supporting role in a broader anti-poverty programme, but such programmes should not be solely based on minimum wages. A redistribution of income in favour of low-income earners and their families can be better accomplished by well-targeted benefits. Improving

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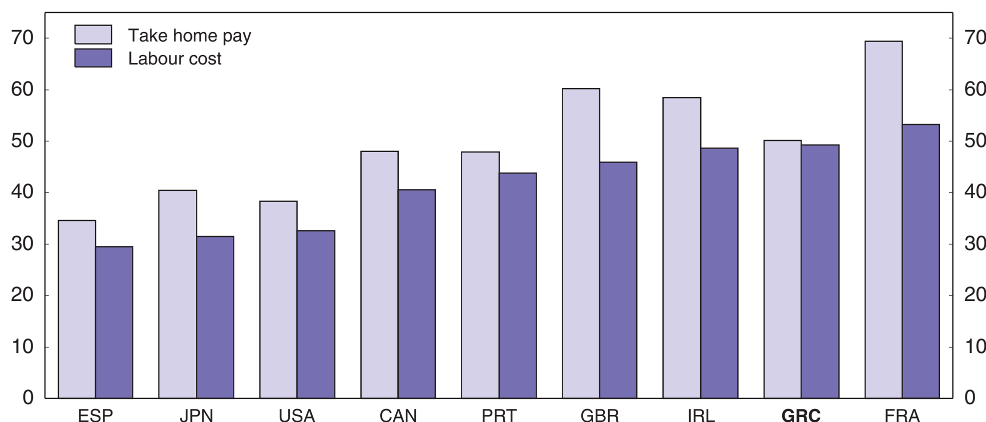
Figure 4.5. **Minimum take home pay and labour costs**

As a percentage of the median level, for a single person, 2004



Source: OECD (2006), Tax-Benefit Models, May, *www.oecd.org/els/social/workincentives*.

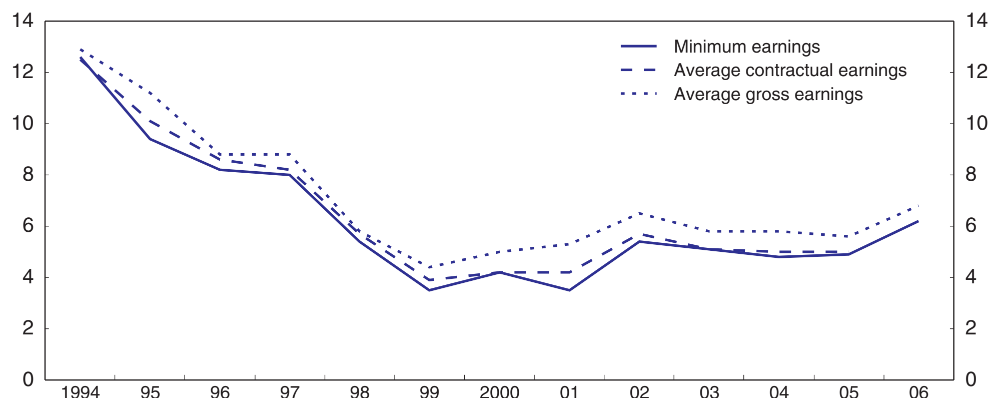
the benefit system would place less reliance on minimum wages and so avoid their adverse employment effects on certain vulnerable groups.

The setting of minimum wages should be decoupled from aggregate wage determination

There is a close correspondence between the changes in minimum wages and aggregate changes in both contractual earnings and gross average earnings, suggesting that the setting of minimum wages is closely integrated with aggregate wage determination (Figure 4.6).[10] In international comparison, the contemporary correlation between changes in minimum wages and gross average wages is also very high. As noted earlier, the government should continue to aim for more moderate increases in the wages of its own employees, as in 2005 and 2006, recognising that they often play a leading role in aggregate wage developments.

Figure 4.6. **Changes in minimum and average wages**[1]

Annual percentage change



1. Non-bank private sector.

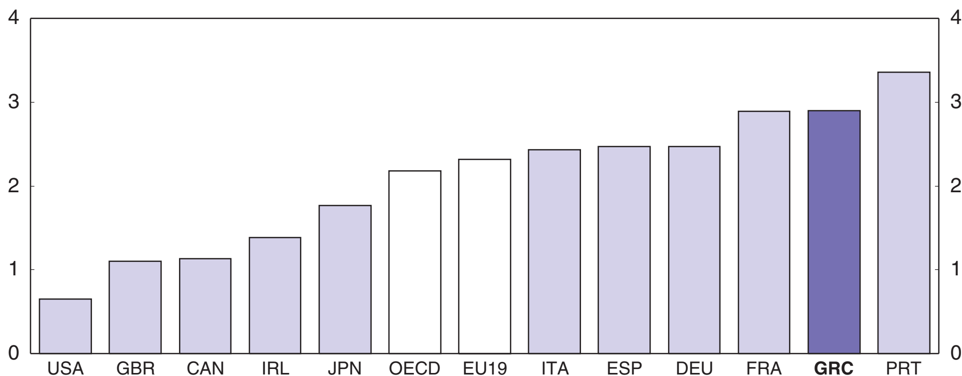
Source: Bank of Greece (2006), *Annual Report* 2005 and Bank of Greece (2007), *Monetary Policy 2006-2007*, Athens.

Strict employment protection legislation impedes labour turnover

On average, employment protection legislation (EPL) across all occupations, while stricter than the OECD average, is roughly in line with the EU19 average (Figure 4.7). However, an unusual feature of EPL in Greece is that it is much stricter for white collar than blue collar workers. This difference distorts the labour market and the relatively strict EPL for white collar workers is likely to reduce labour market turnover and so render the entry to the labour market difficult. Indeed labour market turnover is among the lowest in the OECD, which may also help explain why average hours worked per employee are among the highest. Empirical evidence is inconclusive as to whether strict EPL increases structural unemployment. Several studies underline however, that EPL restrains job creation by reducing labour turnover and hiring. Strict EPL restrains the flow into unemployment but increases at the same time the duration of unemployment. This compromises the employment prospects of groups which are most subject to entry problems such as the young, women and the long-term unemployed.

Figure 4.7. **Restrictiveness of employment protection legislation**[1]

Index scale of 0-6 from least to most restrictive, 2006



1. The OECD and EU19 aggregates are unweighted averages; OECD excludes Iceland. EU19 covers all EU members that are also OECD members.

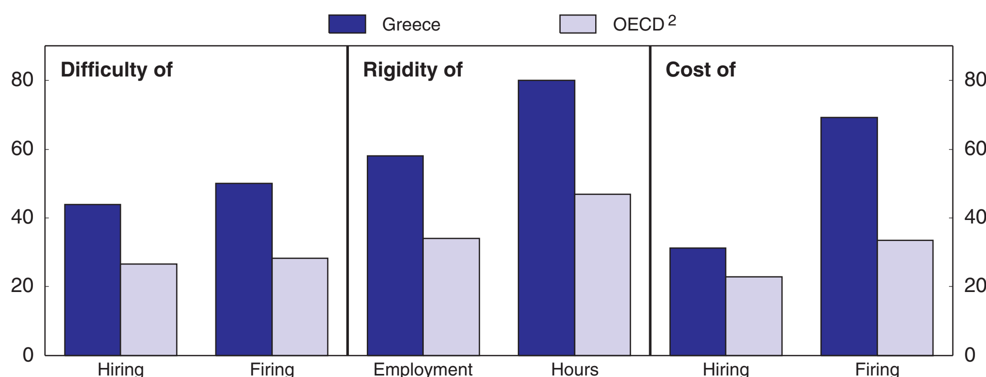
Source: OECD (2007), *Going for Growth*, Economic Policy Reforms, OECD, Paris.

OECD summary indicators of the restrictiveness of EPL are calculated as an average over employment conditions for white and blue collar workers. An alternative series of indicators calculated for the World Bank's *Doing Business* study (World Bank, 2006) focuses on employment conditions for white collar workers only and is calculated as an average of three sub-indices: the difficulty of hiring and firing and the rigidity of hours worked. Greece scores poorly on all three indicators, but the difficulty of firing stands out particularly as it is almost twice the OECD average (Figure 4.8). Firing costs are high because of the many weeks of wages payable to the dismissed employee.

Severance payments for white collar workers are much higher than for blue collar workers.[11] While different regulations for dismissals of white and blue collar workers are also in place in other OECD countries – in Austria, Belgium, Denmark and Italy – the difference appears much greater in Greece. In all of these countries, as well as in Greece, the length of the notification period is longer for white than for blue collar workers. In Austria, Belgium and Italy no type of worker is entitled to severance payments, while after 20 years of service white collar workers in Denmark are entitled to three months of

Figure 4.8. **Employing workers indicators**

Index,[1] scale of 0 to 100 from least to most rigid, 2006



1. Except for costs where hiring is in per cent of salary and firing is in weeks of wages.
2. The OECD aggregate is an unweighted average excluding Luxembourg.

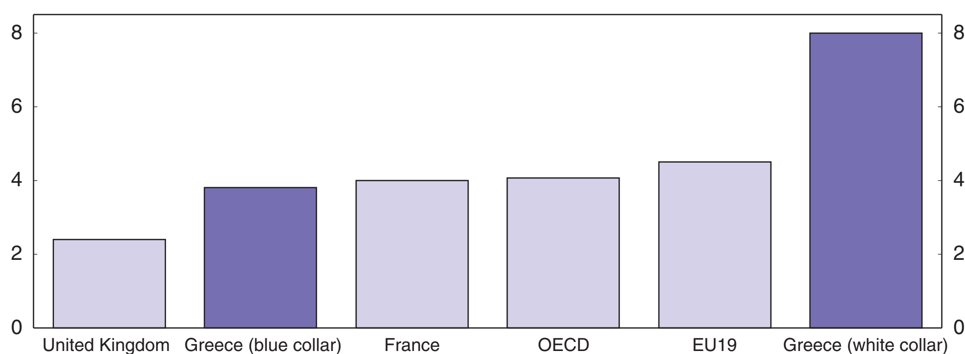
Source: World Bank and International Finance Corporation (2006), *Doing Business* – online database, December, *www.doingbusiness.org*.

severance payments. Thus among the countries with legal distinctions between EPL for blue and white collar workers, this distinction appears most marked in Greece, in particular because of the difference in severance payments. In addition, in comparison to all OECD countries, while severance payments are low for blue collar workers they are relatively high for white collar workers (Figure 4.9).

Severance payments for white collar workers are based on the last monthly full-time salary before the dismissal (augmented by one-sixth of its value to account for holiday allowances). The level of total payments is measured in months of salary and depends on the time an employee has spent with the same employer and on the notification period.[12] For a white collar worker with 20 years' experience with the same employer, the severance payment is 8 months of salary after a notification period of 16 months (and 16 months of salary without notification), compared to an OECD average of 4 months (Greek General Confederation of Labour, 2006). In most OECD countries severance pay at short tenure[13] is

Figure 4.9. **Blue and white collar severance payments in international comparison**

After 20 years of employment, months of salary, 2003[1]



1. In Greece, higher levels of severance payments are applied for longer employment terms: 5.5 months of salary after 30 years for blue-collar workers; 12 months of salary after 28 years for white-collar workers (24 without notification). The EU19 and OECD aggregates are unweighted averages. EU19 covers all EU members that are also OECD members.

Source: OECD (2007), *Going for Growth*, Economic Policy Reforms and OECD (2004), *OECD Employment Outlook*, OECD, Paris.

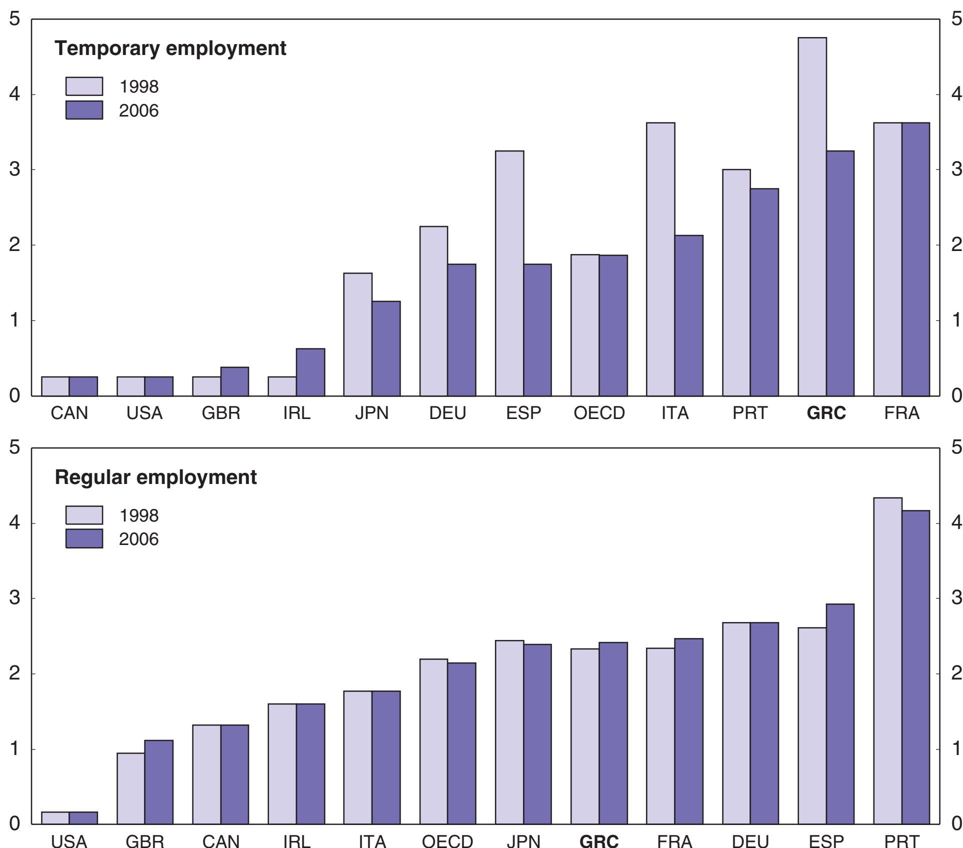
not required by law. Moreover, those countries that apply different rules for blue and white collar workers (such as Austria, Belgium Denmark and Italy) do not require severance pay after nine months for either blue or white collar workers. As this impinges on labour turnover, employment protection for white collar workers should be reduced and aligned with those of blue collar workers.

