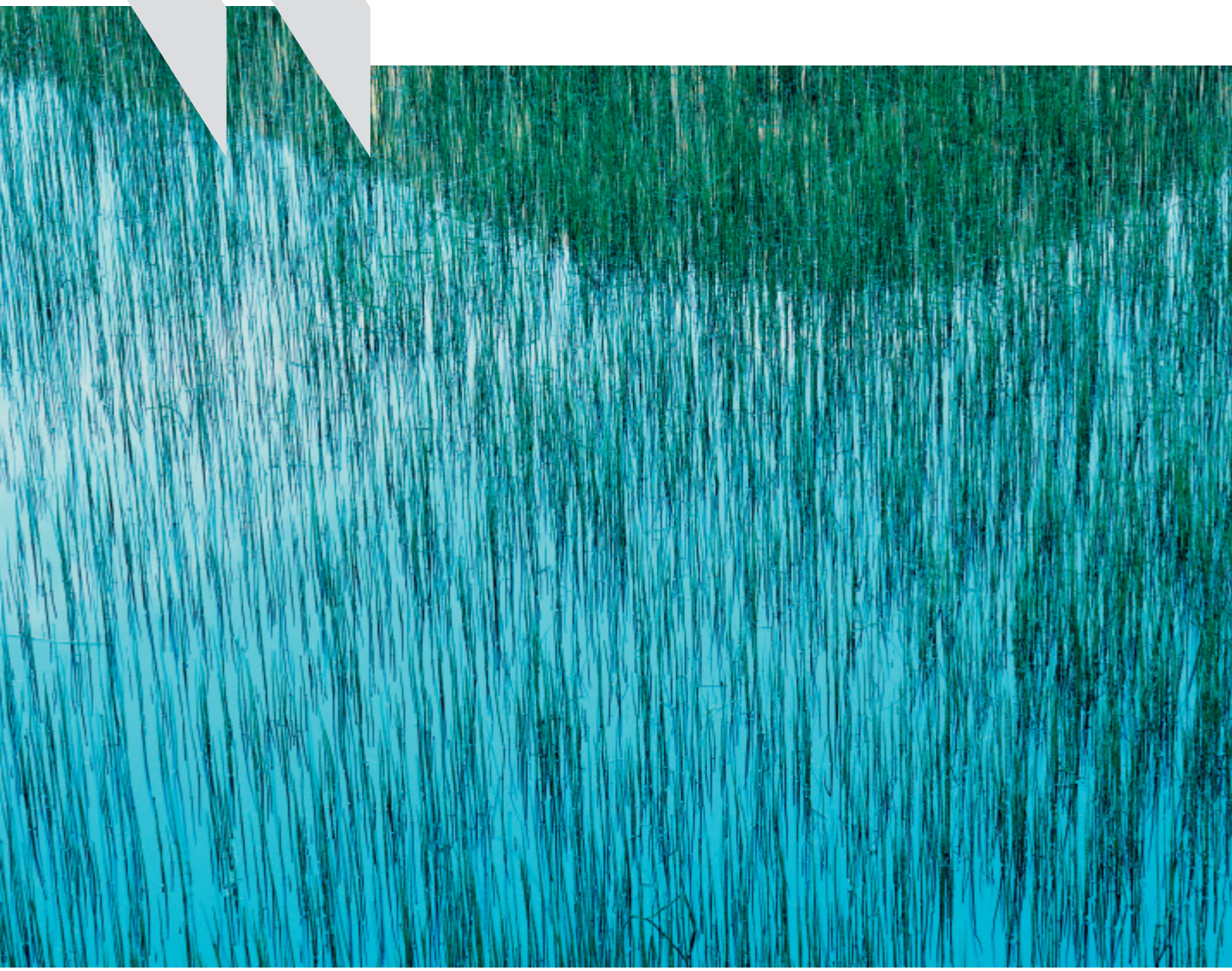
OECD Economic Surveys

GREECE



Volume 2009/15
July 2009

OECD
Economic Surveys

Greece

2009

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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 15 June 2009. 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 29 June 2009.

The Secretariat's draft report was prepared for the Committee by Claude Giorno and Vivian Koutsogeorgopoulou under the supervision of Piritta Sorsa. Statistical assistance was provided by Joseph Chien and Agnès Cavaciuti.

The previous Survey of Greece was issued in May 2007.

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BASIC STATISTICS OF GREECE, 2007

THE LAND

Area (1 000 km^2)	
Total	132.0
Agricultural (2003)	39.8

Major urban areas (2001 census, thousand inhabitants)	
Greater Athens (including Piraeus)	3 895
Greater Thessaloniki	1 084

THE PEOPLE

Population	
Thousands	11 193
Increase 2002-07 (annual average, %)	0.4
Number of inhabitants per km^2	85

Total labour force (thousands)	4 917
Civilian employment (% of total)	
Agriculture, forestry and fishing	11.6
Industry and construction	22.4
Services	66.1

PRODUCTION

Gross domestic product	
In billion €	228
Per head ($)	27 945

Gross fixed capital investment	
In % of GDP	22.5
Per head ($)	6 288

THE GOVERNMENT

Public consumption (% of GDP)	16.7
General government (% of GDP)	
Current expenditure	41.8
Current revenue	37.7
Net debt	69.8

Composition of Parliament (seats)	300
New Democracy	152
Panhellenic Socialist Movement	102
Communist Party of Greece	22
Coalition of the Radical Left	14
Popular Orthodox Rally	10

Last general elections: September, 2007

FOREIGN TRADE (2008)

Exports of goods and services (% of GDP)	23.1
Main commodity exports (% of total)	
Manufactured goods	22.7
Food and live animals	15.6
Chemicals and related products	13.3
Miscellaneous manufactured articles	11.0

Imports of goods and services (% of GDP)	31.9
Main commodity imports (% of total)	
Machinery and transport equipment	27.1
Mineral fuels, lubricants, related materials	20.0
Chemicals and related products	13.7
Manufactured goods	13.2

THE CURRENCY

Monetary unit: euro

Currency unit per $, average of daily figures	
Year 2008	0.684
June 2009	0.714

Executive Summary

Greece has initially held up better during the global economic crisis than many other OECD countries. It is unlikely, however, to avoid a recession as confidence, tourism and shipping receipts have all fallen substantially. The financial sector may face pressures from a contracting real estate sector and its exposure to the emerging economies of south-eastern Europe. The authorities have responded with fiscal measures and a plan to assist the financial sector. However, their room for policy manoeuvre is tightly restricted by the high public debt, repeated fiscal slippages and the large external and internal imbalances, which have been reflected in high sovereign interest-rate spreads since the end of 2008 as risk aversion rose.

Fiscal consolidation is imperative, but tightening needs to be carefully timed

As activity slows, budgetary deterioration is inevitable. There is virtually no room for budgetary manoeuvre, and the poor state of public finances justifies the immediate structural consolidation already put in place. However, automatic stabilisers should be allowed to work, even though this will probably widen the fiscal deficit to some 6¾ per cent of GDP by 2010. To boost credibility and avoid adverse market reactions, a strong commitment to continue fiscal consolidation is urgently needed. This should include specific, concrete measures to eliminate the structural deficit, a more restrictive budgetary rule and greater independent oversight. The goal should be to bring public debt below 60% of GDP by 2020-25, when the full effect of population ageing kicks in. Developments in the financial sector will continue to demand close supervision to ensure that the support plan remains an adequate response to evolving risks.

Structural fiscal reforms should be a key priority going forward

Sustainability calls for improvements in a tax system which is beset with widespread evasion. Apart from simplifying and widening tax bases, the fight against tax and social security contribution evasion should be stepped up, and tax collection improved. This needs to be accompanied with tighter control over spending, including a cut in administrative costs, rationalisation and limitation of the wage bill, and reforms in loss-making state enterprises. Longer term viability also calls for further pension reforms, including revision of the parameters for pension calculations and new measures to further reduce incentives to early retirement.

The performance of the healthcare and education systems needs to be improved

This is important for social cohesion, the enhancement of human capital, and productivity. In both areas, in which major reforms have been launched, substantial efficiency gains can be achieved.

- ***In health,*** *the governance and highly fragmented structure of the health care system should be revised, with all health-related powers brought under one ministry and the various insurance funds merged into one. The quality of primary public health care services would be improved by developing a system of referring physicians, increasing the number of general practitioners and changing the structure of the remuneration system of doctors. Modernisation of hospital management is required, which entails* inter alia *expanding their management autonomy and revising their funding system. Lastly, consistently with the recently launched system for monitoring prescriptions for drugs, efforts to control pharmaceutical expenditures should continue.*
- ***In education,*** *the supply of pre-school services, especially for children under three years, should be expanded and modernised, with adequate funding and staffing. The quality of secondary schooling must be raised, with schools given greater autonomy and accountability, and incentives and training for teachers enhanced. Changes are also needed in the system of admission to universities. Universities also require a funding review and greater autonomy.*

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ISBN 978-92-64-05427-1
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Assessment and recommendations

Greece has not escaped the international crisis…

The robust expansion of Greece since its entry into the euro area has slowed significantly under the weight of the international crisis. However, the economy has weathered fairly well the initial impact of the shock that plunged most of the OECD countries into a serious recession. Growth remained positive until the end of 2008 thanks to relatively buoyant exports to the Balkans and large wage increases which supported consumption. The banking sector has benefited from marginal exposure to the toxic assets which were at the root of the international storm. Even so, the impact of the crisis substantially shook the confidence of households and businesses, which are reining in spending. Furthermore, persistent structural imbalances, illustrated by the poor state of public finances and the large current account deficit, limit room for policy manoeuvre, and Greece's exposure to south-eastern Europe has increased the country's vulnerability to the crisis. In the wake of a general increase in risk aversion, the long-term sovereign interest rate spread *vis–à–vis* Germany widened sharply in early 2009. In line with market assessments, rating agencies downgraded the sovereign debt and credit risks of the leading Greek banks, as in a number of other European countries.

… and is unlikely to avert a recession

The OECD projects a decline in output by 1¼ per cent in 2009 followed by a slow recovery, with GDP rising by ¼ per cent in 2010. In the first quarter of 2009, real GDP contracted by an annualized rate of 4.8% over the previous quarter, but grew 0.3% year on year according to the national accounts estimates. Exports will be adversely affected this year by the plunge in international trade, including in shipping and tourism. Lower confidence, an expected rise in unemployment, and tighter credit conditions will weigh on domestic demand. Nevertheless, a number of factors should moderate the slump. The rise in household income is expected to remain robust thanks to the generous wage agreements signed in the private sector in 2008. Greece is less dependent on trade, and in particular on manufacturing, than many other OECD countries. It also continues to receive substantial EU financial support, and its growth potential is still high, even if this is likely to be weakened by the crisis. This outlook is surrounded by uncertainties, however, which tend to weigh on the downside, and if they materialise, the output projection would probably be weaker. A greater deterioration of the external environment, especially in the Balkans (which absorb almost a fourth of exports), would cut growth. The impact of the weaker economy on the financial sector could pose another risk to growth. The continuous erosion of international competitiveness, driven by the relatively rapid wage increases and a persistent inflation differential with the euro area,

could also hamper the recovery more than expected, especially if the pick-up of activity remains subdued in the south-eastern European markets.

There is virtually no room for budgetary manœuvre…

Unlike many other OECD countries, Greece has virtually no room for budgetary manoeuvre to cushion the weakening of activity. Public debt is now close to 100% of GDP, and the fiscal deficit rose from 3.1% to 5% of GDP between 2006 and 2008 despite a buoyant economy. Against the background of the general rise in risk-aversion and declining market liquidity triggered by the financial crisis, repeated fiscal slippages together with the impact of ageing on the long-term budget outlook, largely explain the sharp widening of interest rate spreads with Germany. Greece is also subject to an EC excessive deficit procedure (EDP), and has six months – until October 2009 – to undertake corrective measures needed to bring its deficit back to 3% by 2010 from 5% of GDP in 2008. Under these circumstances, the government limited its crisis-related fiscal support to the most vulnerable groups and key economic sectors, such as tourism, construction and small enterprises. It has adopted a consolidation plan which, based on measures announced as of mid-June 2009, aims at reducing the structural budget deficit by 2½ per cent of GDP by 2010 according to OECD estimates. This plan includes a cut in civil service employment, a freeze in government wages, a 10% cut in "elastic" budget outlays and a one-off levy on high incomes.

… but automatic stabilisers should be allowed to operate and the necessary fiscal tightening needs to be carefully timed…

Since the government plan was adopted, however, growth prospects have substantially weakened and the 2008 fiscal deficit was revised up. As a result, to bring the deficit below 3% of GDP in 2010, the structural fiscal adjustment would have to exceed 6% of GDP, which is more than double than that envisaged in the government consolidation plan. Given the weak economy, such an adjustment would be excessive. *In the short term, the structural deficit should be reduced by at least the 2½ per cent of GDP already planned by the government over 2009-10, and automatic stabilisers should be allowed to work beyond this.* This would result in a deficit of some 6% and 6¾ per cent of GDP in 2009 and 2010 respectively, and lead to public debt above 100% of GDP in 2010.

… at the same time a strong commitment to enhance fiscal viability is indispensable

To limit any adverse impact of the higher deficit in 2009 on market confidence and interest rate spreads, *the authorities should make a strong commitment to fiscal consolidation, increase credibility of fiscal policy and deal with the long-term threat to budgetary sustainability posed by population ageing.* In the past, consolidation has been too dependent on temporary measures and has not yielded sufficient control over government spending. *The authorities should adopt specific and concrete measures to rein in spending and improve tax collection. This policy should be buttressed by a multi-year budgetary framework, a legally binding fiscal rule that would cap expenditure and prevent structural deficits, and an independent council to oversee fiscal*

policy. Switzerland has gone as far as putting its fiscal rule into the Constitution and this is under consideration for a new rule in Germany as well. Greece could also explore this option.To achieve fiscal sustainability, the rules should aim at reducing public debt to less than 60% of GDP by 2020-25, when the budgetary consequences of population ageing start to be fully felt. This in turn requires eliminating the budget deficit by 2014, once economic recovery is underway, to be followed by surpluses of about 1% of GDP as from 2015.

The financial sector may face pressures from its housing and emerging market exposure

Greek banks are confronting the crisis after a prolonged high growth in lending upon liberalisation of the sector since the millennium, including substantive privatisation, and with no experience with recession. Although the crisis initially had little effect on banks beyond reduced liquidity, they remain vulnerable to international turbulence through their exposure in the Balkans, especially in Bulgaria, Romania and Turkey, if the economic situation in these economies were to worsen substantially. Bank claims in these countries, whether held by subsidiaries or cross-border, correspond to 17% of GDP, which is high compared to most other European countries. In these rapidly growing markets, bank groups have run substantial credit risk, exacerbated in some cases by overvalued real estate prices, and exposure to largely unhedged borrowers since half of local claims are denominated in foreign currencies. On the domestic front, banks face a large exposure to a contracting real estate sector, in which investments have dropped by over 3% of GDP since 2006. In the months ahead, the strains induced by the crisis in this sector are likely to be compounded by the impact of the projected recession on bank portfolios.

Supervisors should be prepared to deal with evolving risks

A support package was adopted to boost confidence and liquidity in the banking system. It contains measures to increase the statutory guarantees for deposits with credit institutions, aid to bolster bank capitalisation, including government acquisitions of equity, and guarantees to support bank liquidity. The measures, totalling up to EUR 28 billion (11½ per cent of GDP), are intended to lessen the risk of a procyclical tightening of bank lending conditions. The plan appears to provide enough assistance to ensure financial stability for now, especially in view of the good initial level of bank profitability and capitalisation. However, as discussed above, significant uncertainties persist on both the domestic and external fronts. *A close watch over developments in the financial sector must therefore be maintained to ensure that the support plan adequately meets the needs of credit institutions. This should be accompanied by greater efforts to disclose information about the banking system's solidity* vis-à-vis *the crisis. The regular publication of Financial Stability Reports, as recently initiated by the Bank of Greece, will help reduce market uncertainty. These reports should include regularly the results of stress tests with changes in perceived risks. In the medium term, the authorities might consider changing the bank provisioning mechanisms to limit the procyclical nature of credit supply – drawing on the Spanish experience – in the context of an EU move in that direction.*

The authorities should give priority to reforming the fiscal sector

The high fiscal deficit and recently rising public debt point to the urgency of improving the financial situation and efficiency of the public sector. The poor fiscal situation left Greece with a weak fiscal armour in the current recession. The room for fiscal manoeuvre, the main stabilisation tool for countries in the euro area, needs to be restored to deal with economic shocks. The recession will also worsen an already difficult fiscal situation and the cost of sovereign debt. The need for reform is enhanced further by the looming pressures on public finances in the coming decades – the expected drop in the inflow of structural funds from the EU and the fiscal burden from demographic ageing. Efficiency of public services, especially in health and education, is below the OECD average. Renewed efforts at reforms in the public sector are thus needed to bring government finances on a sound basis, and enhance the efficiency of public services. A well-functioning public sector would also play a central role for modernising the economy and maintaining a high trend growth rate.

Tax revenue can be enhanced by reducing tax evasion and broadening the tax base

Reducing extensive tax evasion will be key to putting public finances on a strong footing. While recent steps to improve tax collection through the strengthening of tax administration are welcome, tax evasion remains widespread, especially among the self-employed. This reflects weak collection procedures, a large informal sector, frequent tax amnesties and a complex tax system. *Collection can be improved by strengthening auditing activities through a better qualified personnel and a more comprehensive exchange of information among agencies. The collection of taxes and social security contributions should be combined in a single authority.* This would also reduce the cost of compliance borne by taxpayers and the tax administration, which is among the highest in the OECD. *Repeated tax amnesties need to be discontinued, as they only discourage compliance.* Broadening of the tax base hinges upon a more simplified tax system. *Revenue can be boosted by reducing the number of VAT rates and shortening the list of goods and services that are eligible for reduced rates, and by eliminating exemptions in income taxation. Balancing the level of taxation between employees and the self–employed, who currently face a lower burden, would make the tax system fairer.*

Ensuring a better control of primary expenditure would increase the effectiveness of consolidation

The repeatedly missed fiscal targets partly reflect difficulty in controlling spending. In particular, personnel outlays have risen rapidly with diverse systems of special benefits, wage increases beyond productivity gains and overstaffing in many ministries. Public enterprises, hospitals, social security funds and local authorities, which account for a significant part of recurrent expenditure overruns, lack a hard budget constraint. Overall expenditure management needs to be strengthened. Moderate pay increases in the public sector are indispensible not only to improve public finances but also to contain wage pressures, given the sector's signalling role on private wage bargaining. The establishment of a central wage payments authority, envisaged by the government, is a positive step towards a better management of public-sector wages. *The plans to rationalise special employee*

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benefits should also proceed quickly, even though this only concerns new hires. The policy of only partially replacing public-sector retirees should be pursued. Improving the performance of public enterprises should remain a priority, including by rapid implementation of the new operational framework that introduces improved governance and the preparation of annual business plans. It is necessary to ensure that the planned move toward a programme-based budget and multi–year budgetary framework takes place in line with the authorities' deadline of 2012, and that the implementation of on-going reforms for the modernization of the public accounting proceeds rapidly.

Pension reform must continue

In the absence of deep reform, pension costs are estimated to rise to more than 20% of GDP by 2050. High long-term pension liabilities have contributed to some extent to the increase in the government bond spreads *vis-à-vis* Germany. While recent reforms are welcome and a necessary step forward, they are not sufficient to stem the sharp rise in costs. The merging of pension funds in 2008 by scaling back their number from 133 to 13 and reductions in some early-retirement incentives, especially for mothers of dependent children, will help to rationalise the system and improve supervision of the schemes. *The efforts to bring uniformity to the operations and parameters of the recently merged funds, standardise their accounting rules and computerise the system should continue.* Regulatory changes and financial incentives adopted to keep seniors in the labour market are also welcome. Nevertheless, further progress is needed. *The revision to the list of physically strenuous occupations conferring entitlement to early retirement needs to be completed quickly, and the revised list should apply not only to new hires, but also to workers still well below retirement age. Minimum pensions should be restricted to persons who have reached statutory retirement age. Parametric reform of the pension system is also needed, including extending contribution periods, increasing the entitlement to full early–retirement pensions from 37 years of contributions, lowering the replacement rate and including all or most career earnings when calculating pension rights. Such reforms have already been implemented in a number of other OECD countries.*

Public health care services need improvement, especially in the primary care sector

While Greek health outcomes compare favourably with the OECD average, the state of the public health care system sparks dissatisfaction amongst the population. This reflects *inter alia* the inability of public care to meet people's expectations, especially as regards the quality of primary health care services. Households are also burdened by substantial private medical expenses, including high informal payments, raising questions about equitable access to some services and the efficiency of the system. This is due to distortions in pricing of services, and a limited supply of generalists and nurses in contrast to an oversupply of specialists. Enhancing the quality of public primary health care services is rightly a priority for the authorities. Draft legislation is underway to develop a system of referring physicians, individual health care budgets by patient, as well as medical protocols to harmonise and rationalise medical practices. These reforms are welcome. A system of referring physicians would help achieve a better balance between preventive and curative medicine, and better monitoring and co-ordination of health care, especially in respect of chronic illnesses, which will rise as the population ages. *More nurses and general practitioners are also needed. Changes in the structure of remuneration of practitioners would help reduce the currently large informal payments.*

Introduction of a hybrid system combining capitation payments and payments by the act for outpatient doctors working for health insurance funds could stimulate competition and improve the supply of health care. Another option would be to ban dual practice, whereby some doctors work half-time for the funds, which can encourage them to minimise their efforts in the public sector and to use their positions to expand their private practice. Salaries between hospital doctors could be differentiated to attract more physicians to specialities for which demand is high. Moreover, it is vital to strengthen controls and sanctions against informal payments.

Major overhaul of the health care system would improve service quality

The health system is also highly fragmented, which increases administrative costs and reduces quality of care. Resolving these problems now is important in view of the expected rise in demand for care in the coming decades and the need to contain public spending. *Governance and efficiency can be improved by reducing the fragmentation of the system between the National Health System and the multiple health insurance funds. These health funds should be separated from pension administration, as planned by the government, and all health-related activities should be concentrated in one ministry. Merging the funds would also bolster the bargaining power of public insurers and trim administrative costs; however, this should proceed in a carefully designed way, to avoid increased red tape and a lower quality of services.* The recent reform to centralise and manage public hospital procurement by a specialised committee is a step in the right direction. *Centralised management of all public funding earmarked for health care would enhance resource allocation, which currently favours hospital care over primary care and prevention. Separating the function of medical insurance from that of care provision, and encouraging competition among health-care providers could also improve cost efficiency. Resource allocation should be based more on economic assessments and give precedence to cost-effective medical practices. Doing so would require filling the serious gaps in the statistical systems; the move to double–entry bookkeeping in NHS hospitals at the end of 2008 is welcome in this regard.*

Hospital management should be modernised and better control exerted over pharmaceutical expenses

The current method of control over public hospital expenses results in excessive and ineffective micromanagement by the Ministry of Health. Moreover, hospitals have taken the habit of accumulating large arrears, which have been paid by the government without introducing effective cost controls. Also since 1990, pharmaceutical spending has been growing faster than in most other OECD countries, which reflects lack of proper incentives to contain costs. *Enhancing the effectiveness of hospitals will entail expanding their management autonomy, completing the move to international accounting standards for the few hospitals that have not already done so, appointing qualified managers and revising the funding system. The system should be based on comprehensive, forward-looking and binding budgets with inputs derived from cost assessments by categories of pathologies rather than length of hospital stays. Spending on drugs could be contained by increasing patients' formal contributions to costs, encouraging the use of generic products and reforming the compensation system for pharmacists.* Their compensation should stem in part from services rendered to customers based on flat-rates rather than turnover, as for example, in Switzerland. *Restoring the positive list of reimbursed drugs with no*

exceptions should also be considered. The recently launched system for monitoring prescriptions for drugs will make an important contribution to controlling pharmaceutical expenditures. *While the effectiveness of each of these measures is potentially limited, a programme encompassing a number of different actions would certainly prove effective.*

Educational performance needs to be improved, with a focus on early education and care

High educational outcomes are of major importance for raising productivity and living standards in a world of increasing international competition. Despite progress over the past decades, educational attainment in most age groups in Greece is below the OECD average. In particular, participation rates in early childhood education and care, which can substantially improve outcomes in later years, are low, reflecting supply and quality problems as well as social preferences for home care. PISA scores are also weak, pointing to quality problems at primary and secondary levels. This is due to poor incentives for teachers and the lack of rigorous requirements for "in-service teacher training", reinforced by shortcomings in the curricula of key competences. In view of these challenges, the government has intensified discussions on education reform with the aim of upgrading its quality.

Recent initiatives for pre-primary education (kindergartens) to revise curricula and extend compulsory education to a second year are welcome. *Steps towards establishing a regulatory framework and modernising the operation of the childcare sector – setting technical standards for the premises, and developing a pedagogical programme for pre-school education – need to be speeded up. The supply of services, especially for children under 3 years, can be increased by eliminating bottlenecks that limit the daily hours of operation and diversity of the services. This is likely to require more public spending, which, given the overall tight budget situation, calls for freeing resources from other sectors. Providing universal access to early childhood education for four year–olds would be in line with international trends and would ensure an affordable place for all children who need it. A more integrated approach to early childhood education would also improve policy efficiency and resource allocation in order to contribute to better access and quality of services.*

The quality of primary and secondary education should be improved

Primary and secondary school reform is also high on the authorities' agenda. Quality problems reflect lack of performance incentives for teachers and very limited school autonomy. Furthermore, the teaching curriculum does not prepare students for post-school life, especially in vocational and technical education, and at upper secondary levels the curriculum is too oriented towards passing the university entrance examinations. Perceived deficiencies in public education have led to large sums spent on private university preparatory courses. *To raise education outcomes, Greece should increase school autonomy and teacher incentives, which in other OECD countries have been shown to improve education quality. For instance, by lowering the comparatively high teacher to student ratio could release resources to reward good teachers. Further autonomy, however, needs to be accompanied by increased school accountability. Assessments that monitor student performance and allow benchmarking between schools, which are widely recognised as prerequisites for raising performance, should be part of the reforms. Accountability policies concerning teachers can also have positive effects on achievement. Current reform proposals towards upgrading upper secondary*

school curricula and disconnecting this level of education from the university entry exams go in the right direction. This could also help to reduce the excessive reliance of students on private crammer courses. *Such initiatives, however, as acknowledged by the government, need to be accompanied by a change in the system of entering university. An option in this regard would be to have only one national exam based on an improved curriculum at the end of upper secondary education, leading to the final school certificate. The selection for entering tertiary education could thus be left to universities themselves.*

The quality of tertiary education needs to be enhanced

The Greek university system, which is composed of public universities, is rigid and lacks a well-performing evaluation mechanism. Its responsiveness and flexibility to changing demand conditions needs to increase to close the performance gap with respect to other OECD countries. Recent reforms aiming at improving the governance and increasing the accountability of universities have addressed some of these issues, but more needs to be done. *Quality would be improved by enhancing competition in the higher education sector through an amendment of the Constitution to allow private universities. The funding of institutions could be related to indicators of performance which are simple and transparent*. Such initiatives could be complemented, at a later stage, with deeper reforms to university finances. *The introduction of moderate tuition fees for undergraduate students would be a first step towards increasing and diversifying funding for universities as well as generating greater efficiency; this reform would also require a Constitutional amendment. Such change would need to be accompanied by an income-contingent loan scheme, as a means of easing liquidity constraints faced by the less affluent students.*

Further structural reforms of labour and product markets are needed to sustain the catching-up process and boost flexibility of the economy

To sustain catch-up, Greece needs to reduce its structural imbalances and improve competitiveness with reforms that raise productivity. The sizeable difference in per capita income with the most advanced economies is mostly due to a productivity gap, although participation rates of the young and women in the labour force are also low. Low productivity is influenced by rigid product and labour market regulations. Enhancing labour market flexibility would also help prevent the expected rise in unemployment, which is already high among the young and women, from becoming structural. Further reforms in labour and product markets are needed to deal with these challenges. *Minimum wages setting should better take into account the high youth and female unemployment. The government should encourage decentralised wage bargaining by avoiding administrative extensions of collective agreements to firms not directly represented in the negotiation*. Significant productivity gains could be reaped from further moves towards a pro-competition regulatory stance. *Specific areas where there is most scope for improvement include: reducing the number of procedures for business registration and meeting legal obligations; easing regulation of professional services; and making the regulatory framework in retailing more conducive to competition. Establishing effective competition in network industries can be achieved by further progress towards privatising public enterprises and introducing more modern regulation in the energy, communications and transport sectors. Strong and effective regulators are critical for promoting competition in all newly liberalised sectors.*

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ISBN 978-92-64-05427-1
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Chapter 1

Weathering the international crisis

The Greek economy has not escaped the consequences of the global economic crisis, but, it has so far weathered the storm relatively well. It nevertheless remains vulnerable going forward because of its large imbalances both on the fiscal and external accounts. High public debt leaves little room for fiscal manœuvre to limit the impact of the crisis. The close trade and banking links established with the South Eastern European economies, which are exposed to the financial turbulence, might be a risk in the near future. This chapter looks at how Greece is coping with the crisis, and recommends policies to deal with both the shorter and medium-term macroeconomic challenges.

Although weakened, the Greek economy has stood up quite well to the initial impact of the crisis

After years of robust growth following euro adoption, activity started to slow in 2007 in the wake of hikes in commodity prices, tightening of euro area monetary policy and the incipient financial crisis. The first sign of the deterioration of the economic situation was a decline in export growth, worsened by the erosion of competitiveness caused by the persistent inflation differential with the euro area average (Figure 1.1). From mid-2007 onwards, domestic demand also weakened markedly. Growth in business investment declined as the economic climate deteriorated, and house purchases fell sharply after the strong increase in 2006 prior to the introduction of VAT on sales of new buildings. Moreover, growth in household consumption, although supported by substantial increases in real wages, started to cool. Growth slowed further in the autumn of 2008, but at 1.2% in the fourth quarter of 2008 (s.a.a.r) remained positive, in contrast to large declines in much of OECD.

The Greek economy has stood up to the initial shock relatively well. The economy benefited from a more favourable external environment than the rest of the euro area since Greek exports directed towards the Balkans remained relatively robust until the end of 2008. Greece also suffered less from the early consequences of financial turmoil thanks to its banking sector's marginal exposure to the toxic assets that had provoked the crisis. In contrast to many OECD countries, Greek financial institutions continued to make a profit in 2008, on average, although the figures were down.[1] Damage to the labour market was thus contained, with the unemployment rate increasing only marginally to 7.9% in the last quarter of 2008, which is close to its lowest level since the beginning of the 1990s.

The initial impact of the crisis was indirect, spurred by the country's vulnerabilities stemming from its large structural imbalances. Thus, the spread on long-term government interest rates with Germany rose more than in the rest of the euro area since end 2008 (Figure 1.2) as rating agencies lowered their rating of Greek sovereign debt and of the country's main banks. Some foreign capital withdrew from the Athens stock exchange, contributing to weaker share prices. Wider spreads partly reflect the impact of the general reduction in liquidity in global financial markets, but also the re-evaluation of risks by investors worried about the persistence of structural imbalances (see below). In the case of Greece, fiscal deficits have proved difficult to control, government debt is high and population ageing is expected to threaten fiscal sustainability (Chapter 2). The Greek economy also suffers from a large current account imbalance, which widened sharply after the adoption of the euro (Box 1.1), and a rapidly rising net external debt (Figure 1.4). The perception of this vulnerability to the crisis was heightened by the close economic links that Greece had forged with the emerging countries of Southeast Europe. While these links have spurred growth, and are a natural consequence of Greece's location, many emerging countries have been judged especially vulnerable by markets.

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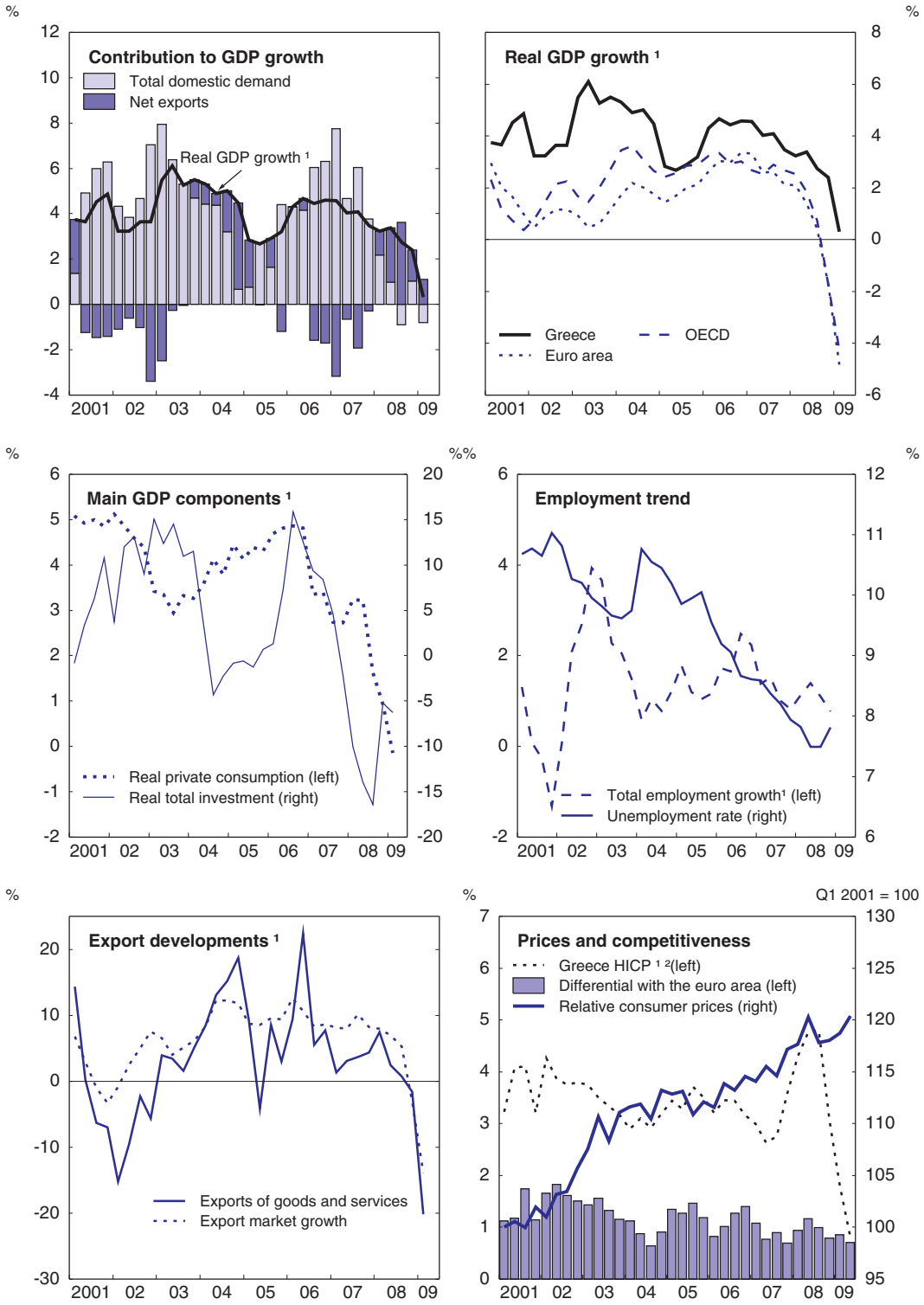
Figure 1.1. **Macroeconomic indicators**



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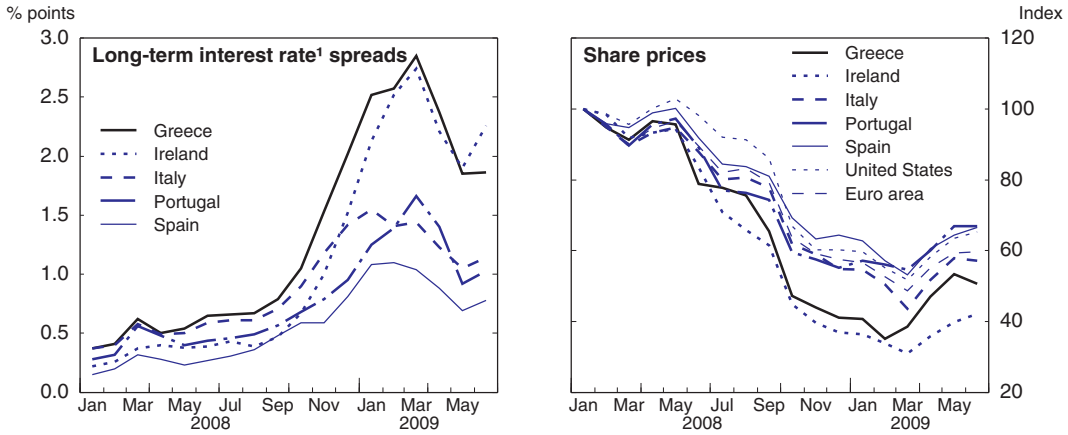
1. Year-on-year percentage change.
2. Harmonised consumer price index.