Reforms of temporary employment have not been ambitious enough

Recent OECD research suggests that temporary employment can be a first step towards career progression as it facilitates labour market entry for youth (Quintini and Martin, 2006). The restrictiveness of EPL for temporary employment has decreased in Greece over the last decade but remains among the most stringent in the OECD (Figure 4.10, upper panel).[14] Following the reforms, temporary employment increased to 9½ per cent of total employment but remains much lower than in the euro area where it accounts for 16% (Eurostat, 2006). Moreover, Greece is one of the few countries which imposes more stringent rules on temporary than on regular employment. EPL stringency on temporary employment causes problems: for example, the proportion of young people neither in education nor in employment or training (NEET) is among the highest in the

Figure 4.10. **Restrictiveness of employment protection legislation on temporary and regular employment**[1]

Index scale of 0-6 from least to most restrictive



1. OECD is an unweighted average excluding Iceland for both years and excluding Luxembourg in 1998.

Source: OECD (2006), *Going for Growth*, Economic Policy Reforms; OECD (2004), *OECD Employment Outlook*, OECD, Paris.

OECD (though it needs to be noted that NEET rates can be influenced by non-economic constraints such as military service). What is more, the share of NEET youth that spent the following five years in the same status is 20% in Greece, the second highest in the sample. Given the high rate of youth unemployment combined with the difficulties in entering the labour market, EPL on temporary employment should be reduced further.

If temporary employment is to facilitate labour market entry, additional reforms have to ensure that youth who start in temporary jobs move into permanent arrangements. Loosening EPL on temporary employment should hence ideally be combined with reducing the level of protection for permanent workers. Indeed, maintaining an overly high level of protection for permanent workers in combination with growing recourse to temporary employment, increases employment flexibility only in appearance.[15] Such partial reform strategies may have adverse long-term effects as employers tend to recruit mainly through temporary contracts and may be reluctant to convert these contracts into permanent ones. As a result labour turnover of groups that are over-represented in temporary jobs increases. This can trap workers in precarious jobs and a high level of employment insecurity (OECD, 2006b).[16] As temporary workers usually do not receive training, their precarious status is reinforced while productivity growth is undercut. In order to avoid the segmentation of the labour market, further EPL reforms should aim at aligning the level of protection for permanent and temporary workers. Bolder reforms could consist of transforming severance pay legislation into a system of individual accounts as pioneered in Austria (Box 4.2).

Box 4.2. **EPL lessons from Austria**

Over the last decade, several countries have reformed their employment protection legislation. In most cases, as in Greece, reforms simply consisted of relaxing or tightening some of the existing regulations. However, the reforms undertaken in Austria have been more fundamental.

Austria has recently transformed its severance pay legislation into a system of individual savings accounts. Under the former system, severance was paid to private-sector employees in case of dismissal after an employee had worked for the same employer for at least three years. The payment started with one month's wage per year of tenure exceeding three years, and reached a maximum of one year of pay for workers with 25 years of seniority or more. Severance pay entitlements were based on the employment relationship between *one worker* and *one firm*.

Since 2003, employers have to contribute 1½ per cent of the payroll to an individual account (managed by a fund that invests the balance in private capital markets), from the first day until the last day of employment. When dismissed by the employer, an employee with at least three years of job tenure can either receive severance payment from the account at once, or save the entitlements towards a future pension. Whenever the employee quits, or job tenure is shorter than three years, the accumulated amount will not be paid out but the entitlement remains and is carried over to the next employer. Thus the new separation allowance is saved and cumulated over the employee's entire working life.

For employers, this system smoothes dismissal costs and eliminates the uncertainty related to severance payments. Employers' contributions to the individual accounts tend, however, to increase labour costs, unless they are compensated for by lower wages. For employees, the system reduces the cost of job mobility as they do not lose entitlements to severance payments when taking a new job.

More active labour market measures can also help

Loosening EPL should be combined with active and passive labour market measures to help create a dynamic labour market while providing adequate employment security for workers. In terms of passive measures, Greece spends less than any other euro area country. In the virtual absence of long-term unemployment benefits the high incidence of long-term unemployment (54% compared with an OECD average of 33%) is surprising and underlines the gravity of labour market rigidities (OECD, 2006b).

Regarding active labour market programmes (ALMPs), such as workplace training or recruitment incentives there is scope for improvement as Greece spends, relative to (unrevised) GDP, less than one-third of the euro area average. A large number of macroeconometric studies find however that expenditure on ALMPs accelerates re-employment for unemployed and other jobseekers.[17] At the same time microeconomic studies underline that returns to different programmes vary widely and that programme design is key. For example, relatively low-cost job-search assistance often rates well, whereas public job creation is typically disappointing in terms of bringing the unemployed back into unsubsidised work (Kluve, 2006; Martin and Grubb, 2001).

While well designed ALMPs could help reduce unemployment there is also scope for an increase in labour force participation rates and especially those of women. The female participation rate currently stands at 55% compared to a euro area average of 64%. Empirical evidence shows that increased public support for childcare increases female labour supply by reducing the effective tax burden on mothers (Jaumotte, 2003 and Nicolitsas, 2006). As compared to the OECD average of 0.7% of GDP, public support for childcare is currently only 0.4% of (unrevised) GDP in Greece implying that future labour market reforms aiming at increasing the female participation rate should include higher child care subsidies.

Summary and policy recommendations

Despite the strong growth record, labour market performance continues to be a matter of concern, in particular the high level of unemployment combined with labour market entry problems for vulnerable groups. This poor performance is principally due to rigidities in labour market institutions. Minimum labour costs – brought about by the interaction of minimum wages and non-wage costs – are likely to have negative consequences on vulnerable groups. Strict EPL, especially for white collar workers and for those with relatively short tenure with the same employer, is also likely to contribute to labour market entry problems for the young, the long-term unemployed and women. In setting minimum wages, the social partners should take into account high unemployment rates of youth and women. The introduction of a sub-minimum wage for the young could then help reduce unemployment rates that have remained stubbornly high. At the same time, more favourable treatment of low income earners with families would be better accomplished through the tax and benefit system rather than through differentiated minimum wages. A summary of specific recommendations are given in Box 4.3.

Box 4.3. **Recommendations to facilitate labour market entry**

- In setting minimum wages, the social partners should take into account high unemployment rates of youth.
- Encourage decentralised bargaining by avoiding administrative extension of collective agreements (at the industry and occupational levels) to parties not directly represented in the original agreements.
- The government should also aim for more moderate increases in the wages of its own employees, recognising that they often play a leading role in aggregate wage developments.
- The minimum cost of employing younger workers should be reduced by introducing a sub-minimum wage for young people.
- Social security contributions for the low-paid should be further reduced, financed by spending restraint.
- Severance payments for white collar workers and workers on temporary contracts should be reduced and brought into line with those for blue collar workers.
- Consideration should also be given to transforming severance pay legislation into a system of individual accounts as pioneered in Austria.
- Well designed active labour market programmes, such as job-search-assistance or workplace training should be expanded, provided this does not conflict with aggregate fiscal objectives.
- Child care subsidies should be increased in order to raise female labour supply. Also, family allowances so far embedded in the minimum wage setting should not only be granted to married workers but extended to single parents in charge of children. They should be provided by the budget as long as this does not conflict with aggregate fiscal objectives.

Notes

1. In Belgium, the other country where minimum wages are set by the social partners around 90% of the workforce are unionised.
2. These are the Federation of Greek Industries (SEV), the General Confederation of Greek Small Businesses and Traders (GSEVEE) and the National Confederation of Greek Commerce (ESEE).
3. Although no data are available, it can be inferred from OMED data (OMED, 2006) that industry level agreements are relatively important in terms of employee coverage: for the year 2006, industry level agreements were concluded in the retail trade sector and for the hotel and restaurant sector which cover about 10% and 6% of total employment respectively. Other agreements concluded in 2006, included among many others, the tourism industry, banks, insurance companies, hospitals, lawyers, and accountants.
4. There are a range of possible measures on which to normalise minimum wages, as discussed more fully in Annex 4.A1, however a median rather than an arithmetical average measure of wages is likely to be more representative.
5. This practice is also common in industry and occupational agreements, where employees benefit from an additional family allowance (usually dependent on marital status) equal to 10% of their basic wage or salary.
6. The unemployment rate among people seeking work for the first time amounts to 42% of total unemployment compared with 16% for the euro area (Eurostat, 2005).
7. Eurostat definition: total household income divided by the number of adult equivalents in the household.

8. Many rural households supplement wage income with incomes in kind from the land. Four-fifths of households live in owner-occupied homes – the highest rate in the European Union.
9. OAED does administer family or child benefits, with the level depending on the number of children in low-income families. However, the level of such benefits is low.
10. The contemporary correlation between changes in minimum wages and gross average earnings is much higher than the correlation between changes in minimum wages and lagged gross average earnings. This suggests that the setting of minimum wages is integral to the wage formation process rather than that being set retrospectively to try to maintain the level of the minimum wage at some stable ratio to gross average earnings.
11. Legislative provisions for severance payments for blue collar workers have been complemented and extended by national general collective agreements.
12. Notifying the employee of his dismissal in due time diminishes severance payments by half.
13. Nine months is the shortest tenure in the indicator.
14. Loosening EPL has already led to an increase in the incidence of temporary work among youth. Further reforms can be expected to have the same effect while restraining youth unemployment in the long run.
15. For a summary of the literature – *e.g.* Nickell, 1999, and other studies – see Sabethai (2000).
16. According to Nickell (1999) this segmentation of the labour market also increases the bargaining power of permanent workers and pushes up wages and leads to a subsequent fall in employment.
17. The aggregate unemployment rate rises less strongly in response to an adverse macroeconomic shock when ALMP spending is higher (Mitrakos and Zonzilos, 2006).

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ANNEX 4.A1

Measures of the minimum wage

Greece is unusual in having 20 different levels of the minimum wage set according to family and professional status as well as work experience (Table 4.A1.1). A focus for international comparisons in the chapter is the lowest minimum wage for a single blue collar worker with no work experience, although it should also be noted that a married blue collar worker with no work experience has a minimum wage which is 10% higher (the family/marriage allowance is equal to 10% of the "basic" wage).

Table 4.A1.1. **National general collective labour agreement**

Minimum wages in €, 2004[1]

	Years of experience	Blue collar (daily)		White collar (monthly)	
		January	September	January	September
Single	0	24.22	25.01	540.66	559.98
	3	25.43	25.94	594.72	606.62
	6	26.54	27.07	648.79	661.77
	9	27.82	28.38	702.86	716.92
	12	29.07	29.65	702.86	716.92
	15	30.27	30.88	702.86	716.92
Married	0	26.64	27.52	594.73	615.98
	3	27.85	28.44	648.79	662.62
	6	28.96	29.57	702.86	717.77
	9	30.24	30.88	756.93	772.92
	12	31.49	32.15	756.93	772.92
	15	32.70	33.38	756.93	772.92

1. Minimum wage increase of 4% in January and 2% in September plus € 8 per month for blue collar workers and € 8.50 per month for white collar workers.

Source: GSEE (Greek General Confederation of Labour), National Collective Agreement 2004-2005, *www.gsee.gr/law/law_egsse_file.php*.

In order to compute yearly minimum wages, the daily minimum remuneration of an inexperienced, single blue collar worker was multiplied by the number of working days per week (5), the number of weeks worked/paid per year (365/7) and a scaling factor to reflect an annual bonus equivalent to two months of pay (14/12). These "mandatory" bonuses are reflected in the data for Greece, Portugal, Spain and the Netherlands and are in line with Eurostat practice in their estimates and comparisons of minimum wages on an annual basis. The daily minimum itself is an annual average to reflect any increase in the

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minimum wage during the year (*i.e.* an average of the rate in each month of the calendar year).

Average wage measures

An important issue when comparing minimum wages across countries is which measure of average wages they are normalised on. Some international comparisons have used the average wage of manual workers in the manufacturing sector. However, with manual workers and the manufacturing sector as a whole accounting for a decreasing share of total employment, this measure of wages has become increasingly unrepresentative.

In order to include a broader sample of wage and salary earners, other international comparisons are based on full-time average earnings of manual and non-manual workers across a broader range of sectors (including services). However, even on this basis, one further consideration is whether to measure average earnings by the median or the mean. An arithmetical mean measure of wages may be unrepresentative if the earnings distribution is skewed, for example because of the presence of very high earnings. This bias may be particularly important in the case of Greece: income inequality measured by the Gini-coefficient is high in comparison to the EU15 average (European Commission, 2005); and the ratio of the arithmetic mean to median earnings (although including part-time workers as full-time equivalents) is higher in Greece than in most other EU countries (Mittag, 2006).

The concept used to normalise minimum wages for the purposes of cross-country comparison in this *Survey* is thus the median wage because it is more representative of the typical wage. While a measure of the median wage is available for many OECD countries, it is not readily available for Greece. To overcome this problem, a measure of mean earnings (average annual full-time earnings in all industries and services excluding agriculture and those employed in private households) is scaled by the ratio of mean to median earnings. The ratio used for this *Survey* is based on the European Community Household Panel survey data and amounts to 1.13. Other studies, such as Eurostat's 2002 Structure of Earnings Survey finds the same ratio to be 1.29. As this implies a significantly lower median wage, the minimum would account for 55.5% of median wages.

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Chapter 5

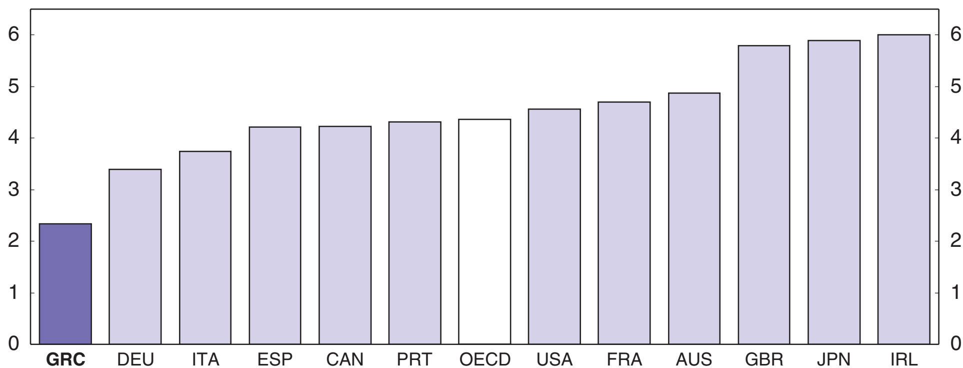
Improving tertiary education

A well-performing higher education system is crucial for human capital formation, innovation and the take-up of new technologies. However, tertiary education outcomes in Greece are poor in international comparison as evidenced by low graduation rates; the high number of students that study abroad, despite the costs borne by students studying in Greece being low; and a poor performance in terms of academic publications. Tertiary education is entirely provided and largely financed publicly, which raises questions about the effectiveness of this public spending. New OECD indicators suggest that the current institutional framework for tertiary education falls short of best practice by a wide margin. In particular, it is one of the most centralised and least flexible systems in the OECD. This chapter highlights the shortcomings of the current set up and assesses the recent reform of the university system. These plans provide a necessary step in the right direction, with a focus on improving governance and setting up a system of evaluation. However, further steps will be required, to remedy all shortcomings, most notably to allow private universities and to link funding to performance. At a later stage deeper reforms to student finances should also be considered.

While steadily increasing, graduation rates have remained among the lowest in the OECD (Figure 5.1). This is despite a high number of enrolled students because the number of drop-outs is high.[1] Greece also has the second highest rate of students studying abroad, though tertiary education is largely free (Figure 5.2). That such a large number of students study abroad is partly due to access restrictions, but it may also be a reflection that standards are superior in other countries. Spending on tertiary education as a share of revised GDP is somewhat below the European average, and considerably below spending in Canada, Korea and the United States.

Figure 5.1. **Graduation rates are low**

New tertiary graduates as a share of the population aged 20-29, 2004[1]

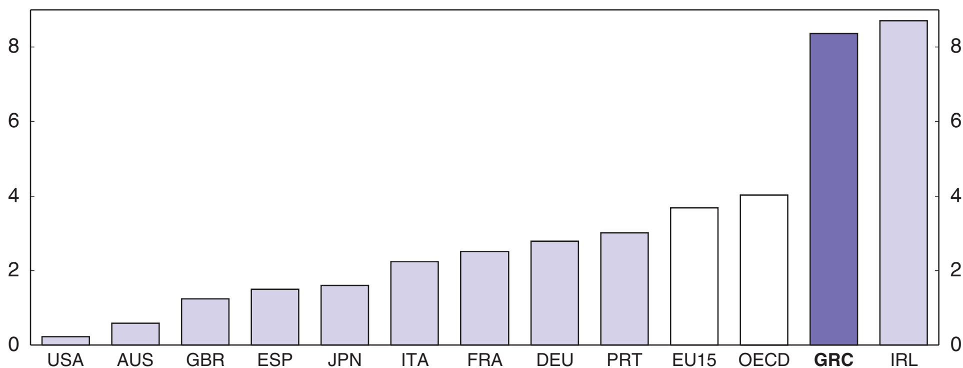


1. Tertiary graduates cover all individuals, including those over age 29. OECD is an unweighted average.

Source: Oliveira-Martins, J. *et al.* (2007), "The Policy Determinants of Investment in Tertiary Education", *OECD Economics Department Working Papers*, forthcoming.

Figure 5.2. **Many students study abroad**[1]

Students enrolled abroad as a percentage of total tertiary enrolment, 2003



1. Excluding advanced research programmes in Germany. The EU15 and OECD aggregates are unweighted averages excluding Luxembourg.

Source: OECD (2005), *Education at a Glance*, OECD, Paris.

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The determinants of tertiary education investment

Investment in tertiary education largely depends on three elements: *i)* the institutional framework of the tertiary education system; *ii)* the expected private rate of return on investing in education; and *iii)* financing options available to students. These are discussed in turn.

The institutional framework for tertiary education

The OECD is compiling a new set of indicators that brings together various institutional features that influence the educational supply and performance of universities or similar institutions. The indicators are still preliminary, but final results will be published soon (Oliveira-Martins *et al.*, 2007). They are based on a questionnaire and cover three main categories:

- Input flexibility includes criteria for the selection of students, autonomy to decide on the sources and structure of funding (for instance, the level of tuition fees) and staff policy, such as hiring/firing rules or wage setting.
- The output flexibility indicator focuses on the possibility to decide on course content, the existence of a *numerus clausus* (*i.e.* quotas) for the number of students in a field or product diversity (such as the possibility for distance learning).
- Accountability of institutions is characterised in terms of evaluation and funding criteria. Evaluation is scored according to the type of evaluation and the public availability of evaluation reports. Funding criteria are assessed according to whether they are based on output or input-based rules as well as information on the providers of funds (public, households or business).

Greece scores badly on all three counts. Input flexibility is especially low as university autonomy on staffing is tightly restrained. For instance, faculty and administrators are civil servants and public officials, respectively. Tuition fees are not allowed by the constitution, except for post-graduate studies. Even the availability of teaching material is influenced by the fact that the government finances one book per course, which is often a book written by the lecturer.[2] And courses taught in foreign languages were not allowed until recently. Universities have little say in the selection of students. The main criteria for entry are the grade point average in the third year of study in a lyceum and the results from a nationwide entry exam. Students provide a choice of various study fields and allocation to studies is managed by the Ministry of National Education and Religious Affairs. While access restrictions are clearly biting in some fields, like studying medicine, it is not clear how tight the overall restriction is because enrolment rates have doubled over the past ten years and are now approaching the OECD average (OECD, 2006). Output flexibility is also low with major decisions being taken by the central administration. Moreover, private universities are banned by the constitution. The civil servant status of professors and lack of competition among them as well as among the public universities has been blamed for a significant deterioration in the quality of higher education (Psacharopoulos, 2004). Finally, the accountability of universities is impaired by the lack of any independent evaluation, although the government's reform will ensure that such evaluations are implemented in the future (as discussed below).

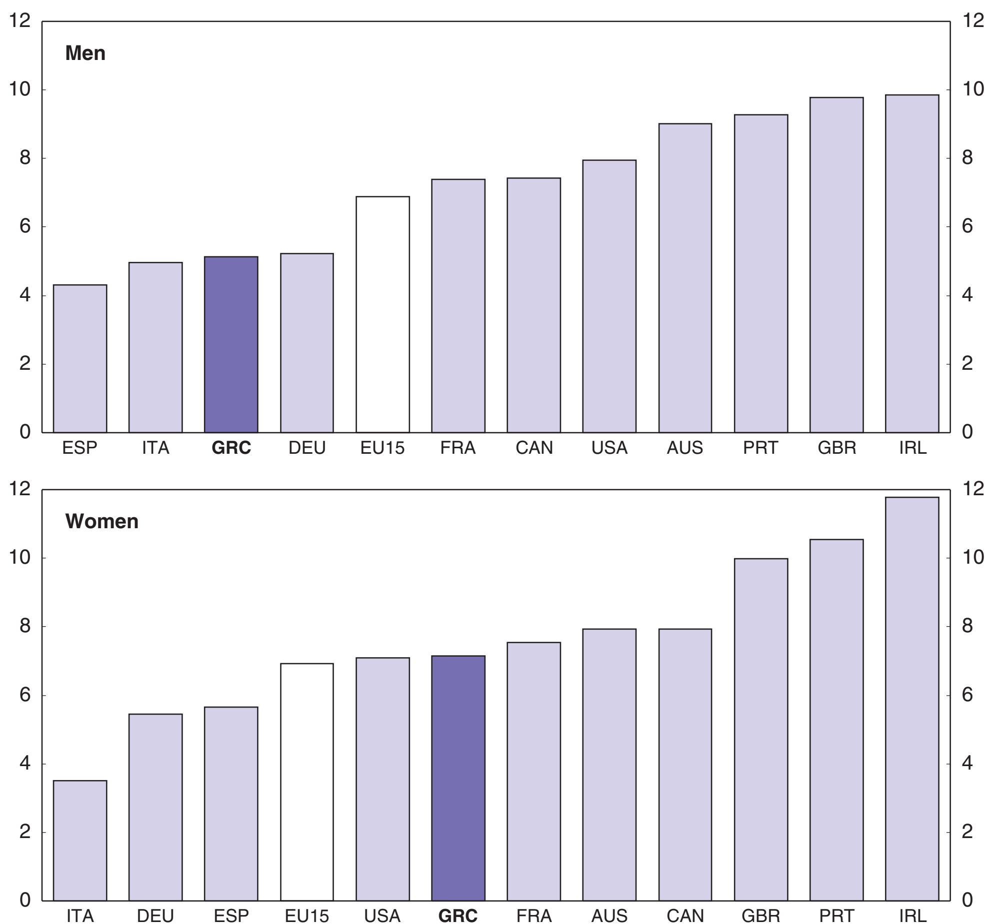
The internal rate of return to education

The private internal rate of return to tertiary education is a comprehensive measure of incentives for individuals to take up tertiary education. It shows the discount rate that equates the future benefits with the costs of education. The higher life-time earnings of a tertiary educated individual reflect various benefit and cost components: higher wages and pensions and a higher probability of being employed, which is offset to some extent by higher taxation, the direct costs of education, the length of study time and the opportunity cost of not being able to work much during the study time.

The internal rate of return is relatively low in international comparison for Greek men and middling for women (Figure 5.3). It is reduced by the long study times (Figure 5.4) which partly reflect the fact that the costs of tertiary education (excluding living costs) are essentially zero (no tuition fees for undergraduate students) and including grants they are somewhat negative. Moreover, at present, there is no constraint on the length of study time and during this period the student can benefit from a housing grant of

Figure 5.3. **Estimates of the internal rate of return to tertiary education**[1]

Per cent, 2001

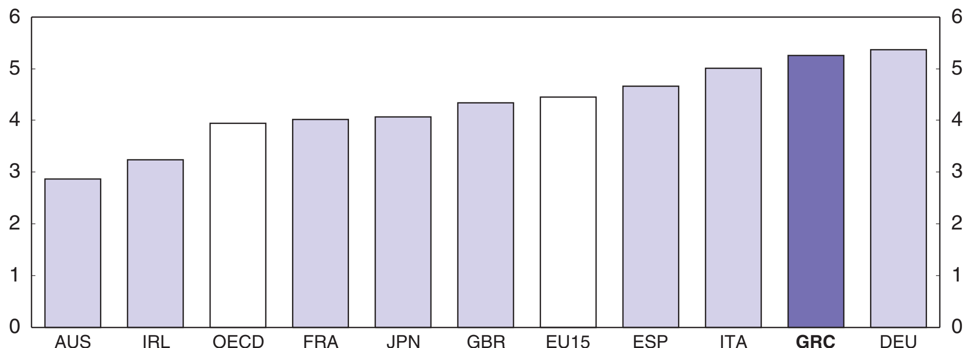


1. Uniform labour productivity growth across countries assumed to be 1.75% per year. EU15 is an unweighted average.

Source: Oliveira-Martins, J. *et al.* (2007), "The Policy Determinants of Investment in Tertiary Education", *OECD Economics Department Working Papers*, forthcoming.

Figure 5.4. **Study times are long**

Average duration of tertiary studies, in years, 2003[1]



1. Either a chain method or an approximation formula was used to estimate the duration of tertiary studies. For France and the United Kingdom the average duration is estimated based on national data. The EU15 average excludes Luxembourg, Netherlands and Portugal; the OECD average covers 22 countries only.

Source: OECD (2005), *Education at a Glance*, OECD, Paris.

€ 1 000 per year or free accommodation and board, cheap public transport and other benefits. Study times also tend to be very long in other countries, like Germany and Italy, where private tertiary education costs are also low. The probability of being employed due to earning a degree has little effect on the rate of return for men, but is considerable for women.

Financing the investment in tertiary education

As the main beneficiaries of tertiary education are the graduates themselves who benefit from higher earnings, investment in education could in principle be financed at least partly through market mechanisms. Funding universities partly through tuition fees could reduce study times and raise the return to education and provide more funding for universities, which would be especially important for the fields, where access is currently limited. However, substantial reliance on private funding is hindered by capital market imperfections that undercut the development of student loans provided by private banks. Such imperfections relate to uncertainties about students' abilities and their future income, as well as the lack of collateral. These imperfections would lead to very high risk *premia* and to a low level of human capital investment. Moreover, students are not sure about whether they will earn a degree and the rate of return on the degree, so that risk aversion of students further inhibits the development of loans.

To overcome credit market failures, many OECD countries have developed elaborate loan and grant systems, especially the countries that have introduced or raised tuition fees. In other countries, such as Greece, the financing is mainly met by intra-family transfers, while the grant system is not generous and no student loan system exists. As low-income students are more affected by loan market failures, equity issues arise on top of the efficiency issues discussed above. It is striking that comparing the ratio of the private cost of studying (tuition fees and living expenses) to the available resources in terms of loans, grants, family savings and potential earnings from part-time work, that ratio is typically lower for countries with a combination of high tuition fees and elaborate loan and grant systems. Most of these countries also display high graduation rates. This demonstrates that the introduction of tuition fees does not create liquidity constraints and/or disincentives to enrol in tertiary education, when appropriate financing schemes are avalaible for students.

The university reform goes in the right direction, but is too modest

The government has recently enacted reforms that tackle a number of the issues identified above.

- Concerning input flexibility, funding of public institutions will move from an annual to a four year budgeting cycle, but centralised decision-making will prevail. Regarding the establishment of private universities, the first constitutional hurdle has been passed, based on the government's majority in parliament, but an enhanced majority is still required after the election.
- Concerning accountability, an evaluation system of universities is being implemented, whereas there was no evaluation prior to 2005. Evaluations will be undertaken by students and departments as well as external audits. Concerning the latter, the *Hellenic Quality Assurance Agency* has been established and the recommendations included in the external evaluation reports will be published (Kyriazis, 2006). On current plans, funding will be linked to the 4-year plans but it is not yet clear how this will be revised in line with outcomes. However, departments will be obliged to rectify problems within four years. Once the new system has been fully established, funding and performance could be more explicitly linked at a later stage.
- Limits will be placed on study times for new entrants, whereas currently there is no limit. The maximum study time is defined as double the minimum number of semesters.
- The number of scholarship grants and their generosity will be raised. Financial aid will be provided *via* interest free loans, while scholarships will be granted to eligible students according to the regulation of the tertiary education institutions. Students will also be eligible for scholarships in return for on-campus employment.
- The position of Secretary is laid down for every tertiary education institution with the aim of coordinating financial and administrative services better. The tenure of the Secretary is four years and will be accountable to and supervised by the rector of the institution.

The reform agenda goes in the right direction. But it is modest as compared to the scale of the deficiencies identified above and what is required to bring the performance of the tertiary education system into line with that in most other OECD countries, let alone best practice. Even so, it has sparked surprisingly fierce resistance among some students and academics, which seems short-sighted. From the perspective of current students, while any limitation on the number of years taken to study might understandably be resisted, it will also free study places for future students. Moreover, such a limitation might help to produce a focus for study; at present it is estimated that only 70% of registered students actually study and only 30% attend courses (Pelagidis and Mitsopoulos, 2006). In addition, reforms to introduce evaluations of university performance and competition from private universities should raise the quality of courses and improve responsiveness of course content to student needs. From the perspective of academics, there should be additional career opportunities brought about by private universities and the reforms might inject some dynamism into research performance which is currently poor (Figure 5.5).