Source: OECD, *OECD Economic Outlook 85 database.*

Figure 1.2. **Long-term interest rate spreads and share price developments**



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1. Defined as long-term government bond yield, Maastricht definition.

Source: Eurostat and Datastream.

Box 1.1. **What is driving the rise in the current account deficit?**

Like in some other EMU countries, the external account imbalance widened in Greece after the adoption of the euro, from about 3% of GDP on average between 1990 and 1998, to 14% of GDP in 2007-08. Similar, though less pronounced deterioration occurred in Spain and Portugal (Figure 1.3). A simple decomposition of the current balance have been carried for these three countries, which illustrates the following points:

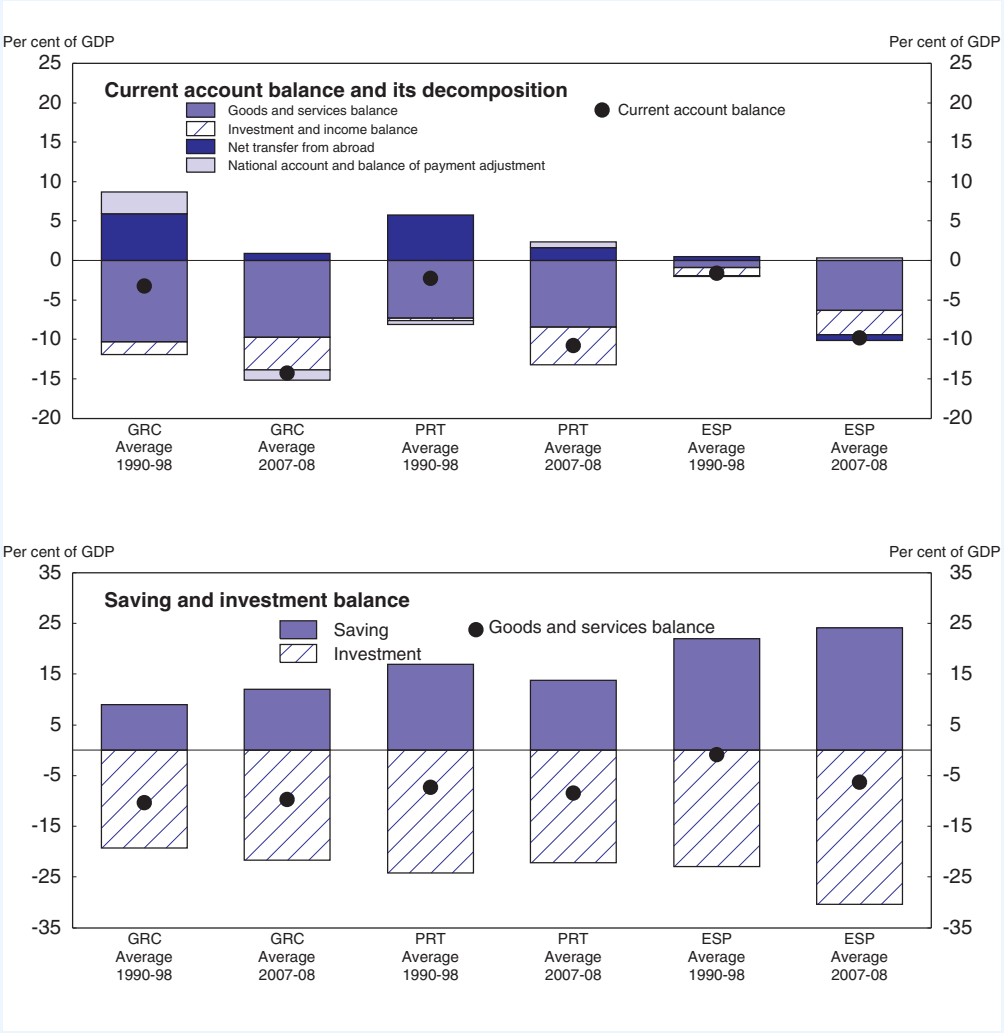
- The deterioration of the current account in Greece and Portugal is mainly due to a large reduction of net official and private transfers as net transfers from European Union have declined since 2007 and remittances by immigrants have increased. These factors are smaller in Spain.
- All the three countries have been affected by the decline of their net investment income because of their growing stock of net foreign liabilities.
- In contrast to Spain, and to a lesser extent in Portugal, the goods and services balance in Greece, measured on the basis of the national account data, has not contributed to the worsening current account between 1990-98 and 2007-08.* The loss of international competitiveness due to rising unit labour costs appears to have been partly offset by the geographical reorientation of external trade and gains in market share in the south-east European countries. In nominal terms, the world share of Greek exports has slightly increased since the early 2000s, although it has weakened somewhat in real terms. The analysis of the saving/investment balance also shows that the rise in investment recorded in 2007-08 compared with 1990-98 has been more than compensated by higher savings.

To avoid the permanent fall in the transfers and net investment income leading to large and persistent current account deficits and a further rise in foreign indebtedness, an improvement in the goods and services balance is indispensable. This requires strengthening of competitiveness and, thus, the pursuit of structural reforms, and increasing national saving, in particular in the public sector.

* In the case of Greece, the change in the statistical discrepancy between the balance of payment and national account data also explain to a significant extent the rise in the external deficit between 1990-98 and 2007-08. This factor, which is difficult to interpret, probably reflects measurement problems of the goods and services balance.

Box 1.1. **What is driving the rise in the current account deficit?** *(cont.)*

Figure 1.3. **Greece, Portugal and Spain: Current account balance, saving and investment**



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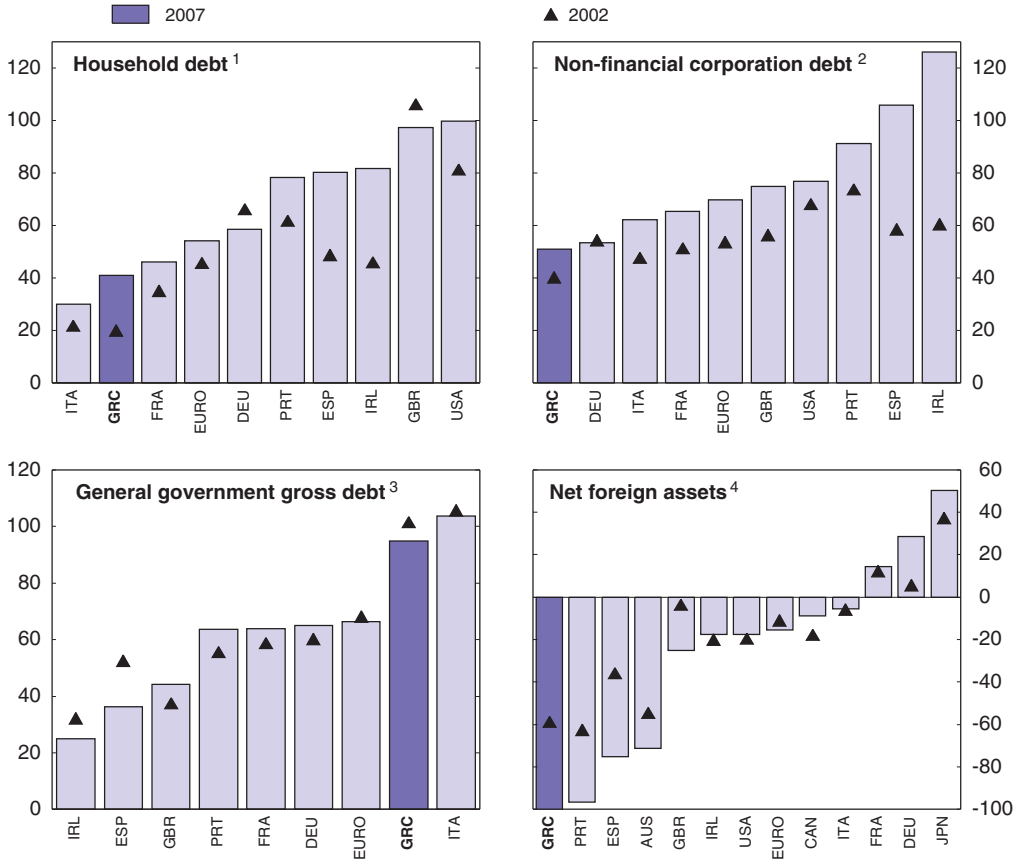
Source: OECD (2009); *OECD Economic Outlook 85 database.*

Figure 1.4. **Debt by sector**

In per cent of GDP



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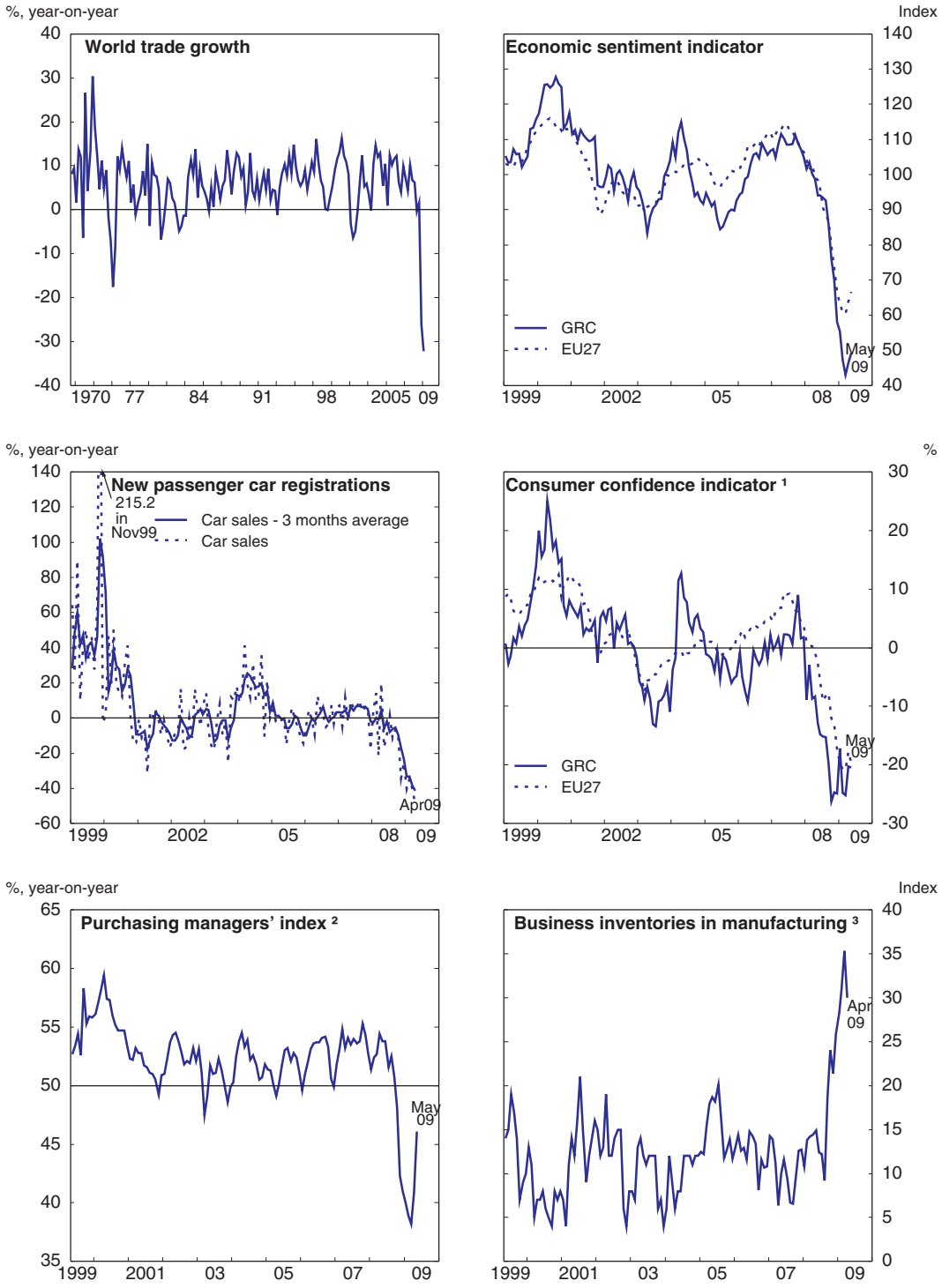
1. Defined as total loans by Monetary Financial Institutions (MFIs) excluding Eurosystem to households in euro area countries.
2. Defined as loans, shares and securities by MFIs excluding Eurosystem to non-financial corporations in euro area countries.
3. Maastricht definition.
4. Total assets minus total liabilities.

Source: ECB, Statistical Data Warehouse; Federal Reserve Funds, Flow of Funds Accounts of the United States; IMF, International Financial Statistics.

Greece is, however, unlikely to avoid a recession

Greece is gradually being hit harder in the real sector. In the first quarter of 2009, real GDP contracted by an annualised rate of 4.8% over the previous quarter, but grew 0.3% year-on-year according to the national accounts estimates. Although significant, this weakening of output was less pronounced than the almost 10% fall recorded in the euro area. Following the steep deterioration of the international environment (Figure 1.5), exports of goods and services declined by a fifth (year-on-year) on average in the four months of 2009 in nominal terms. External revenues from shipping and tourism, two key sectors of the economy, which respectively account for 4% and 18% of GDP, were down almost by 25% and 15% respectively. External weakness has been reinforced by the collapse of consumer confidence, reflected in a steep cutback in households' discretionary spending and an increase in precautionary savings, although confidence has slightly improved in the recent months. Such trend has been further boosted by a tightening of

Figure 1.5. **Recent economic developments**



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1. These series have been normalised using long term average between 1989 to 2009.
2. Values above 50 indicate an expansion of economic activity.
3. Difference between weighted percentages of positive and negative responses.

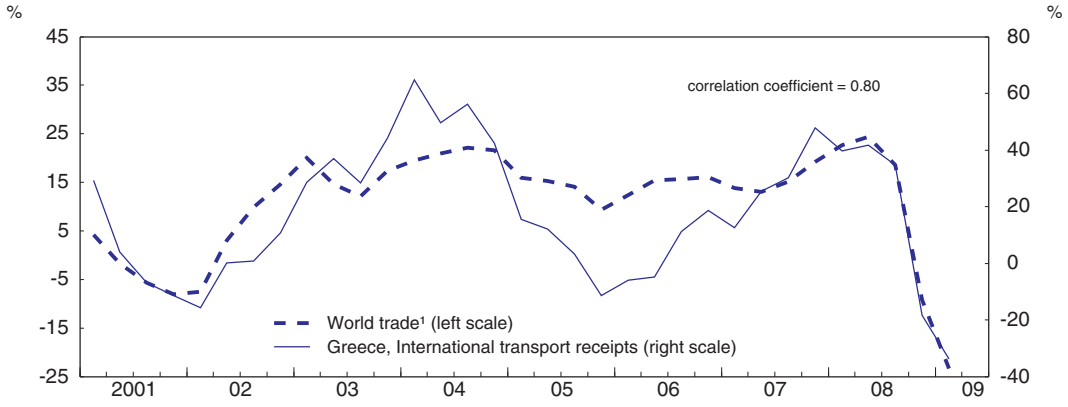
Source: OECD (2009), *OECD Economic Outlook 85 database*; Eurostat and Bank of Greece.

banks' lending standards. For instance, the rate of approvals for bank-card credit and consumer loans (without collateral), which stood at 52% and 57%, respectively in 2007, dropped to just over 40% in the first six months of 2008 and to 35% in December 2008. New vehicle purchases fell by a third year-on-year in the first 5 months of 2009, while the real value of retail sales (excluding car fuel) dropped by almost a tenth on average in the first quarter of 2009. The fallout from these developments was especially severe in the manufacturing sector. Confidence in that sector dropped sharply, and falling demand has swelled inventories and reduced industrial output, down on average by about 9% year-on-year in the first four months of 2009. Inventories rose sharply since the end of 2008, suggesting a downward adjustment will occur this year. In the first quarter of 2009, manufacturing orders were still declining at a rate of 33% year-on-year. However, some advanced indicators suggest that pace of deterioration is slowing and the services sector seems to have been less affected, by this abrupt sagging of the economy.

In this difficult environment, Greece is unlikely to avert a recession and a marked jump in unemployment despite the package of more than EUR 3 billion (1.2% of GDP) announced by the government in April 2009 to support employment, 70% of which will be financed by European funds. This programme includes measures to convert the seasonal unemployment benefit to employment subsidy for hired workers in the tourism sector and the creation of 20 000 new posts in municipalities. In the first two months of 2009 however, the unemployment rate already soared to 9.4% in April 2009, 1¾ percentage points higher than a year before. Trade with the dynamic emerging economies of South-Eastern Europe, which accounted for about a fourth of non-energy merchandise exports in 2008, is likely to decline sharply as growth in the region drops. In the first quarter of 2009, new foreign manufacturing orders originating from markets outside the euro zone – essentially the Balkan countries – shrunk by 30%, and those from within the euro zone by 40%. Exports are also bound to suffer because of their sectoral composition: a third is related to shipping and a fourth to tourism. Declining world trade will inevitably depress revenues from international transport (Figure 1.6). Tourist visits will also suffer from the generalised economic downturn. In the first five months of 2009, tourism arrivals have declined by about 9%, even though this reduction was significantly less pronounced than in the major

Figure 1.6. **World trade and transport receipt developments**

Year–on–year growth rate



StatLink http://dx.doi.org/10.1787/685224772320

1. OECD projection for first quarter of 2009.

Source: Bank of Greece and OECD calculations.

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competing countries (Croatia, Cyprus and Spain). The strength of the euro against the pound sterling, the rouble and the Turkish lira is, however, making Greek travel more expensive in comparison to some alternative destinations. These trends will bear on employment and depress domestic demand weighing on the gains from easing of credit conditions induced by the financial sector assistance plan (see below) and the lower ECB interest rates. The likely persistence of an inflation differential with the euro area average should also contribute to supportive monetary conditions, as in past years.[2] Although consumer price inflation eased to 0.7% year-on-year in June 2009, it remains higher than in the euro area, and core inflation (excluding energy and unprocessed food), which fell less – to 1.8%, is 0.4 percentage point above the euro average. The contribution of the public sector to demand, however, should be more limited than in many other OECD countries, because of the government's lack of room for manœuvre.

Despite these developments, several factors could moderate the deterioration in the economic situation, in comparison to the OECD average. The private-sector wage agreements signed in 2008, providing for a 5.8% increase in contractual incomes in 2009 should help sustain domestic demand, even if labour income increases will probably be less generous. The sharp downturn in activity has caused a significant cutback in overtime work. Anecdotal evidence also suggests that a few firms have concluded informal wage moderation agreements to avoid layoffs, and a wage freeze has been announced in the public sector. The Greek economy could also be relatively sheltered from the crisis by virtue of its structure, which is geared more to services than to manufacturing, and also because it is less open than the OECD on average. The external openness of the Greek economy, as measured by the average ratio of exports and imports to GDP, is 28%, *i.e.* barely half the average of other small OECD countries. Furthermore, some observers note the importance of the underground economy, which is less dependent on traditional channels of finance,[3] as a source of resilience under current circumstances, although this feature constitutes a structural weakness which needs to be corrected. Greece will also continue to receive significant financial support from the EU, amounting to 1¼ per cent of GDP annually to 2013 from the European structural funds (the absorption of which has been increased). Finally, because the economy is still catching up with the more advanced countries, it has relatively high growth potential. Although over the medium-term this growth potential may be dampened by the crisis (Box 1.2), it is somewhat cushioned by investments related to the planned ambitious infrastructure development programme funded through private-public partnerships.[4]

Box 1.2. **What could be the impact of the financial crisis on supply conditions in Greece?**

Public debate over the fallout from the crisis has tended to focus on the negative short-term growth impact. However, when major and prolonged crises strike, especially in the wake of financial turmoil, they can have a lasting effect by reducing potential output.

A mistaken evaluation of the level of potential output may lead to inappropriate economic policies. In the case of Greece, estimates of potential output and the output gap are playing an important role in the excessive budget deficit procedure (EDP) now under way, as they help determine the level of the structural balance and the existence, or not, of exceptional circumstances that could justify some flexibility in adopting necessary corrective measures.

Box 1.2. **What could be the impact of the financial crisis on supply conditions in Greece?** *(cont.)*

At a time of economic crisis, several factors can reduce potential output. Some of these are directly related to the financial shock, while others are a product of the recession:

- Periods of crisis are normally associated with a shrinking capital stock, because of falling business investment. This adjustment, while in principle temporary, may prove persistent if the relative price of capital is permanently altered, as could be the case under present circumstances, given investors' reappraisal of risks, a factor that affects Greece in particular. Higher government borrowing needs worldwide in the years to come may also crowd out private investment.
- Higher unemployment, if prolonged, could erode workers' skills and lift the structural unemployment rate. The risks of such a development are made greater by the country's significant market rigidities, especially on the labour market, although the presence of a large number of immigrants might have mitigated these rigidities, for instance by enhancing labour mobility.
- The impact of economic crises on the labour market participation rate is uncertain. Generally speaking, recessions are associated with a drop in the participation rate, which could become permanent if job seekers become discouraged and give up their search. On the other hand, when one member of a family becomes unemployed this may encourage another member to look for a job to offset the income loss. And because the crisis reduces workers' wealth they may remain in the labour market longer to rebuild savings. The crisis might also reduce immigration inflows which have contributed positively to the growth of working age population over the past years.
- Economic crises can affect efficiency, although the extent is difficult to predict. On the one hand, R&D spending might fall, and this could adversely affect total factor productivity, although R&D funding from EU Structural Funds is expected to increase in Greece (OECD, 2009a). The reduction in the capital stock, if permanent, would also affect productivity (OECD, 2008b). Moreover, while experience – learning by doing – plays an important role in efficiency, as suggested by some endogenous growth theories, recessions can entail lasting losses in efficiency and output (Cerra and Saxena, 2005). On the other hand, firms also have a tendency to restructure in times of recession, and the most efficient will survive, which will enhance productivity.

These factors suggest that financial crises have an uncertain and undoubtedly differentiated impact on countries' supply conditions, depending on their degree of exposure to the shock (including the weight of the financial sector) or the flexibility of their markets. The relative scarcity of such episodes makes it difficult to conduct a quantitative analysis, particularly one that differentiates between countries. Cerra and Saxena (2008) analysed past crises in a large number of countries, concluding that on average they have a permanent and adverse impact on output, reducing its level by 2% to 8%. Serwa (2007) evaluated the output effect of more than 100 banking crises, controlling for the impact of recessions, and estimated that these episodes have induced a permanent loss of 3% of GDP. That estimate is similar to one obtained in recent studies of the United Kingdom concerning the probable drop in potential output induced by the current crisis (OECD, 2009b). Furceri and Mourougane (2009), who evaluated the effect of financial crises in 30 OECD countries between 1960 and 2007, estimate that on average they had a permanent effect of between –1.5% and –2% on potential output after five years, rising to nearly –4% in the case of severe crises.

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Box 1.2. **What could be the impact of the financial crisis on supply conditions in Greece?** *(cont.)*

In their most recent stability and growth programme (Ministry of Economy, 2009), the Greek authorities revised their potential growth assumption substantially downward, in agreement with the European Commission. The potential growth rate falls from 3.6% to 2.4% between 2007 and 2011, compared with a trend growth of 4.0% in the previous programme (Ministry of Economy, 2007). This implies a cumulative loss of 5.6% of potential output over that time. While these estimates are highly uncertain, the extent of this adjustment would seem high compared to the studies cited above. In its short–term projections, the OECD has assumed that the growth of potential output will slow from 4% in 2007 to around 2¾ per cent in 2010–11, implying a cumulative loss of 3½ per cent in potential output between 2007 and 2011.

Table 1.1. **Recent growth and prospects**

Percentage change

	Outcomes			Projections	
	2006	2007	2008	2009	2010
Volumes					
Gross domestic product (GDP)	**4.5**	**4.0**	**2.9**	**–1.3**	**0.3**
Private consumption	4.8	3.0	2.2	–0.2	1.2
Government consumption	0.0	7.7	3.2	2.4	0.5
Gross fixed investment	9.2	4.9	–11.5	–8.4	–2.6
Housing investment	29.1	–6.8	–29.1	–17.2	–6.5
Business investment	–2.4	14.5	–4.4	–3.6	–2.1
Government investment	9.1	2.6	–32.1	–10.8	1.5
Stockbuilding[1]	–0.2	1.0	1.4	–0.3	–0.4
Total domestic demand	**4.8**	**5.1**	**0.7**	**–1.6**	**0.1**
Exports of goods and services	10.9	3.1	2.2	–23.4	–0.5
Imports of goods and services	9.7	6.7	–4.4	–17.7	–0.8
Net exports[1]	–0.3	–1.0	2.2	0.4	0.1
Memorandum items					
Potential output	3.6	4.0	3.3	2.8	2.7
Output gap (% of potential GDP)	0.3	0.4	0.0	–4.0	–6.2
Consumer price index (harmonised)	3.3	3.0	4.2	1.3	1.7
Employment	2.0	1.2	1.1	–1.6	–0.4
Unemployment rate (% of labour force)	8.9	8.3	7.7	9.5	10.3
Government net lending (% of GDP)	–3.1	–3.9	–5.0	–6.1	–6.7

1. Contributions to changes in real GDP (percentage of real GDP in previous year).
Source: OECD *STEP85 projections*.

The OECD is projecting that GDP will fall by 1¼ per cent in 2009 (Table 1.1). This weakening of activity will affect virtually all components of demand: *i)* exports will be pinched by shrinking markets; *ii)* investment; the drop in building permits indicates that housing investment will be hit harder than business investment; *iii)* inventories will be run slightly down from their current level; *iv)* government spending will show the effects of the restrictive measures adopted by the authorities; and *v)* household consumption will weaken in the face of uncertainty and falling wealth, although the recent halving of the new automobile registration tax could cushion the fall in spending. New car registrations picked up strongly in May 2009.[5] The tax cut, good between March and July 2009, saved

buyers some EUR 1 250 on the purchase of a new medium-sized vehicle. Private consumption could also be strengthened by the government's programme adopted in June 2009 to subsidise the cost for households of replacing old air-conditioning units with more energy-efficient ones. In 2010, recovery is likely to be only gradual, with GDP rising by ¼ per cent on average over the year. The continuing erosion of international competitiveness induced by the persistent inflation gap *vis-à-vis* the euro zone and by higher unit labour costs could prevent Greece from taking full advantage of a global recovery. Unemployment will rise sharply to over 10% in 2010. Inflation should retreat to around 1¼ per cent by the end of next year, while the budget deficit will widen substantially, reaching 6% of GDP this year and 6¾ per cent in 2010. This fiscal projection, which is based on measures adopted as of mid-June 2009, might however be pessimistic since it does not take into account the EUR 1.9 billion package (0.8% of GDP) announced on 25 June 2009 (see below). With both exports and imports expected to remain weak, the current account deficit is likely to stay high, at some 13½ per cent of GDP.

The uncertainties surrounding this scenario are substantial. Above all, they have to do with the international environment, given the unusual scope of the economic and financial shock. Stabilisation of the international financial situation and a gradual return to normally functioning markets during 2009, as this scenario presupposes, are subject to downside risks. In the case of Greece, the major unknown inherent in the fluid external environment is what will happen in the Balkans – if the situation there deteriorates more than expected, this would cloud the outlook. The impact of the weaker economy on the financial sector could pose another risk to growth.

How should fiscal policy react?

The state of the public accounts leaves little room for manoeuvre to address the downturn

Fiscal slippages have been frequent and spreads have increased

Since euro adoption, fiscal consolidation has been an important problem. The impressive consolidation achieved in the second half of the 1990s, before Greece joined the euro area, went into reverse thereafter with the fiscal deficit reaching over 7% of GDP in 2004 (Figure 1.7), despite strong growth. Two years of significant consolidation efforts after that were partly reversed in 2007-08, as more than half of the improvement was due to one-off measures (Table 1.2) These temporary measures include tax settlements, sales and extension of concession rights and various capital transfers. In addition, the improvement of the primary structural balance was entirely attributable to an increase in fiscal receipts, which has more than offset the rise in structural expenditure.

The general government deficit in 2008 of 5% of GDP was well above the original budget target of 1½ per cent of GDP, or the preliminary estimate of 3.7% of GDP included in the SGP presented in January 2009. The slippage reflects shortfalls in revenue of around 1% of GDP arising from cyclical factors, a lower-than-expected response by the business community to proposed tax settlements, and inefficiencies in tax collection mechanisms, including for the new property tax. Also, expenditures overshot initial expectations, mainly in primary current spending and wages. The swelling of the 2008 deficit also reflects an overestimation of the surplus of public entities (social security funds, local authorities and hospitals) and a transfer of a part of European Union funds from the 2008 to the 2009 budget (½ per cent of GDP).

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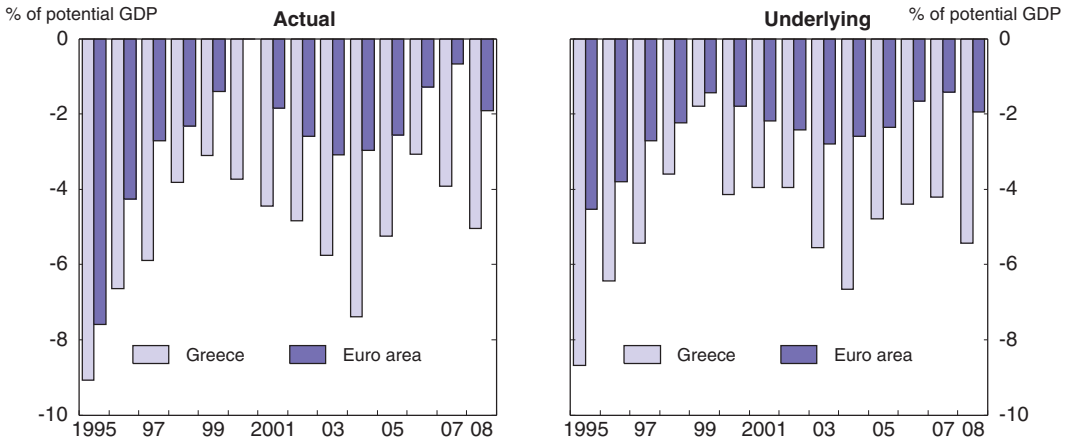
Figure 1.7. **Actual and underlying structural balances**



StatLink http://dx.doi.org/10.1787/685247872160

Source: OECD (2009), *OECD Economic Outlook 85 database*.

Table 1.2. **Fiscal developments in Greece**

In per cent of GDP or potential GDP

					Change over the period		
	1995	1999	2004	2008	1995-99	1999-2004	2004-08
Actual fiscal balance	**–9.1**	**–3.1**	**–7.4**	**–5.0**	**6.0**	**–4.3**	**2.4**
Of which:							
Cyclical effect	–1.1	–0.6	0.2	0.1	0.6	0.7	–0.1
Primary underlying structural balance	1.9	4.9	–2.0	–1.3	2.9	–6.9	0.7
Net interest payments	–10.9	–6.7	–4.6	–4.1	4.2	2.2	0.5
One-offs	1.0	–0.7	–1.0	0.3	–1.7	–0.3	1.3
Primary underlying structural balance	**1.9**	**4.9**	**–2.0**	**–1.3**	**2.9**	**–6.9**	**0.7**
Structural receipts	36.2	40.2	38.0	39.5	4.0	–2.2	1.5
Structural expenditure	34.2	35.3	40.1	40.8	1.1	4.8	0.7

Source: OECD Economic Outlook database.

Repeated fiscal slippages over the years have hampered fiscal consolidation. The deviation between projected and budgeted outcomes averaged around 3% of GDP between 2004 and 2008, including a substantial revision of government accounts in 2003-04 (Table 1.3). Over this period, successive Stability and Growth Programmes (SGPs) targeted an average reduction of the deficit by 1¼ per cent of GDP, but almost no progress was actually recorded. These repeated slippages cannot be attributed, in general, to optimistic macroeconomic projections, although the weaker-than-expected growth contributed somewhat in 2008. Rather, the origins of the fiscal shortfalls can be found in the lack of a proper assessment of the implications of budgeted measures and/or the difficulties in implementing new measures. The budgetary process and inefficiencies in the tax collection mechanism are very important in this regard (Chapter 2).

This sluggish pace of fiscal consolidation and repeated budgetary slippages partly explain the rising spread on government bonds *vis-à-vis* Germany, making it more difficult to rectify the government accounts. The estimated fiscal cost of these higher rates is around 0.5% of GDP in 2009. Several hypotheses have been advanced to explain this trend,

Table 1.3. **Fiscal and growth projections in successive stability programmes and realised outcomes**[1]

	2004	2005	2006	2007	2008	2004-08 average
Fiscal slippage						
Outturn (in next SGP) – SGP target	–4.9	–0.8	0.0	–0.3	–2.1	–1.6
Final outturn – SGP target	–6.3	–1.6	–0.2	–1.2	–3.4	–2.5
Change in fiscal balance[1]						
Targeted change in SGP	0.2	2.6	1.7	0.2	1.1	1.2
Outturn change	–1.8	2.4	2.3	–0.8	–1.4	0.1
Difference	–2.0	–0.2	0.6	–1.0	–2.5	–1.0
Memorandum item						
GDP growth projected in SGP	4.2	3.9	3.8	3.9	4.0	4.0
Actual GDP growth	4.9	2.9	4.5	4.0	2.9	3.9

1. The changes in fiscal balance are measured relative to the year preceding those indicated in the table. For instance, for 2008 the SGP targeted a reduction of the deficit by 1.1 percentage points (from 2.7% of GDP in 2007 to 1.6% of GDP in 2008). Actually, the deficit increased by 1.4 percentage points (from 3.6% of GDP in 2007 to 5.0% of GDP in 2008). The annual average change in the balance calculated over the 2004-08 period hence depends on the difference between the levels of 2003 and 2008 deficits.