The government's recent reform should, however, only be the first stage of a reform programme. A particular priority for further reform should be to allow private universities

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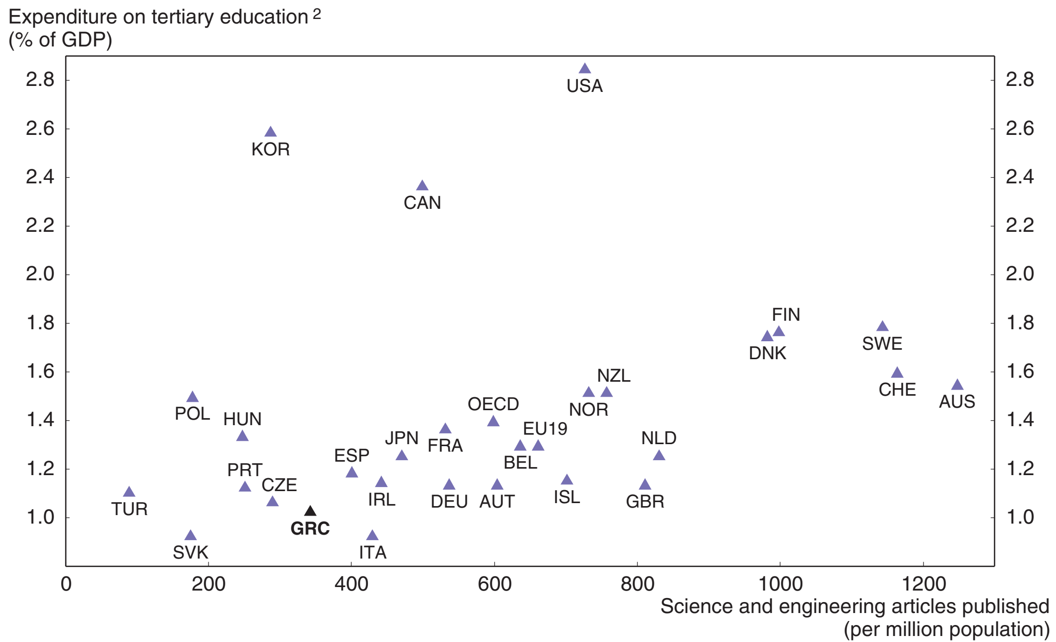
Figure 5.5. **Intensity of scientific publications**

2003[1]



1. 2002 for tertiary education expenditure in Canada.
2. GDP in current prices converted to US dollars using current purchasing power parities. Revised GDP data for Greece.

Source: OECD (2006), *Education at a Glance*, OECD, Paris; National Science Foundation (2006), *Science and Engineering Indicators 2006*, *www.nsf.gov/statistics/seind06*; Ministry of Economy and Finance.

and to link the funding of institutions and pay to evaluation results. At present, for example, professors are similarly paid regardless of subject and publications track record. The importance of change is demonstrated by the experience of Canada, where provinces differ in the way universities are run and greater autonomy of universities to set salaries goes hand in hand with a considerably better performance of universities on several criteria (Chant, 2005).

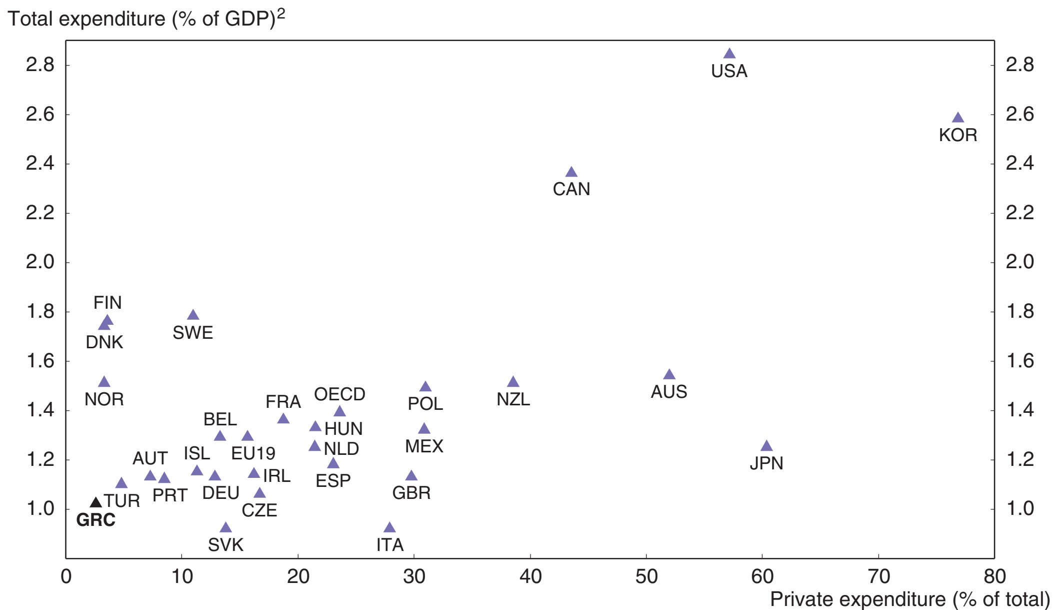
The benefits from ambitious reforms

The OECD has undertaken empirical research to examine the factors that explain cross-country differences and the evolution over time in graduation rates. The pooled panel regressions include as dependent variables the internal rate of return, the flexibility and accountability indicator, the availability of individual financing for students and a number of controls. Aligning the flexibility and accountability to that of a high performing country (*e.g.* Australia) would boost the Greek graduation rate by more than 3 percentage points (which would bring Greece close to the OECD average). Not surprisingly, given the low score on the indicator, this is the largest potential gain for any OECD country.

The total level of spending tends to be much higher in countries that rely not only on government spending, but also have substantial contributions from students and other non-public resources (Figure 5.6). Greece stands out as having both a relatively low level of total spending on tertiary education and a high reliance on public funding. Increasing the diversity of funding for universities is an attractive option in many

Figure 5.6. **Spending on tertiary education**

2003[1]



1. 2002 for Canada.
2. GDP in current prices converted to US dollars using current purchasing power parities. Revised GDP data for Greece.

Source: OECD (2006), *Education at a Glance*, OECD, Paris; Ministry of Economy and Finance.

European countries where currently there is heavy reliance on public funding and the overall spending on tertiary education as a share of GDP is low. Such arguments gain further force in countries, such as Greece, where fiscal constraints are tight and the future public expenditure pressures from ageing considerable. Thus increasing funding by introducing tuition fees for undergraduates accompanied by a loan and improved grant scheme should also be considered. Tuition fees should be set at a relatively low level as the rate of return to tertiary education is currently not very high. But even relatively low fees would cut study times and raise the pressure from students and parents for improving the performance of the university system. Making repayment of the loan contingent on income, as is the case in Australia, New Zealand or the United Kingdom, would resolve credit constraints facing students from poorer backgrounds by giving a loan to fund tuition fees which will have to be repaid after graduation unless the person's income falls below a minimum threshold. Such schemes address both issues of fairness and efficiency. However, such schemes also imply that the income of graduates needs to be monitored, which is usually done by the tax administration. An effective tax collection system is essential and, while Greece has made much progress in this respect, it still does not excel so that, for example, monitoring the income of certain self-employed professionals may be problematic. An alternative to income-contingent loans are conventional loans, where the repayments and duration of the loans are predetermined. In such a system, the burden of repayments is high in the early years of work, but declines later with higher incomes. Moreover, there are information problems, which increase uncertainty and risks for both borrowers and lenders. Tuition fees would reduce the rate of return from higher education as the costs of studying increase. On the other hand, loan schemes reduce

liquidity constraints and the net effect is *ex ante* unclear. However, the introduction of fees and income contingent loan schemes has gone hand in hand with a considerable rise in graduation rates in Australia and New Zealand and they are now close to the top in international comparison.

Summary and conclusions

The current institutional framework for tertiary education is one of the most centralised and least flexible in the OECD and contributes to poor educational outcomes. The government's reforms are a move in the right direction. Indeed, the focus on improving governance and setting up a system of evaluation can be seen as a necessary first step in any sequence of reforms. However, further steps will be required to remedy all shortcomings (Box 5.1), most notably to allow private universities and to link funding to performance. At a later stage deeper reforms to student finances should also be considered.

Box 5.1. **Recommendations for reform of the tertiary education system**

The tertiary education system needs a thorough overhaul. In this respect, the government's reforms go in the right direction, but a broader package of measures is needed:

- Go ahead with the amendment of the constitution and allow private universities.
- Put in place a well-performing evaluation system of universities and make funding of universities dependent on performance.
- Increase the autonomy of universities in terms of selecting staff and students. Given the high number of drop-outs a more rigorous selection of students should be considered.
- Introduce tuition fees for undergraduate students at a moderate level and provide student loans. If considered feasible by the tax authorities repayment should be contingent on achieving a threshold salary after graduation. Increase the generosity of the grant system, but limit availability to the period over which the course is officially scheduled.

Notes

1. There is a sharp distinction between tertiary-type A courses (designed for entry into high skill professions such as medicine, law and architecture) where drop-out rates are below the OECD average and tertiary-type B courses that focus on practical or technical skills where nearly two out of every three students fail to complete their course, by far the highest drop-out rate in the OECD (OECD, 2006).
2. The recent reform will introduce more flexibility regarding the choice of books financed by the government, so that for each course there will be choice from among a list decided by the individual university departments.

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Chapter 6

Fostering competition in network industries

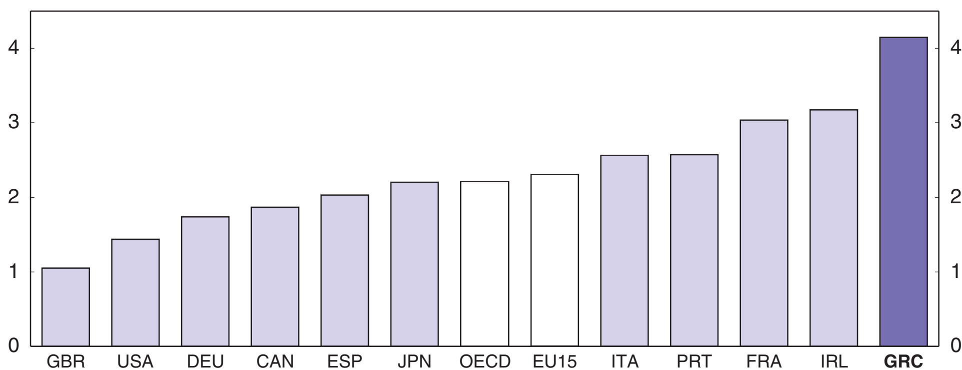
Effective competition in the network industries remains weak. While commendable progress was made in partly or fully privatising state-owned enterprises, the stake of the government in key public utilities remains high, and price regulation is still pervasive, especially in the transport sector. Substantial challenges exist in the energy sector, where vertical integration hampers the emergence of genuine competition, despite the legal opening of the market. In telecommunications, the unbundling of the local loop needs to be speeded up to facilitate access to broadband services and the rapid diffusion of information technologies. The postal services market is being liberalised gradually, in line with the relevant EU Directive. Important concerns arise, however, about the financing of a universal service. In the transport sector, the liberalisation of ferry economy class fares is expected to trigger competition, but the privatisation of the national airline is still pending. Regulation of the road freight sector has remained among the most restrictive in the OECD. In the railway industry, reforms need to continue to promote competition. Effective regulators are essential for ensuring non-discriminatory access to the network and fostering competition in all the newly liberalised sectors.

There is much scope to improve competition in the network industries

Despite considerable progress over the last decade, the extent of product market regulation which curbs competition in the key network industries was still among the strictest in the OECD in 2003 (Figure 6.1). While recent advances are welcome substantial challenges lie ahead, including how to assure competition in newly liberalised sectors, particularly through strong and independent regulators and, where appropriate, a reduction in vertical integration. Also, the public ownership stake in major utilities remains high, which is likely to inhibit competition.

Figure 6.1. **Product market regulation indicators in network industries**[1]

The scale of indicators is 0-6, from least to most restrictive, 2003



1. Energy, transport and communications. The EU15 and OECD aggregates are unweighted averages; EU15 excludes Luxembourg and OECD covers 21 countries only.

Source: OECD (2006), *International Regulation Database*, *www.oecd.org/eco/pmr*.

The following sections review the progress achieved so far, as well as remaining challenges, in reforming public enterprises and fostering competition in key network sectors, namely energy, communications, and transport. The restructuring and modernisation of public enterprises is an important issue in this regard, as they are costly to the budget and they account for a significant part of GDP.[1] The last section of the chapter summarises the main findings and provides policy recommendations.

Progress in reforming and privatising public enterprises

Measures to strengthen the performance of public enterprises should continue

Greece has stepped up efforts since the mid-1990s to modernise its public enterprises and make them operate on commercial terms. This was due in part to the need to comply with EU policies and regulations, but has also been required because of the budget burden due to loss-making public enterprises (Chapter 2). From 1995 to 2007, the annual operating losses of the 20 most important public enterprises averaged around ½ per cent of

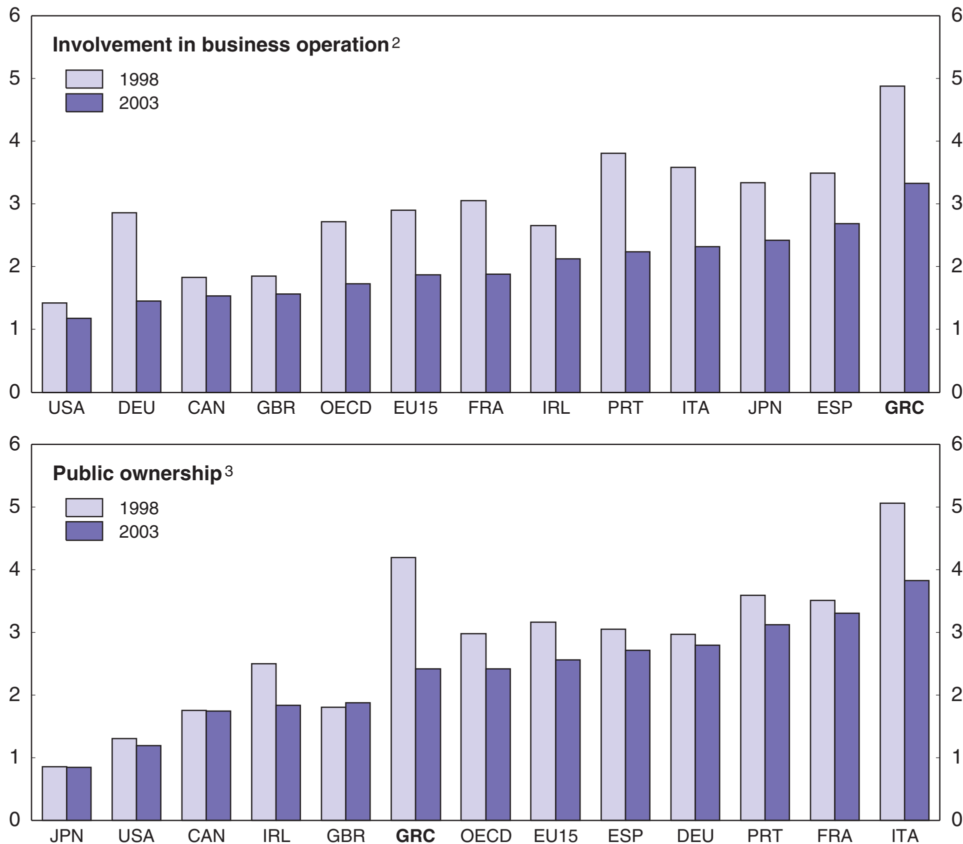
(unrevised) GDP. A number of factors are responsible for the poor financial position of public enterprises, including: overstaffing and high labour costs; pricing policies that are often not based on commercial criteria (reflecting other government objectives and often vaguely defined social obligations); and the fact that the majority of public enterprises has not updated their technologies or adequately maintained their infrastructure and equipment (OECD, 1998; Mylonas and Papaconstantinou, 2001). The growth of average pay of public enterprise employees, around 7% in 2006, has consistently exceeded that of the private sector, and in real terms has also exceeded estimates of productivity growth in the sector.