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

which penalises Greece more than its European partners (Box 1.3). The most persuasive empirical analysis suggests that the widening of the spread results from the interaction of several factors (Haugh *et al.*, 2009). These include an across-the-boards rise in risk aversion among investors, sparked by the financial crisis and the collapse of market liquidity. The influence of these factors is amplified by past fiscal performance and its projected outlook, including long-term fiscal sustainability. The spread for Greek bonds is higher than for Italian bonds over those of Germany, despite comparable fiscal outcomes, due in part to higher longer term projected pension liabilities. Two other factors penalise Greece: the relative illiquidity of the market for its government bonds, and the comparatively high level of financial exposure to the emerging economies of Central and Southeast Europe.

Box 1.3. **Why are euro area spreads widening?**

Since the financial crisis entered its acute phase in September 2008, euro zone government bond spreads *vis-à-vis* Germany have widened markedly. In the case of Greece they have settled around the level that prevailed before the country joined the EMU, when the 10-year spread against Germany was 180 basis points.

Various empirical studies have sought to explain this phenomenon and differentiation between sovereign spreads within the euro zone. Some point to general factors, such as falling liquidity and rising risk aversion among most investors, rather than the specific macroeconomic situation of any country. For example, the NBG (2009), on the basis of a time-series analysis, finds that relatively small markets, as in the case of Greece, are more heavily penalised by financial imbalances than are the bigger and deeper markets of Germany, France or Italy, at a time when government financing needs are soaring. As that analysis notes, all countries, including those with the lowest sovereign risk ratings (France, Netherlands or Finland), have seen their risk premium rise in comparison to Germany. The expected deterioration in the Greek fiscal situation through 2010 should in fact be more limited than in other countries of the euro zone that have adopted a recovery plan. Hartelius *et al.* (2008) also recognises the influence of liquidity on interest-rate spreads, but he underlines the central role of economies' structural performance in explaining the spread differential, as assessed by the rating agencies.

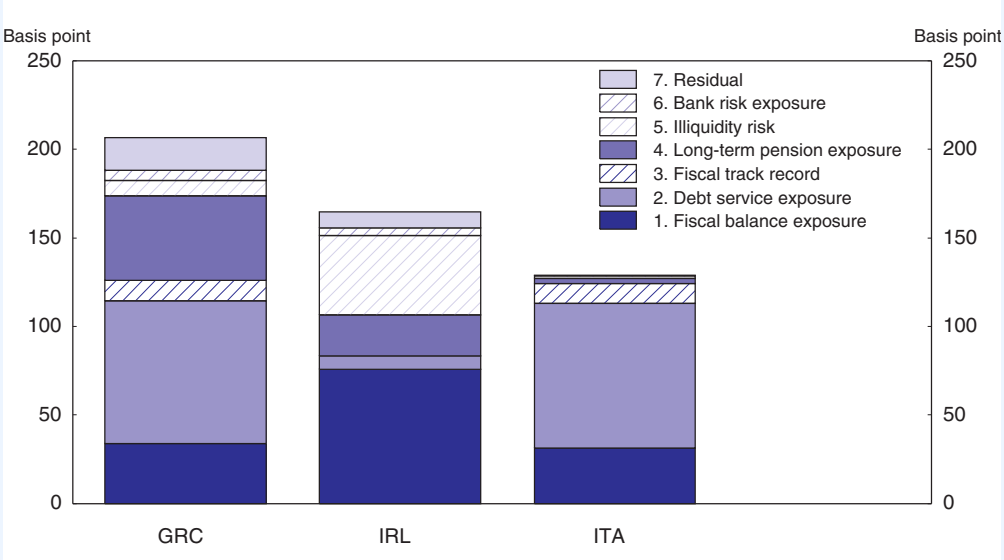
Box 1.3. **Why are euro area spreads widening?** *(cont.)*

Haugh *et al.*, (2009) using panel data, take into account the interaction between the general factors affecting market liquidity, the degree of investors' risk aversion, and inter-country differences in macroeconomic situations, primarily on the fiscal front. The study shows that the general risk aversion present in all markets since the autumn of 2008 has tended to penalise more heavily countries with poor fiscal track records and those, like Ireland and Greece that are likely to see their deficit grow over the medium and long term.

By comparison with Italy, Greece is penalised by the interaction of risk aversion with the very unfavourable long-term fiscal outlook posed by its ageing population (Figure 1.8). The lower liquidity of the Greek market for government debt also contributes to driving Greek spreads above those in Italy. According to this analysis, the higher rates are also explained by the relatively important exposure of Greece to the Balkan economies. The last two last factors do not seem to be dominant, however. Moreover, a significant portion of the hike in the Greek risk premium remains unexplained by this model, as shown by the residuals.

Figure 1.8. **Spread on 10-year government bonds *vis-à-vis* Germany**

Average spread between December 2008 and March 2009



StatLink http://dx.doi.org/10.1787/685260132740

1. Expected deficit in the following 5 years multiplied by risk aversion (measured as the spread between high yield corporate bonds and government bonds in the euro area).
2. Gross government interest payments divided by current government receipts multiplied by risk aversion.
3. Debt service multiplied by track record (track record equals 1 if the country has a history of sustained fiscal deficits greater than 3% of GDP otherwise 0).
4. Change in pension expenditure as a share of GDP between 2010 and 2050 multiplied by risk aversion.
5. One divided by the share of the euro denominated long–term government securities market multiplied by risk aversion.
6. Commercial bank exposure to Central Eastern European countries multiplied by risk aversion.

Source: Haugh, Ollivaud and Turner (2009), "What Drives Sovereign Risk Premium? An Analysis of Recent Evidence from the Euro Area", *OECD Economics Department Working Paper* No. 718.

The comparison between Greece and Ireland is also informative. The rise of sovereign spreads appears more affected in Ireland than Greece by the expected fiscal balance worsening over the coming five years and the illiquidity of the government bond market. However, Greece is more penalised by its high level of government debt, and its poor long-term budgetary outlook

The consolidation implied by the 2009 10 fiscal targets appears now to be based on an optimistic growth scenario

The January 2009 update of the SGP initially set the general government deficit at 3¾ per cent of GDP in 2009 and 3.2% of GDP in 2010. This implied a restrictive fiscal policy in both years, with a cumulative improvement in the structural deficit of around 2% of GDP. These targets were based on still optimistic macroeconomic assumptions, with output expected to rise by 1.1% in 2009 and 1.6% in 2010. For example, in the latest SGP, the revenue-to-GDP ratio grows by almost 1 percentage point in 2009 relative to the previous year due to tax revenue not fully accrued in 2008 (the new property tax on households and uncollected tax settlement and tax arrears) and a tax revenue-enhancing package adopted in September 2008. Total expenditure is also projected to increase by 1 percentage point of GDP in 2009 owing largely to a rise in public sector wages and social transfers, and an increase in interest expenditure.

In the discussion of the Greek SGP update in March 2009, the European Commission requested accelerating the planned fiscal adjustment. It proposed bringing the public deficit below 3% of GDP by 2010, because it judged that exceptional circumstances could not justify breaching the 3% SGP target in 2007 and 2008 (European Commission, 2009a). There was no "unusual or severe" downturn in activity, given positive output gaps in both years, nor was it of a "temporary" nature. Under Stability Pact rules, the European Council of Finance Ministers gave Greece six months, *i.e.* until October 2009, to take the corrective measures necessary to reduce its deficit. Following these developments, the Ministry of Economy and Finance endorsed the revised target to bring the budget deficit to below 3% by 2010.

To secure the fiscal retrenchment, a number of expenditure-containing initiatives have been adopted. Overall, together with the measures initially embodied in the SGP, the Greek consolidation programme, as defined until mid-June 2009, includes a reduction in the hiring-to-retirement ratio in the public sector; a more prudent and a better wage management in the government sector; and a revision in the remuneration system of executives in public sector entities. In addition, 10% of "elastic" expenditure will be cut, with a particular emphasis on overtime, travel expenses, and public relations expenses. According to the OECD, the net effect on the structural deficit of the initiatives taken between the submission of SGP and mid-June 2009, including the transfer of funds received from EU from the 2008 to the 2009 budget, is around 1% of GDP. This implies an improvement in the structural balance of 1½ per cent of GDP in 2009 compared to 2008 and of an additional 1% of GDP in 2010.[6] At the end of June 2009, the Greek government, however, announced an additional fiscal adjustment package amounting to a total of EUR 1.9 billion (0.8% of GDP) in order to compensate the impact of the weaker than expected economy. This package includes about EUR 1 billion in additional revenues through the legalisation of unauthorised home construction, a set of tax increases on fuel, mobile phones and lotteries and some limited spending cuts, the authorities also revised downwards their 2009 growth forecast from 1.1% previously to zero.

In view of the tight fiscal situation, the 2009 budget also contained only limited measures to mitigate the impact of the financial crisis on vulnerable social groups and specific sectors of the economy. This social welfare package consisted mainly of allowances to low income pensioners and registered unemployed, topped up by measures to support the farmers and SMEs, which play an important role in the Greek economy. For these firms, a programme (TEMPME) has been designed to facilitate their access to credit with a state guarantee. This plan has allowed 23 000 credit-constrained firms, which met a

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number of profitability conditions over the last three years, to access to loans amounting EUR 100 000 on average. Additional measures were announced after the submission of the SGP in January 2009, including initiatives for employment and the tourism and car sectors (mentioned above) as well as for the housing sector (see below).

The subsequent worsening in economic conditions and the 2008 fiscal outcome make the current strategy highly restrictive

Since the preparation of the SGP, the estimation of the 2008 budget deficit was increased from 3¾ per cent to 5% of GDP. Moreover, growth prospects for 2009 and 2010 have substantially weakened, which will drive down revenues and boost social spending. Indeed, in the first quarter of 2009, net budget revenues did not grow compared to the same quarter last year and expenditure soared by 25%, which induced a marked worsening of state deficit from 0.3% of GDP in the first quarter 2008 to 2.8% of GDP in the first quarter of 2009. The worsening reflected to a considerable extent the front-loading of capital spending and tax refunds in an effort to boost activity, as well as one-off factors. According to OECD estimates, the cumulative growth shortfall induced by the crisis would increase the deficit by around 4¼ per cent of GDP between 2008 and 2010 (Table 1.4).[7] Since the measures included in the SGP and those announced until mid June 2009 imply a cumulative adjustment of about 2½ per cent of GDP this year and next, the deficit could reach about 6¾ per cent of GDP in 2010. To bring the deficit to less than 3%, would hence require a supplementary fiscal adjustment of the order of 3¾ per cent of GDP, for a total adjustment of 6¼ per cent of GDP between 2008 and 2010, when the measures announced until mid June 2009 are taken into account.[8] If the 0.8% of GDP additional package announced at end-June 2009 is taken into account, the additional fiscal adjustment still required to bring the deficit below 3% in 2010 would be somewhat smaller, but still sizeable, and probably higher than 3% of GDP.[9]

Table 1.4. **OECD short-term fiscal projections**

In per cent

	2008	2009	2010
Estimated trend growth before the crisis	3.9	3.8	3.6
GDP growth projection	2.9	–1.3	0.3
Cumulative growth shortfall		–5.1	–8.4
Expected fiscal balance development (in % of GDP)			
Cumulative impact of the growth shortfall on the fiscal balance[1]		–2.5	–4.2
Cumulative fiscal adjustment adopted by the authorities		1.5	2.5
Total cumulative impact on the budget balance		–1.0	–1.7
Budget balance (Maastricht definition)	**–5.0**	**–6.1**	**–6.7**
Estimated trend growth after the crisis	3.3	2.8	2.7
Estimated output gap	0.0	–4.0	–6.2
Cyclical budget balance (% of GDP)	–0.0	–1.8	–2.7
Cyclically adjusted budget balance (% of GDP)	–5.1	–4.3	–4.0
Structural balance budget (% of GDP)	–5.4	–4.9	–3.9

1. One percentage point decline in growth implies about ½ percentage point of GDP decline in the balance according to the OECD.

Source: OECD estimation.

An adjustment of this size over such a short period has rarely been achieved by any OECD country in recent decades. Some countries, such as Denmark and Ireland in

the 1980s, were able to pursue consolidation programmes of this scope without depressing demand, perhaps because the positive impact on confidence generated by a more sustainable fiscal policy, and the resulting decline in sovereign debt spreads stimulated private consumption and investment and thus offset the restrictive effect of fiscal tightening (Giavazzi and Pagano, 1990; Afonso, 2006). By increasing the efficiency of government expenditure and by implementing policies conducive to a gradual elimination of fiscal imbalances, fiscal consolidation in Greece can have similar positive spillovers in the private sector. From this perspective, the reduction of the spreads on the long-term government bonds *vis-à-vis* Germany since March 2009 is encouraging (Figure 1.2). Yet, given the uncertainty induced by the financial crisis and the global recession, it seems unlikely that a lower risk premium on government debt would fully offset the negative impact of a sharp fiscal contraction on activity. It is thus probable that, at least in the short term, a fiscal adjustment of this size would further weaken the economy and exacerbate unemployment, even though in the longer term such a consolidation would be beneficial.

What is the best fiscal strategy in the current context?

The authorities face an important policy dilemma. On the one hand, fiscal consolidation needs to continue and intensify; on the other, the weakening of economic activity calls for fiscal stimulus. The poor budgetary position leaves little choice, however. An expansionary fiscal policy would no doubt have important costs in terms of additional debt service, including higher risk *premia* due to a loss in confidence by the financial markets. Moreover, the efficiency of fiscal stimulus is limited in small open economies due to likely increases in imports. It is also possible that the decline in business confidence and the need to raise taxes in the future to restore fiscal sustainability, may encourage private saving, which would further reduce the impact of the fiscal stimulus on economic activity.

In the short term, the best option is to adhere to the objective of reducing the expected structural deficit through measures already announced by the Greek government, and to let the automatic stabilisers work beyond this consolidation effort (which will already have been significant if all the planned measures are implemented).[10] This would produce a deeper deficit and a higher public debt, which the OECD projects could exceed 100% of GDP in 2010.

To limit any adverse impact of the higher deficit in the short-term on market confidence and interest spreads, the authorities should reinforce their commitment to pursue a sounder fiscal policy in the future, focusing on two aspects. The first is to adopt specific and concrete measures to tackle the structural fiscal deficit once economic recovery sets in, and to eliminate it by 2014. With the structural deficit of around 3¾ per cent of GDP in 2010, a return to fiscal balance in 2014 would entail an adjustment of ¾ per cent to 1% of GDP per year, which is ambitious but reasonable.[11] These measures, discussed in detail in Chapter 2, could include rationalisation and limitations to the public sector payroll, a stepped-up fight against tax evasion, and the abolition of subsidies to public enterprises.

Second, the authorities should consider adopting a more restrictive fiscal rule that would preserve the ground gained through the consolidation process and make it possible to reduce the public debt to below 60% of GDP by 2020-25, when the fiscal consequences of demographic ageing start to make themselves fully felt. Simulations of different rules show that a structural surplus of 1% of GDP from 2015 onwards could cut the public debt ratio to less than 60% shortly before 2025 (Figure 1.9).[12] To make this fiscal strategy effective, it should include an expenditure rule that would confine expenditure growth. International experience suggests that a combination of rules governing both the fiscal

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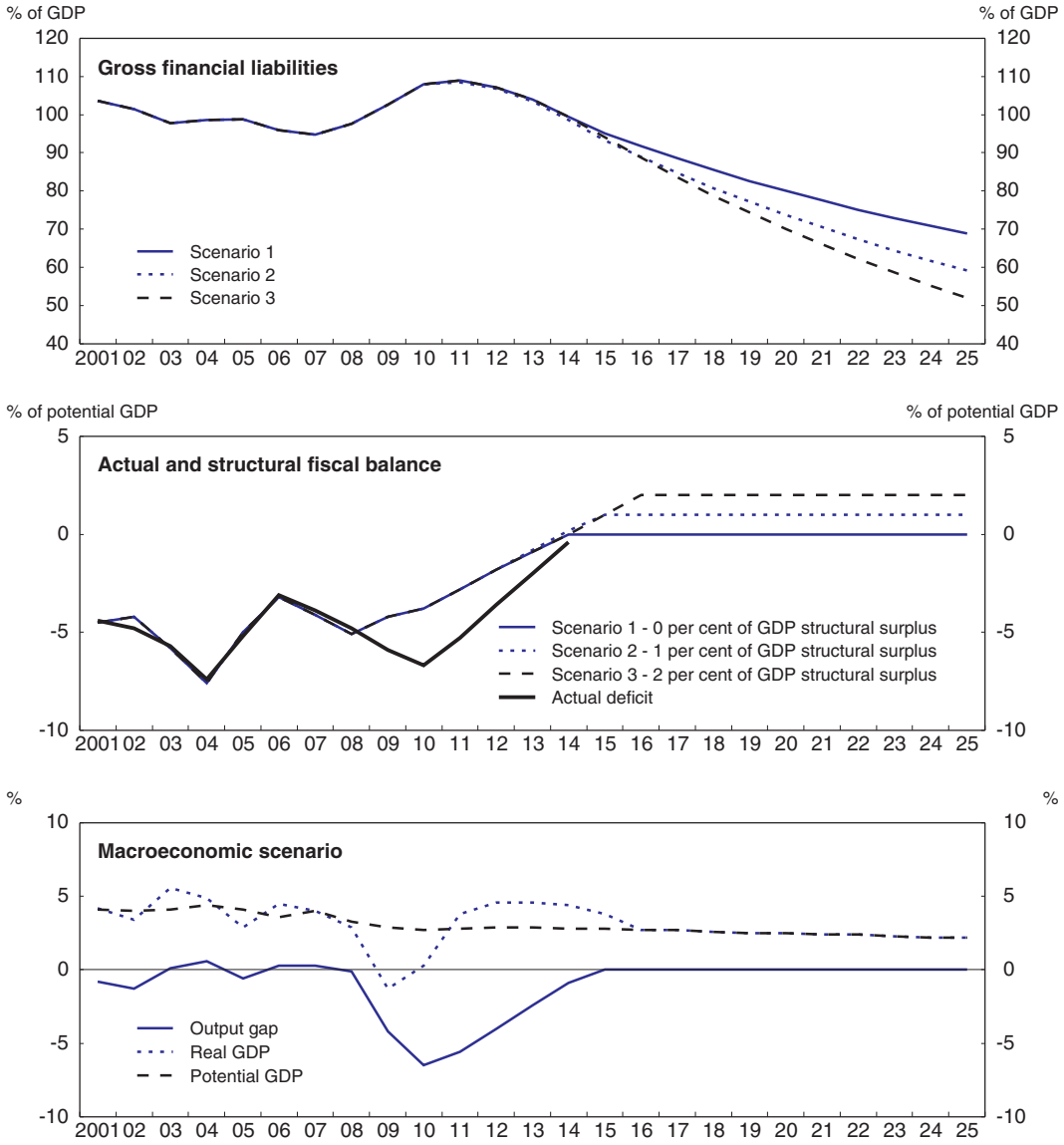
Figure 1.9. **Government debt implication of alternative budgetary rules**



StatLink http://dx.doi.org/10.1787/685265677302

Source: OECD (2009), *OECD Economic Outlook 85 database* and OECD calculations.

balance and spending lead to greater and more lasting consolidation (OECD, 2007a). Expenditure rules are transparent and easy to implement, and because they take no account of cyclical revenue variation they allow automatic stabilisers to work. Generally speaking, the rules should be clear, simple to work with, to understand and to enforce. At the same time, they need to be flexible enough to respond to cyclical variations and to exceptional events. For such events, a temporary exemption can be provided, subject to parliamentary approval, along the lines of the provisions being considered by Germany (Deutsche Bundesbank, 2009).

If it is to be effective, this device must also include mechanisms for enforcing the fiscal rule, so that any transgression will carry a high political cost. This suggests that there

should be a strict obligation to report to, and accept *ex post* review by an independent body, sometimes referred to as fiscal council, along the lines of the institutions created in north European countries like Sweden. Switzerland has gone as far as putting its fiscal rule into the constitution and this is under consideration for a new rule in Germany as well. To strengthen the value and force of their commitment for a return to fiscal sustainability, Greece could also explore this option.

To introduce a formal budget rule, to enforce it and to ensure its success will depend in the end on the authorities' commitment to sound fiscal management. A rule formalising this commitment would have the advantage, in the case of Greece, of providing a useful framework for bringing greater coherence to government revenue and expenditure decisions, which often betray a degree of political expediency. The broader public would in this way be made aware of the importance of respecting fiscal constraints and resisting the lobbies that are regularly vying for subsidies. It would also encourage better preparation and quantification of budget provisions. This strategy, together with a prudent management of the consequences of the crisis in the financial sector, would thus have the advantage of responding not only to the difficult situation currently facing the country but also to the economy's medium and long-term needs.

Is the Greek financial sector well armed to face the economic and financial crisis?

The crisis is hitting a financial sector that has changed radically since 2001

The Greek banking sector has gone through radical changes following liberalisation and euro adoption. The sharp reduction in interest rates after Greece joined the EMU in 2001 spurred rapid growth in domestic lending (Figure 1.10). During the same period, the share of state holdings in the banking sector declined from about half in 2000 to about a tenth in 2008, following privatisations. Competition was stimulated by the entry of new banking groups. Until the end of 2008, bank intermediation margins converged to, or declined below, the averages of the EU in certain sectors, although, more recently, this trend appears to have reverted because of the crisis. Furthermore, the big Greek financial groups expanded strongly in South-East Europe (including Turkey), where they controlled an average of 10% of bank assets as of the first half of 2008. This expansion brought a major boost to profitability before the crisis deepened. In the first half of 2008, 17% of the profits of Greek banking groups were made in the South-Eastern European markets.

The slowdown in credit since mid-2008, influenced by a tightening of lending standards required by the Bank of Greece (BoG) accelerated in early 2009. The strong lending boom since 2001 raised fears that the sector could be vulnerable to a deterioration in debt quality if the economy weakened. To keep the financial sector healthy, bring the lending boom back to a more sustainable pace and avoid over-indebtedness, the BoG had requested banks to extend loans only to clients whose repayments would not exceed 40% of income. Banks also had received instructions from the Bank of Greece to reduce the proportion of non-performing loans in their overall lending, which is relatively high by European comparison. This difference is partly due to a more conservative measurement of non-performing loans, since not only the installment(s) in arrears, but the whole amount of the exposure are counted as "past due". Provisions for non-performing loans were increased slightly until 2007 (Figure 1.11), but they fell slightly from 53.4% to 48.9%

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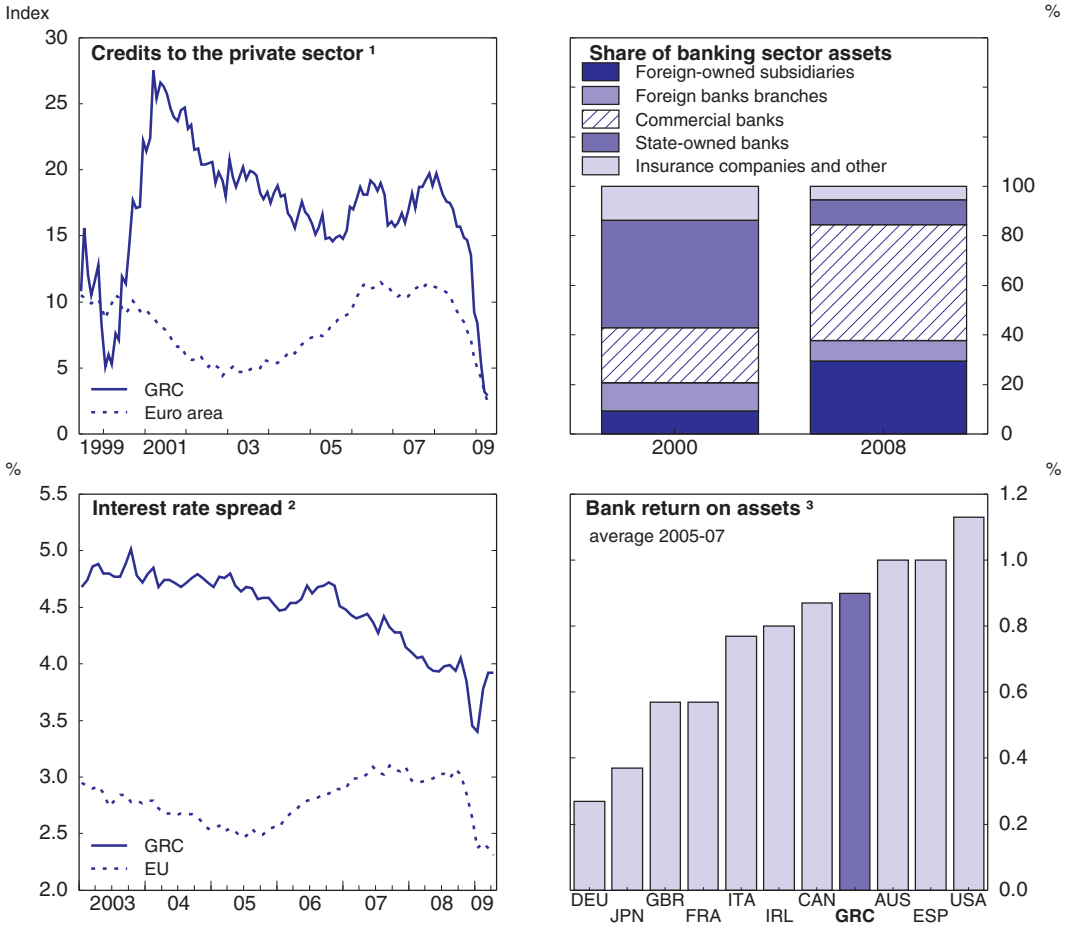
Figure 1.10. **Financial sector development**



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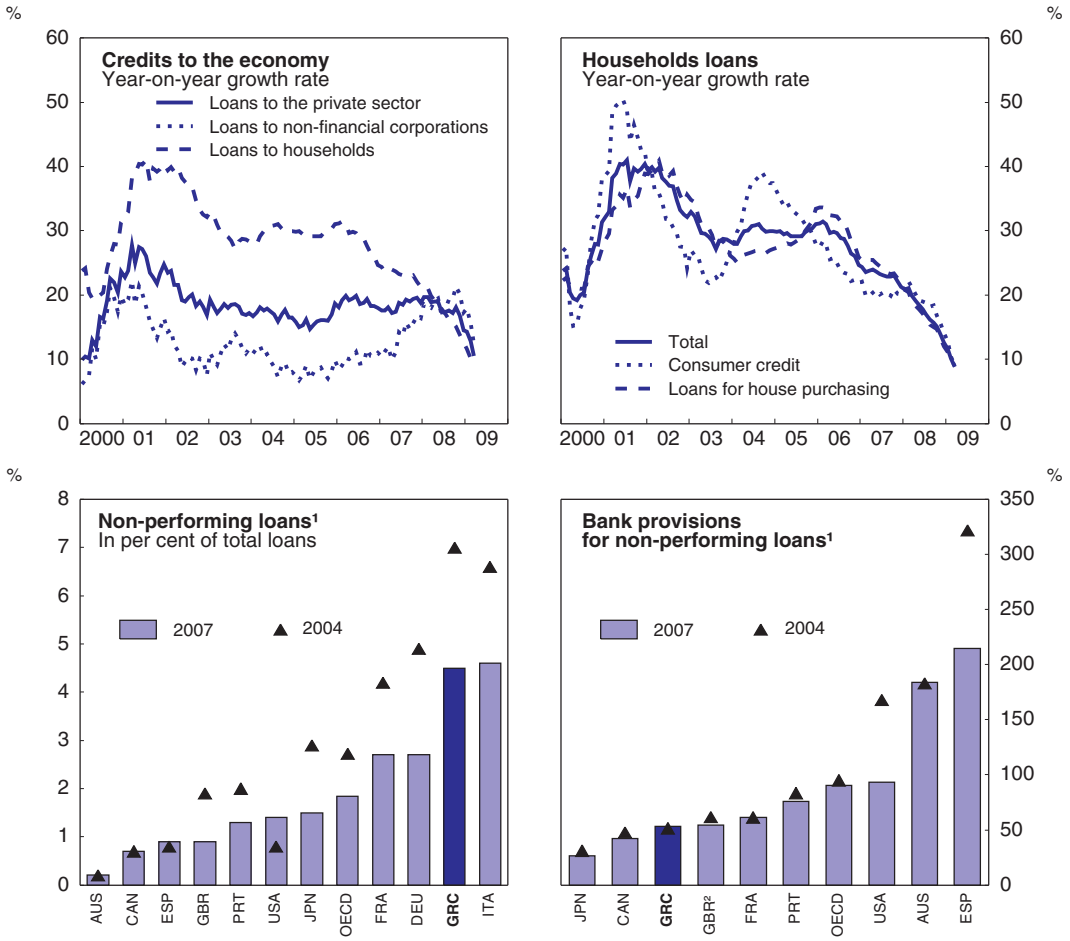
1. Loans to Non–MFIs excluding general government (excluding securitised loans).
2. Weighted average interest rate spread (credit minus deposit).
3. Due to differences in national accounting, taxation and supervisory regimes data are not strictly comparable. See Table 26 in the Statistical Annex of the source publication.

Source: European Central Bank; IMF (2008), *Global Financial Stability Report*, October; and Bank of Greece.

between December 2007 and 2008. The coverage ratio remained, however, unchanged at about 100% for Greek banks' branches and subsidiaries abroad.

Credit growth was also affected by the reduced liquidity in financial markets and declining confidence with the deepening global financial crisis. Credit growth to both firms and households decelerated substantially in early 2009. Yet, it is difficult to evaluate the importance of supply-side factors as opposed to the role of falling demand due to declining activity, the tax changes that occurred in the housing sector and rising uncertainty. The information given in the ECB's *Bank Lending Survey* for Greece, which would allow a comparative evaluation with other euro area countries on this issue, is not published for reasons of data confidentiality.[13] Potential house-buyers seem to have taken a "wait-and-see" stance, and therefore the demand for loans may have dropped more than the stricter mortgage lending standards could account for. However, many firms, particularly SMEs, have complained about the stricter lending standards. The keener competition between banks for deposits in 2008, during which interest rates on household

Figure 1.11. **Credits to the economy and non-performing loans**



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1. Due to differences in national accounting, taxation and supervisory regimes, these indicators are not strictly comparable across countries. For detailed notes, see Tables 24 and 25 in the Statistical Annex of the source publication.
2. For the United Kingdom, the most recent data available refer to 2006.

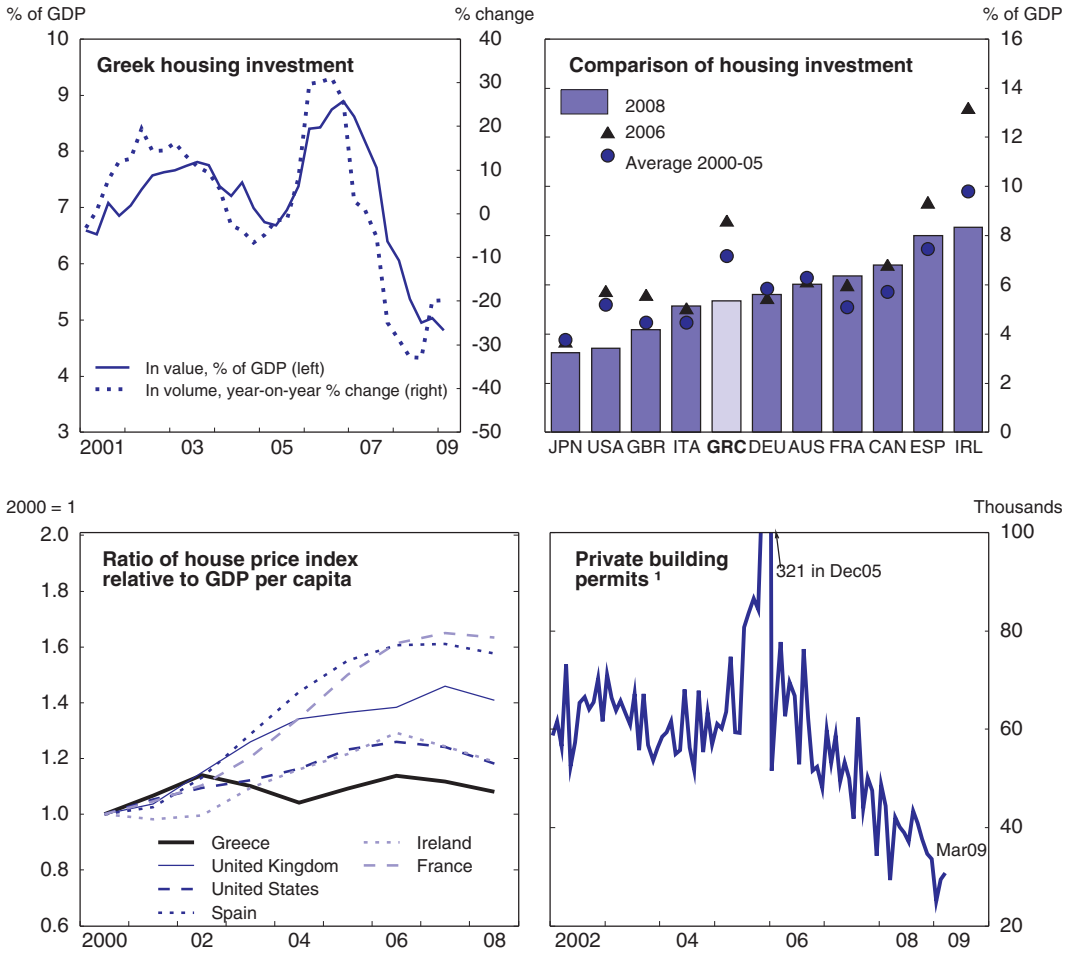
Source: IMF (2009), *Global Financial Stability Report*, April, and Bank of Greece.

deposits with a maturity of up to 1 year rose in Greece whereas they fell in the euro area on average over this period, points to banks' intermittent difficulties in maintaining sufficient liquidity. However, the higher spread on Greek public debt may also have constrained banks to increase their deposit interest rates to attract wholesale funding. This period of high deposit rates was short-lived and financial conditions normalised subsequently.

The banking sector appears to be coping well with the major decline in the housing sector

The major adjustment that has taken place in the housing sector since 2006 has had a limited impact on banks (Figure 1.12). This adjustment has been triggered by the introduction of a new taxation arrangement, with the application of VAT on sales of new buildings. The large increase in the number of projects started by developers before the implementation of this tax in order to avoid it, has been followed by a sharp contraction in housing construction, which is being reinforced by the current crisis. Although bad debts

Figure 1.12. **Housing sector**



StatLink http://dx.doi.org/10.1787/685358783340

1. Impact of changes in legislations for value added taxes on new buildings in December 2005.

Source: European Central Bank; US Federal Reserve Bank; National Accounts and OECD (2009), *Economic Outlook 85 database*.

have increased most in mortgage loans since mid-2008, the banking sector should be able to continue to absorb this shock. As banks had adopted a cautious policy towards mortgage loans with loan-to-value ratios averaging only 72% between 2005 and 2007,[14] it would take a significant fall in property prices to threaten banks' position. In Greece, mortgage loans are mainly used to purchase a principal dwelling rather than for investment (approximately 80% of households are home-owners). Therefore, even if the value of assets were to fall, the most important factor affecting banks' ability to cope with this housing sector adjustment is the households' ability to pay their mortgages. Households will benefit from the easing of ECB interest rates since mortgages are in most cases at variable rate, in many cases linked to the ECB's policy rate. In addition, despite its recent increase, the level of household indebtedness is still fairly low. In 2007, only 16% of indebted households spent more than 40% of their disposable income on debt repayments, although the percentage is higher than in 2005 (12%), mainly as a result of the increase in bank

lending rates in the period between the two surveys (Simigiannis and Tzamourani, 2007; Simigiannis and Mitrakos, 2009).