Recent initiatives to strengthen the performance of state-owned enterprises include the introduction (Act 3429/2005) of a new institutional framework for the operation of non-listed public enterprises in which the government holds the majority of the share capital, and which are not yet being privatised. The provisions of the new law include:[2] *i)* a close supervision and monitoring of the activities of public enterprises by the state, through the establishment of an inter-ministerial committee that has the right to impose sanctions in case the provisions of the law are violated; *ii)* the introduction of terms of employment more akin to those prevailing in the private sector; *iii)* requirements to prepare annual business plans; and *iv)* improved governance through the implementation of principles (*e.g.* establishment of internal audit committees, designation of board members as executive, non-executive and independent ones), and the application – for the first time – of International Financial Reporting Standards following the OECD *Guidelines on Corporate Governance of State-Owned Enterprises* (OECD, 2005a). If rigorously implemented, these changes have the potential to increase efficiency and productivity over time.

Management independence with regards to operational and investment decisions, as well as price setting that reflects costs of the public enterprise (rather than short-term macroeconomic considerations), however, are also indispensable for strengthening the performance of such enterprises (OECD, 1998). As depicted in Figure 6.2 (upper panel), the involvement of the government sector in economic activity – in terms of price controls in specific sectors and the use of command and control regulation – remains high in international comparison. Activities supporting government policy objectives are pervasive in the transport sector, where the pricing of tickets, routing and major personnel decisions in the Hellenic Railways Organisation (OSE) are subject to the approval of the ministers of Transport and Finance, while the trucking sector is subject to numerical restrictions on entry (in the case of trucks operating freight transport on behalf of a third party) and pricing regulations. Public enterprises in other sectors, such as energy, are also still engaged, to some extent, in pricing or corporate activities that support government policies and thus not based on commercial considerations (IMF, 2006). The Public Power Corporation (PPC), for example, is required to apply the same tariffs to the inhabitants of island communities as in the rest of Greece, despite much higher cost. An offset to perceived disadvantages of the islands could be provided more efficiently through the auctioning of public service obligation, rather than cross-subsidisation which distorts incentives by driving a wedge between prices and marginal costs. Finally, a successful reform of public enterprises would require decisive progress in the area of cost containment.

Figure 6.2. **The level of state control remains high**[1]

The scale of indicators is 0 to 6, from least to most restrictive



1. EU15 and OECD are unweighted averages excluding Luxembourg and the Slovak Republic in 1998.
2. Price controls and the use of command and control regulation.
3. Scope and size of the public sector plus direct control over business enterprises.

Source: OECD (2006), *International Regulation Database*, *www.oecd.org/eco/pmr*.

Public ownership should be reduced further

Privatisation has gained considerable momentum over the past decade or so. The current government, elected in March 2004, put the existing privatisation programme under review, proceeding first with mature enterprises, the "value" of which is widely recognised in the market. Privatisations in 2006 focused on state-owned financial corporations, yielding proceeds of 0.7% of GDP, compared with 0.9% in the previous year and a mere 0.4% of GDP in 2004 (Table 6.1). The current agenda includes the listing of the Public Gas Corporation (DEPA) on the Athens Stock Exchange, following the restructuring of the company, the sale of an additional share of Hellenic Telecommunications Organisation (OTE), the development of certain assets of the Touristic Development Company, as well as the exploration of the optimum way to further privatise the Athens International Airport.

There is, however, scope for further privatisation. Although public ownership was around the OECD average in 2003, the state continues to maintain a large (though falling) stake in major public utilities, as well as in other sectors, such as transport, banking, defence, gaming and tourism (Figure 6.2, upper panel). While there is no general legal

Table 6.1. **Privatisation programme proceeds**

2004-06

Company	Share sold (%)	Privatisation method	Amount raised by the state (million €)	Currently under state control (%)
2004				
Hellenic Petroleum	8.2	Trade sale	192	35.5
National Bank of Greece	7.5	Accelerated bookbuilding	562	0
Total amount raised			**754**	
2005				
Football Prognostics Organisation	16.4	Secondary offering (fully marketed)	1 266	34.0
Hellenic Telecommunications	10.0	Accelerated bookbuilding	835	38.7
Total amount raised			**2 101**	
2006				
Postal Savings Bank (PSB)[1]	. .	Recapitalisation	400	. .
Agricultural Bank of Greece	7.2	Accelerated bookbuilding	328	77.3
Postal Savings Bank	10.0	Trade sale to ELTA[2]	15	90.0
Hellenic Post	10.0	Trade sale to PSB	21	90.0
Postal Savings Bank[3]	34.8	Initial public offering	612	55.2
Emporiki Bank	11.0	Trade sale to Credit Agricole through public tender offer	364	0
Total amount raised			**1 740**	
Total 2004-06			**4 595**	

1. February transaction.
2. The total transaction value amounts to € 159 million and is payable until December 2010.
3. May transaction.

Source: Ministry of Economy and Finance.

provision determining the state shareholding in public utilities, the state's participation in some public companies cannot fall below a certain threshold provided in a specific company law.[3] In such cases, the legal ownership limits vary across the public companies and can be changed by amending the relevant law. Moreover, a 2002 law provides the government with the possibility to maintain special shares that entail increased rights ("golden shares"), most notably the right to veto particular decisions of strategic importance. According to the European Court of Justice case law, golden-share schemes harm healthy competition and discourage foreign investment. Golden share rights have, nevertheless, not been exercised so far by the government.

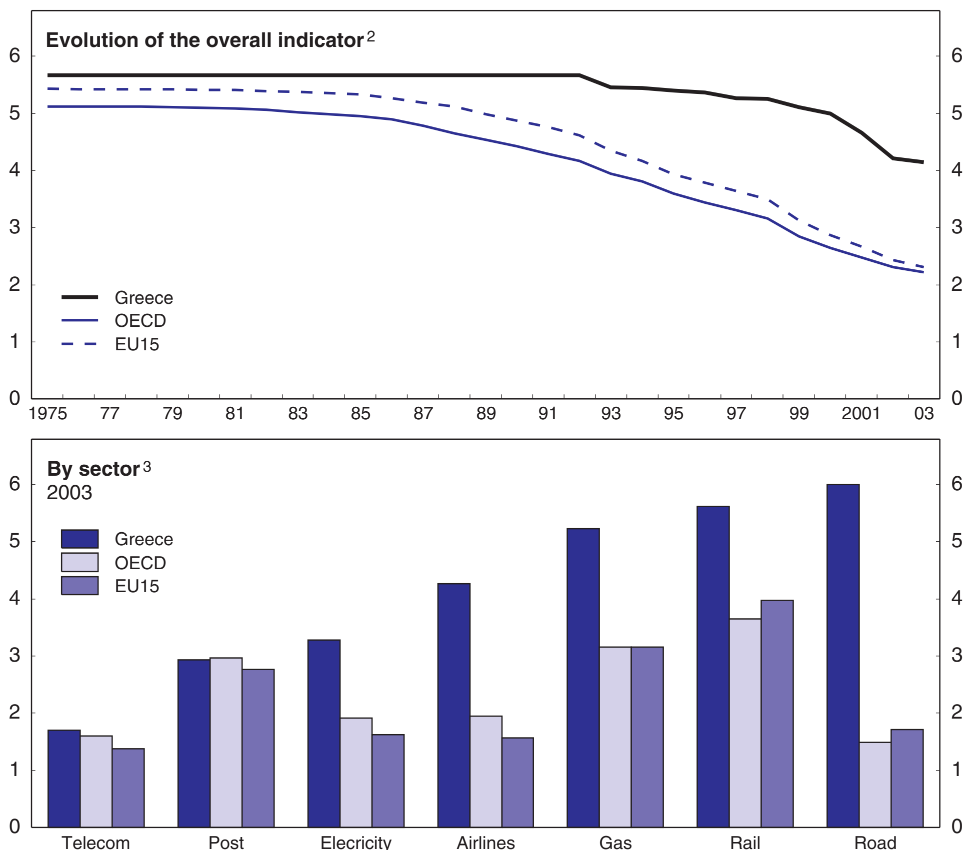
The government's intention to privatise, either partially or wholly, those companies that operate on a purely commercial basis is welcome. In addition to increasing public revenues, privatisation should increase competitive pressures by reducing impediments to entry. Privatisation *per se* may not increase entry to the extent that the former state-owned incumbents generally have the ability to implement predatory pricing strategies. Thus, privatisation of network industries requires an accompanying regulatory framework that encourages entry. Competition may also be enhanced through the horizontal or vertical unbundling of some of the activities of the former state monopoly and their sale to private investors. Empirical studies on the effect of ownership structures on productive efficiency and profitability suggest private enterprises out-perform public enterprises in industries with natural monopoly elements, although the results are less unequivocal than those regarding privatised (or private) companies in competitive industries. This is because in the former case it is difficult to disentangle the effects of changes in ownership from those related to changes in market structure (OECD, 2001a; Staikouras, 2004).

Introducing more competition in network industries

The liberalisation of network industries has progressed since the mid-1990s. The pace of liberalisation has been relatively slow, however, with some important differences in regulation persisting across industries (Figure 6.3). Assuring competition in sectors that have already been freed up should be given high priority. This is particularly so in the case of energy, where the incumbents remain vertically integrated. Effective regulation is of major importance for eliminating barriers to competition, as well as for dealing with the monopolistic segment of such industries. The sections below discuss developments and remaining challenges in individual sectors.

Figure 6.3. **Extent of regulation in network industries**[1]

The scale of indicators is 0 to 6, from least to most restrictive



1. The EU15 and OECD aggregates are unweighted averages.
2. Based on summary indicators of competition-restraining regulatory conditions in the seven network sectors shown in the bottom panel. The EU15 average excludes Luxembourg and the OECD average covers 21 countries.
3. EU15 excludes Luxembourg for all sectors except gas and post. The OECD coverage varies from 21 to 29 countries depending on the sector.

Source: OECD (2006), *International Regulation Database*, *www.oecd.org/eco/pmr*.

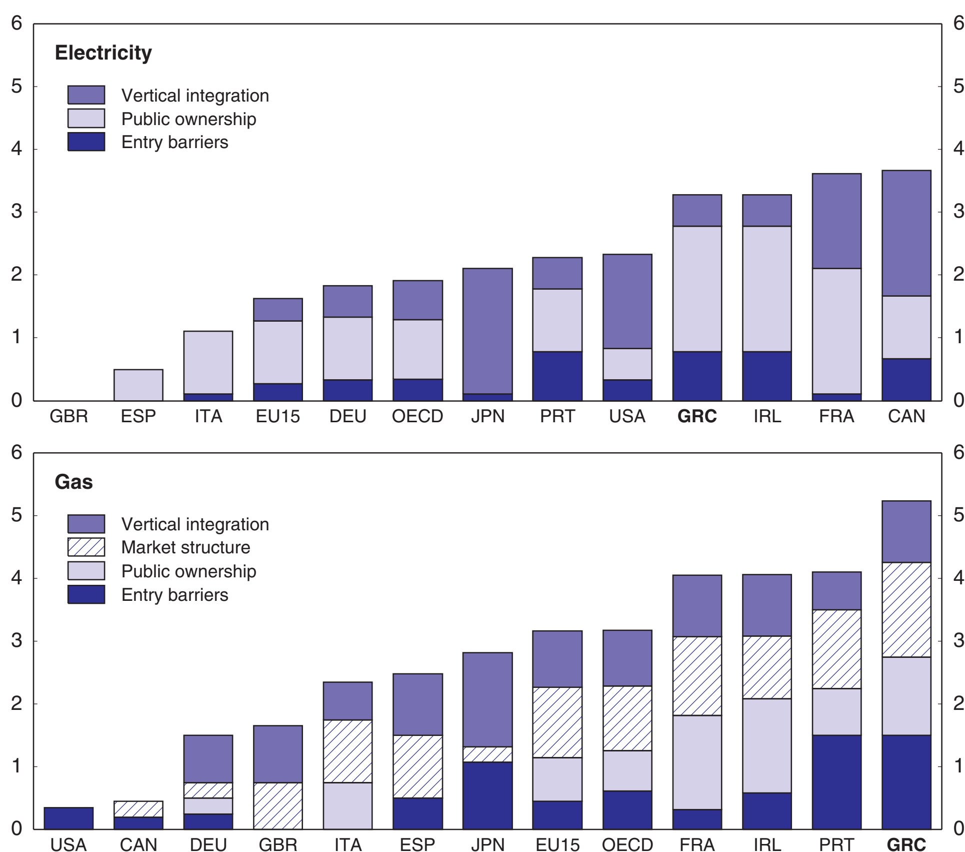
Effective competition is still absent in the electricity market

The liberalisation of the electricity sector has lagged behind other OECD countries. The degree of market opening – defined as the percentage of the electricity consumed by those customers that are given the choice of selecting their electricity supplier – was 62%

at the beginning of 2005,[4] compared with an EU15 average of 88%. The Greek electricity market is to be fully liberalised from July 2007 to all customers (apart from those in islands without interconnection). But effective choice is much more restricted than these numbers suggest. The major challenge for the authorities is to foster effective competition in the sector, as effective competition in generation has not emerged, despite the issuing of licences to new entrants.[5] According to the OECD's regulation indicators, the regulatory stance in Greece was among the most restrictive in the area in 2003 (Figure 6.4, upper panel). Notwithstanding the legal unbundling of the transmission system operator (reflected in the components of the bar in Figure 6.4), a high level of vertical integration remains in practice, with the majority state-owed incumbent – the Public Power Corporation (PPC) – retaining control over important access issues. In particular, the PPC remains one of the two principal owners of the Hellenic Transmission System Operator (HTSO) – owning 49% – and will continue to own the transmission and distribution networks – even after HTSO becomes the distribution system operator after July 2007. Unless the dominance of PPC is addressed, effective competition in the electricity market is not conceivable.

Figure 6.4. **The regulatory stance in the electricity and gas sectors**[1]

The scale of indicators is 0 to 6, from least to most restrictive, 2003



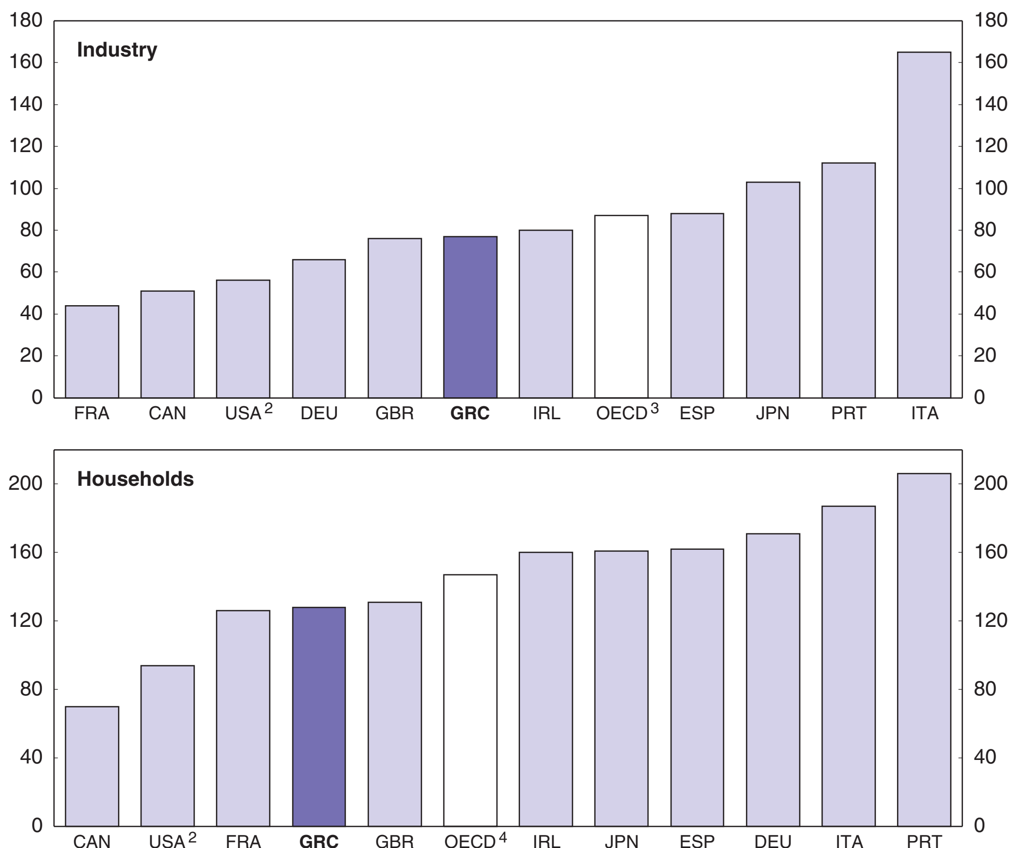
1. The EU15 and OECD aggregates are unweighted averages. For the electricity sector EU15 excludes Luxembourg and the OECD covers 21 countries only. For the gas sector OECD excludes Iceland.

Source: OECD (2006), *International Regulation Database*, *www.oecd.org/eco/pmr*.

Access conditions for fuel and a price setting that does not reflect fully the cost of electricity supply pose further obstacles to competition by discouraging entry. Greece has household and industrial electricity prices that are below the OECD average (Figure 6.5). These prices, however, are not entirely indicative of the efficiency of PPC – the major supplier of electricity (with a share of around 97% of the total) – but they rather reflect the exclusive rights given to PPC to exploit and use low-cost lignite mines,[6] which allowed it to be profitable, despite relatively low prices. The financial situation of PPC has been deteriorating since 2005, reflecting payments for carbon dioxide permits and rising oil and gas prices. The company is exposed to oil and gas prices for an increasing share of its generation output. To remain profitable, PPC would need to increase prices or improve its efficiency. The latter may be facilitated by enhanced competition in the electricity market and by increased competition from alternative energy sources (*e.g.* natural gas). The monopoly of PPC on the use of low-cost lignite, however, discourages entry. Restructuring prices to reflect the long-run marginal cost of power generation, in line with the proposal by the Regulatory Authority of Energy (RAE), would be important. Consideration should

Figure 6.5. **Electricity prices in selected OECD countries**

In USD per thousand kilowatt hours, 2005[1]



1. 2004 for Canada, Germany and the OECD average. National currency data converted to USD using current purchasing power parities.
2. Price excluding tax.
3. Unweighted average excluding Belgium, Iceland, Luxembourg, Netherlands and Sweden.
4. Unweighted average excluding Belgium, Iceland and Sweden.

Source: IEA (International Energy Agency) (2006), *Energy Prices and Taxes*, No. 4, OECD/IEA, Paris.

also be given to allow tariffs to be differentiated geographically to take into account significant regional differences in supply cost. As noted earlier, tariff uniformity is considered by the government to be part of PPC's public service obligation. However, while certainly legitimate, social objectives could be met more efficiently through well-targeted direct support. Auctioning would be an even better way of funding public service obligations with the public sector providing a subsidy to the lowest cost provider. Retail tariffs of PPC will continue to be regulated, as long as the company's market share does not fall below 70% of electricity supply. Under the current plans for adding new generation capacity, this is not expected to happen any time soon.

A number of commendable steps have nevertheless been taken towards reducing the dominance of PPC and promoting competition in the sector. These include: the exclusion of the company in tenders for new capacity conducted by HTSO during 2006;[7] a further unbundling of the PPCs accounts; and the introduction of a new Grid Code in May 2005 – to be progressively implemented until 2008 – allowing for more competition at the generation and supply levels, through the development of a wholesale market where all electricity generated will be traded. Moreover, the 2005 Electricity Bill will enable full account unbundling by 2007 and the creation of an independent distribution system operator responsible for access and connection to the network (IEA, 2006).

Reforms to restrain the market power of the incumbent need to continue. According to International Energy Agency (IEA) estimates, in the absence of further measures in addition to the currently foreseen tenders for new generating capacity, it is unlikely that PPC's share in generation would fall below 80% before 2010. The authorities should thus consider extending the restriction of tendering for new capacity by PPC to all future tenders and/or mandating the incumbent to reduce its market share over a certain horizon (IEA, 2006). A more radical solution would involve splitting up PPC into several independent and competing generation companies as there is little evidence of major economies of scale in generation. Following the breaking up of generation, a privatisation of PPC could be considered.

A pre-condition for effective entry of new generators is securing non-discriminatory third-party access to the network. Accounting separation is a welcome step in this regard, but empirical evidence suggests that only ownership separation can guarantee non-discriminatory access and cost-based access charges (OECD, 2007). In this context, consideration should be given to transferring ownership of the transmission network from PPC to HTSO. Moreover, ensuring the independence of the network operator, by moving HTSO entirely into government or private ownership, would reduce the PPC's ability to discriminate. Removing the operator/owner link in the distribution network would also be advisable: as noted earlier, the PPC will retain ownership of the distribution network even after the unbundling of the distribution system operator and assignment of this duty to HTSO in 2007 (IEA, 2006; OECD, 2001b).

Ensuring cost-reflective electricity pricing is of critical importance for effective competition to occur and for efficiency gains to materialise. According to the Regulatory Authority of Energy (RAE), however, little progress has been made so far with regard to restructuring electricity prices, reflecting the continuing absence of a satisfactory set of unbundled accounts of PPC. The focus of RAE on the removal of cross-subsidies and the distortions in retail rates charged by PPC, as well as the quantification and allocation of the public service obligations are welcome.

New energy infrastructure is also vital to enhance competition. Efforts should continue towards simplifying licensing procedures for energy-related infrastructure, such as power plants and transmission lines, with a clear specification of such projects in spatial planning. The 2006 law on renewable energy investment is a welcome step in this regard. The need for more domestic competition is reinforced by the limited prospects for international competition over the coming years, owing to both geographical and technical constraints.[8]

In view of the legal and economic barriers to competition in the electricity sector, effective regulation is indispensable. The Regulatory Authority of Energy was set up in 2000 as an independent (in financial and administrative terms) regulator for all energy markets. The RAE is overseen by the Ministry of Development, and its executive board is appointed by the Ministerial Council following approval by Parliament (IEA, 2006). The 2005 Electricity Law enhances the role of RAE,[9] although its main role continues to be advisory. Consideration should be given to attributing a wider range of responsibilities to the regulator, such as granting of generation licenses and full independence from the ministry in the field of tariff-setting. The latter is of particular importance in light of the large stakes held by the Greek government in energy enterprises.

The opening of the gas market is progressing

As an emerging gas market, Greece was granted a derogation from the EU Gas Directive until November 2006. The first steps towards liberalisation, however, were undertaken already in 2003, but the network access tariffs for third-party suppliers, which are needed to ensure effective market opening, were only published in March 2006 (IEA, 2006).[10]

In December 2005 the framework for the transposition of the EU Gas Market Directive was passed into Greek law. The law envisages a gradual opening of the market, with the application of eligibility rights (*i.e.* the right to choose natural gas suppliers) to all customers residing outside the supply areas of regional gas distribution companies (EPAs) by November 2009. The estimated market opening at that date is close to 90% of the gas demand volume. Full liberalisation of the market is foreseen, when the concessions of the EPAs expire from 2031.[11]

It is important that the established timetable for the liberalisation of the gas market be respected, or even better be brought forward. The regulatory framework for the gas sector was among the most stringent in the OECD area in 2003 (Figure 6.4). The rapid development of a competitive gas industry is critical for diversifying supply sources and securing energy supply. However, the legal opening of the market needs to be accompanied by measures to foster competition. As with the electricity sector, a major issue to be addressed is the continuing market power of the vertically integrated incumbent – the Public Gas Corporation (DEPA). DEPA is state-owned, except for an equity stake of 35% held by Hellenic Petroleum (which is also publicly-owned). PPC has an option to purchase 30% of the shares of DEPA from the Greek government, but there is currently no indication that this option will be exercised. At present, DEPA is the only importer of gas, it owns the transmission network, and through its subsidiary EDA, 51% of the regional gas distribution companies.[12]

The new legislative framework provides for the establishment of a new company, the Gas Transmission System Operator (DESFA),[13] which owns the gas transmission network and will also be responsible for the network's future development and operation. However,

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DEPA is the sole owner of DESFA, inhibiting in this way the operative and ownership independence of gas system operators – a pre-condition for the development of effective competition, according to the latest IEA *Report on Energy Policy of Greece*. In this context, considering transferring DESFA to full government ownership and, at a later stage, to private ownership would be advisable. Moreover, the existing gas distribution companies should be separated from DEPA (IEA, 2006).

Competition would benefit from a weakening of the commercial, operational and/or financial links between major companies in the energy sector. The part-ownership of DEPA by Hellenic Petroleum (with PPC having an option to purchase 30% of the shares of DEPA) raises concerns about fair access to inputs by potential competitors. Separating the ownership of oil and gas distribution would be important. Moreover, consideration should be given to removing PPC's "most-favoured customer" clause for its gas supplies from DEPA, which risks discriminating against other customers and to revoke PPC's option on 30% of DEPA shares.[14] Endowing the gas sector regulator (RAE) with powers that would allow it to enhance competition would be of crucial importance not only for the development of the gas industry itself, but also for the liberalisation of the electricity market, given the inter-dependence of the two sectors. The decision-making power granted to RAE on many issues regarding gas distribution (including pricing by the regional Gas Supply Companies) is welcome, as is the expansion of its competences under the 2005 gas law to areas such as third-party access pricing, and the monitoring of the gradual opening of the market.

Competition in the oil refining market remains limited

Competition has increased in the downstream sector of the oil market since liberalisation in 1992, but it has remained limited in the upstream industry, reflecting the impact of regulations. Until 2002, for example, retailers were banned from direct access to refiners or from importing petroleum products directly (being required, instead, to buy fuel through trading companies), while legislation of compulsory stock holdings inhibited imports, by forcing companies to buy exclusively from domestic refiners as part of a "supply-for-storage" contract (OECD, 1998). At present, the refining sector is dominated by the partially state-owned Hellenic Petroleum (HP), which controls approximately 79% of the market since merging with the private company Petrola in 2003, with the remaining market share held by Motor Oil Company. HP operates in all segments of the oil sector: refining, marketing and retailing. The state owns 35.3% of HP, close to the 35% public ownership limit. No problems in terms of abuses of market power seem to have arisen so far from the merger of the two companies and the concomitant increase in HP's share, according to an investigation by the Hellenic Competition Commission (IEA, 2006).[15] But the Competition Commission needs to remain vigilant. It recently fined the companies for price fixing prior to the merger.