The risks of a sharp fall in house prices appear to be low. There were no strong increases during the expansion period up to 2006, and the adjustment phase currently in progress has not so far brought about a significant reduction in house prices.[15] Property price developments in Greece do not appear to be affected by imbalances in the mortgage loan market (Brissimis and Vlassopoulos, 2007). Indeed, house prices would seem to be explained by their basic determinants, namely higher incomes, lower interest rates and demographic factors such as the increase in the number of households due to their smaller size and the inflow of immigrants (NBG, 2006). However, the existence of a fairly large stock of unsold new housing, which, although difficult to estimate, could amount to as many as 200 000 units according to some observers (*i.e.* around 2½ times the market's annual absorption capacity), is putting downward pressure on prices. The large profits amassed by property developers during the market expansion, and their low level of indebtedness, are allowing them to not markedly reduce their prices for the time being.

A number of factors supporting demand, such as the need to renew the relatively old property stock and the trend growth in the number of new households, including immigrants, should help reabsorb this excess supply.[16] At the end of April 2009, the government also adopted a number of measures applicable until the end of next year, which should contribute to bolster and support the housing sector. These measures, the budgetary cost of which was not quantified, include: *i)* an increase from 20% to 40% of the tax breaks provided on interest amounts paid on mortgages, which will be applicable for all houses purchased, not just those for first-home buyers; and *ii)* a reduction of notary fees from 1.2% to 1% of the real estate's value. Later that month the government announced the provision of a government guarantee covering 25% of the home loans issued by banks, which usually offer borrowers no more than 75% of the value of the property. The most probable scenario in this context would seem to be a moderate fall in property prices. This should reduce the risks of the weakening of the property sector spreading to consumption through wealth effects, which in any case appear to be much smaller than those in the United States or the United Kingdom.[17]

Banks may face pressures due to their exposure to markets in South–East Europe

Another source of pressure for the banking sector is its expansion into the Balkan countries, which have been severely affected by the financial crisis (IMF, 2009). Loans from Greek banks to these countries, mainly through subsidiaries, are about EUR 53 billion, *i.e.* 13% of their assets. At 17% of GDP this is high compared to many other countries, although significantly lower than in Austria or Belgium (Figure 1.13). About 85% of these loans are concentrated in Bulgaria, Romania and Turkey. While Greek banks have a relatively small market share (less than 5% of assets) in Turkey, they are among the largest foreign lenders in Romania and Bulgaria (Maechler and Ong, 2009). Their operations, which primarily consist of loans to local non-banking borrowers or Greek firms, were only partially funded through deposits. The ratio between deposits and loans denominated in local currency was around 65% in the third quarter of 2008.

The four main Greek banking groups are exposed to several types of risks in the region, which are differentiated across countries. In general, growth in South-East Europe has relied heavily on large inflows of foreign capital over the past few years, resulting in major external imbalances and vulnerabilities to financial turmoil (Sorsa *et al.*, 2007). The extent

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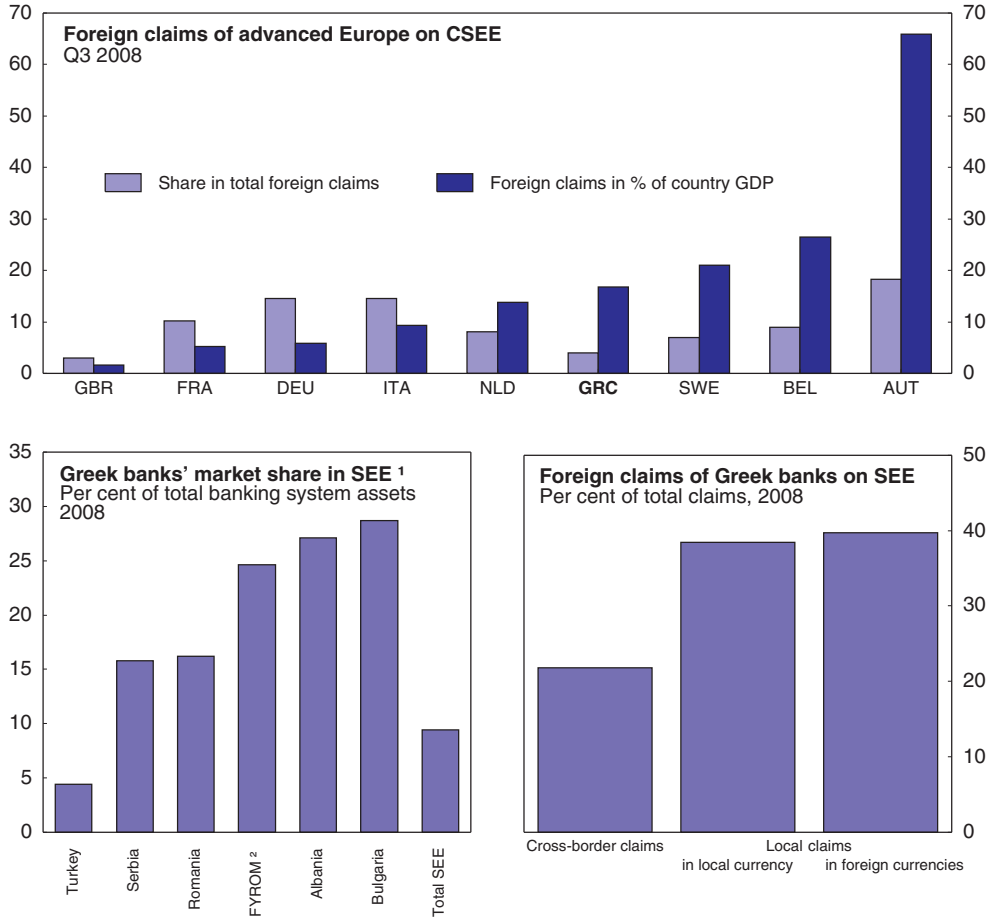
Figure 1.13. **Banking sector exposure to Central and South Eastern Europe (CSEE)**



StatLink http://dx.doi.org/10.1787/685372582275

1. South Eastern Europe.
2. Former Yugoslavian Republic of Macedonia.

Source: Bank of Greece, Bank for International Settlements (2009), BIS Quarterly Review, March, and OECD calculations.

of these imbalances appears, however, less pronounced in the case of Turkey. In Romania and Bulgaria, these risks are also exacerbated by a sharp increase in property prices, which is unlikely to be sustainable. A major correction in this area would increase the risks of defaults on payment for property activities financed by debt and mortgage loans. Furthermore, half of the assets of Greek banks in South-East Europe, whether cross-border or held by subsidiaries, are denominated in foreign currencies (primarily euros) and are generally not hedged, exposing borrowers to exchange-rate risk and banks to credit risk. In addition, these countries can face sudden withdrawals of foreign capital and rollover risks, as a large share of foreign liabilities (over 20% of their GDP) is of short-term nature (Maechler and Ong, 2009). This risk has been mitigated by the agreement of foreign banks, including all Greek ones, to maintain their exposures to those countries in the context of IMF programs. (Joint Vienna Institute, 2009). The international community (IMF, EBRD, World Bank, EIB and EU) is also aware of the need to limit the impact of a crisis in these countries, if necessary through the deployment of support packages (IMF, 2009).[18]

A support package has been put in place to help the banking sector through the crisis

In response to the crisis, the government adopted a support package which among other things aimed to enhance the availability of credit from the banking sector. The first part of the package is designed to increase the deposit guarantee with lending institutions to shore up confidence in the banking system. The guarantee was extended from EUR 20 000 to EUR 100 000 per customer per bank from November 2008 for a period of 3 years. The authorities also made a political commitment to guarantee all deposits. The second part of the package covers a set of aid measures for the banking sector totalling EUR 28 billion (11½ per cent of GDP), to bolster the sector's capital and support bank liquidity (Box 1.4). The Greek authorities designed the package with the objective of achieving credit growth to the private sector of about 10% in 2009.

Box 1.4. **The bank support package**

As in the EU countries, the support package is aimed at ensuring adequate financing for the economy. To do so, it provides new capital to boost bank liquidity.

Bank recapitalisation will be ensured by a fund of EUR 5 billion, and capital funding from the Greek government can be obtained in return for preference shares. These shares, which would be Tier I capital, yield a dividend of 10% to the government. They carry a buy-back option from 1 July 2009 for a period of 5 years, after which the shares will be converted to ordinary shares. Banks that take advantage of these funding arrangements must agree to have government representatives on their boards, who would have a right of veto on decisions on executive pay, bonuses and profit distribution policy but would not interfere with ordinary banking decisions. The remuneration of top executives in these institutions can be no higher than that paid to the Governor of the Bank of Greece and all bonuses are cancelled as long as the package is in operation. During this period, banks will not be able to pay out cash dividends, but can issue shares.

Two additional measures were adopted to increase bank liquidity:

- A guarantee by the Greek government covering all loans contracted by banks until the end of 2009, for a period of up to 3 years. The total guarantee cover may not exceed EUR 15 billion and will be available on payment of a commission and the provision of adequate collateral or, in the absence of collateral, payment of a higher commission.
- The government issued a total of EUR 8 billion in special-purpose treasury bills, which will be available to the banks to serve as guarantees for raising capital on the open market or from the ECB. The liquidity obtained through these bonds must be used exclusively to finance mortgages or loans to SMEs.

A Committee chaired by the Minister of Finance, with representatives of the government and the Bank of Greece, is to supervise the implementation of these measures.

Until mid-April, the plan was being gradually implemented and the pace of utilisation of its provisions was similar to the one observed for other plans in the rest of the euro area (Bank of Greece, 2009). It is too early to tell what will be its effects. Its short-term impact on public finances should be positive given the interest required by the government for taking a preference share in bank capital and the commission levied in exchange for its guarantee. Investment in the capital of the banks should not have an adverse impact on net government debt at least initially since the higher financial commitment will be offset by increased government assets. The initiative nevertheless involves the risk that government guarantees could be called in the event of a bank failure.

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This plan should help financial institutions cope with the financial turmoil. It should reduce the risk of procyclical behaviour by banks and a tightening of the credit supply in response to the recession for fear that borrowers will default on loans, which would further weaken the economy. The participation of almost all banks in these programmes is from this standpoint encouraging. With this increase in their own funds, credit institutions will be in a better position to deal with the two immediate risks of the housing sector and the Balkan markets. Their solvency ratio (the ratio of regulatory own funds to the sum of risk-weighted assets), which was 12% between 2005 and 2007, in line with OECD average, fell to 9½ per cent in the fourth quarter of 2008. Two (foreign-owned) banks have since had significant injections of capital from their parents. With the further increase in banks' capitalisation provided for in the government's package, this ratio rose by 2 percentage points by June 2009.

Overall, thanks to a relatively solid capitalisation before the onset of the crisis and high profitability, the banking sector appears well placed to absorb the consequences of the turmoil and to continue financing the economy aided by the government support plan. However, several factors deserve a specific attention. Despite satisfactory average situation, it is likely that significant disparities exist between the financial positions of the various credit institutions. The existing framework for prudential supervision, which seems adequate, has never been put to the test of a recession since the structural transformation from 2000 onwards. Moreover, significant uncertainties persist, concerning particularly the financial impact of the expected worsening of the economic situation in the coming months. This might have fuelled market speculation over the vulnerability of banks with potentially higher non-performing loans (Citigroup, 2009), and might have contributed to the increase in the risk premium attached to Greek sovereign debt.

In the short term, close supervision of developments in the financial sector by the Bank of Greece must be maintained to ensure that the banking sector support package adequately meets the recapitalisation needs of credit institutions. This should be accompanied by increased efforts of information and transparency to meet market uncertainties over the ability of the banking system to withstand the crisis. The publication of the first Financial Stability Report in June this year was a welcome step in the direction of greater transparency, including the brief presentation of the results of recent stress tests with both external and domestic risks (Box 1.5). The provision of more information would always be desirable. From a medium-term perspective, the authorities might also consider changes to the mechanisms for provisioning banks to take better account of the procyclicality of credit supply, like the model developed in Spain (OECD, 2008a) (Box 1.6). Such changes can only take place in the context of international and European initiatives in this direction. The proposed European Systemic Risk Board should take the initiative on such issues.

The authorities should give priority to reforming the public sector

On the whole, the current situation demonstrates the pressing need to improve the financial situation and the efficiency of the public sector. The authorities need to broaden their room for manoeuvre for dealing with economic shocks. The fiscal situation is precarious, and the crisis will make it worse. Moreover, it is the main source of the high interest rate spreads in Greece compared to other countries of the euro zone.

The need for reform is all the more urgent given that, regardless of the crisis, the public finances are going to be under additional pressures in the coming decades. Although

Box 1.5. **Stress testing of the Greek banking system**

In May 2009, the Bank of Greece conducted a comprehensive stress test of the Greek banking system in the context of the annual Article IV consultation with the International Monetary Fund (IMF). The stress test covered 9 banking groups, including all the major ones, with a combined market share of 80% in terms of assets.

The scenarios, the methodology and the parameters of interest used were mutually agreed with IMF staff. Forcredit risk, an adverse macroeconomic scenario entailing a cumulative 3% decline in GDP over two years, a rise in unemployment by 4 percentage points and an increase in bank lending rates by 400 basis-points was assumed. Regarding the exposures in emerging Europe, countries were grouped under three risk categories and a significant increase (on average fourfold) in the NPLs ratio of each country group was assumed.

The stress-testing results showed that the banking sector as a whole is stable and can withstand severe shocks. Under this adverse scenario, operating profits, drawing on the support measures, and banks' accumulated provisions could absorb most of the losses and ensure that on average the Tier I ratio would remain at 8.6%, *i.e.* still above the 8% threshold. For a very small number of banks, the absorption of losses of such magnitude would imply a weakening of the capital base, which would still remain positive. Restoring the Tier I ratio for those banks to 6%, which is the internationally acceptable minimum level and in line with the level used in similar stress tests in the United States, would require almost EUR 2 billion (0.8% of GDP). Reaching the more ambitious target of a Tier I ratio of 8%, which would provide a satisfactory capital buffer over the longer term, would require around EUR 3 billion (1.1% of GDP). The Bank of Greece has already asked banks, where necessary, to strengthen their capital base taking into account, *inter allia*, the results of the stress tests.

Box 1.6. **Recommendations for managing the global economic crisis**

Managing the consequences of the crisis in the financial sector

- Monitor closely financial sector developments to ensure that the banking sector support plan is responding adequately to re-capitalisation needs, as the economic situation evolves. If necessary, adjust this plan.
- Building on recent initiatives, continue to improve the dissemination and transparency of information to address market uncertainties about the soundness of the banking system in the face of the crisis. Publish the Greek version of the Financial Stability Report in English: and the results of stress tests tracking the scope of perceived risks. Improve the quality of economic and financial information. Publish the results of the Bank Lending Survey.
- Consider changing the bank provisioning mechanism to limit the procyclical nature of credit supply – drawing on the Spanish experience – in the context of an EU move in that direction.

Fiscal policy

- Pursue fiscal adjustment in 2009-10 by implementing the measures announced, which aim at a reduction of the structural deficit by about 2½ per cent of GDP, and let automatic stabilisers work beyond this consolidation effort. Identify a set of specific measures to bring the public accounts into balance by 2014.
- Adopt a stricter and more constraining fiscal rule, perhaps with constitutional rank, imposing expenditure controls, and maintain a structural fiscal surplus in the order of 1% of GDP from 2015 onwards to reduce the debt to less than 60% of GDP by 2020-25.

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they are still high, the structural fund flows from the EU are to drop significantly between 2007-13,[19] with the entry of new members into the Union, and they are likely to disappear after 2013. The fiscal consequences of demographic ageing will also be considerable. A reallocation of government resources in favour of education and health, and greater efficiency in public efforts in these fields, are also needed both for social and fairness considerations, and for enhancing the positive impact this spending can have on human capital and productivity. From this viewpoint, the remainder of this study is devoted to public sector reform. Chapter 2 sets out to identify the priority reforms that should be undertaken to ensure financial viability and improve government efficiency. Chapters 3 and 4 assess the functioning of the health and education systems, and propose some avenues for improving their performance.

Sound public finances and an efficient public sector are also essential elements for modernising the economy in order to maintain high trend growth and to catch up more quickly with the more advanced countries. Reducing the sovereign spread *vis-à-vis* Germany would be beneficial for potential growth, since it would boost the capital/output ratio and hence productivity (OECD, 2008b). More efficient public administration and infrastructure would enhance the country's attractiveness for direct foreign investments, which are limited in Greece, and this would have positive effects for innovation and productivity. A higher human capital stock would also boost efficiency. Better management of government employment and payrolls would have a helpful impact on the labour market, given the public sector's signalling role on private-sector wage bargaining. More broadly, it is important not to underestimate the benefits to be derived from a better-functioning public sector, which would help among other things to improve the country's competitiveness.

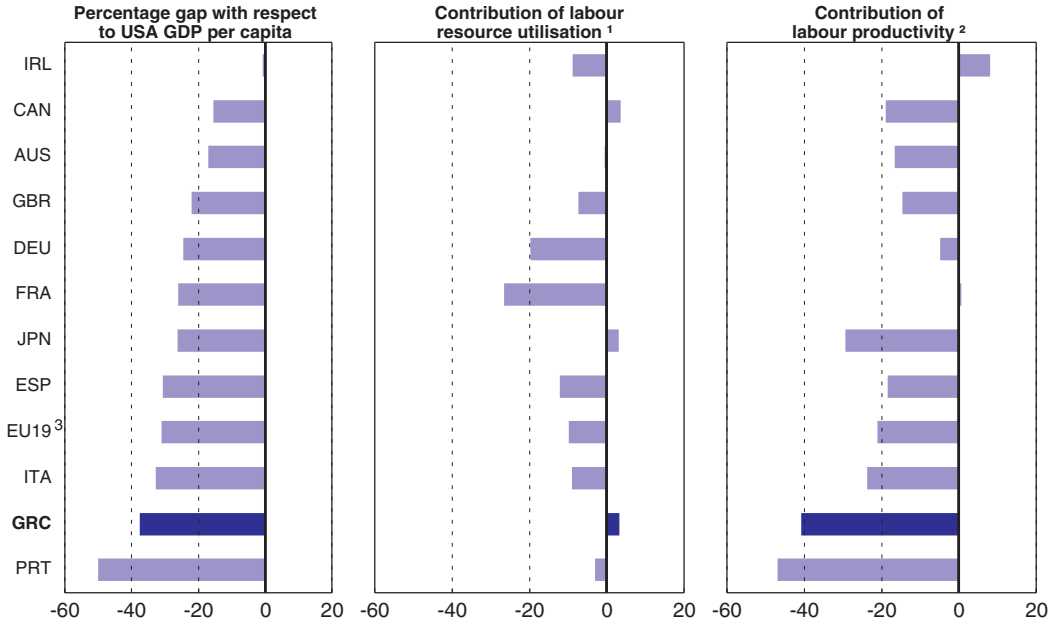
Structural reforms on labour and goods markets must be pursued

The likely weakening of potential output after the crisis increases the importance of measures to raise long-run living standards. A sizeable gap in terms of per capita income with the most advanced economies has to be made up (Figure 1.14). With this background, Greece needs to pursue structural reforms on labour and goods markets to stimulate competition and productivity while boosting participation rates and reducing unemployment. These issues were dealt with in detail in the previous *Survey*, and are priorities for Greece in the OECD's *Going for Growth* (OECD, 2007b, 2009c). This section briefly reviews the actions taken by the authorities in these fields, in light of past recommendations and the weaknesses that remain to be addressed.

Raising labour market flexibility

Enhancing labour market flexibility is important in the current situation to avoid the expected rise in unemployment, which is likely to affect disproportionally the young and women, becoming structural. Flexibility would also boost productivity and help narrow the real income difference between Greece and the most advanced countries, as this is entirely due to a productivity gap (Figure 1.14). Labour utilisation is relatively high, mostly because of the large number of hours worked. Its contribution to growth can be increased further by reducing the particularly high level of unemployment among the young and women, and by raising female participation (Figure 1.15). Although measures have been adopted to

Figure 1.14. **The source of real income differences, 2007**



StatLink http://dx.doi.org/10.1787/685427831071

1. Labour resource utilisation is measured as total number of hours worked divided by population.
2. Labour productivity is measured as GDP per hour worked.
3. EU19 is an aggregate covering countries that are members of both the European Union and the OECD. These are the EU15 countries plus the Czech Republic, Hungary, Poland and the Slovak Republic.

Source: OECD (2009), *Going for Growth*.

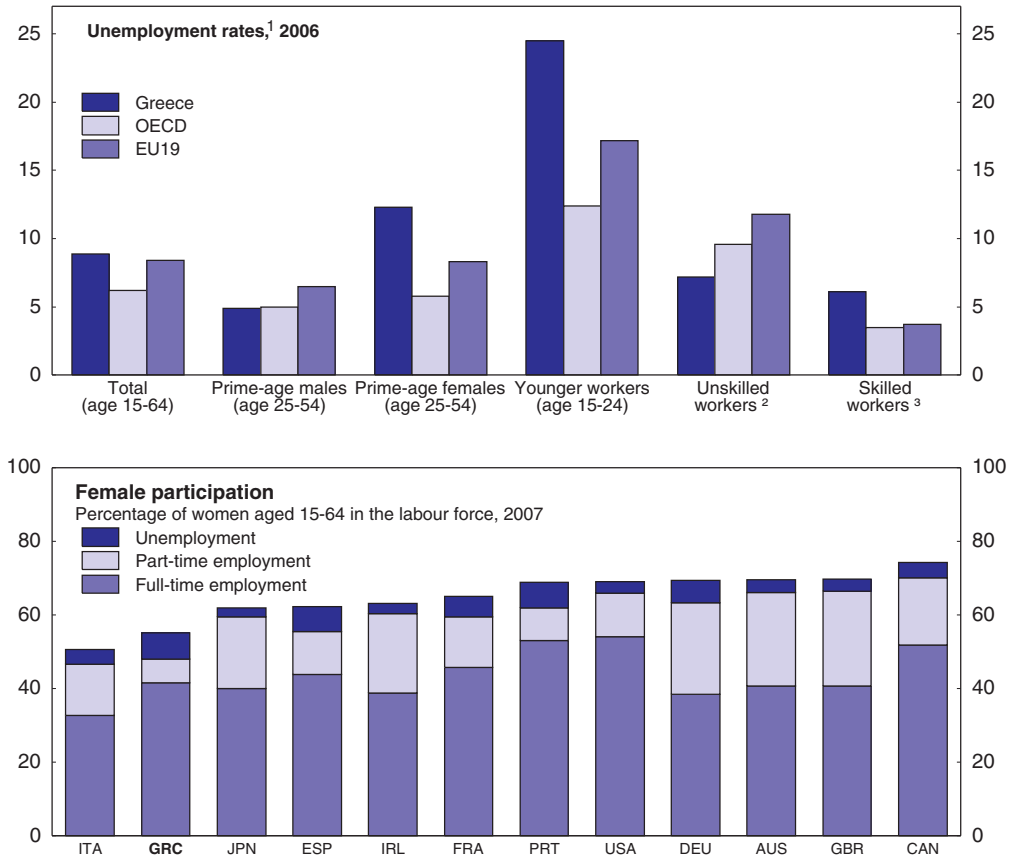
boost female employment, in particular those with dependent children (see Annex 1.A1), further reforms are needed to improve labour market performance:

- Minimum wages, which are determined by the social partners in Greece, should be set taking into account high unemployment rates of youth and women; in other words, minimum wage increases should be more moderate, so that minimum wage levels do not act as a disincentive for hiring young people.
- The government should encourage decentralised wage bargaining by not administratively extending collective agreements to firms not directly represented in the agreement.
- Employment protection legislation, which is particularly restrictive for the white collar and temporary workers, should be eased.

Enhancing competition in product market

OECD analysis shows that Greece could have significant productivity gains from further moves towards a pro-competition regulatory stance (Conway *et al.*, 2006). Recent steps to promote competition in product markets, notably a draft bill in early 2009 to enhance the powers of the Competition Committee, and the privatisation of state-owned Olympic Airways, are laudable (see Annex 1.A1). Further improvement is nevertheless needed as product market regulations remain stringent according to the OECD's latest aggregate indicator, and little progress has been made since 2003 (Figure 1.16). Although estimates should be treated as preliminary due to incomplete information provided so far by the authorities, they highlight the need for a much faster progress with reforms to close

Figure 1.15. **Labour market indicators**



StatLink http://dx.doi.org/10.1787/685438006847

1. Unemployment as a percentage of the labour force in the same age group.
2. Persons who have not completed upper secondary education.
3. Persons who have completed tertiary education.

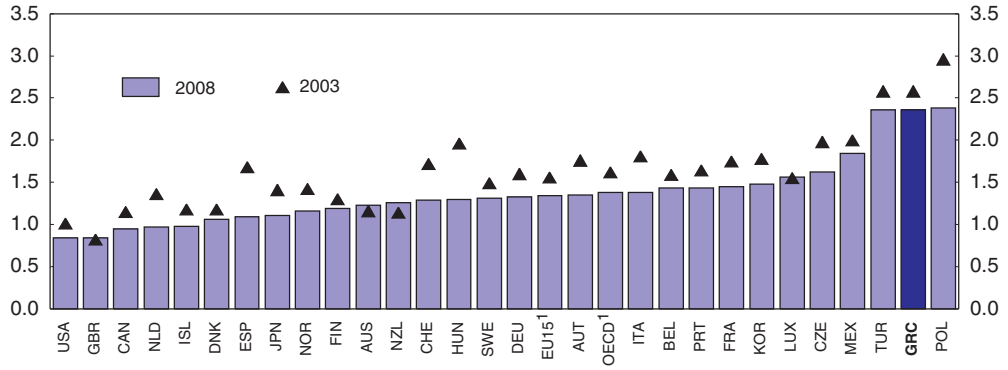
Source: OECD (2009), *Labour Force Statistics database*, April, *www.oecd.org/els/employment/stats*; OECD (2008), *OECD Employment Outlook and Education at a Glance*, OECD, Paris.

the gap relative to countries with the least restrictive regulatory environments. The areas with most scope for additional reforms are:

- The number of procedures and the time needed for business registration should be reduced further to contain the high administrative costs incurred in meeting legal obligations. The fast development of a national registry for buildings and land is also important for the set-up and expansion of businesses.
- Regulation of professional services should be eased. This is among the most restrictive regime in the OECD according to indicators covering the legal, accounting, engineering and architectural professions (2003). Cumbersome licensing requirements and restrictions on fees or prices charged raise important obstacles to competition.
- The regulatory framework in retailing – one of the most stringent in the OECD area – should be liberalised. Easing licensing requirements and specific regulations relating to large outlets and protection of existing firms are important in this regard.

Figure 1.16. **Product market regulation**

Index scale of 0-6 from least to most restrictive



StatLink http://dx.doi.org/10.1787/685445320545

1. EU15 average excludes Ireland for 2008. OECD average excludes Ireland and Slovak Republic for 2008.

Source: OECD (2009), *Product Market Regulation database*, *www.oecd.org/eco/pmr*.

- Privatisation should continue and caps on private ownership[20] abolished for all public enterprises. The stake of government remains high in key utilities hindering competition.

Ensure effective competition in network industries

The privatisation process should be accompanied by efforts to make regulation in network industries more pro-competition. Efficiency in these industries is important for overall productivity as they are essential inputs in other sectors of the economy. While recent advances are commendable (see Annex 1.A1), major challenges remain:

- The operations (generation, transmission, and distribution) in the energy (electricity and gas) sector should be unbundled. Strong and effective regulators are critical for promoting competition in the sector.
- Cross subsidies and preferential tariffs should be removed to ensure that electricity prices reflect the opportunity cost of additional supply, and the access restrictions for the new entrants to low-cost fuel eliminated. To ensure that electricity tariffs are not higher in islands or mountainous regions than in the rest of the country despite higher costs, an auctioning of public service obligations should be implemented rather than using cross-subisdisation, which distorts incentives. Licensing procedures for energy-related infrastructure need to be eased.
- In the telecommunication sector, the unbundling of the local loop in telecommunications should be speeded up in order to stimulate the provision of broadband services by new entrants.
- Regarding postal services, Hellenic Post needs to be restructured further to prepare it for the eventual full liberalisation of the postal market and privatisation.
- In the transport sector, price restrictions and barriers to entry in the road freight sector should be lifted. Reforms need to be implemented rigorously in the railway industry to establish a framework that will allow competition among several providers of railway services.

Notes

1. After-tax profits of banking groups dropped by 42.8% in 2008. Underlying this drop were the more than doubling of the provisions for credit risks, the increase in cost of funding and lower profits from financial commissions. In 2007, the net losses of banks on instruments connected to the financial turmoil, such as collateralised debt obligations or asset–backed securities, totalled only 0.3% of their capital. Their exposure to hedge funds and to the private equity sector was also very limited (1.5% and 0.2% of capital, respectively; or 0.1% and 0.01% of assets).
2. On average between 2002 and 2008, real long–term interest rates remained weak (+1%) while real short-term rates were slightly negative (–0.2%). Over this period nominal short-term interest rates stood somewhat over 3%, much below the level of more than 8% suggested by a Taylor rule.
3. The national accounts are to be revised again to take better account of the underground economy, as part of the regular five-year revisions. A 9.6% upward revision of Greek GDP was approved by Eurostat in October 2007 to take better account of activity in the services sector. As indicated in Chapter 2, the underground economy is highly developed in Greece, and could represent between 25% and 35% of GDP, according to the most recent estimates (Chapter 2). A revision of this magnitude would reduce deficit and debt ratios significantly. The decision to make this revision, if approved by Eurostat, is due in the second half of 2010.
4. At the beginning of 2009, 5 170 investment projects had been approved for financing through private-public partnerships, representing a total of EUR 9.8 billion (4% of GDP) (ministry of Economy, 2009).
5. In May 2009, new private car registration were 5% above their level a year earlier. Such trend is however also likely to boost imports.
6. This quantification is based on OECD estimates since no official quantification was released.
7. The total fiscal impact of the cumulative growth shortfall in 2009 and 2010 does not depend on the cyclical or structural nature of the growth weakening induced by the crisis. This impact is hence estimated on the basis of the difference between the GDP growth projection in 2009-10 and the potential output growth estimated before the crisis. Each percentage point decline in growth implies around 0.5% of GDP reduction in the fiscal balance according to the OECD estimate. Such quantification is, however, somewhat conservative as it does not take into account the negative impact on fiscal receipts of the fall in asset prices. The effect of this factor is estimated at 0.6% of GDP in the average advanced economies of the G20 countries (Cottarelli, 2009).
8. According to the European Commission, GDP will grow by –0.9% in 2009 and 0.1% in 2010. The 2010 budgetary deficit projected by the Commission is 5.7% of GDP (European Commission, 2009b). The cyclical deterioration of the deficit is lower in the Commission's scenario than in the OECD projections. To bring the deficit to 3% by 2010 would hence require a fiscal adjustment of 2.7% of GDP. This implies a total adjustment of 4.5% of GDP between 2008 and 2010 since the Commission forecast already includes a reduction of the structural fiscal balance by 1.8% of GDP.
9. Although the overall fiscal package announced in end-June 2009 amounts to 0.8% of GDP, some of its measures are likely to be of a one-off nature.
10. It is important to note that the expected weaker potential output growth implied by the crisis will affect the estimated fiscal structural balance in 2009 and 2010. Strictly speaking, what is suggested here is hence not only to let the automatic stabilisers work but also not to offset the consequence of the lower trend growth on the structural balance.
11. Even with a weaker estimate of potential growth, as the national authorities and the European Commission are projecting, the structural deficit would still be less than 4% of GDP in 2010, and the annual adjustment needed to eliminate it would be less than 1% of GDP per year.
12. Indebtedness data do not include pension liabilities.
13. Only three banks take part in this survey. The Bank of Greece is considering enlarging the sample.
14. On average, the loans-to-value ratio amounted to 79% in 2007 (ECB, 2009). In Greece, only 13.7% of these loans have a loan-to-value (LTV) ratio above 90% and around 60% of them have an LTV ratio below 70%. For older loans, the LTV ratios have fallen substantially due to depreciation.
15. According to indices constructed by the Bank of Greece, house prices in urban areas rose by at an average annual rate of 2.6% in 2008; in the 1st quarter of 2009, house prices in the Athens area fell 1.4% year-on-year and 3.5% with respect to the last quarter of 2008.
16. In 2005, 25% of the housing stock was over 45 years old and 49% of properties had been built between 1960 and 1991. The average size of Greek households, which was 2.8 persons in 1994, has

fallen to fewer than 2.6 persons in 2004 (NBG, 2006). It nonetheless remains higher than the euro area average (fewer than 2.2).

17. According to the NBG (2006), the property wealth effect, which represents over 80% of total household wealth, increased growth by 0.3% a year between 2000 and 2006.

18. A EUR 20 billion euro financial package organised by the IMF to shore up the Romanian economy was signed at the end of March 2009. The IMF has also agreed on financial support packages for Serbia.

19. The total amount of EU transfers related to structural funds has fallen from 28% of GDP over the 2000-06 period to less than 9% of GDP for the 2007-13 period.

20. While there is no general legal provision determining the state shareholding in public utilities, the state's participation in some public companies, such as the Public Power Corporation, cannot fall below a certain threshold provided in a specific company law (OECD, 2007b).

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ANNEX 1.A1

Progress in structural reform

This table reviews recent action taken on recommendations from previous *Surveys*. Recommendations that are new in this *Survey* are listed in the relevant chapter.

Recommendations	Action taken since the previous Survey (May 2007)
BUDGET AND DEBT	
Primary spending especially the public wage bill should be reduced. The government should aim for more moderate increases in the wages of its own employees, recognizing that they often play a leading role in aggregate wage developments.	The 2008 update of SGP provides for a reduction in the total general government employment (including the reduction by 10% of fixed-term contracts); a prudent wage policy; a revision of the remuneration of executives in public sector entities; and a numerical rule of a 10% reduction in "elastic expenditure". The incomes policy announced in March 2009 provided for a wage freeze (with the exception of lump-sum allowances for employees earning less than EUR 1 700). Also, a consolidation of general government entities is underway, supervised by the Secretariat General of the government. A central authority for wage payment will be created, along the lines of the corresponding authority for primary pensions, providing a clearer picture of earnings for all public servants. Law 3691/2008 provides, *inter alia*, for a link between wage increases in subsidised public enterprises, the financial state of the enterprise, and developments in the state budget.
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.	The transition to the programme-based budgeting aims at improving fiscal management through a more efficient monitoring and evaluation of public policies, increased accountability and responsibility of the line ministries, and a multi-year fiscal framework. Moreover, steps were taken towards the formulation of a new accounting plan.
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 is smaller than over the 1990s, when it was among the largest in the OECD. Most extra-budgetary accounts are abolished under Law 3697/2008 and their resources are included in the State Budget.
PUBLIC ADMINISTRATION	
Administrative procedures should be simplified further and efforts to improve regulation should continue.	The number of the necessary documents for certain administrative acts was reduced, and the procedures carried out through the Centres for Citizens' Service (one-stop shops – KEP), as well as the number of KEPs increased. There was a speeding up and simplification of some procedures, concerning for instance, inheritance transfer and licensing of some firms. The General Commercial Registry (GEMI) has been completed, which will enable Chambers to operate as one-stop-shops, simplifying significantly businesses' interaction with the state. A High Level Working Group has been established to monitor and make recommendations for simplifying procedures and reducing the administrative burden.

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Recommendations	Action taken since the previous Survey (May 2007)
	A three-year project was signed with the OECD in order to support the administration reform. The ongoing implementation of the Digital Strategy is rapidly expanding the availability and accessability of e-government services, with tangible increases in e-government usage by households and firms.
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 introduced changes in the selection system of the heads of units, through the enactment of three groups of criteria.
PUBLIC ENTERPRISES AND ENTITIES	
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.	Law 3697/2008 introduces new rules for containing expenditure and improving transparency in the financial management of broader public sector entities (hospitals, social security funds and local authorities), which will be supervised by an Interministerial Committee. All entities will be required to comply with international accounting standards, and to submit three-year business plans, including specific quantitative targets.
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.	Introduction of a 10% tax on dividends and on capital gains from selling stocks. Further decrease in corporate income tax rates from 25% to 20% should be phased in between 2010 and 2014. A new tax on stock options is introduced according to rules pertaining to regular wage income.
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.
More stamp duties should be eliminated and the concomitant revenue losses offset for example by an ending of the preferential VAT treatment of some products, certain professions (*e.g.* lawyers, notaries) and the Aegean islands.	No action.
A coherent property tax system should be introduced, and as a prerequisite a National Land Registry implemented, and the local tax system overhauled.	The law 3634/2008 replaced a variety of taxes levied on real estate by a unique property tax. The law further replaced the inheritance tax by a property transfer tax at a rate of 1%. A National Land Registry is underway but it will take some time to be completed.
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.	The 2007 reform, which is being implemented, rationalise and centralise the management of public procurement for hospitals. A new system is applied for controlling drug expenditure (including the application of a bar-code system). A draft legislation is also being prepared to establish a system of referring physicians for the primary health care services. The bill, which should be submitted to parliament this summer, also calls for the introduction of medical protocols and of individual health account with a yearly expenditure ceiling for each patient.
PENSION REFORM	
Move quickly to outline reform plans that will contain future pension expenditure. 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 current electoral period.	A pension reform was adopted in March 2008, which scales back from 133 to 13 the number of pension funds. It modifies a number of incentives for workers to stay longer in the labour market and reduce early retirements. It creates an intergenerational solidarity fund (AKAGE), which will start accumulating resources in 2009 so as to help disburse pension payments after 2019.
Link pensions to 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).	No action.

Recommendations	Action taken since the previous Survey (May 2007)
Incentives for early retirement should be removed and the definition of arduous work should be revised. 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.	The list of professions falling under regulation of arduous occupations is being redefined. The change should be finalised by October 2009. It will only apply to new entrants to the labour market. Early retirement provisions for mothers with dependent children have been tightened. Actuarial reductions for early retirement were raised from 4.5% to 6%.
Access to a disability pension should be strictly enforced on medical criteria, judged by independent and specialised doctors.	Disability pensions have always been granted on medical criteria, judged by independent and specialised doctors. The system was further improved with Law 3655/2008, article 152.
Remove the distortionary effects of minimum pensions. Minimum pension should be available only at the official age of retirement in place of the current arrangements.	No action.
Reduce statutory replacement rates by lowering accrual rates. However, give consideration to raising accrual rates beyond the official retirement age.	The accumulation rate of pension rights for persons extending their professional activity by 3 years to age 68 was increased from 3.0 to 3.3% per additional year of work after the 35th.
The length of a worker's career should not be allowed to override eligibility conditions based on age of retirement.	No action.
Some indexation rule for uprating pensions should be established. Pensions might be indexed to consumer prices or some mixed index of prices and earnings.	No action.
Increase the normal age of retirement in line with increases in life expectancy.	No action.
Switch the basis for self-employed pensions from notional to actual earnings or some proxy such as turnover. If this is not feasible, then raise the level of notional income bands against which the self-employed make contributions.	No action.
Further encourage private pension arrangements through incentives to employees and employers and strong regulation and supervision based on OECD principles.	No action.
EDUCATION	
Enhance the transition from school to working life. Encourage training of those already in the labour force. Increase investment in human capital.	Establishment of targeted initiatives subsidising enterprises for hiring unemployed young persons , along with the provision of additional incentives, compensating for the relatively low productivity of young employees during the adaptation period. A number of apprenticeships or additional training schemes were implemented and the links between University career offices, OAED units, and other job placement institutions were strengthened. Moreover, pilot "business schools" were established and the European "safe start" for youth initiative was put in practice, in addition to the establishment of the "Entrepreneurship Observatory" and a network of entrepreneurship clusters, providing advisory support on business start-up and operation for young entrepreneurs. Transformation of unemployment benefits to subsidisation of social security contributions.
Go ahead with the amendment of the constitution and allow private universities.	No action.
Put in place a well–performing evaluation system of universities and make funding of universities dependent on performance.	Presentation to authorities by the Hellenic Quality Assurance Agency of the first results of the evaluation of five departments at universities around the country.
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.	No action.
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.	No action.

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Recommendations	Action taken since the previous Survey (May 2007)
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 Framework for Research and Development (Law 3653/2008) aims, *inter alia* , at improving governance and facilitating investment in R&D and Innovation. The ongoing implementation of the Digital Strategy provides tangible results in ICT and broadband penetration.
LABOUR MARKET REFORM	
Lower the minimum wage for "vulnerable workers" (especially the young). In setting minimum wages, the social partners should take into account high unemployment rates of youth.	No action.
Encourage decentralised bargaining by avoiding administrative extension of collective agreements to parties not directly represented in the original agreements.	No action.
Reduce non-wage costs, in particular social security contributions for the low-paid, financed by spending restraint.	Subsidies to enterprises hiring older workers and financing of outstanding social security contributions in the case of long-term unemployed.
Reduce severance costs for white collar workers and align them with those for blue collar workers. Transforming severance pay legislation into a system of individual accounts as in Austria should be considered.	No action.
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.	Introduction of a new legislative framework in June 2008 for the development of infrastructure and the provision of childcare services for working mothers. Participation covers the entire cost of childcare services for an estimated cost of EUR 280 million until 2013, aiming at an estimated 90 000 beneficiaries. Extension of the maternity leave by 6 months paid at minimum wage. Reduction of first pillar contributions of employed women by 50% during the first 12 months following childbirth.
Improve further the quality and job-linkage of vocational training. Job-search-assistance or workplace training should be expanded.	Increased the training content and on-the-job-training – combined with skills certification – in a number of ALMP schemes provided by OAED for women, youth and older workers, as part of the measures recently announced within the European Economic Recovery Plan.
Complete the reform of OAED and implement the individualised approach for all unemployed. Provide service with adequate resources. Establish quickly a comprehensive system for assessing ALMPs.	Introduction of new OAED programmes in 2008 to promote employment opportunities for young people. For example the programme "a start, an opportunity" provides the 16-25 year olds who do not continue on higher or vocational education with counselling, ICT training and 5-month works experience in firms.
PRODUCT MARKET REFORM	
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.	Proposed law for the enhancement of the Competition Commission (March 2009). The draft bill abolishes the previous requirement for a ministerial decision to activate the regulatory decisions of the Commission, which will be valid as soon as they are issued. It also enhances the tax-monitoring abilities of the Commission and provides for stricter penalties (financial and non-financial) fee those breaking competition laws.
Facilitate the creation and exit of companies. Reduce regulatory burden and monetary costs of establishing new enterprises further. Reform bankruptcy procedures.	Simplified start-up framework for limited liability companies (Law 3661/2008), reducing the minimum capital required from EUR 18 000 to EUR 4 500. The number of days required to start up a business has been reduced since it is no longer necessary to wait for the publication of the articles of incorporation in the Official Gazette. New Bankruptcy Code (Law 3588/2007).
Privatisation needs to be continued and privatisation limits should be abolished for all public enterprises.	The state-owned air-carrier Olympic Airways was privatised. The state's stake in Hellenic Telecommunications Organisation was reduced further while a Strategic Partnership was established. The privatization process has been initiated for Hellenic Post Courier Services S.A., a subsidiary of Hellenic Post. During 2008, the Government successfully concluded the tender processes for assigning management contracts to the private sector for Piraeus Port Authority container terminal, and Faliro Marina and Xenia hotel in Tsagkarada (the last two are assets owned by Touristic Development Company).

Recommendations	Action taken since the previous Survey (May 2007)
Energy. Raise competition through the unbundling of the operations of the incumbents in the electricity and gas markets, and by ensuring a strong and effective sector regulator.	No action.
Secure non-discriminatory third-party access to the network by giving the Hellenic Transmission Operator System (HTSO) full ownership of the network. Ensure the independence of the network operator by moving HTSO into government or private ownership.	No action.
Ensure that electricity prices reflect marginal costs by removing cross–subsidies and preferential tariffs. Simplify licensing procedures for energy-related infrastructure.	No action.
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).	No action.
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.	No action.
The exclusive rights of PPC to use lignite mines should be abolished.	No action.
The regulatory and competition authorities need to remain vigilant to prevent potential abuses of market power in the oil sector.	No action.
Telecommunications. Speed up the unbundling of the local loop in order to stimulate the provision of broadband services by new entrants, reduce prices, and improve the penetration of the Internet.	Supervisory interventions to ensure competition in the telecommunication market have been intensified.
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.	Initiation of second round of market analyses according to the provisions of Law 3431/2006 and amendment of the relevant Recommendation of the European Commission.
Postal services. Further restructure the Hellenic Post and privatise it. Universal service obligations should be funded in a way that does not distort the market.	According to EC Directive 2008/6/EU, the complete opening of the postal market is to be achieved by January 2013 in the case of Greece. The privatization process has been initiated for Hellenic Post Courier Services SA, a subsidiary of Hellenic Post (ELTA).
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.	No action.
Reforms in the railway industry need to continue to introduce competition in this market.	Passenger transport is opening up in 2011, state guarantees on railway loans will be abolished by 2010, while state aid has already been abolished for a part of the rail network. The restructuring of the Hellenic Railways Organisation has been announced.

ISBN 978-92-64-05427-1
OECD Economic Surveys: Greece
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Chapter 2

Enhancing fiscal viability

Putting public finances on a sound footing is a major policy challenge for Greece. The high public debt, at about 100% of GDP, and repeated fiscal slippages limit the room for counter-cyclical fiscal policy and a large pension burden is bearing on longer term fiscal sustainability. These factors have been reflected in a rise in sovereign interest rate spreads vis-à-vis *Germany. Credible fiscal consolidation should focus on both revenue-enhancing and expenditure-containing measures. Tax collection is low in terms of GDP, pointing to considerable scope for raising revenue by fighting tax evasion and eliminating many distortionary tax exemptions. This calls for strengthening tax administration. To deal with frequent spending overruns, expenditure management should be improved through the timely implementation of the ongoing reform of the budgetary process and the rapid introduction of a more modern and transparent public accounting system. Reforms are also needed to rationalize public wage policies to contain the growth of comparatively large personnel outlays. There is also room to improve efficiency in public administration, and to reduce subsidies to public enterprises and other government entities. Additional reforms are also needed in the pension system, which is one of the most generous in Europe, and health care (Chapter 3) to ensure longer term fiscal sustainability.*

Enhancing fiscal viability is imperative to restore room for manoeuvre for stabilization policy, reduce interest-rate spreads by strengthening market confidence, and meet rising social and economic challenges. The high public debt needs to be reduced and policy credibility improved by sustained fiscal consolidation. The prospective reduction in European structural funds in the coming years reinforces the need for putting public finances on a sounder footing. As fiscal slippages stem from both expenditure overruns and revenue shortfalls, consolidation should focus on both revenue-enhancing and expenditure-containing measures. This chapter discusses revenue collection and expenditure management, and fiscal challenges posed by population aging.

Enhance revenue performance with a special focus on tax evasion

Several factors contribute to tax evasion

The efficiency of the tax system could be improved (Table 2.1). The efficiency of several taxes in Greece is below other countries in the euro area with similar, or even lower, statutory rates. Low efficiency reflects large tax evasion and design problems with tax exemptions (Chua, 2008). This has contributed to a low overall tax-to-GDP ratio, which at about 31% of GDP is about 4½ percentage points below the OECD average (Figure 2.1). This ratio has worsened in recent years despite buoyant activity. The overall tax burden peaked at 34% of

Table 2.1. **Efficiency of tax collection**

2006 in percentage

	Effective rates			Statutory rates			Tax efficiency		
	VAT/CP[1]	SSC/WSS S[2]	Corporate/ GDP	VAT	SSC[3]	Corporate	VAT	SSC	Corporate
	[1]	[2]	[3]	[4]	[5]	[6]	[1]/[4]	[2]/[5]	[3]/[6]
Austria	14.18	13.90	2.19	20.00	21.60	25.00	0.71	0.64	0.09
Belgium	13.84	16.51	3.67	21.00	30.50	34.00	0.66	0.54	0.11
Finland	16.78	18.39	3.36	22.00	24.00	26.00	0.76	0.77	0.13
France	12.71	21.38	2.96	19.60	42.30	34.40	0.65	0.51	0.09
Germany	10.88	13.19	2.10	16.00	20.60	38.70	0.68	0.64	0.05
Greece	**9.93**	**15.00**	**2.67**	**19.00**	**28.10**	**29.00**	**0.52**	**0.53**	**0.09**
Ireland	17.04	6.32	3.77	21.00	10.80	12.50	0.81	0.59	0.30
Italy	10.58	21.13	3.41	20.00	32.10	37.30	0.53	0.66	0.09
Luxembourg	16.84	9.79	4.95	15.00	13.50	29.60	1.12	0.73	0.17
Netherlands	15.29	9.33	3.32	19.00	15.00	29.60	0.80	0.62	0.11
Portugal	13.56	14.83	2.99	21.00	23.80	27.50	0.65	0.62	0.11
Slovak Republic	10.62	13.87	2.35	19.00	26.20	19.00	0.56	0.53	0.12
Spain	11.11	18.97	4.20	16.00	30.60	35.00	0.69	0.62	0.12
Unweighted average of the above countries	13.34	14.82	3.23	19.12	24.55	29.05	0.70	0.61	0.12

1. Ratio of the revenue from value added taxes to private consumption.
2. Ratio of revenue from employers' social security contributions to compensation of employees.
3. Employers' social security contributions.

Source: Taxation trends in the European Union (2008), OECD (2009) *Tax revenue database* and OECD calculations.

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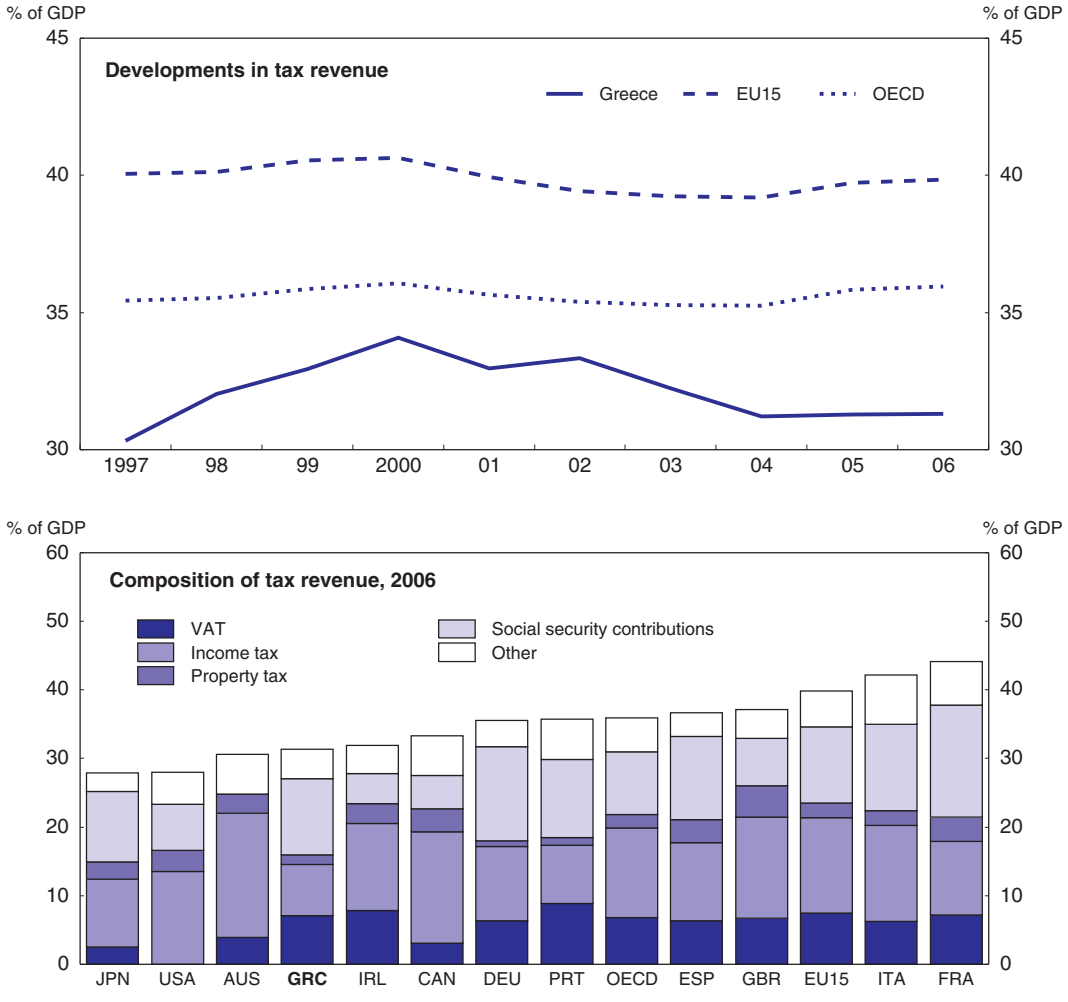
Figure 2.1. **Tax revenue: Recent trends and composition**



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Source: OECD, *Tax Revenue database*.

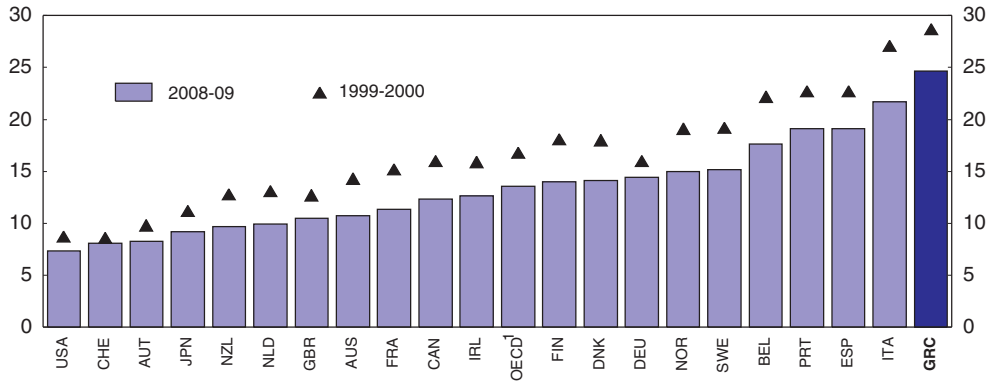
GDP in 2000, after efforts to reduce the government deficit before joining the euro area, and recent policy initiatives to reduce the tax burden explain only part of the lower collection.

Weak tax collection is associated with a large informal economy (Danopoulos and Znidaric, 2007), which has been estimated to be between 25% and 37% of GDP.[1] While these findings should be treated with caution due to the definitional and measurement difficulties involved in assessing the extent of informal (shadow or underground) economies, Greece usually ranks high in relevant international comparisons. Recent estimates by Schneider (2009) suggest that the shadow economy accounts currently for around 25% of GDP, down from 29% of GDP at the beginning of the decade, but still the highest among the 21 OECD economies examined[2] (Figure 2.2).

Informality is a multi-dimensional phenomenon, and is generally explained by a high level of taxation, excessive regulation, inefficiency of the public sector (higher efficiency increases the expected penalty for operating underground) and corruption (Schneider and Enste, 2000; Bovi, 2002). As Tatsos (2001) highlights, tax evasion constitutes one of the most

Figure 2.2. **The size of shadow economy: An international comparison**

In per cent of GDP



StatLink http://dx.doi.org/10.1787/685523100677

1. Unweighted average over 21 OECD countries.

Source: Schneider, F. (2009), "The Size of the Shadow Economy in 21 OECD Countries Using the MIMIC and Currency Demand Approach".

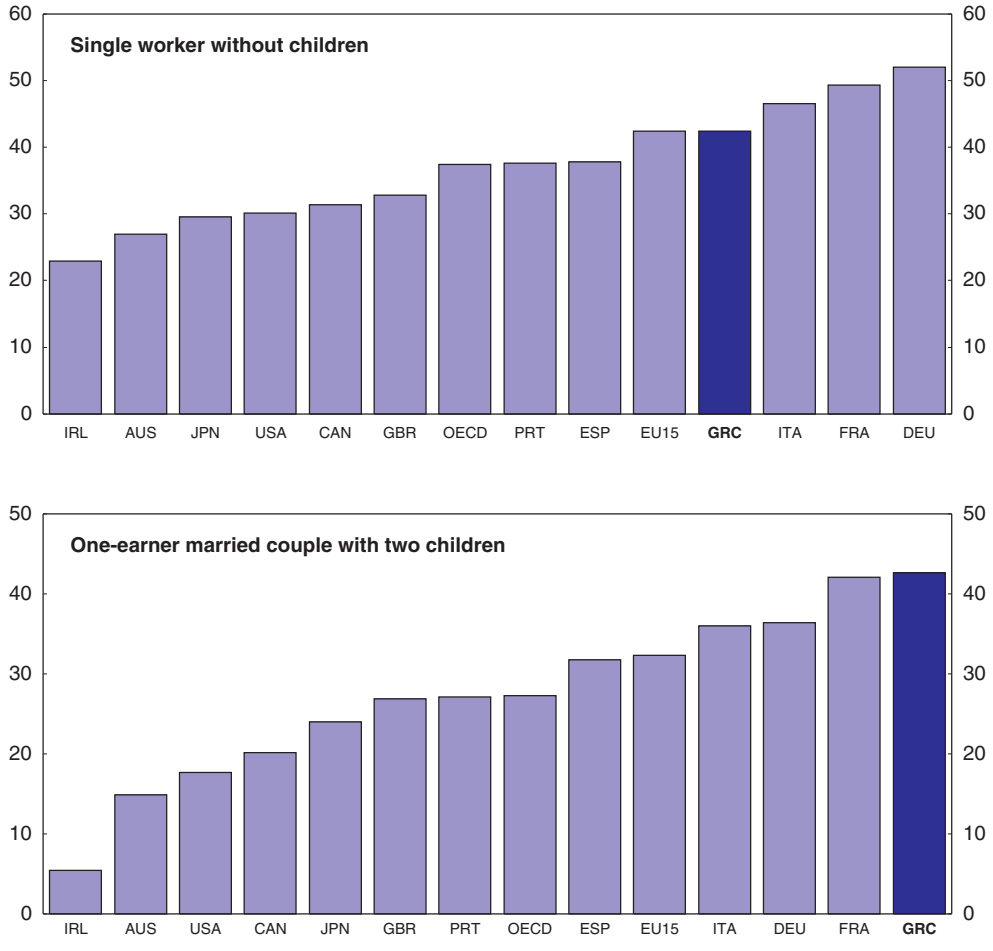
important factors for engaging in underground activity. Incentives for this arise from many sources, including a high tax wedge on labour income which exceeds the OECD average, especially in the case of married couples with children (Figure 2.3).

Institutional weaknesses and cumbersome regulations can also be at the heart of tax evasion.[3] Capo Servera and Moschovis (2008) highlight tax administration inefficiencies as the most important factor hampering tax collection since the beginning of the decade. Katsios (2006) shows that Greece exhibits "pronounced signs of a transition economy" in terms of the high level of regulation, which, in turn, can lead to high incidence of bribery, high effective taxes on formal-sector activities, and a sizeable underground economy. Greece fares poorly in the World Bank's governance indices of "control of corruption" and "rule of law" (used as proxy of efficiency of public sector) (Figure 2.4). OECD indicators also point to a high degree of restrictiveness in product market regulations (Figure 1.16) and a stringent employment protection legislation (EPL),[4] which are costly to satisfy and can therefore stimulate informality. Examining the nature of the underground economy in OECD countries during the 1990s, Bovi (2002) concludes that institutional failures can be a more important stimulus of underground economy in Southern European counties (Greece, Italy, Portugal, Spain) than taxes, pointing to the relatively high levels of corruption, the weakness of the legal system and strict labour market regulations observed in these countries.

Tax evasion is also facilitated by a complex tax system and imprecision of the underlying laws. The tax code is amended frequently, which increases compliance costs and creates incentives for evasion (Flevotomou and Matsaganis, 2007). Recurring tax amnesties have undermined the credibility of the system by providing an incentive for tax payers to delay and eventually evade taxes. Repeated extensions of the deadlines for tax settlements may also encourage delays in payment (Bank of Greece, 2009; *Athens Plus*, 2008). Tax evasion is further stimulated by the existence of legal deadlines ("limitation of action by lapse of time") that allow for debts to be written off. In 2007, EUR 3.5 billion (around 1.5% of GDP) in taxes were written off, owing mainly to the expiration of the legal deadline for collection, according to the 2007 *State Audit Council Report* (State Audit Council, 2008).

Figure 2.3. **Total tax wedge by family type**

As a percentage of labour costs, 2008



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Source: OECD (2008), *Taxing wages database*.

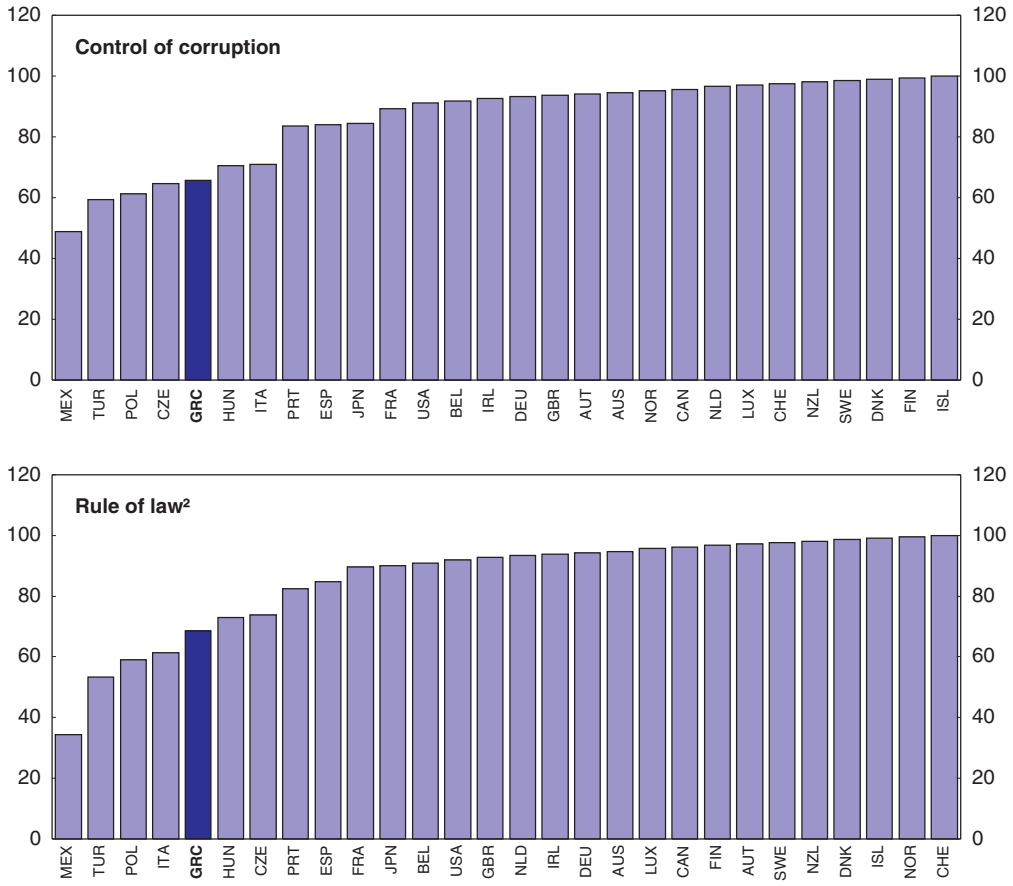
The economic structure also affects tax compliance. The self-employed, who can avoid taxes more easily than employees and pensioners, account for more than 30% of the population. Flevotomou and Matsaganis (2007) tentatively estimate a 10% income under-reporting for the purposes of tax evasion, which results in a 26% shortfall in tax revenues.[5] There is a striking difference in estimated under-reporting rates for income from dependent employment and pensions (with a rate around zero), self-employment (24%) and especially agriculture (56%). Besides a shortfall in revenue, the study points to adverse distributional effects of tax evasion in terms of inequality, poverty and progressivity.

What needs to be done

The government has introduced several measures in recent years to reduce tax evasion by simplifying the tax system, broadening the tax base and strengthening tax administration (Box 2.1). These are steps in the right direction and evidence to date is

Figure 2.4. **Governance indicators**[1]

2007



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1. Percentile rank on a scale from 0 to 100 (with 100 being the best).
2. Rule of law measures perceptions of the extent to which agents have confidence in and abide to the law.

Source: World Bank database.

encouraging. Recent estimates by Capo Servera and Moschovis (2008) indicate that the reforms implemented since early 2004 have reduced the impact of inefficiencies in tax administration and enforcement. Chua (2008) also highlights the positive outcomes from the intensified administration efforts to increase tax compliance, mainly through more frequent tax audits and the cross-checking of information on tax liabilities.

Further action is needed, however. Uncollected government revenues, according to the latest state audit council report, stood at EUR 31 billion (or 13.6% of GDP) in 2007, and the shortfall was 22% higher than in 2006. The undershooting of the 2008 budgeted revenue target from tax settlement points to continued inefficiencies in tax collection. Another reason, according to the latest Stability and Growth Programme (SGP), can be liquidity constraints caused by the international turmoil and the short deadlines for settlement (Ministry of Economy and Finance, 2009).

Greece has limited options for raising revenue by hiking tax rates, as current statutory rates are not low. The need to keep the tax system competitive, given the increasing

Box 2.1. **Tax Reform: An overview of recent initiatives**

Greece has implemented a number of reforms since 2004 to improve the functioning of the tax system and make it more competitive by international standards. A focal point of the reforms is the reduction of tax evasion (OECD, 2007a). Specific measures over the period 2004-07, include: *i)* the introduction of VAT on new buildings, which should help reduce the occurrence of informal activity in the construction sector; *ii)* reductions in income tax burdens for individuals and businesses, through gradual declines in tax rates and a restructuring in tax scales; and *iii)* an upgrading of TAXIS (the primary tax information system of the Ministry of Economy and Finance) through the electronic cross-checking of tax data, and the restructuring of audit services.

A new law on tax evasion was approved in November 2007 which provides for the establishment of a National Council (already in operation) to direct efforts at fighting tax evasion. The law also improves the structure of tax administration and provides tax incentives for taxpayers to collect receipts for services as a way to reduce income under-reporting (the latter provision was put into effect on 1 August 2007). It further provides incentives for the disclosure of delinquent behaviour on tax matters. To curb widespread tax evasion in the petroleum market, in 2008 the government equalised the tax rates for home heating oil with that for diesel fuel used for transportation.[1] Efforts have also been taken recently to promote the public's awareness of the negative impact of tax evasion.

The tax reform in 2008 included further cuts in personal income taxes, reducing the two middle marginal rates of 29% and 39% by four percentage points between 2007 and 2009, to 25% and 35% respectively, and measures to broaden the tax base, such as the imposition of a 10% tax rate on dividends and capital gains. Moreover, the reform package abolished the tax-free threshold for income up to EUR 10 500 for self-employed, applying instead a 10% tax rate up to this amount. The tax-free bracket was restored, however, in the wake of the economic crisis.

Finally, the complexity of the tax system was reduced through the simplification of property taxation. A unique property holding tax was introduced in 2008 which has replaced a variety of taxes levied on real estate under the previous regime. Moreover, taxes on real inheritance for close relatives have been abolished and were replaced by a uniform 1% duty on property transfers.[2] First homes (up to 200 m^2) were exempted originally from either tax. In view of the difficulties in implementing the unified property tax scheme, and to render the scheme simpler and fairer, the government abolished in early 2009 the exemption for primary residence. Instead, a tax-free threshold was introduced which varies according to the marital status of the property holders and is calculated on the basis of the legal value of all property items.

1. To moderate the adverse consequences, the new system of taxation has been accompanied by a programme of compensating households.
2. Regarding shares and businesses, a separate tax ranging between 0.6% and 2.4%, is applied depending on the type of transfer and the of degree of relatedness.

mobility of tax bases, restricts the room for increasing revenue through higher tax rates, which would also encourage tax evasion. There is limited scope for raising payroll taxes because of Greece's already high tax wedge (Figure 2.3). Consumption-based taxes, such as the VAT, despite being regressive, have the advantage of being neutral towards saving and investment decisions and creating fewer disincentives to work in comparison to labour taxes (OECD, 2007a). Although Greece's VAT rate is broadly in line with OECD average, the collection rate is low, which suggests that policy should focus on broadening the tax base.

VAT revenue could be improved by moving to a simpler structure. Recent estimates by Eurostat suggest that a larger share of private consumption in Greece (around 9%) than in EU 27 (an average of just over 5%) is excluded from taxation at the standard VAT rate, although this may also reflect tax evasion (Eurostat, 2009). There are currently six positive rates (plus a zero rate for exports).[6] The VAT rate structure could therefore become more uniform and the list of goods and services that are eligible for reduced rates could be shortened. A simple VAT structure would also bring Greece closer to the international practice (Chua, 2008).

The income tax base could be broadened by eliminating many of the remaining exemptions and deductions. Consideration should be given to abolishing the tax-free threshold for the self-employed (EUR 10 500), which was restored in early 2009 in response to the slack in activity, to ensure that self-employed pay is taxed fairly (Box 2.1). There is also some scope for exploiting property taxes more effectively. Greece collects 1.5% of GDP in property taxes, around half a percentage point below the OECD average. To raise revenue, exemptions could be reduced and legislation simplified by, for example, making rates uniform between residential and business property. The rapid development of a national registry for land and buildings, aiming to cover two-thirds of the country's population by 2012, is an important pre-condition for effective property taxation.

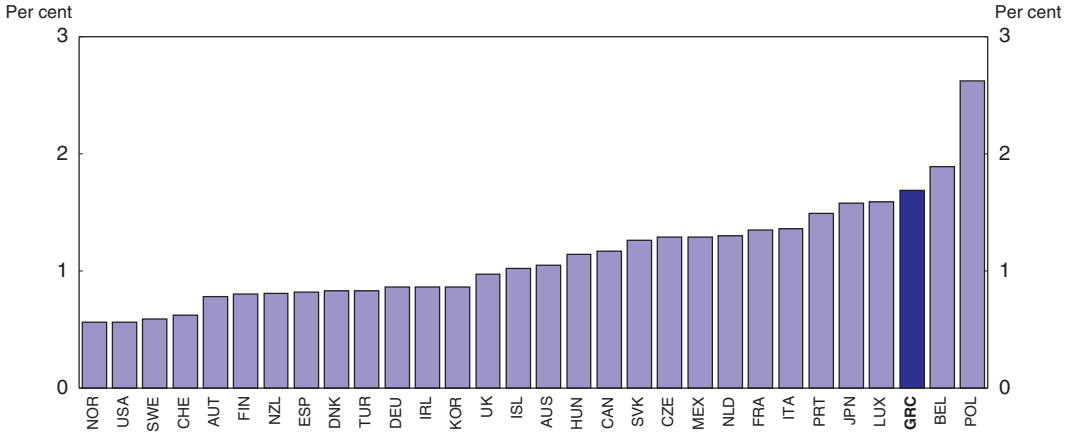
Efforts to strengthen tax administration need to continue. Particular emphasis should be placed on enforcement to ensure that those in the informal economy are brought into the tax net. Reforms should focus on improving audit activities through the hiring of better qualified personnel, greater promotion possibilities for auditors, better infrastructure, and the development of a comprehensive system of exchanging information (Capo Servera and Moschovis, 2008). The recent introduction of a unique social security identification number for each insured person is a positive step toward facilitating data collection and information exchange, while also promoting a better co-ordination between pension fund administrators, the labour inspectorate and the tax authorities. Granting auditors easier access to taxpayers' bank account information would also be advisable. The authorities should experiment further with the use of private services in tax administration, starting with the collection of arrears; they already have employed private-sector knowhow and technical support, although the collection task will continue to be the responsibility of official tax offices. Consideration should be given to employing more indirect estimation methods for taxable income.