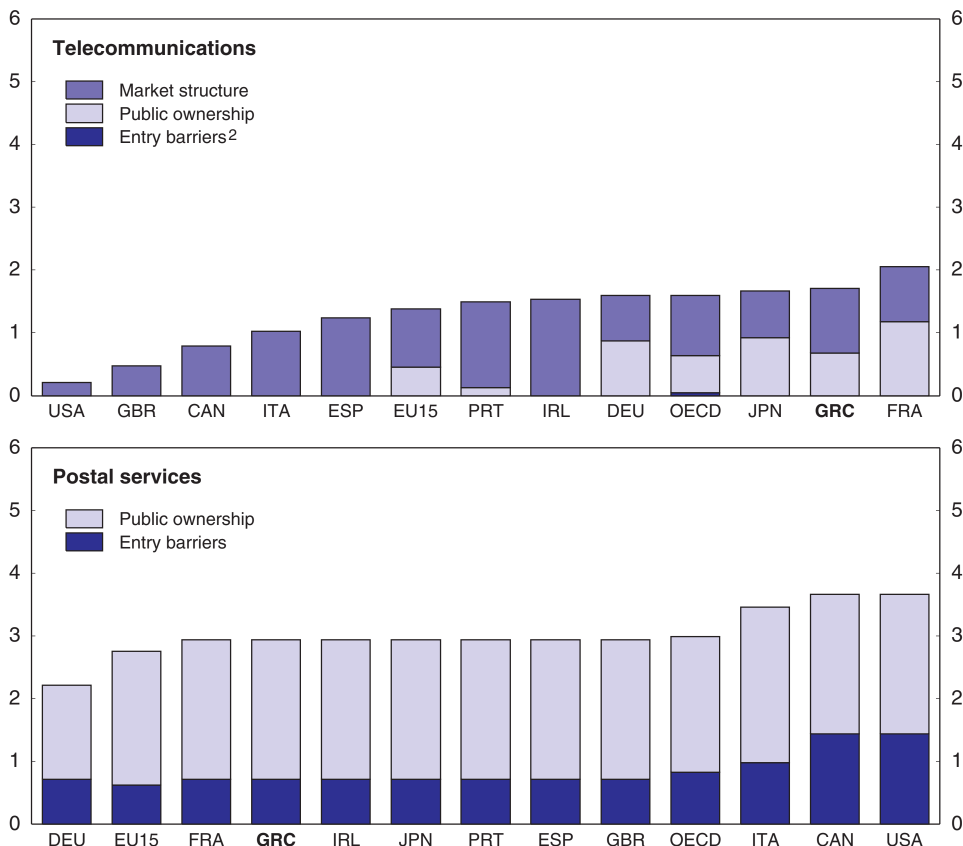
The 2002 "Oil Market Law" and its latest amendment in 2005 address some important regulatory barriers to competition by enabling consortia or co-operatives of service stations to obtain oil products directly from refiners, or from imports provided they can meet storage obligations. Access to stock capacity can be arranged by a regulated third-party access tariff.[16] The law granted RAE advisory and monitoring responsibilities and competences for the sector including, in exceptional cases, the submission of an opinion for the imposition of price caps for petroleum product prices (RAE, 2006).[17] Competition in the sector would be further enhanced by a greater diversification of the sources of oil imports. Recent progress in this area is welcome.[18]

Telecommunications: allowing for more competition in broadband access

The Greek telecommunications market was liberalised in early 2001. Competition has evolved more favourably than in the energy sector with tangible benefits for consumers both in terms of services provided and lower telephone charges. The OECD's regulation indicator places Greece close to the OECD average with regard to the restrictiveness of the regulatory stance in the sector (Figure 6.6).[19] Competition is particularly strong in the mobile telephony market, evidenced by the changes in market shares, the fact that none of the three mobile operators occupies a dominant position (the market shares ranged in 2005 between 25% and 38%), and the business strategies followed by the operators (Bank of Greece, 2005). Although Greece was the last country in the EU to grant licences to mobile phone operators, the penetration rate had reached 92.2% at the end of 2005.

Figure 6.6. **Regulatory stance in telecommunications and postal services**[1]

The scale of indicators is 0 to 6, from least to most restrictive, 2003



1. The EU15 and OECD aggregates are unweighted averages. For telecommunications EU15 excludes Luxembourg and the OECD covers 25 countries. For the postal sector OECD excludes Korea.
2. Only Turkey still has entry restrictions.

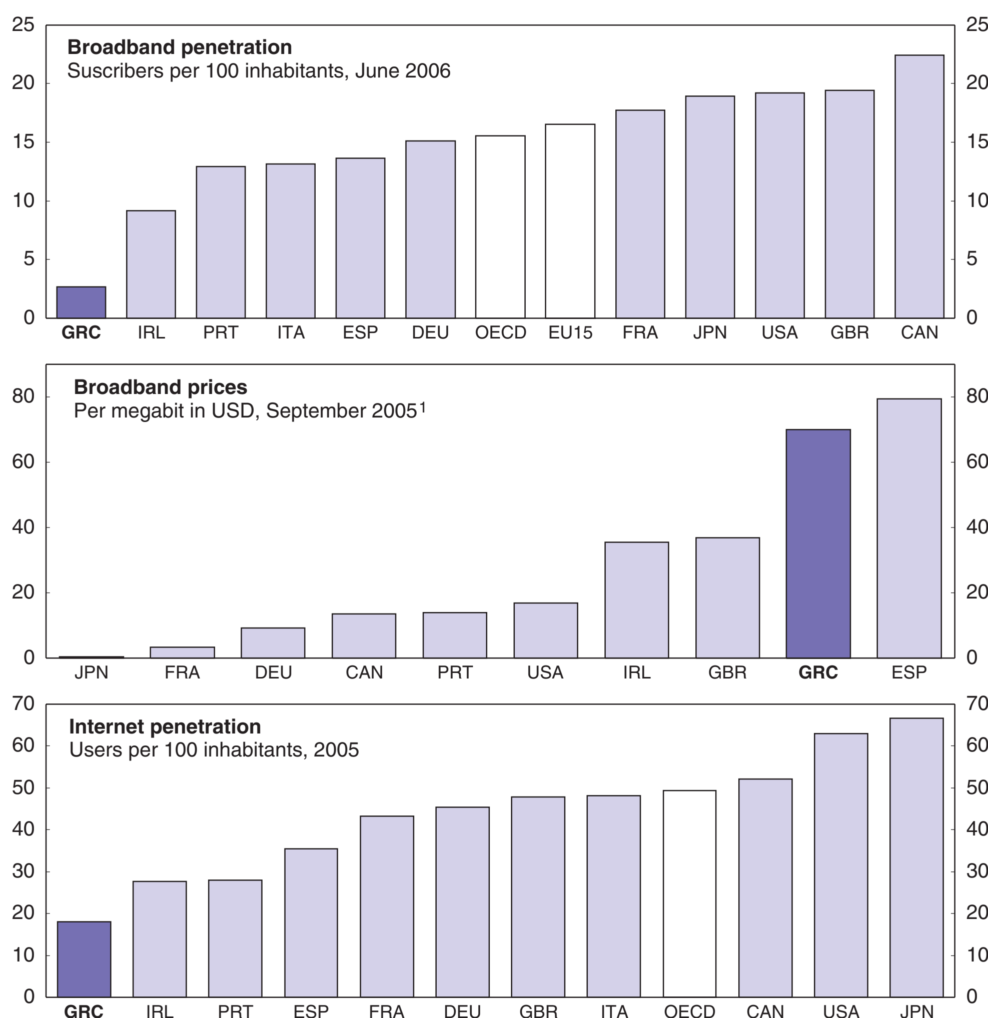
Source: OECD (2006), *International Regulation Database*, *www.oecd.org/eco/pmr*.

The number of authorised public fixed voice telephony operators (including the incumbent) stood at 24 in 2005, around half of which were offering services over a leased or own network (European Commission, 2006). Though the incumbent – OTE – is still strong in the fixed telephony market, competition has intensified in recent years: the share

of other providers in the call volume rose to 28.7% during the first six months of 2005, compared with 11.4% over the same period in 2003, with this share standing at 50.4% in the market for international calls (Ministry of Economy and Finance, 2006). Effective competition in the narrowband market has been facilitated by carrier selection, carrier pre-selection and number portability.

Greece, however, is well behind other OECD countries with respect to broadband access. The penetration rate remains the lowest in the OECD, though it had risen to 2.7% in June 2006 (Figure 6.7) increasing further to 4.5% by the end of the year. A major problem in the broadband market, according to the regulatory authority's 2005 *Annual Report*, is the lack of alternative technological platforms, as 99% of all broadband lines correspond to ADSL lines,[20] reflecting the low competition by alternative infrastructures (EETT, 2006). In this environment, boosting broadband access will depend critically on a more rapid unbundling. After a slow start, owing to a large extent to the lack of a clear investment

Figure 6.7. **Developments in electronic communications**



1. Using purchasing power parities.

Source: OECD (2005), *Telecommunications and Internet Statistics* – online database; OECD (2006), Broadband Statistics, June, *www.oecd.org/sti/ict/broadband* and International Telecommunications Union.

strategy by the new operators and lengthy delays in the provision of local loop unbundling by OTE, the number of unbundled lines (fully and shared) has been increasing since 2003, reaching 10 654 at mid-2006. The relatively high charges for shared access to networks and difficulties with colocation (*i.e.* the ability of a new entrant to put equipment in the incumbent's switching office) are important impediments to a faster unbundling (EETT, 2006; European Commission, 2006). Recent efforts towards stimulating unbundling include the halving of the monthly fees for shared-access lines and the establishment by the sector regulator, the National Telecommunications and Post Commission (EETT), of a Colocation Group, with the prerogative of resolving any conflict between OTE and the interested parties. Moreover, in response to the rising demand, a large programme for preparing colocation areas is underway, which should be completed by August 2007. These initiatives go in the right direction. Access to the local loop is essential for increasing broadband services and reducing prices, which are high in international comparison (Figure 6.7). Wide usage of broadband services will contribute to raising the penetration of the Internet, which is still well below the OECD average, despite its rapid expansion in recent years.

An important factor for the further development of the telecommunications markets is the rigorous implementation of the 2006 law on *Electronic Communications*. The law harmonises the Greek legislation with the regulatory framework of the European Union. The long delay in transposing the main provisions of the EU framework is seen by the European Commission as having had some serious consequences for the Greek electronic communications sector, especially in the area of broadband (European Commission, 2006). The 2006 law improves the regulatory framework to raise investment in electronic communications. It includes measures for the development of the market (such as the removal of obstacles in the licensing of electronic communications networks and services) and enhances the protection of consumers. The 2000 law had already granted the regulator the right to award licenses and impose fines. To date, it has taken action to increase competition and ensure that the appropriate regulatory safeguards are in place. The broadening and clear definition of its role and competencies, especially with regards to competition issues, and better staffing foreseen by the new law are welcome.

Postal services: reaping the benefits of full market liberalisation

The postal market is being opened up gradually, in line with the timeframe enshrined in the 2002 EU Directive which provides for a full market liberalisation in 2009. This has led to a gradual reduction in the scope of services reserved for the state-owned Hellenic Post (ELTA) – designated as the universal service provider.[21] It currently retains a monopoly only in the delivery of mail weighing less than 50 grams. The OECD's regulation indicator shows Greece about in line with the other OECD countries (Figure 6.6). ELTA faces competition mainly from international couriers and local small or medium-sized companies (PWC, 2006). As a universal service provider, Hellenic Post is required to provide postal services of specified quality and at affordable prices to all customers.

In light of Greece's geographic specificities, concern has been expressed that the full liberalisation of the postal market could reduce ELTA's profit margin to such an extent that it would not be able to cover deficits in remote areas – as competition is most likely to be fierce in urban areas where activity is profitable – with the reduced possibility for cross-subsidisation undermining universal service. The loss of ELTA's market share after the full market opening is expected to be small, however, due to the low attractiveness of the Greek market to competitors (PWC, 2006). In any event, reaping the benefits from market

opening, and minimising the potential difficulties and associated risks, would require measures to promote the efficiency and financial viability of ELTA. The ongoing programme – expected to be fully implemented by 2008 – of reorganising the incumbent's core business (collection, sorting and delivery) is a welcome initiative in this regard. A further enhancement in ELTA's preparedness for the full market opening could result from a re-organisation of its operational activities through, for example, the outsourcing of activities. More importantly, perhaps, changes in the ownership status would raise ELTA's flexibility and its autonomy to act as a commercial establishment, helping it to adapt to changing market conditions and needs (PWC, 2006). Additional measures should be considered in case some elements of the universal service provision represent an unfunded cost in the deregulated market, even after restructuring. Greece is currently assessing the effectiveness of alternative mechanisms for funding universal services. The EU Postal Directive allows member states a choice of means to finance universal service provision so long as it does not distort the market.

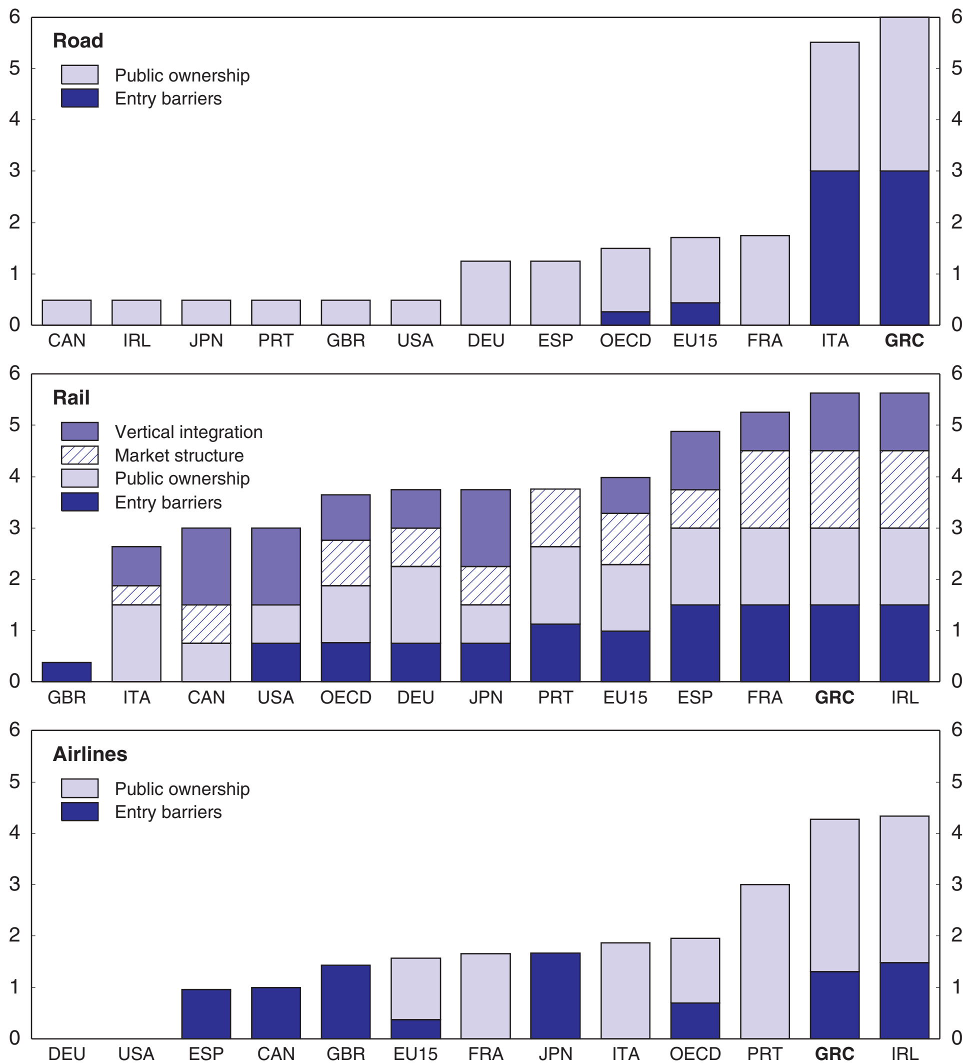
Reforms in the transport sector are proceeding slowly with mixed results

Substantial regulatory barriers remain in the road freight and railway industries, while commendable progress has been achieved in fostering a competitive environment in the domestic ferry sector. The regulatory stance in *road freight* was among the most restrictive in 2003, reflecting stringent entry and licensing requirements and the involvement of professional bodies in price and entry decisions (Figure 6.8, upper panel). Under current arrangements licenses for trucking on behalf of a third party are subject to a numerical limit – being issued only if the number of trucks does not cover the needs for national and international transport. In 2005, for example, there was no need to issue new licenses according to a ministerial decision. A number of restrictions concerning prices have been gradually eliminated. At present, the regulation of transportation charges (under which prices may fluctuate within a pre-determined limit) applies only to operations between districts, while in all other cases (namely, international transport, within-district transport, as well as transport by trucks under 3.5 tonnes) prices are determined freely. The liberalisation of transportation charges for operations between districts is also under consideration. Overall, the government is aiming for a progressive opening up of road freight transport. The geographic particularities of Greece, in addition to its market structure, are advanced as reasons for the adoption of such a cautious approach. The current legal framework, however, introduces distortions in the road freight market as it constrains the development of outsourcing of trucking services, and forces Greek truckers to compete with liberalised foreign truckers (OECD, 2001b). Speeding up the reform process would thus be important.