In addition, repeated tax amnesties should be terminated and the tax system made more transparent. Since 2004, there have been three tax amnesty laws. International experience of failed recurrent holidays, as in the case of Italy, also highlight the need for avoiding such a policy. Given the sizeable amount of write-offs each year as a result of the expiration of the legal deadline for revenue collection ("limitation of action by lapse of time"), the government should consider increasing the length of, or even removing, such deadlines. More generally, the tax system needs to become more stable and transparent. This would reduce the cost of compliance to be borne by taxpayers and that of tax administration, which is among the highest in OECD (Figure 2.5).

Tax evasion would also be reduced by unifying the administration of taxation and social security contributions. The creation of a national social security register, mentioned above, is a welcome initiative in this regard. Centralising the collection of taxes and social security contributions under the control of a single authority would also be advisable,

Figure 2.5. **The cost of tax administration in international perspective**

Ratio of administrative costs to net revenue collections, 2004



StatLink http://dx.doi.org/10.1787/685576611027

Source: OECD (2009), *Tax Administration database*.

facilitating cross-checking of information. In addition, progress needs to be made in abolishing the large number of the taxes collected on behalf of third parties which, as discussed in previous *Surveys*, distort resource allocation and reduce the transparency of the tax system. These are earmarked levies that fund various institutions such as the pension funds of lawyers and engineers. Such levies constitute a mix of taxes, duties, charges, contributions and fees that have been introduced by the central government in favour of different authorities or private entities. They are usually collected directly by various agencies such as banks and public utilities, and distributed to the final recipient. Third-party taxes represent an important cost in terms of revenue raised, as they are often not registered in the state budget (OECD, 2001).

Efforts to improve revenue performance should, however, go beyond the realm of tax policy. As discussed in Chapter 3, there is an extensive informal economy in the health sector. Moreover, the complexity and fragmentation of the pension system reduces incentives for compliance and complicates enforcement, leading to sizeable contributions' evasion. To the extent that a more business-friendly regulatory framework in product and labour markets affects informality, the payoff to policies in this area could be large in terms of fighting evasion.

Achieving better control of primary expenditure

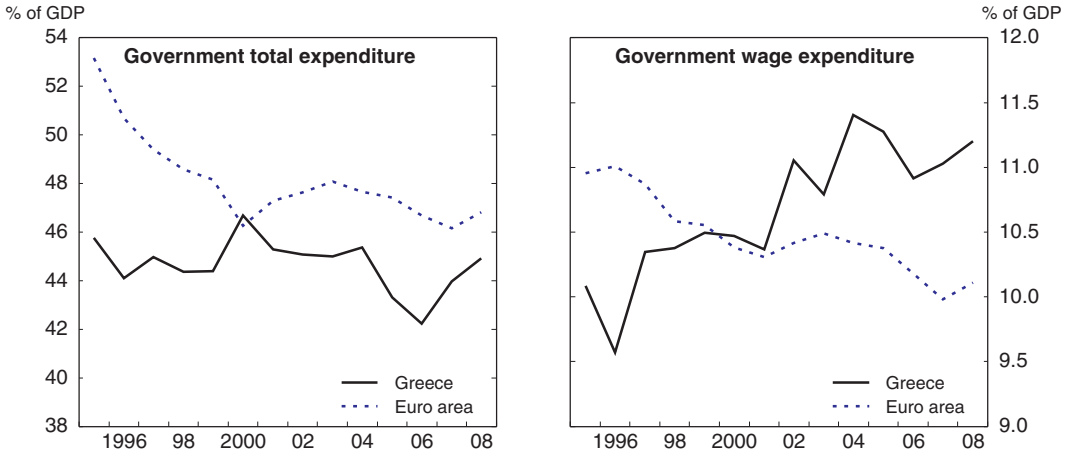
A shift in the composition of fiscal adjustment towards increased reliance on permanent expenditure retrenchment is essential for sustainable consolidation. Fiscal consolidation was partly unsuccessful in the past because it tended to rely on temporary measures (one-offs) (Table 1.2). In contrast to developments in the euro area, improvements in the primary structural balance tended to be due to higher receipts, while structural expenditures also rose. Credible consolidation will require policy efforts in several areas, namely personnel outlays, public administration, and financial assistance to public enterprises and other government entities. Public expenditure management also needs to be improved. Long-term sustainability further hinges upon a forceful implementation of structural fiscal reforms in pensions (discussed below) and health care (Chapter 3). Delaying fiscal consolidation efforts, according to the previous *Survey*, would have substantial long-term costs in terms of higher taxes and additional debt service

obligations. It would also compromise the use of automatic stabilisers during a cyclical downturn (OECD, 2007a).

Restraining personnel outlays

The government should aim at moderate public-sector pay increases. Spending on compensation for general government employees exceeds the euro area average, a gap that has widened sharply over time as Greek public sector payroll have risen in relation to GDP while it has declined in the euro area (Figure 2.6). On the basis of available data, the difference appears to largely reflect developments in real wages per employee, which increased by 3.1%, on average, over the 14-year period 1995 to 2008, compared to only 1¼ per cent in the euro area. Developments in staffing, however, may have also played a role, given the faster growth of public sector employment in Greece over the period (1.9%) compared to the euro area (0.3%).[7] Sound wage policy in the public sector (including public enterprises) would also help to contain wage pressures, given the sector's signalling role on private wage bargaining.[8]

Figure 2.6. **Trends in expenditure – an international comparison**



StatLink http://dx.doi.org/10.1787/685583315520

Source: OECD (2009) *Economic Outlook database.*

As discussed in Chapter 1, the 2008 update of the *Stability and Growth Programme* (SGP) entails a number of expenditure-reducing measures aiming to safeguard the government's medium-term fiscal targets, including a prudent public wages policy and a new policy of partial replacement of retirees in the public sector. These measures go in the right direction of containing personnel outlays. Growth in central government average earnings is estimated by the Bank of Greece to slow to 4.7% in 2009, from 8¼ per cent in the previous year, although this also reflects a wage freeze for public servants announced in early 2009 by the government.

A sustained rationalisation in public pay would require a reduction in the wage drift through the rationalisation of the special benefits received by public sector employees. This is even more important in light of the announced policy of partial replacement of retirees in the public sector. In the past, the relatively fast rise in employment tended to push wage drift downwards by increasing the share of younger, lower-salary civil servants

in total government employment, contributing thereby to a containment of increases in wages per employee. The wage drift accounted for around half of the increase in the wage bill in 2008. There are currently more than 40 general benefits granted to civil servants, topped up by over 200 special benefits, the format of which differ even in the case of employees working in the same public entity (Noti, 2009). This makes the payment system cumbersome and difficult to manage, in addition to increasing government primary spending. The establishment of a central authority for wage payments will be a positive step towards enhancing transparency and ensuring a better monitoring of earnings' developments in the public sector. The government should proceed with its plan to rationalise special benefits for new employees in the public sector by introducing in 2010 a common scale of remuneration for similarly qualified employees independently of the public entity they work in. The ongoing dialogue with the union representing civil servants is a welcome step toward turning the plan into reality.

Progress in public administration reform needs to continue

Despite steps taken in recent years towards modernising public administration, there is still ample scope for improving performance. As discussed in the previous *Survey*, public administration in Greece absorbs a much higher share of government expenditure than in most other OECD countries, with no evidence that the quantity or quality of services provided are superior (Figure 2.4, OECD 2007a). This points to a large potential for containing expenditure through increased efficiency. Public sector efficiency analysis by Afonso *et al.* (2003) concludes that Greece could have achieved the same level of output employing only 73% of the inputs it is currently using. Previous *Surveys* highlighted the need to address the problem of over-staffing and to raise productivity in the public sector, which are critical to improve the quality of service delivery. Over-staffing may have resulted from a number of factors, including high demand for public sector jobs due to their secure nature and favourable social coverage, and rigidities within the system, which constrain the re-allocation of existing public employees among different public sector activities (OECD, 2002). The problem of overstaffing has been exacerbated by a lack of a strong system of performance evaluation in the public sector and inadequate incentive mechanisms.

The new policy of a partial replacement of retirees in the public sector, envisaged in the latest SGP, is a step in the right direction and needs to be vigorously enforced. Improvements in human resource management are also expected from the introduction of a new *Code of Civil Servants* in 2007, which should be implemented without delay. The Code aims *inter alia* at a stronger system of performance evaluation, tighter recruitment procedures and increased mobility of public sector employees, which address inefficiencies in the use of human capital. A new system of selection for heads of units in public administration based on specific objective criteria (such as professional qualifications, administrative working experience, and abilities and expertise assessed on the basis of an interview) is expected to increase impartiality and transparency in the selection process. In addition, the new system can lead to a better match between skills and responsibilities. Ensuring high performance of civil servants would also require a strengthening of the incentive mechanisms by linking salaries to productivity, giving department managers greater autonomy to reward achievement. Finally, better designed measures to help the redeployment of public workers to functions which are more needed are essential for achieving a more efficient allocation of existing resources.

The quality of the services provided by the public administration should also be raised. Measures introduced in recent years to make service delivery progressively more user-friendly, notably, the establishment of "one-stop shops" (Citizen Centres) for administrative services and changes to lighten administrative procedures for business, are a step forward. However, administrative procedures remain burdensome by international comparison. According to the World Bank *Doing Business 2009* report Greece has one of the least business-friendly regulatory environments in the OECD area in terms of starting/closing businesses (World Bank, 2008). A simplified framework would not only help to establish a business, but would require fewer resources to administer. The government's goal to reduce the administrative burden by 25% by 2013 – in line with the EU's target – is therefore welcome and should be implemented rapidly. As a step towards achieving this target, the government has established a *High Level Working Group* to monitor and make recommendations on administrative burden measurement (Ministry of Economy and Finance, 2008a). The determination of the authorities to improve the efficiency of public sector is further evident in the *Operational Programme on Public Administration Reform* for the period 2007-13, including a 3-year project signed with the OECD to provide Greece with international best practices as benchmarks to support its public administration reform efforts.

Public administration reform should also focus on ensuring that policies are implemented fully and efficiently once the legislation has been passed. The gap between legislated and implemented reforms is large in a number of areas, as highlighted in the previous *Survey*. The establishment, in 2006, of an appraisal system for the issuance of new legislation is a commendable initiative towards a better and less complex legislation. A circular was issued by the Prime Minister in July 2006 (Y190/18-7-2006) focusing on "Legislative policy and assessment of the quality and effectiveness of legislative and regulatory provisions". The quality assessment is based on specific criteria, such as the necessity of the legislation, its clarity of expression, its harmonisation with the EU and International Law, and its efficiency and effectiveness. Quality evaluation reports are obligatory for every primary law and secondary regulation and will be repeated following the enforcement of each law, to evaluate its implementation (OECD, 2007a). During the two-years after the introduction of the appraisal system, 25 Regulatory Impact Assessments were prepared covering 12.6% of newly enacted laws. The quality of the evaluation reports (Regulatory Impact Assessments), however, as the authorities recognise, needs to improve further. Hatzis and Nalpantidou (2007) advocate a narrower impact assessment analysis focusing mainly on major laws and regulations. This can be achieved by putting in place a preliminary simple impact assessment of alternative regulatory options to be followed by a more comprehensive evaluation of the benefits and costs of the selected option. The appraisal system could also be more transparent, with the outcomes of evaluations made available to the public, which would boost accountability.

Enhance budgetary control over public enterprises and entities

Control over spending by public enterprises needs to be strengthened. Such enterprises burden the budget not only with the state grants they receive to finance their deficits, but also by requirements for capital injections and loan guarantees. According to official estimates, the budget burden of public enterprises amounted to around 0.8% of GDP in 2007. The poor financial position of the public enterprises is often related to overstaffing and high labour costs, pricing policies that are not based on commercial criteria and a lack of updated technologies and inadequate infrastructure (OECD, 2007a).

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Recent measures to strengthen the performance of public enterprises are welcome. The new framework for the operation of public enterprises initiated in 2005 should increase efficiency and productivity in the coming years. It provides for a closer monitoring of the activities of public enterprises, the introduction of private terms of employment (though solely for new employees), improved governance and the preparation of annual business plans. This has been complemented by a more recent law, enacted in 2008, which links wage increases received by employees in subsidised public enterprises to the financial position of the enterprise and developments in the state budget. Faster progress towards implementing the new framework is desirable.

Efforts should continue to reform or privatise state enterprises. Progress in privatising state-owned enterprises, especially the sale of Olympic Airways in 2009 and the Piraeus Port Authority container terminal in 2008 are significant steps towards addressing budgetary pressures. The government should also proceed with its restructuring plan for the Hellenic Railways Organisation – one of the most important loss-making public enterprises, with an operating loss of around 0.2% of GDP in 2007 and 2008. The authorities' approval in May 2009 of a reform package rationalising this company is hence welcome. A pricing mechanism that reflects operating costs (rather than short-term macro-economic, or political, considerations) is vital for enhancing the financial performance of public enterprises. So is managerial independence, so that these enterprises are able to carry out operational and investment decisions independently of governance interference (OECD, 2007a). In the case of the Hellenic Railways Organisation, the pricing of tickets, routing and major personnel decisions are subject to the approval of the Ministers of Transport and Finance. In the energy field, the majority state-owned incumbent – the Public Power Corporation – is required to apply the same tariffs to the inhabitants of island communities as to the rest of Greece, despite a sizeable cost differential. This is seen by the government as necessary for reasons of social equity because of the very high average generation costs of the power plants in the islands, especially in the smaller ones. Prices should reflect cost developments, however, which would also be good for environmental considerations. In 2009, the government froze electricity tariffs in an attempt to offset the impact of the international crisis, imposing a cost on the Public Power Corporation.

As far as public entities are concerned, current policy initiatives aim at a better control of their spending and recurrent expenditure overruns. Subsidies to cover the deficits of social security funds amounted around 3.2% of GDP in 2007. Public entities, such as hospitals, accumulate arrears to suppliers that are eventually assumed by the government, as was the case in 2005 (around 1.3% of GDP over the period 2001 to 2004) and, more recently, in 2008 (1.6% of GDP since 2005) (Chapter 3). Legislation was enacted in 2008 to contain expenditure and enhance the transparency of fiscal management of general government entities (hospitals, social security funds and local authorities), as part of the ongoing global budgetary reform (see below). The latest SGP advocates the strict enforcement of the recent law, including through the introduction of penalties, such as a discontinuation of funding and the imposition of fines, for non-compliant entities. Imposing hard budget constraints on public entities would help to increase accountability of management and fiscal sustainability. The government should proceed without delay with the consolidation of entities and organisations in the public sector, announced in the SGP, to reduce administrative costs and enhance efficiency in spending (Ministry of Economy and Finance, 2009). The recent merging of social security funds and the

announcement of merging or abolishing 255 organisations in the public sector are positive initiatives in this regard.

Improving fiscal management

One of the main priorities in the government's agenda is the alignment of fiscal management with international practices through a reform in the budgetary process and the modernisation of the accounting system for the central government. According to the OECD Review of Budgeting, the Greek budget process lacks strong top-down procedures, is fragmented, and has a detailed input orientation, contrary to best practices (Hawkesworth *et al*., 2008). Line ministries enjoy a high degree of freedom to propose spending needs (apart from salaries which are centrally controlled) with little early central guidance. No ministerial spending ceilings are set at any stage of the budget process (except for the calculation of personnel expenditure), which limits the incentives for expenditure re-allocation and prioritisation and sometimes leads to the submission of unrealistic budget proposals. Recent analysis by the European Commission has found that Greece has the weakest budgetary procedures among the 18 countries examined, while ranking among the two lowest countries in terms of overall quality index (European Commission, 2007).[9]

Fragmentation makes the budgetary process insufficiently inclusive and opaque. The split between "ordinary" and "investment" budgets, and the separation of their responsibility within the Ministry of Economy and Finance, inhibits an efficient trade-off between the different types of expenditure (Hawkesworth *et al*., 2008). There is also scope to make the budget more comprehensive. Almost a third of the general government resources and expenditure at present are not a part of the budgetary process (European Commission, 2009a). The Greek budget is comprised only of central government entities, while it excludes broader public entities (public enterprises, social security funds and hospitals, local authorities and other public law entities). What is shown for these entities is only the amount transferred from the central government rather than their finances in order to derive general government accounts presented in a consolidated form.

The detailed input orientation is another shortcoming of the Greek budget. The present system makes it difficult to have an overview and analyse the budget and to derive any output and performance information. The programme budgeting system, currently under development, should reduce the number of lines and strengthen budgetary transparency. The new framework will apply a unique and consistent classification to the ordinary budget, public investment programme and special funds. It will also classify expenditure by functions, programmes and actions on the basis of measurable outcomes with performance indicators (European Commission, 2009a; Ministry of Economy and Finance, 2008b).

As pointed out by the European Commission, the Greek budget also suffers from a "reliability" problem due to the absence of effective mechanisms to ensure budgetary discipline (European Commission, 2009a). There is no systematic assessment of the budgetary implications of new tax or social policies during the preparation stage, nor rules on how to compensate for a deviation of spending and/or revenues from the budgeted targets or binding expenditure ceilings. Moreover, control procedures need to be more efficient as staff resources at all levels are used to processing transactions rather than analysing budget policy or performance (Hawkesworth *et al*., 2008).

The reform of the budgetary process is welcome and needs to continue

Efforts underway to reform the budgetary process focus on the gradual implementation of programme budgeting, with a full transition to the new system

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scheduled for 2012. The main objective has so far been to improve the budget structure in support of policy evaluation through the development of a national plan of programmes for all ministries. Pilots of programme budgeting are presented in parallel with the current system, which remains the official budget.

As a positive step in the budgetary reform process, a new package of measures was introduced in August 2008. This abolished the majority of special accounts, incorporating their balances in the state budget. It further established an inter-ministerial committee responsible for the management and control of expenditure by public entities (hospitals, social security funds and local authorities) not included in the state budget. Besides, the new package requires public entities to submit budgets and financial statements according to international accounting standards and to prepare three-year business plans with specific quantitative targets. Considerable progress has been made in this regard, and a significant number of entities are already in compliance. Some steps were also taken towards reforming the accounting system used by the central government in the context of a broader plan aiming to establish modern accounting principles and develop a revised set of accounts (Ministry of Economy and Finance, 2009).

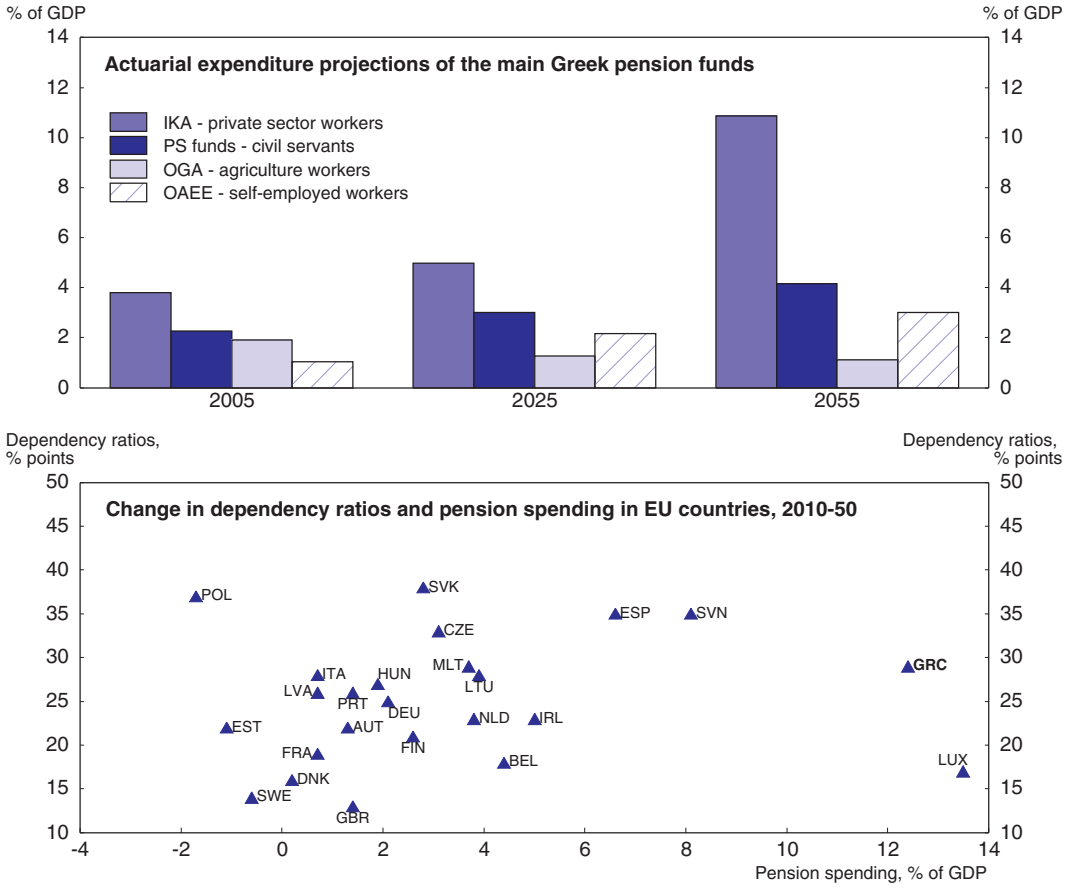
Although still at an initial stage, these initiatives promise to improve the transparency and accountability of public finances, when fully and rigorously implemented. The OECD Review of Budgeting places as "first priority" the introduction of a programme budget with a focus on policy objectives – a practice that has become the norm in most OECD countries, at least at the central government level. Empirical evidence suggests that more transparent government is associated with lower borrowing costs through lower risk premia (Bernoth and Wolff, 2006). The government should also proceed with no delay with its plan to adopt a more top-down approach in the budget preparation phase. International experience provides evidence for the effectiveness of such an approach in containing costs and increasing accountability of fiscal decisions (Hawkesworth *et al.*, 2008). Budget planning and control of expenditure would further be improved by the introduction of a structural surplus budget rule, combined with a public spending rule (Chapter 1), and the move by 2012 towards a multi-year budgetary framework, as envisaged by the government. A more modern and comprehensive accounting system would also contribute to the effective management of public expenditure. Additional gains would be achieved, as discussed in the previous *Survey*, by concentrating debt management in a single agency. Under current arrangements, around 90% of public debt is managed by the Public Debt Management Agency, 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.

The projected surge in pension spending threatens the stability of public finances

The pension system will come under heavy pressure as the population ages. The long-term outlook for spending on pensions is worrisome, as confirmed by projections carried out recently by the International Labour Organisation (ILO, 2008a, 2008b and 2008c). If legislation does not change, spending by the country's four largest pension funds, which together account for over three-quarters of the system's aggregate outlays (9% of GDP in 2005), could rise by 10 percentage points of GDP by 2055 (Figure 2.7, upper panel). These projections, based on detailed actuarial evaluations, fund by fund[10], take a different approach from the one used by the European Commission in earlier studies (European

Figure 2.7. **Long-term projections of pension expenditure**

In per cent of GDP



StatLink http://dx.doi.org/10.1787/685585371187

Source: ILO (2008a), Greece – Report to the National Actuarial Authority, Social Security Department; ILO (2008b), Greece – Preliminary Technical Note to the National Actuarial Authority, Social Security Department, 18 July and 8 September; European Commission (2009), The 2009 Ageing Report: economic and budgetary projections for the EU-27 member states (2008-60).

Commission, 2006). Nevertheless, extended to all pension funds, these results, which are used as the basis of the recent update of EC long-term pension projections for Greece, are similar to those of the previous EC analyses: total public pension payments are expected to increase from 11.5% of GDP in 2005 to 24% of GDP in 2050 (European Commission, 2009b). This stems not only from the projected rise in the proportion of the elderly in the population, but also because workers will be retiring relatively early in relation to increased life expectancy. Reforms are therefore imperative to avert a destabilisation of public finances.

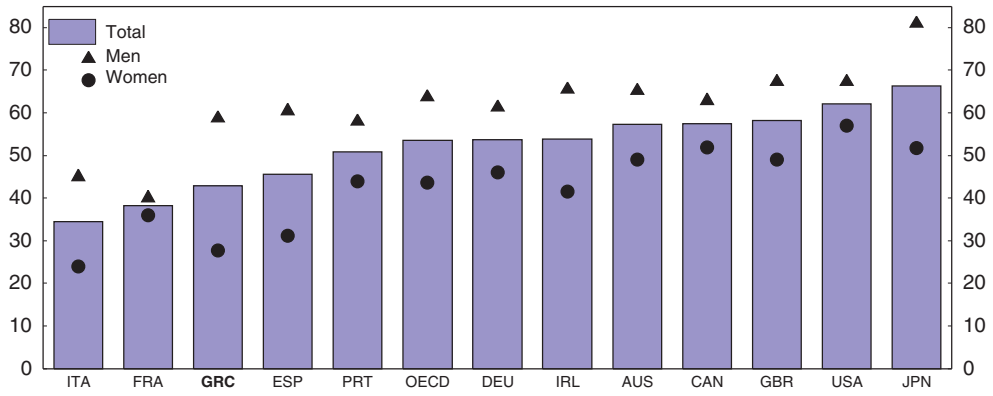
When compared with the other European countries, whose pension expenditures are expected to rise by an average of 3% of GDP by 2050, these long-term projections highlight how far Greece is lagging behind in reforming its pension system (Figure 2.7, lower panel).[11] Many issues, highlighted by extensive research over at least a decade (Mylonas

and De la Maisonneuve, 1999; Borsch-Supan and Tinios, 2001), must be tackled to strengthen the pension system with defined benefits:

- The system is extremely complex and fragmented because of the existence of many pension funds and overlapping rules, which diminish transparency, complicate management and swell administrative costs. There is little control and fraud is difficult to detect, with contribution evasion estimated at between 20% and 30% of the revenue collected (Tatsos, 2001). As is the case with tax evasion, contribution evasion is larger among the self-employed than wage earners.
- There are numerous and powerful financial incentives to stop working before the statutory retirement age of 65, which is one explanation for the low employment rate of seniors, in particular of women (Figure 2.8).
- Pensions, though subject to taxation, are based on parameters that are generous from an actuarial standpoint. The rate at which workers accumulate pension entitlements per year of contributions is very high (Table 2.2). The replacement rate of 70% to 80% of wages (plus any benefits from supplementary schemes) is high, and entitlement to a full pension requires only 35 years of contributions, compared to 40 in many other countries. The replacement rate is computed with respect to average pay over the last five years of work, rather than aggregate career income, which is the reference for many other systems. These tend to be high-earning years and, in any case, this system discourages older workers from staying in the labour force if they get a lower salary.

Figure 2.8. **Employment rates of older workers**[1]

2008



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1. 55-64 years old.

Source: OECD (2009), *OECD Employment database* – online version, *www.oecd.org/els/employment/data*.

A pension reform was adopted recently

In March 2008, the authorities adopted a reform with four main components (Box 2.2). *The first* involved organisational and administrative measures, with a consolidation of pension funds, the number of which was scaled back from 133 to 13, and the introduction of an individual social security number for each citizen as from 1 June 2009. Thanks to these mergers, the contribution rates and pension entitlements of the funds' future beneficiaries will be harmonised. For those recently joining a new fund, such as IKA, there are plans to align parameters gradually to those of the new fund.[12] But the existence of

Table 2.2. **Main parameters of public pension schemes in selected countries**

For employees in the private sector, from 2008 onwards

	Statutory retirement age (men/women)	Contribution period for full pension (years)	Reference period for benefits	Average benefit accrual rate	Average pension level[1]	Average pension wealth[2] (men/women)	Indexation of benefits
Greece	**65**	**35**	**Last 5 years**	**2.57**	**95.1**	**14.2/16.6**	**discretionary**
Canada	65	40	Best 34 years	0.63	41.6	6.4/7.4	prices
France	60	40	Best 25 years	1.75	50.1	9.0/10.4	prices
Germany	65	not applicable	Career	1.00	36.9	6.7/8.0	wage
Italy	65/60	not applicable	Career	1.75	67.7	9.9/10.8	prices
Japan	65	40	Career	0.55	33.5	5.5/6.3	prices
Portugal	65	40	Career	2.00-2.30	55.4	8.1/9.5	prices with additional adjustments[3]
Spain	65	35	Best 15 years	2.90	75.6	11.3/13.4	prices
United Kingdom	65	44	Career	Flat-rate	30.0	4.5/5.2	prices
United States	67	35	Best 35 years	1.20	40.2	5.7/6.7	prices

1. Pension level as a percentage of economy-wide average earnings.
2. Pension wealth as a multiple of economy-wide average earnings.
3. GDP growth is also taken into account in the indexation of benefits.

Source: Pensions at a Glance, OECD, 2007.

Box 2.2. **The 2008 pension reform**

As mentioned in the main text, the 2008 pension reforms included four main components. The *first component* of the reform concerned the merger of the multiple pension funds (133). Five basic funds were set up,[1] and the plethora of other schemes, many of which had been based on agreements with particular companies and covered small groups of workers, were consolidated under six supplementary schemes and two welfare schemes.

The *second component* of the reform sought to enhance the pension system's financial viability thanks to a series of changes that will be gradually introduced from 2013 until 2015. They include:

- Increases to the minimum age at which certain beneficiaries can retire on a full pension. Persons who started working after 1993 and accumulate over 37 years of contributions, who had been able to retire with no age restriction, will now have to wait until they are at least 58. For those who had started working prior to 1993 and contributed for at least 35 years, the minimum age has been raised by two years – to 57 for those exercising a physically strenuous occupation and to 60 for all others. The conditions for entitlement to a full pension for women with three dependent children after 20 years of contributions were also tightened, and retirement options following layoffs and corporate redundancy packages were abolished for funds merged into IKA.
- The age threshold for early retirement with an actuarial reduction was raised. Persons having started to work after 1993 with at least 35 years' contributions will have to wait until their 60th, rather than 55th, birthday to take early retirement. Likewise, women with dependent children and workers in physically strenuous occupations will have to wait until age 55 to claim early retirement benefits. In addition, actuarial reductions for early retirement were raised from 4.5% to 6%. In addition, the accumulation rate for persons extending their professional activity by three years, to age 68, was increased marginally from 3.0% to 3.3% per additional year of work after the 35th until age 68, instead of the 2% for each of the previous 35 years.

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Box 2.2. **The 2008 pension reform** *(cont.)*

- The replacement rates of supplementary pension schemes in excess of 20% will be reduced gradually to that ceiling. This provision does not apply, however, if a retirement fund can demonstrate its long-term financial viability.

The *third reform component* created an intergenerational solidarity fund that will start accumulating resources in 2009 to help disburse pension payments after 2019. The fund, to be endowed with 10% of the proceeds from privatisations, 4% of annual VAT revenues and 10% of the yearly intake of the special social security fund, will be administered by a committee made up of representatives from the Ministries of Finance and Employment. The amount of resources this fund could build up by 2019 is difficult to estimate precisely. Under the assumption that VAT revenues and proceeds from privatisations and the special social security fund remain at their average level between 2004 and 2008, the fund's endowment could reach roughly 7% of GDP by 2019, or the equivalent of seven months of pension payments.[2]

The *fourth component* of the reform called for improving the rules governing maternity leave to encourage more women to enter the job market. These measures, which took effect in March 2008, include:

- A 50% reduction in social security contributions, during a one-year period, for mothers who return to work after giving birth to a child.
- An additional six months of maternity leave, paid at the minimum wage, in addition to the normal entitlement (of 119 days), for persons insured at IKA. This leave, funded by the Greek Public Employment Service (OAED), is included in creditable years of contributions.
- For each child born after 2000, mothers will also be credited with fictitious years of contributions to augment their pension entitlements. These fictitious years (one year for a first child and two years for each subsequent child, up to a maximum of five years) will not, however, count towards the minimum contribution period (15 years), nor towards early retirement.

1. These funds are: IKA-ETAM for private-sector wage-earners, which absorbed the funds for banks and public enterprises; OAEE for the self-employed; OGA for agricultural workers; ETAA for certain professions (doctors, engineers, jurists); and ETAP-MNE for journalists.
2. The estimates are based on the assumption that until 2019 there will be an unchanged annual influx of revenue from VAT, equivalent to 7.7% of GDP, privatisations (0.8% of GDP) and the social security fund (1.2% of GDP).On this basis, around ½ of GDP is supposed to put in the AKAGE fund every year. In addition it was assumed that the social solidarity fund would earn average returns of 4.4% per year, equivalent to the average long-term interest rate since 2002.

variable provisions for the insured, even within one and the same pension fund, has not been challenged. The more generous rules, *e.g.* in terms of replacement rates, applicable to persons who entered the job market prior to 1993, as opposed to those starting to work at a later date, have been preserved, as have the benefits of insured workers with dependants and those whose occupations are deemed physically strenuous. *The second component* of the reform seeks to enhance the pension system's financial viability through a series of changes aiming at improving incentives for workers to stay longer in the labour market and reducing early retirements. *The third reform component* involves the establishment of an intergenerational solidarity fund (AKAGE), which will start accumulating resources in 2009 to help disburse pension payments after 2019. Lastly, to offset the stricter pension eligibility

conditions for women with children, *the fourth component* of the reform calls for improving the rules governing maternity leave so as to encourage more women to enter the job market.

The reform heads in the right direction, but must be pushed further

The administrative reorganisation is a vital step towards reducing the extreme fragmentation of the system. Fragmentation has considerably limited the authorities' scope for supervision and reform because of the difficulty of intervening in multiple schemes and particular situations. The reform will also help lower management costs, perhaps by some 0.6% of GDP. The creation of a national social security register, in which each insured person has a unique identification number, will also make for a more accurate count of the number of workers and pensioners and better management of social security services. The new system will also facilitate data collection and information exchange, which should lead to smoother co-ordination between pension fund administrators, the labour inspectorate (SEPE) and tax authorities, which is crucial for effective action against the evasion of taxes and social security contributions.

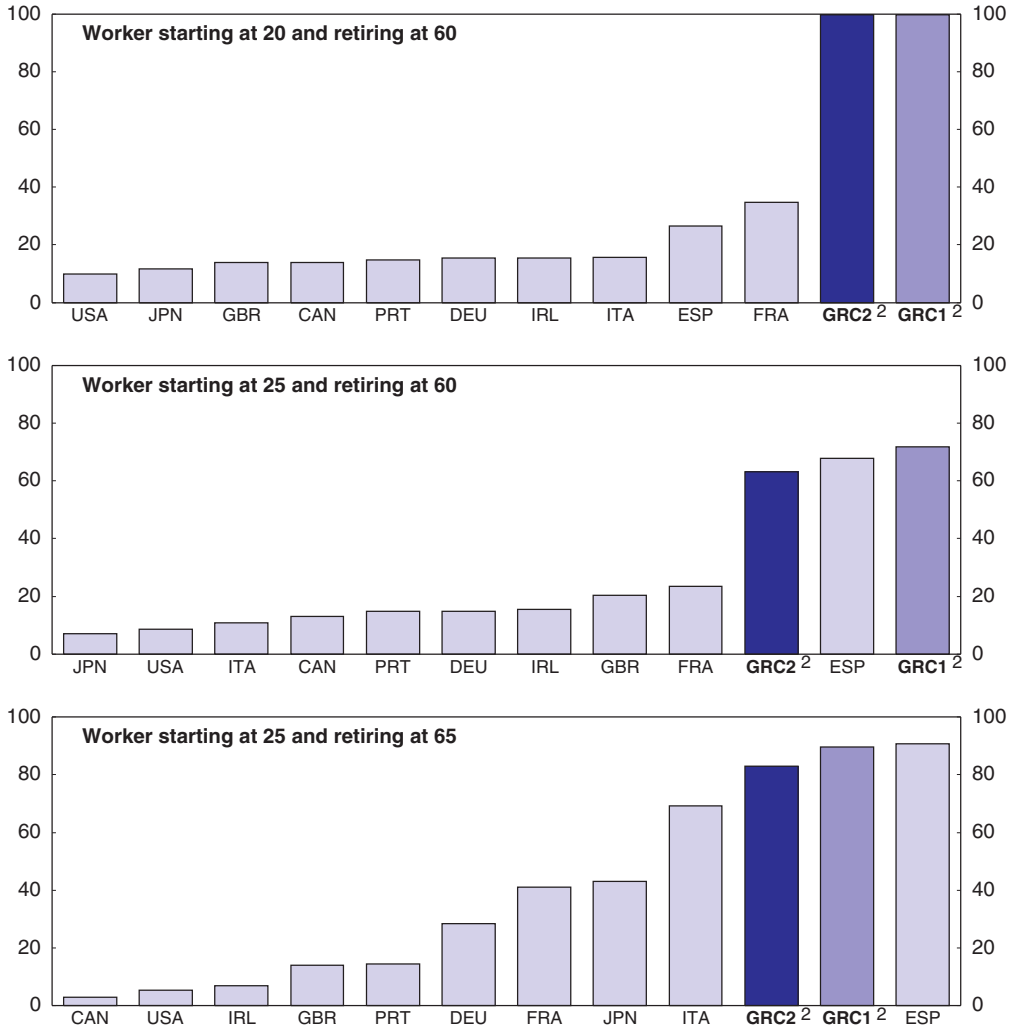
Administrative reform must continue, however. The apparent simplicity of the pension system's new structure in fact masks a singularly complex make-up within each of the new funds. The basic schemes include a multitude of constituent funds, which have preserved their independence. According to the National Actuarial Authority, within IKA there are some 600 distinct tables specifying pension entitlements for the insured, which are subject to different contribution rates. Full integration must be pursued. In addition, the accounting rules used by the funds need to be unified to ensure better financial control. A centralised and coherent framework for all funds would facilitate introduction of computerised management.

The measures adopted to keep the elderly in the labour market longer also go in the right direction. For instance, the reform has reduced the disincentive to keep working summarised by the "implicit tax on continued activity" at age 60 or 65 (Figure 2.9). Nevertheless, the financial penalty caused by the loss of pension income for persons postponing their retirement is still one of the highest in the OECD. The age threshold of 58 for entitlement to a full pension after 37 years' contributions is low relative to the statutory retirement age of 65, and imposes no early retirement penalty for a person who starts work at age 20 or 21. The same holds true for the minimum age of 50 to 55 for full pension entitlement for women with at least three dependent children and 20 years of contributions. On the other hand, lower contributions that are aimed at encouraging women to work after giving birth are welcome. Even so, the six-month extension of paid maternity leave may lessen their attachment to the labour market by depreciating their human capital (OECD, 2007c). Indeed, this measure extends maternity leave to a total of over 40 weeks, which far exceeds the 8 to 25 weeks granted by most of the OECD countries. The budgetary cost of this measure should be limited, however, according to the authorities since it will be mostly relevant for the low income earners of the private sector. Almost one year after the adoption of this measure, 18 000 women had benefited from it for a total cost of EUR 70 million (0.03% of GDP).

The steeper actuarial reduction applied to early retirement pensions, which may be drawn from age 60 after 35 years' contributions, should also encourage seniors to remain in work. However, a substantial share of the persons theoretically affected by this measure will escape it, insofar as they are workers on minimum pensions to which actuarial

Figure 2.9. **Implicit tax on continuing work for an additional five years**

Percentage of average worker earnings,[1] 2007



StatLink http://dx.doi.org/10.1787/685636221673

1. For a single worker with average production worker earnings.
2. GRC1 means Greece before March 2008 reform and GRC2 after the reform.

Source: OECD (2009), *Going for Growth* – Economic Policy Reforms, OECD, Paris; and OECD Secretariat simulations.

reductions do not apply. Half of the pensions disbursed by IKA and OAEE, which together cover 60% of all pensioners, are minimum pensions.

In addition, scant progress has been made on the planned revision of the list of physically strenuous occupations conferring entitlement to retirement or early retirement on preferential terms. As a result of the recent reform, such persons may now take early retirement at the later age of 55 (instead of 60 for other workers) after 35 years' contributions, at least 25 of which worked in a hazardous or physically strenuous occupation, and they can draw a full pension at the later age of 57, instead of 65. In 2006, 37% of the new retirement pensions granted by IKA were for persons who had been engaged in strenuous or hazardous work (OECD, 2007a). The committee that was directed to re-examine the 637 occupations enjoying these privileges has proposed excluding

roughly half of them and suggested taking account of the degree of strenuousness of the occupations, for which it has established a ranking. However, the implementation of the proposal can take time as it requires legal changes, and a new committee is to convene to review the request of new occupations wishing to be put on the list. According to the OECD, in general there is a weak case for either maintaining or introducing special pension schemes for workers in arduous jobs. Work-related health risks can be better dealt with some well targeted conventional social policies (OECD, 2009). In any event, under current plans the revision of the list of arduous jobs should be finalised by October 2009. It will, however, apply only to new entrants to the labour market and will therefore have no impact until 2040-50.

Further adjustments are vital to ensure the system's financial viability

There has been no quantitative analysis of the recent reform on the long-term financial outlook of the system as a whole. However, according to the National Actuarial Society, the measures adopted should trim the deficit of the main pension fund, IKA, by only around 10% after 20 to 25 years (National Actuarial Society, 2009). Extrapolated to all funds, an impact of that magnitude would limit the rise of aggregate pension expenditure to 10½ per cent of GDP by 2050, instead of 12%. This is not enough to ensure the system's financial viability, and the intergenerational solidarity fund that has just been set up to pre-finance a portion of pensions will not have sufficient funding to play a significant role in this regard. The recent reform did not change the generous pension calculation parameters of the system. Instead, there is only a harmonisation of benefits which will be introduced gradually for members of the merged funds, which currently offer terms more favourable than those of IKA, whose own parameters are already generous by international standards.

Deeper reforms need to be pursued, especially given the risk that rising pension expenditure will limit resources for other sectors, such as health care or education, which play a vital role in the accumulation of human capital and productivity growth. These sectors already suffer from a relative lack of public funding as compared with other countries, in contrast to pensions (Figure 2.10), whereas the effects of population ageing have not yet become perceptible. Pension funds enjoy substantial budget subsidies, equivalent to 3.8% of GDP in 2008, and the size of the subsidy varies sharply from one scheme to another. As in other countries, subsidies are particularly high for funds for agricultural workers, for which they account for 65% of aggregate revenue, implying a great disparity between schemes in the implicit rates of return on members' contributions. It is also important that any changes are made without further delay, as emphasised in the previous *Survey* (OECD, 2007a). The upward pressure on pension expenditure can be expected to kick in around 2020-25, and the persons to be affected by reforms need to be given time to adjust. These pressures on public expenditure will be reinforced by the likely increase of health care spending in the coming decades (OECD, 2006).

A reform of pension system parameters is inevitable to ensure long-term financial viability (Box 2.3). There are a number of options to reforming the pension system, including the implementation of notional accounts as in Italy and Sweden (Nektarios, 2007). Whatever the mechanics of the reform adopted, reform will have to involve a set of changes that include a lengthening of the contribution periods to draw full pensions, a drop in the replacement rate and a change in the reference income to compute pensions, to factor in earnings over all or most of a person's career. As in some other OECD countries, pension ages should be linked to gains in life expectancy. A revision of the system for

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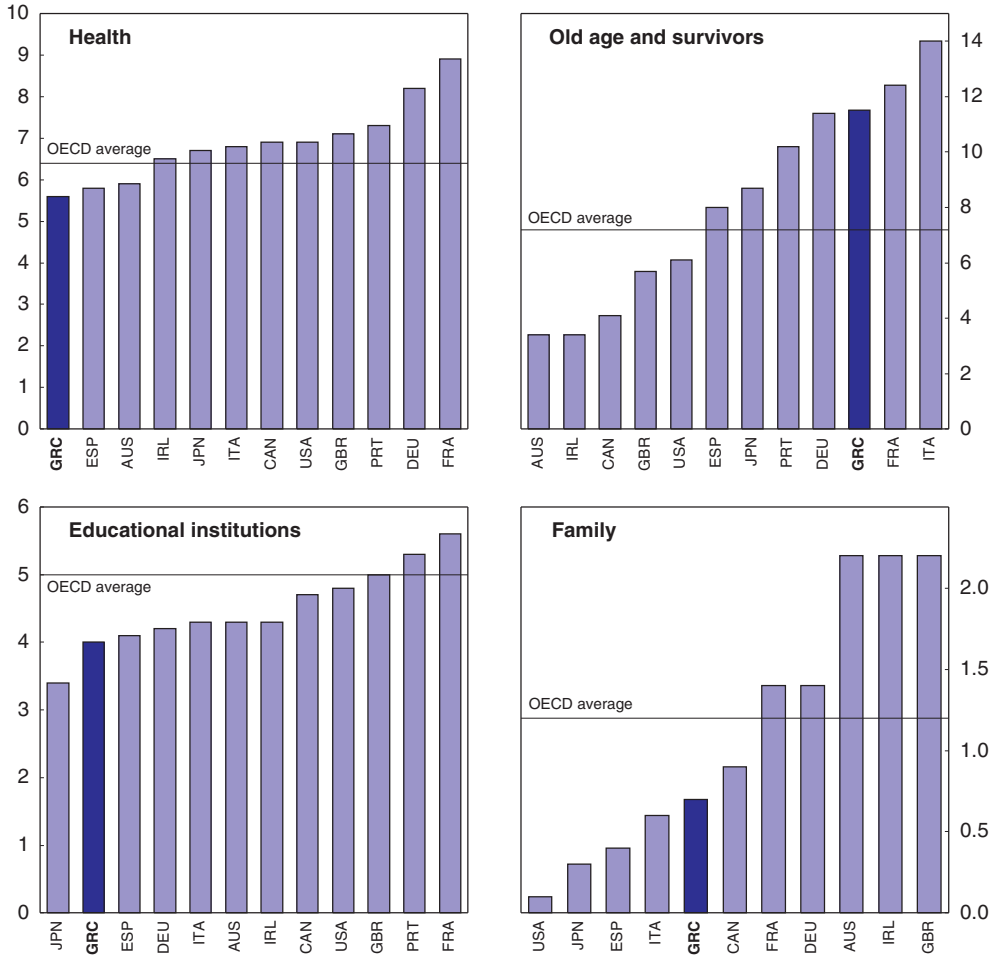
Figure 2.10. **Public social expenditure in selected OECD countries**

As a percentage of GDP, 2005



StatLink http://dx.doi.org/10.1787/685637612343

Source: OECD (2008), *Health Data 2008*; OECD (2008), *Education at a Glance* 2008; OECD (2008), *Social expenditure – Aggregated data*, online version.

revaluing pensions would also have a significant impact on the system's financial equilibrium. By shifting to price-based indexation from the discretionary approach currently in effect, which according to an ILO model involved a 0.5% real annual revaluation of pensions in its basic scenario, IKA could scale back spending by some 20% by 2050-55, or over 1% of GDP. A price-based indexation, which is currently used by a majority of OECD countries, would, however, entail the risk of driving pensions to a very low level after a few decades for the oldest pensioners and raise an equity problem *vis-à-vis* the younger pensioners getting higher benefits.

The authorities have to step up efforts to build a consensus behind a reform programme. It is thus also important to dispel the doubts that have been voiced recurrently by the public and social partners over other deficiencies of the pension system, such as the use of pension fund assets to finance health insurance, for which they are responsible as well. A separation between the management of pensions and public health services would, therefore, be desirable to enhance the transparency and effectiveness of resource

allocation in both sectors (Chapter 3). Such a change, which is planned by the government, could naturally be part of the ongoing administrative reform that is to align the operations and parameters of the recently merged funds.

Box 2.3. **Recommendations for enhancing fiscal viability**

Enhancing revenue performance

Given the relatively high tax rates and low collection, efforts should focus on more effectively fighting evasion and phasing out remaining exemptions and deductions in taxation:

Broaden the tax base

- Enhance VAT revenue by moving to a more uniform rate structure and shortening the list of goods and services that are eligible for reduced rates. A simple VAT structure would also bring Greece closer to international practice.
- Remove the bias in the taxation in favour of the self-employed by abolishing the tax-free-threshold (EUR 10 500).

Effectively fight tax evasion

- Continue efforts towards strengthening tax administration. Improve auditing activities through better qualified personnel, greater promotion possibilities for auditors, and a more comprehensive system of exchanging information between auditing agencies. Grant auditors easier access to taxpayers' bank account information.
- Consider experimenting with the use of private services in tax administration, starting with the collection of arrears.
- Ensure a stable and transparent tax system. The practice of frequent tax amnesties needs to be discontinued to reduce disincentives for tax compliance. Consider increasing, or even removing, the legal deadline ("limitation of action by lapse of time") for revenue collection.
- Further simplify the tax system. The administration of taxes and social security contributions could be unified and their collection centralised under a single authority. The large number of earmarked "third-party taxes" should be phased out to reduce distortions and improve budgetary transparency.

Achieving better control of primary expenditure

Closely monitor primary spending trends

- Continue efforts towards containing personnel outlays. Proceed with the planned rationalisation of the special benefits received by public sector employees. This is indispensible if an adequate control over the wage bill is to be achieved.
- Speed up the modernization process of public administration. The new system of human resource management in the public sector should be implemented without delay. The incentive mechanisms of the system should be strengthened to increase productivity. Policies of partial replacement of retirees from the public sector should be vigorously enforced.
- Continue efforts towards simplifying administrative procedures.
- Ensure that policies are implemented fully and efficiently once a legislation has been passed. A more focused and transparent impact assessment analysis is an essential step.

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Box 2.3. **Recommendations for enhancing fiscal viability** *(cont.)*

Enhance budgetary control over public enterprises and entities

- Proceed faster with the implementation of the new framework for the operation of public enterprises. A pricing mechanism that reflects the operating costs of public enterprises and managerial independence are vital for enhancing their financial performance.
- Continue steps towards privatising and restructuring state-owned enterprises.
- Implement forcefully recent legislation to contain expenditure and enhance the transparency of fiscal management of public entities (hospitals, social security funds and local authorities) as envisaged by the latest Stability and Growth Programme. Proceed without delay with the planned consolidation of entities and organisations in the public sector.

Improve fiscal management

- Improve the process of budget preparation, monitoring and evaluation. Move swiftly toward a programme-based budget and a multi-year budgetary framework, meeting the announced 2012 deadline.
- Proceed rapidly with the implementation of reforms for the modernisation of the public accounting system. Fiscal transparency and accountability would be enhanced by concentrating debt management into a single agency.

Pension reform

Pursue administrative reform of the pension system

- Separate the administration of pension funds from that of health insurance funds, as planned by the government.
- Continue administrative reform to align the operations and parameters of the recently merged funds; unify the funds' accounting rules and computerise the system.

Continue reforms that encourage seniors to stay in the labour market

- Change the conditions for awarding minimum pensions so that access is limited to persons who have reached the statutory retirement age.
- Proceed with the planned revision of the list of "strenuous" occupations and extend the application of that reform to workers still well below retirement age.
- Raise the minimum age for drawing a full pension after 37 years' contributions to above 58 (alternatively, increase the number of years of contributions required; see below).
- Separate family-policy provisions from pension-related measures and raise the minimum age at which women with dependent children can draw a retirement or early retirement pension. Assess the impact of the recent extension of maternity leave and adjust the measure if it has an adverse effect on the employment of women.

Reform the parameters of the pension system, including a combination of the following elements

- Lengthen the contribution periods required for full pensions.
- Increase periodically the normal age of retirement in line with increases in life expectancy.
- Reduce the statutory replacement rate used for computing pensions and change the reference income so that it encompasses earnings over all or most of a person's career, and not just the last five years.
- Consider revising the system for revaluing pensions.

The large proportion of minimum pensions that the system generates is hardly satisfactory, because of the low absolute level of those benefits. However, despite their low level, these minimum pensions are relatively "generous" in relation to the contributions paid by their beneficiaries. This creates a perverse incentive for certain insured workers, who contributed enough to qualify for a minimum pension but have little interest to prolong their activity, to retire early without suffering an actuarial reduction. Conditions for the entitlement to a minimum pension ought to be revised so that access is restricted to persons who have reached the statutory retirement age. This would better focus the benefit on its initial objective, which is to shield older people from the risk of poverty, and, at the same time, lessen incentives for early retirement. On the other hand, it is also necessary to bridge the system's serious administrative gaps which make it easy to evade contributions. It is in fact easy for employers to make contributions based on the minimum wage, even if the compensation actually paid is higher. The lack of co-ordination between the tax and social security authorities make audits difficult, especially since many funds have not yet been computerised.

It is also necessary to pursue further reforms that encourage older workers to stay in the labour market. *Inter alia*, this would entail accelerating the process of trimming the list of "strenuous" occupations conferring entitlement to early retirement on preferential terms, something that the government plans to do soon, but it would also mean applying the reform not only to new entrants to the job market, but also to young workers for whom retirement is still a long way off. In the same spirit, the minimum age for drawing a full pension after 37 years' contributions should be raised, as should the age 55 threshold for women with dependent children. The current provisions in favour of mothers are a matter for family policy and should not interfere with the pension system. The impact of the recent extension of maternity leave also warrants assessment and, if need be, an adjustment to the measure, if it proves detrimental to the employment of women, as it lures them out of the labour market.

Notes

1. For a review of existing studies, see Flevotomou and Matsaganis, 2007.
2. See Schneider (2007) for a discussion of methods to estimate the size of the shadow economy.
3. In the literature, there are different aspects of the notion of tax avoidance, tax evasion and tax fraud. In this chapter, tax avoidance refers to legal behaviour and tax evasion (tax fraud) to illegal one.
4. An unusual feature of EPL in Greece is that it is much stricter for white collar than blue collar workers. Moreover, Greece imposes stricter rules on temporary than regular workers (OECD, 2007a).
5. Tatsos (2001) concludes that tax evasion may have reached nearly 15% of GDP in 1997, equivalent to nearly two-thirds of that year's budgeted tax revenue.
6. There are three main rates of VAT: the standard rate of 19% for most goods and services, and the reduced rates of 9% and 4.5%. The other three rates are applied only to frontier islands. The VAT system is fully harmonised with EU standards, as provide by the 6th Council Directive of 1977.
7. There are no employment nor wage data available for Greece. Estimations are based on National Account data on wage bill. To make the distinction between wages and employment, data were used from the Bank of Greece on the average gross earnings in central government, which however is only a proxy for the wage rates in general government. As such, estimates should be treated with caution.
8. In recent years, announced salary increases for civil servants have been relatively moderate (around 3% on average over the period 2006-08) and usually smaller than private sector contractual wage increases (around 6%, on average, over the above period). Budgeted and *ex-post* increases in

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the wage bill however have been much bigger because of the cost of special benefits or special pay scales for particular categories.

9. The indices are based on information provided in the OECD/World Bank Database, covering all three stages of budget process, namely planning, legislation and implementation. The overall index of budget procedures includes the following dimensions: budget transparency, multiannual planning horizon, prudent economic assumptions and reserves, performance budgeting, centralisation of the budget process, top-down budgeting techniques, and numerical fiscal rules. The quality-index on the other hand includes only the four first dimensions (European Commission, 2007 and 2009a).

10. These projections were made on the basis of the legislation in effect in 2005. In the case of the largest pension fund, IKA, which covers private-sector wage-earners, and that of OAEE, for the self-employed, spending could even almost triple as a percentage of GDP between 2005 and 2055. The projected decreases in outlays by the pension fund for agricultural workers (OGA) reflect the reduction in the number of people working in the sector. According to the ILO, this scenario might even be slightly optimistic insofar as it is based on mortality rate assumptions derived from those used by the Commission, which are a bit high. Using the lower mortality rate preferred by the ILO would increase IKA pension expenditure by 0.8% of GDP as compared with the base scenario.

11. The projections made for the European countries, including Greece, are based on uniform demographic and economic assumptions formulated by the European Commission. For Greece, these projections, which are based on those of the ILO, were approved by the European Commission's Working Group on Ageing Populations (AWG).

12. As from 2013, the contribution rates of funds incorporated into IKA will be brought gradually in line with IKA rates (6.67% for employees and 13.33% for employers). Calculations for pensions in respect of work performed between 31 December 1982 and 31 December 2007 will also be adjusted on the basis of an 80% replacement rate.

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ISBN 978-92-64-05427-1
OECD Economic Surveys: Greece
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Chapter 3

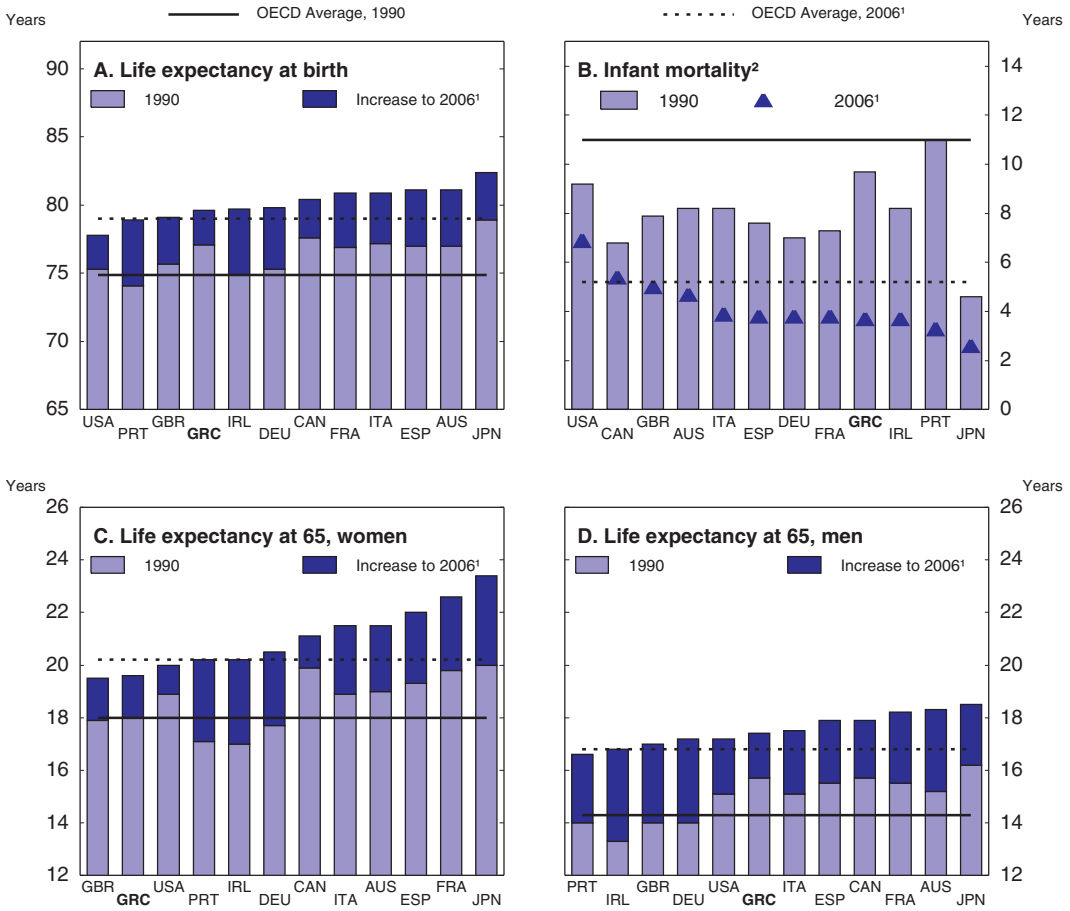
Improving the performance of the public health care system

Greek health outcomes compare favourably with the OECD average. However, the health care system is seen as not working well by the population. One source of dissatisfaction is the high proportion of private household spending on health, including informal payments, while public health spending relative to GDP is one of the lowest in the OECD. This situation leads to inequities in access to certain medical services. Also, there is a weakening of efficiency of the system, which should be addressed sooner than later in view of a rising demand for medical services, which is going to intensify in the coming decades, and the need to keep government health care spending in check. This calls for reforms in four areas: i) reviewing the excessively fragmented structure of the health care system and its governance; ii) enhancing the quality of public primary health care services; iii) modernising hospital administration; and iv) further tightening control over pharmaceutical expenditure.

Performance and main challenges

Health outcomes compare favourably in international comparison. The population's health status, as measured by reliable and internationally comparable indicators, is better, on the whole, than the OECD average (Figure 3.1). Life expectancy at birth, which reached 79.6 years in 2006, is higher than the area average. The infant mortality rate is lower than in many countries with high living standards, such as Australia, Canada, the United Kingdom and the United States. Disparity in outcomes by gender also seems less pronounced than in

Figure 3.1. **Health indicators**



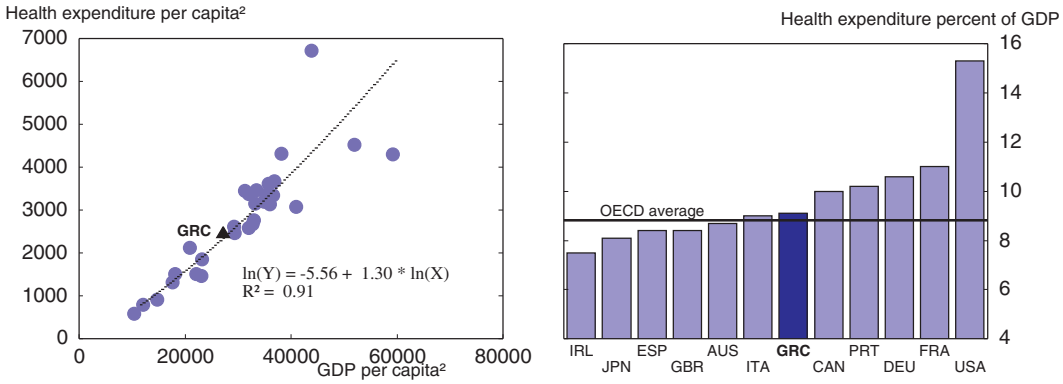
StatLink http://dx.doi.org/10.1787/685653633403

1. 2006 or latest available year.
2. Deaths for 1 000 live births.

Source: OECD Health Data 2008.

Figure 3.2. **Health care expenditure**

2006[1]



StatLink http://dx.doi.org/10.1787/685671062080

1. 2005 for Turkey, 2004 for Netherlands, 2003 for New Zealand. Estimation for Luxembourg and Switzerland.
2. USD current PPPs.

Source: OECD Health Data 2008.

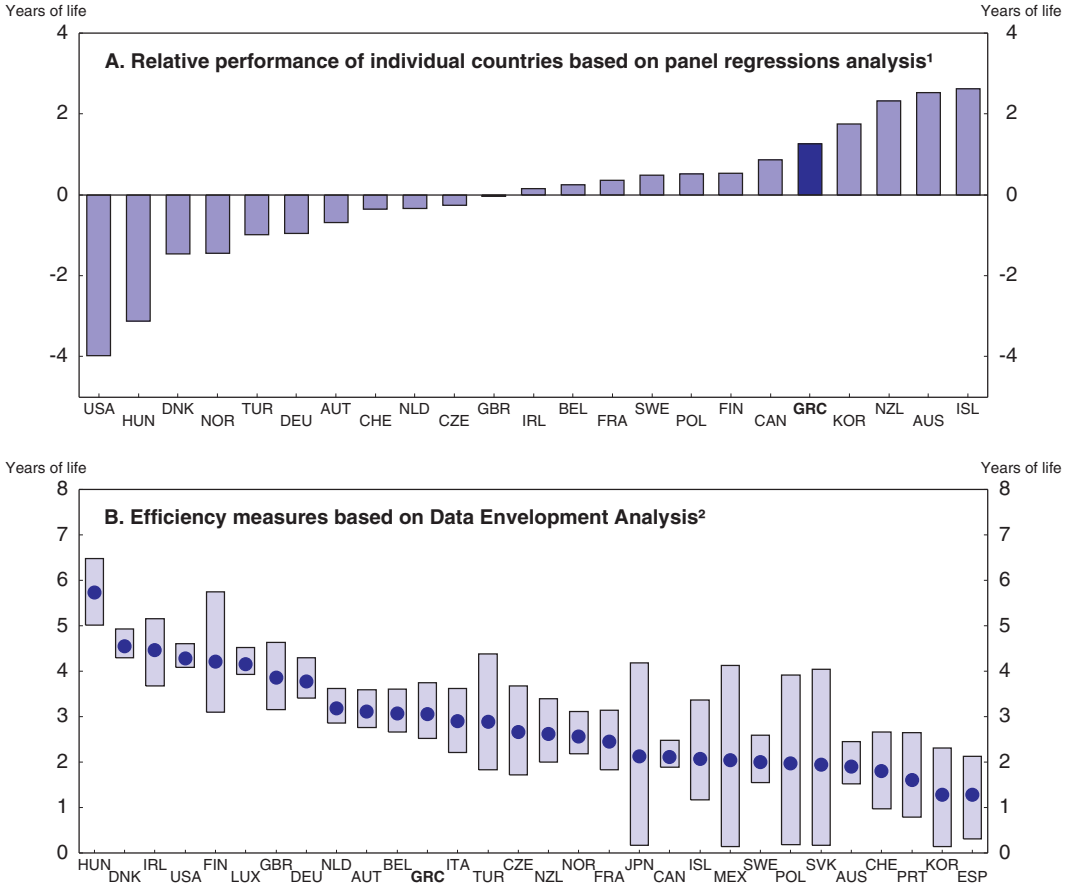
the OECD average, as shown by life expectancy both at birth and at age 65. The level of aggregate health spending is in line with per capita income (Figure 3.2).

At first sight, the Greek health care system seems relatively efficient in international comparison. A recent OECD empirical study (Joumard *et al.*, 2008), based on panel data analysis, highlights the significant impact of medical spending, living standards and educational levels, tobacco and alcohol consumption, diet and pollution on the health indicators of each country. For Greece, predictions made by the model with regard to indicators such as life expectancy fall below the values actually observed, which would suggest that the health care system is relatively effective by international standards (Figure 3.3, Part A). Moreover, these findings are corroborated by Afonso *et al.* (2003), which ranked Greece sixth out of 23 OECD countries for the efficiency of the health care system. These conclusions need to be interpreted cautiously, however, due to the limitations imposed by data availability.[1] As recognised by Joumard *et al.* (2008), these findings are only partially confirmed by an alternative assessment based on data envelopment analysis (DEA), which would suggest that the efficiency of the Greek health care system is similar to that of the OECD average, and that life expectancy could improve by up to three years (Figure 3.3, Part B) if the system's efficiency were upgraded to the level of the best performing countries.

Despite these fairly favourable outcomes, the health care system is seen as not working well by the population. Dissatisfaction, as documented for example by WHO (1996) and Tountas *et al.*, (2005), is more pronounced than in most other countries (Figure 3.4). This reflects persistent deficiencies in the sector despite the many reforms – or attempted reforms – undertaken over some 15 years, and the inability of care to meet the public's expectations, especially with regard to primary health care services. There is a correlation between patients' assessments of the quality of primary health care and performance of the health care systems for the European countries (WHO, 2004).

One of the sources of dissatisfaction is related to the high proportion of private household spending on health. Whereas the health care system has been designed to guarantee free access to medical services for the entire population, in 2006 over 38% of aggregate health spending was private, and those outlays accounted for 3.5% of GDP (Figure 3.5). Only the United

Figure 3.3. **Efficiency measures of the Greek health system in an international perspective**



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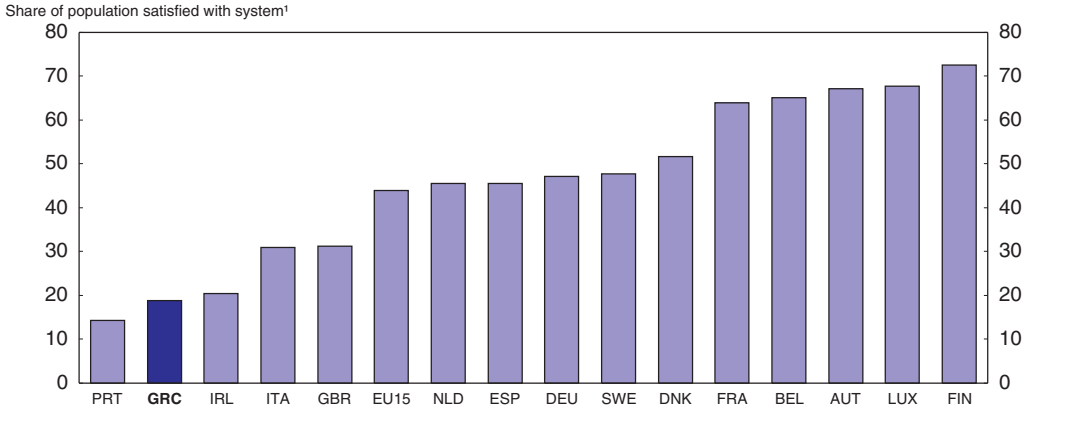
1. Model residuals and country fixed–effects deviations from averages are added and considered as a proxy for relative efficiency (*i.e.* the years shown in the above figure can be viewed as years of life that would be saved (or lost) if country i was as efficient as the OECD average).
2. DEA performed with three inputs (health care spending, Economic Social and Cultural Status, consumption of fruits and vegetables) and one output (life expectancy at birth). Dots in the figure provide point estimate of the potential efficiency gains measured in number of years of life. Bars provide confidence intervals for the efficiency scores.

Source: OECD Calculations.

Figure 3.4. **Public's satisfaction with health care system, EU countries, 2002**



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1. Runs and only minor changes would make it work better.

Source: *OECD Health Data* 2008, Eurobarometer, 2003.