The *railway* industry is characterised by a high level of public ownership, barriers to entry and vertical integration (Figure 6.8, middle panel). Recent reform efforts have focused on unbundling railway operations from infrastructure, in accordance with the First EC Railway Package, which was implemented in 2005, with a two year delay. In this context, the state-owned Hellenic Railways Organisation (OSE) has founded two new companies, namely Railway Operator and Infrastructure Manager (responsible for maintaining and expanding the network). The former company applies commercial principles and has managerial and operational autonomy, including the autonomy to set fares and tariffs. The infrastructure manager, on the other hand, is subsidised by the state (Coutrouba and Evmolpidis, 2006).[22] The unbundling is a welcome step towards securing non-

Figure 6.8. **OECD regulation indicators for the transport sector**[1]

The scale of indicators is 0 to 6, from least to most restrictive, 2003



1. The EU15 and OECD aggregates are unweighted averages. For road and airline transport Luxembourg is excluded; for rail transport Iceland, Luxembourg and Turkey are excluded.

Source: OECD (2006), *International Regulation Database*, *www.oecd.org/eco/pmr*.

discriminatory third-party access. However, the two companies are still owned by the same holding company. Further reforms are needed to instil competition, which would however require an increase in tariffs as subsidies are being withdrawn. The ongoing restructuring of OSE is an issue of major importance in this context. Greece is currently harmonising its legislation with the regulatory framework for the development of Community Railways (Second EU Railway Package).

As concerns other transport modes, there has been a significant easing in entry regulation in *air transport* over time, although in 2003 Greece continued to be among the OECD countries where entry barriers remained (Figure 6.8, lower panel). A number of bilateral agreements have been negotiated recently which extend designation rights not only to Greek, but also to European Union carriers, while also allowing for strategic

alliances and cooperative market arrangements such as code sharing rights involving third country carriers. Recent initiatives also include an increase in the number of the Greek carriers designated on routes involving neighbouring countries. However, public ownership remains high as no progress was made so far with regard to the privatisation of Olympic Airlines. Discussions are ongoing with the European Commission with a view to resolving the complex legal issues which are a prerequisite for a successful privatisation.[23]

In *sea transport*, the domestic ferry sector was liberalised in 2002 (before the expiration of the derogation period). A 2001 law and its amendments has paved the way for more competition and modernisation of the domestic ferry sector by ending licensing procedures and the establishment of contracts for public service obligations.[24] As an additional positive step, the economy class fares on most of the significant domestic connections between mainland and island ports were liberalised recently, providing incentives for innovation and improved quality of services. All powers and responsibilities of the Regulatory Authority of Maritime Transport, in terms of competition rules, including imposing fines, were transferred to the Competition Committee in order to obtain a more effective and efficient monitoring of the sector (OECD, 2005b).

Summary of main findings and recommendations

Greece has made commendable progress in privatising state-owned enterprises but scope remains in this area. The stake of the government in key public utilities remains high, and price regulation is still prevalent, especially in the transport sector. The opening up of network industries has also progressed, but important challenges lie ahead. Regarding energy, Greece has advanced considerably in transposing EU Directives in the electricity and gas markets into domestic legislation. Progress was also achieved in the oil sector with regard to storage facilities. Nevertheless, effective competition is still absent in the electricity market, despite the issuance of generation licenses to new entrants, as the sector continues to be characterised by vertical integration and public ownership, with the majority state-owned incumbent, the Public Power Corporation, having exclusive rights to exploit and use lignite mines. Strong and effective regulators are critical in this regard. Competition has evolved more favourably in the telecommunications sector, with tangible benefits for consumers both in terms of services provided and telephone charges. Access to broadband services remains very limited, however, as unbundling has progressed only slowly. The major challenge facing the postal sector is how to ensure universal service provision after the market is fully liberalised. Continuing the restructuring of the Hellenic Post is indispensable in this respect. Steps also need to be taken in the transport sector, where the road freight sector should be fully liberalised, while the privatisation of the national airline is still pending. In the railway industry, reforms need to continue to establish competition. On the other hand, there has been commendable progress in raising competition in the domestic ferry sector.

Box 6.1. **Recommendations to foster competition in network industries**

Public enterprises and privatisation

- Implement rigorously the recent law on the improvement of the operation of public enterprises.
- Privatisation needs to be continued and privatisation limits should be abolished for all public enterprises.

Energy

- Raise competition in the energy markets, through the unbundling of the operations of the incumbents in the electricity and gas markets, and by ensuring that the Regulatory Authority of Energy develops into a strong and effective sector regulator.
- Secure non-discriminatory third-party access to the network by giving the Hellenic Transmission Operator System (HTSO) full ownership of the network. Consider moving HTSO into government or private ownership to ensure the independence of the operators.
- Ensure that electricity prices reflect marginal costs by removing cross-subsidies and preferential tariffs. Simplify licensing procedures for energy-related infrastructure.
- Consider transferring the Gas Transmission System Operator to full government ownership, or private ownership. Ensure the full operational separation of the existing gas distribution companies from the Public Gas Corporation (DEPA).
- Weaken the commercial, operational and/or financial links between major companies in the energy sector. Remove the Public Power Corporation's (PPC) "most-favoured customer" clause for its gas supplies from DEPA, and its options to buy 30% of DEPA's shares.
- The exclusive rights of PPC to exploit and use lignite mines should be abolished.
- The regulatory and competition authorities need to remain vigilant to prevent potential abuses of market power in the oil sector.

Communications

- Speed up the unbundling of the local loop to increase broadband services and reduce prices. Ensure wide usage of broadband services to improve the penetration of the Internet.
- Ensure the effective implementation of the new law on *Electronic Communications*, passed in January 2006, harmonising the Greek legislation with the regulatory framework of the European Union.
- Further restructure the Hellenic Post (ELTA) to prepare it for privatisation. Universal service obligations should be funded in a way that does not distort the market.

Transport

- The reform of the road freight sector should be speeded up by eliminating price restrictions and barriers to entry for trucks operating freight transport on behalf of a third party.
- Reforms in the railway industry need to continue to introduce competition in this market.
- Speed up the privatisation of the national airline, Olympic Airlines.

Notes

1. According to ICAP, in 2004 the sales of 43 public enterprises and entities accounted for 9.1% of the corporate sector sales (Bank of Greece, 2006).
2. For a more detailed description, see Bank of Greece, 2006.
3. For example, the state's participation cannot fall by law below: 51% for ports, the Public Power Corporation and Water Sewerage Companies of Athens and Thessaloniki; 35% for Hellenic Petroleum; 34% for the Football Prognostic Organisation. The minimum limit of the state's ownership in the Hellenic Telecommunications Organisation (one-third of the share capital) was abolished in 2006.
4. Following the 1999 Electricity Market Law, around 34% of consumers with 100 gigawatt hours or more of annual consumption became eligible to choose their supplier in early 2001, slightly exceeding the threshold of 30% of the market set by the EU Electricity Directive. The following step defined by the directive was opening the market to 35% by February 2003, with its full opening in 2005 (OECD, 2002).
5. While 21 generation licenses for private power stations were issued, most of these have not been exercised because of problems in arranging financing and obtaining further licences (IEA, 2006).
6. Greece is the fifth largest lignite producer in the world. Lignite, otherwise known as brown coal, is the lowest rank of coal and is used primarily for steam-electric power generation. As a result of its low energy density, brown coal is inefficient to transport and is not traded extensively on the world market, but rather is often burned in power stations constructed close to a mine. Carbon dioxide emissions are generally much higher than for comparable black coal plants.
7. During the last one and a half years two new generators have entered the market. To raise capacity, a tender has been initiated by HTSO for new generation, up to approximately 1 200 megawatts. The auction will be split into three parts, with the tender for the first auction already being announced (IEA, 2006).
8. Greece is interconnected with Albania, Bulgaria, Former Yugoslav Republic of Macedonia and Italy. In 2004, international interconnections to Greece, as a share of total capacity, stood at 8.3%.
9. The law grants RAE, among others, monitoring and supervisory responsibilities regarding the exercise of the duties of the network operators and the responsibility to submit its binding opinion for the determination of network tariffs.
10. The 2003 law opened the market, as of July 2005, for all power producers and co-generators with consumption exceeding 25 million cubic meters per year. It also introduced regulated third-party access for the gas transmission system.
11. The concessions for existing EPAs run to 2031. Prospective EPAs may be given 20-year concessions on similar terms (IEA, 2006). These include those to be established within Eastern Macedonia and Thrace, Central Macedonia and Central Mainland Greece (including Evia). These follow the creation of equivalent gas supply companies for the geographical areas of Attiki, Thessaloniki and Thessaly – covering a significant number of households, and around 10% of gas demand.
12. Under the 1995 natural gas law, private sector entities are expected to incur all the building cost (net of EU contributions) of the low-pressure distribution network in exchange for a 49% ownership stake and the management of Gas Supply Companies, which are majority-owned by DEPA's distribution subsidiaries.
13. For a period of 10 years after the founding of DESFA, the Board of Directors will be appointed through a Joint Ministerial Decision by the Ministries of Economy and Finance and the Ministry of Development, which provides a safeguard as regards decisions on third-party access, as well as maintenance and development of DESFA.
14. This specifies that DEPA cannot sell natural gas to another customer at a lower price than agreed with PPC. This clause is described as a normal commercial agreement by DEPA to its largest customer (PPC accounts for 70% of DEPA's sales by volume) (IEA, 2006).
15. Partially state-owned Hellenic Petroleum merged with the private company Petrola in 2003, increasing HP's market share from 58% to 79% of the Greek refinery market.
16. This requirement can be met by renting space in a storage facility, or by renting stocks from the operators of the stockholding facilities under a regulated third party access regime.

17. According to Law 3054/2002 RAE submits an opinion to the Minister of Development on price caps, while the process also requires a Joint Ministerial Decision by the Ministers of Development and of Economy and Finance.
18. In 2003, 65% of Greece's crude oil was imported from non-OECD countries mainly the Middle East and the former Soviet Union. Recent developments include an oil pipeline connecting Greece with the Former Yugoslav Republic of Macedonia, in operation since 2002, and the planned Burgas-Alexandroupolis oil pipeline connection with a Black Sea port in Bulgaria (IEA, 2006).
19. This is also evidenced by the decline in charges in the consumer price index.
20. Broadband access is implemented in a number of different ways, including both wireless (Fixed Wireless Access, UMTS, Wi-Fi, satellite communications) and wireline (DSL, LLU, leased lines) technologies. The prevailing means at present however is DSL, and particularly ADSL (asymmetric digital subscriber line).
21. The "universal postal service" includes minimum facilities such as the clearance, sorting, transport and distribution of postal items up to 2 kilograms and of postal packages up to 20 kilograms as well as the services for registered and insured items. These services cover both national and cross-border services. Certain services have been reserved for ELTA as the universal service provider, the scope of which has been gradually restricted (Bank of Greece, 2005).
22. The companies are in operation since January 2006, though some technical aspects such as the allocation of personnel and assets are still pending.
23. Privatisation of Olympic Airlines reached a final stage in August 2005 when a memorandum of understanding was signed with investor group Olympic Investors/York Capital. The legal complications arising from the adoption of the European Commission Decision on Olympic Airlines in September 2005 did not allow the transaction to go ahead.
24. Prior to its enactment, the ferry transport market was highly regulated in such areas as market entry, licensing, pricing, route scheduling, public service obligations and tendering for unprofitable routes (Koutsogeorgopoulou and Ziegelschmidt, 2005).

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Glossary

ALMP	Active labour market programme
DEPA	Public gas corporation
DESFA	Gas transmission system operator
EDP	Excessive deficit procedure
EETT	National Telecommunications and Post Commission
ELTA	Hellenic Post
EMU	Economic and monetary union
EPAs	Regional gas distribution companies
EPC	Economic Policy Committee
EPL	Employment protection legislation
EU	European Union
EU15	European Union, first 15 member states
EU19	All European Union members that are also OECD members
FDI	Foreign direct investment
GDP	Gross domestic product
GNI	Gross national income
GSEE	Greek General Confederation of Labour
GVA	Gross value added
HP	Hellenic Petroleum
HTSO	Hellenic Transmission System Operator
ICT	Information and communication technology
IEA	International Energy Agency
IKA	Social insurance institute
IMF	International Monetary Fund
LAFKA	Solidarity account of social security funds
NEET	Not in education, employment or training
NGCLA	National general collective labour agreements
NHS	National health system
OAED	Manpower employment organisation
OMED	Mediation and arbitration organisation
OSE	Hellenic railways organisation
OTE	Hellenic telecommunications organisation
PAYG	Pay-as-you-go
PPC	Public Power Corporation
PPP	Public-private partnerships
R&D	Research and development
RAE	Regulatory authority of energy
US	United States
VAT	Value added tax

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