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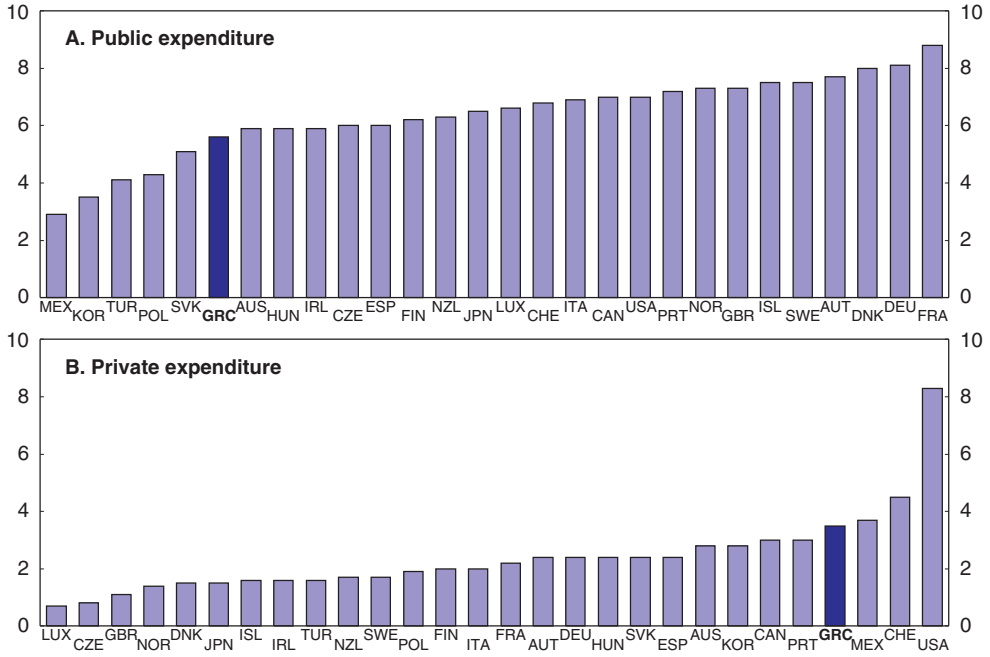
Figure 3.5. **Public and private health care expenditure**

Per cent of GDP, 2006[1]



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1. 2005 for Turkey.

Source: OECD Health Data, 2008.

States, Switzerland and Mexico had higher levels of private spending in the OECD. In addition, over 90% of those outlays consist of direct payments by households, compared with less than 80% in the OECD average. This situation in part reflects the imperative need for budget consolidation in Greece. Government spending on health care accounted for only 5.6% of GDP in 2006 – one of the lowest percentages in the OECD. Yet this constraint is posing difficulties, in particular as regards fairness.

The health care system aims at guaranteeing universal and free access to medical services for the entire population. According to Geitona *et al.* (2007), it is the individual's state of health that is the main determinant of the use of those services, and most studies concur that socio-economic factors have no impact on the use of public-sector hospital care (Pappa and Niakas, 2006). Even so, there is evidence for some inequality amongst the population with regard to the extent and generosity of cover against illness. This fairness problem is exacerbated by the frequent informal transfers ("bribes") paid by insured individuals to get access to public health care services that are theoretically free of charge. As a rule, the high and rising level of private spending, which makes the financing of the health care regressive (Liaropoulos and Tragakes, 1998), is contributing to inequalities of access to some medical services. The use of private hospital services is greater for affluent households and those with private insurance. Hospital outlays financed directly by modest–income families amount to only one-fifth of the more well-off households (GSNE, 2006). According to Siskou *et al.* (2008), the probability of availing oneself of private hospital care is 2.2 times as high for people who have private insurance as for those who do not. The probability of consulting a private physician is also 50% to 80% greater for affluent

households than for households with modest income or an elementary level of education. Persons of modest means may also be forced to avail themselves of private health care because of the limited development of public health care networks in some rural areas, waiting lists that can in some cases be long and the poor quality of some of the services (Pappa and Niakas, 2006). In such cases, forced recourse to private services is likely to weigh heavily on the budgets of modest-income families (see below).

The limited public resources earmarked for health care militate for continued efforts to optimise their use. Over the past fifteen or so years, however, the gains in life expectancy and the decrease in the number of potential years of life lost have been slower than in the OECD on average despite a greater increase in aggregate health care outlays, which points to erosion of efficiency in the system. Nolte and McKee (2008) also find that the strides made in Greece between the late 1990s and early 2000s to reduce amenable mortality were relatively modest by international standards, especially for men. This trend does not result from catching up on the part of the least advanced countries. Greece has made less progress in the realm of health outcomes than countries that recorded equivalent or better results in 1990, despite a more rapid increase in its spending (Figure 3.6).

The erosion in the effectiveness of the health care system is confirmed by DEA analysis. DEA analysis links health outcomes of the OECD countries to the resources allocated to health care systems and other determinants, such as levels of income or education and lifestyles of populations, by constructing an efficiency frontier for producing medical services from which a measure of efficiency can be derived (Annex 3.A1). This analysis, which is similar to that performed by Joumard *et al.* (2008), shows that the performance of the Greek health care system, which had ranked between 3rd and 5th among OECD countries in 1990, had fallen to between 12th and 18th place in 2006, depending on whether the resources available for health care are measured by the level of spending per capita or proxied by the number of active medical personnel (Figure 3.7). Whilst in 1990 it was estimated that using the health care resources as efficiently as the best–performing countries would have increased life expectancy at birth by between 0.8 and 0.9 year, the gap widened to between 1.7 and 3 years in 2006.[2] Moreover, this decline in relative performance seems sharper if resources allocated to health care are measured by the number of active medical personnel. This would suggest that this weaker performance stems more from a decline of technical efficiency rather than higher input costs, *i.e.* prices and compensation paid for medical services.

Declining efficiency as well as fairness issues need to be dealt with in the face of a rising demand for medical services and of the need to keep government health care spending in check. As in other countries, upward pressure on health care spending should indeed remain strong in the coming decades, due primarily to rising living standards, progress in medical technology and higher relative prices for health care services. A simple regression assessing the linkage between health care outlays and income in the OECD countries shows the elasticity of spending per person to *per capita* GDP (Figure 3.2) to be 1.3. Demand pressures will also be heightened by population ageing, which are expected to be more pronounced in Greece than for the average of the other OECD countries. According to OECD research, public resources earmarked for health care alone could rise by between 3¾ and 6½ per cent of GDP by 2050, to between 9¼ and 12% of GDP (OECD, 2006a). Guaranteeing the entire population access to quality health care while keeping the cost to public finances in check is thus going to be a major challenge for health care policy in the years ahead.

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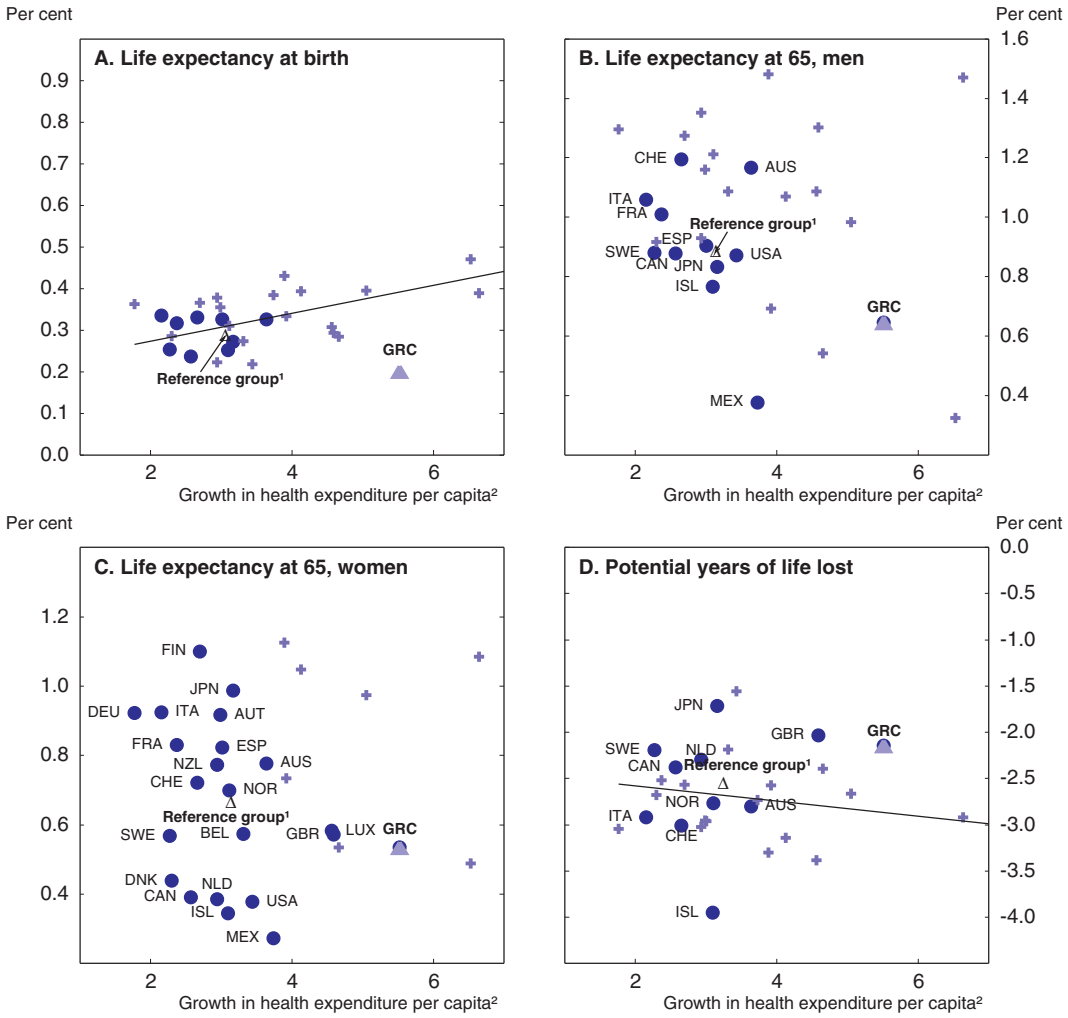
Figure 3.6. **Change in health outcome and expenditure**

1990–2006



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1. The reference group represents the average of countries with similar or better health indicator than Greece in 1990. The names of each countries are indicated in each panel except Panel A. For this panel the countries are Australia, Canada, France, Italy, Island, Japan, Spain, Sweden and Switzerland.
2. In 2000 GDP price.

Source: OECD Health Data 2008.

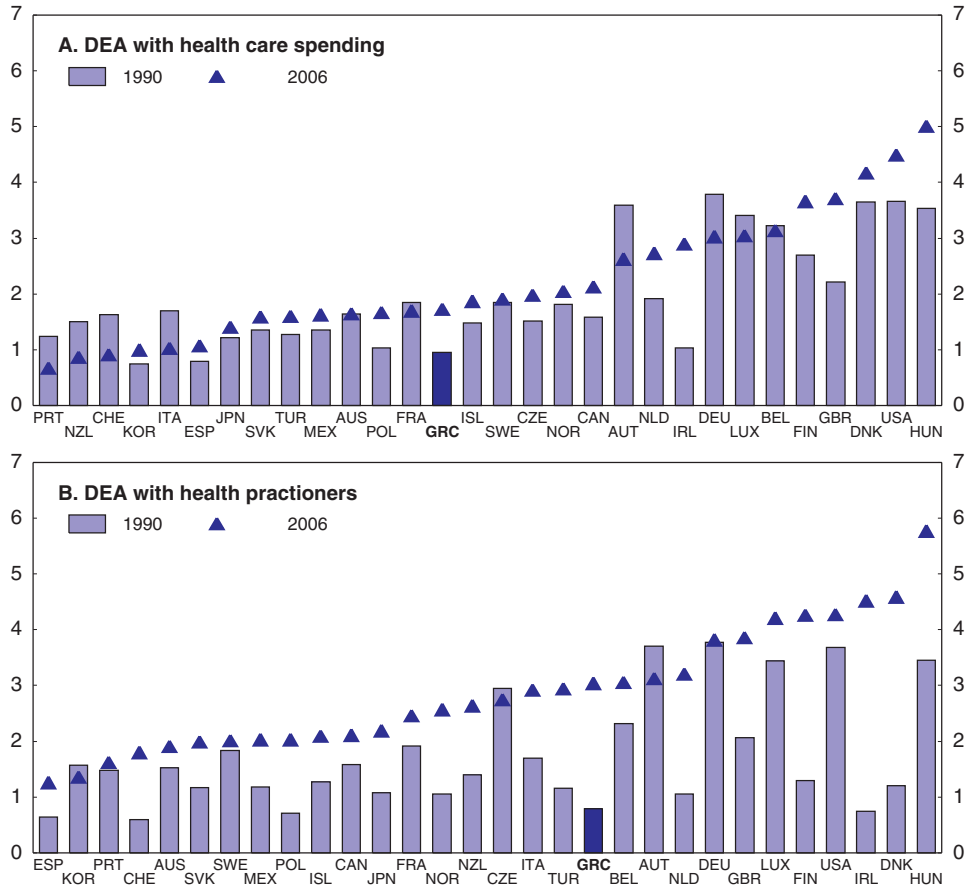
The organisation of the health care system impairs its efficiency

The fragmented structure of the health care system is a source of inefficiency

All OECD countries have to tackle difficult regulatory issues in health. Demand for medical services needs to be channelled through an insurance system, in many cases paid for directly by the government, so that all individuals have access to care, thereby limiting problems of access and providing solidarity amongst the insured. However, this funding structure leads to incentive problems that are aggravated by the asymmetry of information between insurers, health care providers and the insured (or patients). Regulation has a key role to play in the interaction amongst these players to make sure that quality care is available at an affordable cost. Cost control and efficiency are contingent on insurers'

Figure 3.7. **Efficiency development since 1990: Data Envelopment Analysis**

Potential efficiency gains measured by the number of years of life[1]



StatLink http://dx.doi.org/10.1787/685838180335

1. Potential efficiency gains (measured in number of year of life expected at birth) by each country the results were aligned on the best performers. A high score indicate a weak efficiency.

Source: OECD Calculations.

ability to negotiate advantageous prices with health care providers and encourage them to enhance their efficiency. It is also important to limit the risks of moral hazard that the system generates by prompting the insured to over consume. Lastly, it is also necessary to avoid excessive medical consumption arising from demand–inducing practices of health care providers. Regulation of both supply and demand is therefore necessary. A proper balance must be struck, however, between incentives intended to enhance efficiency and the quality of care, and those ensuring cost control.

The Greek public health care system has a fragmented organisation which makes it difficult to manage incentives coherently. The system (Box 3.1) does not correspond to a clear regulatory model. Since 1983 it includes a "Beveridgian" integrated National Health System (NHS) serving the entire population and funded largely by the state. This structure, which is similar to the British health care system, should give the government direct control over the supply of primary medical services and over hospital care. However, superimposed on this model is a "Bismarckian" model, involving public insurance funds similar to those in

Box 3.1. **The organisation of the health care system**

The health care system provides universal cover

The health care system features a mixture of public and private services and funding. The public sector comprises more than thirty sickness insurance funds, the largest of which operate their own networks of outpatient facilities, located primarily in urban areas. It also includes an integrated health care system administered directly by the State, the NHS, which delivers most hospital services as well as primary medical care in rural areas. Supplementing this public system is an abundant supply of private services provided by independent medical offices, diagnostic centres and hospitals.

The public system offers comprehensive medical cover to the entire population. This cover is provided through workers' compulsory affiliation to sickness funds and extends to all their dependants. The largest funds are IKA, which insures private-sector employees and their families (50.3% of the population), OGA, which covers people working in agriculture (19.5%), OAEE for the self-employed and OPAD for civil servants (covering respectively 12.9% and 11.7%).[1] In addition, primary and emergency services, which are dispensed by rural health care centres and outpatient units of NHS hospitals, are open to the entire population, including illegal immigrants. The destitute also have access to NHS hospital care.

Much of the funding for health care outlays is private

Public health outlays get 48% of their funding from social security contributions and 52% from general taxation, via transfers from the State budget. The transfers are used primarily to operate rural NHS medical centres and dispensaries, and for hospital spending not covered by the fees paid by the sickness funds for their members' care. Most of the social security contributions that finance sickness funds are proportional to members' incomes and split evenly between employees and employers.[2] In addition, sickness funds receive transfers to varying degrees. These are high in the case of the funds for agricultural workers and the self-employed.

Direct expenditure account for 92% of all private medical outlays by households. Supplemental private insurance plays only a minor role in Greece. It accounts for only 8% of private medical spending and covered 10% of the population in 2005. Those figures are up from the 1980s, when only 2% of the population had private medical insurance.

The substantial proportion of private household health spending, which accounts for roughly 40% of total outlays, does not stem from high formal patient contributions to medical costs, which are in fact rather modest. Contributions apply mainly to pharmaceuticals and vary between 0 and 25% of the costs, depending on the severity and chronic nature of the illness, as well as the patients' financial resources. Medicine dispensed in hospitals is free. A contribution is also required for hospital admissions (EUR 15) and for outpatient consultations at NHS hospitals (EUR 3), except in the case of OGA members. This contribution is rarely collected, however (Mossialos *et al.*, 2005a). Nevertheless, the use of public health services is often associated with informal payments, which are included in out-of-pocket payments.

The vast majority of hospital care is public, and the supply of outpatient services is fragmented

Hospital care is delivered by three categories of hospitals: NHS facilities, administered by the Ministry of Health; public hospitals administered by other ministries (primarily military hospitals and those operated by sickness funds); and private hospitals. Approximately 75% of hospital beds are in the public sector (67% in the NHS) and 25% in the private sector. While NHS hospital care is accessible to the entire population free of charge, private hospitals charge fees, most of which are paid by persons covered by private insurance or by sickness funds having contractual relationships with medical service providers.

Box 3.1. **The organisation of the health care system** *(cont.)*

Primary health care services are dispensed by four distinct types of establishments:

- *NHS facilities*, comprising emergency services (EKAV), hospital outpatient consultations and dispensaries and medical centres in rural and semi-urban areas. These rural health care centres are administered by hospitals.
- *Outpatient services provided by some municipalities*. These services are limited in scope and cover only a narrow range of care. With regard to the city of Athens, these services are used primarily by uninsured persons and by immigrants in particular.
- *Health care networks operated by sickness funds*. Some funds have built up their own integrated networks of primary health care services. IKA, for example, has a vast network of approximately 300 polyclinics staffed by some 8 000 doctors and 4 000 nurses (IKA, 2005). If integrated networks of primary health care services are not available, outpatient services are delivered by NHS dispensaries and medical centres (for OGA members) or by private medical offices or diagnostic centres under contract to sickness funds.
- *Medical offices, laboratories, diagnostic centres and outpatient medical consultations at private-sector hospitals*. If they are not under contract to public sickness funds, these health care centres are financed by direct payments or private insurance.

Status, contracts and compensation methods vary from one type of medical staff to another

Contracts between medical service providers and public health care networks, whether run by the NHS or by an insurance fund, can take a number of different forms. In all cases, however, compensation scales for health care providers must be approved by the government (Ministry of Health or Employment).

NHS hospitals and health care centres are generally staffed by full-time employees with civil-servant status. Rural NHS medical centres also employ interns, who are still pursuing their medical studies and are required to spend at least one year in a rural area to get their doctorate, before taking up any speciality. In the case of funds that provide their own medical services (such as IKA), the medical staff is also salaried. In contrast, private practitioners under contract are generally paid per act, according to fixed fee scales. For their part, OAEE physicians are paid by capitation. IKA also contracts with rural doctors paid by capitation for services in certain remote areas. Access to all these public services is generally free and entails no payment. However, some funds allow their members to choose their own doctors, in which case patients pay a market fee and are then reimbursed by the fund on the basis of a set scale.

Doctors employed full-time by the NHS, like those working for sickness funds, may not open private offices. NHS hospital physicians may, however, give private outpatient consultations in hospitals in the afternoon. In this case they are paid directly by patients on the basis of standard fees for services rendered, which vary between EUR 25 and EUR 90. Moreover, most doctors working for sickness funds have half–time contracts and are allowed to have a private practice. In this case, medical care providers are also paid at market rates (with no constraint on prices) for each service rendered. Many practitioners thus have a dual activity, working simultaneously in the public and private sectors.

1. Unemployed persons are covered by IKA, which receives public transfers for that purpose. Pensioners are covered by their original fund, except for OAEE members, who are covered by IKA when they retire.
2. The contribution rate for IKA sickness insurance is 5.10% of the salary, split equally between employers and employees. Workers belonging to OGA have a choice between seven classes of insurance, the contribution rates for which do not exceed 1.5%. Similarly, OAEE members may choose among 14 classes of insurance, paying a variable standard monthly fee.

Germany and France, which are funded primarily by social security contributions, and whose spending growth is determined to a large extent by demand. There are over thirty health funds subject to distinct regulations, different contribution rates, cover and conditions for access to the services provided. Affiliation to one of the funds is compulsory and depends on the occupation of the insured. As a result, and in contrast to the situation in some other countries, the existence of multiple funds does not serve to instil competition into the health care system. Most of these funds are small, since the four largest cover nearly 95% of the population. The system's lack of uniformity complicates its governance.

A number of different ministries are involved in administering the supply of public health services, which adds to management problems. The Ministry of Health and Social Solidarity bears primary responsibility for the formulation and implementation of health policy. It allocates staff and material resources to the various public medical facilities and sets NHS regulations. Nonetheless, it shares responsibilities with other ministries. For example, responsibility for the supervision and regulation of the public insurance funds, which also administer the pension schemes, lies with the Ministry of Employment and Social Protection. This involves determining what medical benefits are covered, conditions for access to doctors and contribution rates. Concerning contribution rates, the Ministry of the Economy and Finance also intervenes, as it does in tackling the recurring deficits of the NHS and sickness insurance funds. The Ministry of Education plays a key role in determining the number of vacancies in medical schools, and the Ministry of Development sets drug prices.

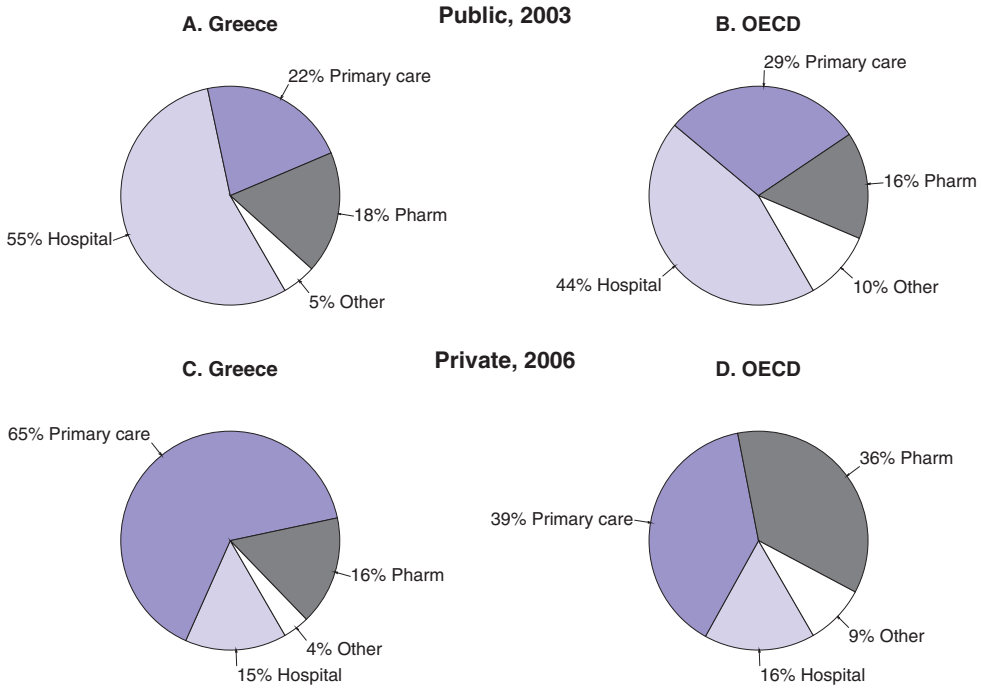
There are serious gaps in statistical information

The statistical system's current organisation complicates the administration of health policy for a number of reasons. First, it contributes to serious statistical gaps by making it more difficult to gather widely scattered information and to computerise the management thereof. Greece is one of the very few OECD countries that has not adopted the OECD system of health accounts. This affects not only the quality of its data but their coverage as well.[3] A great deal of information that is essential to analysing how the health care system operates is missing. For instance, there are no official statistics on the breakdown of aggregate expenditure, public and private, between the various types of care – outpatient, hospital, pharmaceutical, and so on. A number of studies have highlighted this deficiency. It stems in part from methodological difficulties involving, for example, the valuation of transfers between the public and private sectors or the estimation of informal spending. Some studies have attempted to remedy this by providing estimates (Souliotis and Kyriopoulos, 2003; Siskou *et al.*, 2008). These estimates, obtained from various sources and partial surveys, would suggest that hospital services account for over half of all public health care spending, whereas primary care accounts for the bulk of private outlays (Figure 3.8). However, there are no data on the resources allocated to prevention, nor on the costs of managing the system. The opacity of information also extends to the realm of waiting lists for medical services.

Medical demography is not managed satisfactorily

Medical demography is not managed satisfactorily, creating imbalances in service provisions. The number of trained health care professionals depends more on the financial resources of the Ministry of Education than on concerns for balancing supply and demand of medical services (OECD, 2008a). This results in substantial imbalances. For example, the proportion of practicing doctors and dentists in the total population is very high in international comparison, while the proportion of nurses is very low (Figure 3.9). By some

Figure 3.8. **Composition of health care spending**



StatLink http://dx.doi.org/10.1787/685840585270

1. Greek data estimates were provided by the authorities. They are derived from specific survey and an academic analysis. They are not strictly comparable with OECD data.

Source: Data provided by the Greek authorities and *OECD Health Data* 2008.

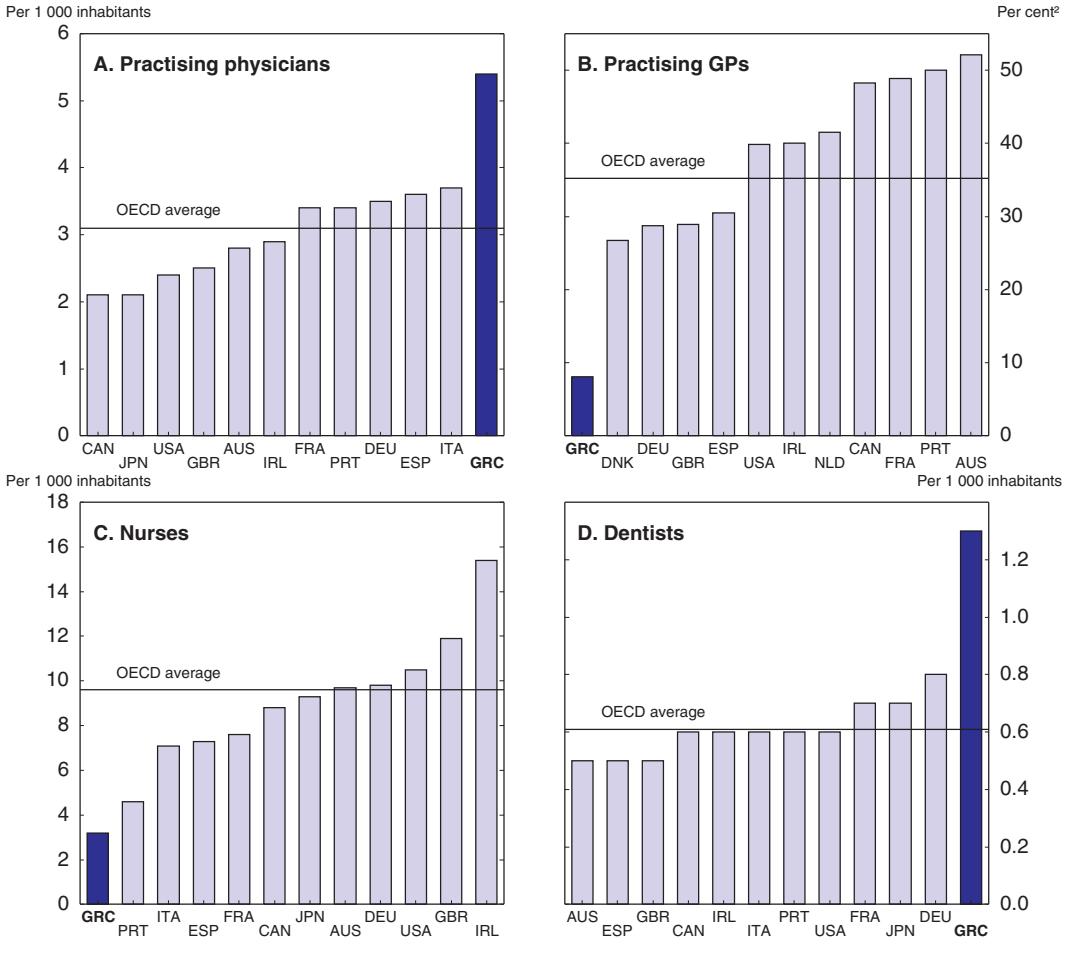
estimates, the shortage of nurses in the public sector amounts to 15 000 jobs, or 40% of practicing nurses. If the gap were filled, the density of nurses in the population would rise to 4.7%, which would still be well below the OECD average (9.5%). Nurses' relatively unattractive pay constitutes a serious impediment to boosting the numbers in this field. Because of the large proportion of practicing doctors, which is aggravated by the large number of students who pursue their studies abroad, Greece is one of the few OECD countries recording net emigration of health care professionals – a loss of human capital (Figure 3.10). Moreover, the number of general practitioners is very low in relation to specialists, whereas it would seem preferable for public health outcomes to have many GPs rather than many specialists (Starfield, 2005). In 2006, only 2.5% of Greek physicians were GPs, or 9.5% if internists are lumped in with GPs. There are also pronounced imbalances in the geographical distribution of medical professionals. For instance, only 5% of Greek doctors were working in NHS rural dispensaries or medical centres, whereas the rural population accounts for 25% of the total. The need for a higher density of doctors in the remote areas, especially in the islands, has been recently reinforced because of the stronger demand for care induced by the rise in illegal immigration.

The allocation of public health resources is deficient

Because the system is fragmented, funding is not pooled and the allocation of funding is generally based on neither efficiency nor fairness criteria. The authorities wield their bargaining power to a limited extent only. There is no co-ordination of procurement between insurance funds; however, the recent efforts to consolidate and rationalise the hospitals'

Figure 3.9. **Human resources in the health care sector**

2006[1]



StatLink http://dx.doi.org/10.1787/685868754860

1. 2006 or latest available year.
2. Per cent of total practising GPs and practising specialists.

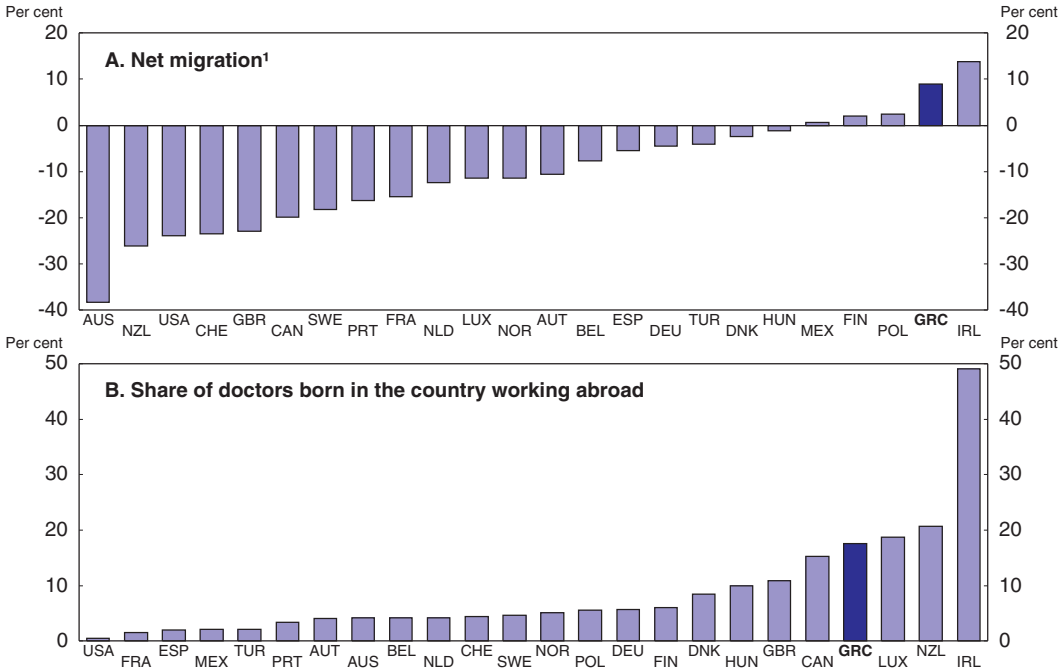
Source: OECD Health Data 2008.

public procurement are a step in the right direction (see below). Each insurance fund has its own administrative and financial structure. Under the circumstances, economic assessments play a very limited role in resource allocation. In this respect, the role of doctors is pre-eminent (Rovithis, 2006). Deficiencies in the realm of medical statistics are another obstacle to creating a body that could advise on effective use of resources, as is done by the National Institute for Clinical Excellence in the United Kingdom. In practice, the financial resources of hospitals are determined to a large extent by their past spending. Similar criteria would also seem to apply with regard to the allocation of central government resources amongst the regions (Mitropoulos and Sissouras, 2004).

NHS hospitals are regularly confronted by financial difficulties stemming not only from a lack of funding, but also from frequent and substantial delays in payments from insurance funds. Between 1997 and 2004, the authorities intervened on two occasions to cover hospital debt. Between May 2001 and December 2004, the amount totalled EUR 2.5 billion (1.3% of GDP). Since then, debt has swollen anew, to over EUR 4 billion in the

Figure 3.10. **Immigration and expatriation rates of doctors**

Per cent of total number of doctors, *circa* 2000



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1. Doctors born in the country working abroad less foreign–born doctors expressed as a share of the total number of doctors working in the country.

Source: OECD International Migration Outlook, 2007.

autumn of 2008 (1.6% of GDP), and public hospitals have built up a backlog of payments, totalling another EUR 4½ billion, to their suppliers. Faced with the consequences of the financial crisis and the toughening conditions for access to credit, at the end of 2008, suppliers announced their intention to suspend deliveries of goods and medical equipment to NHS hospitals. In addition, the transfers regularly required to cover hospital deficits *a posteriori* do not provide incentives to reduce costs and enhance the efficiency of public–sector health care.

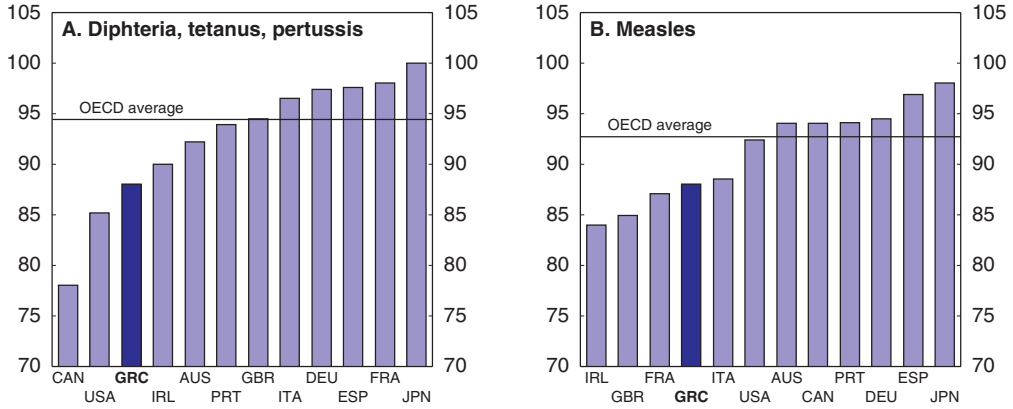
The health funds, which are responsible for setting the budgets for their members' primary and hospital care and pharmaceutical expenses, cannot impose binding limits on their outlays, which in practice depend on demand. The overlap between the multiple arrangements for outpatient care also leads to frequent duplication of resources and inefficiencies. Prescriptions by NHS doctors, for example, have to be validated by IKA doctors before IKA members can be reimbursed, which entails two consultations. The multiplicity of sickness funds gives rise to fairness issues as well because of qualitative differences between the cover provided by the various public health schemes, which are not necessarily reflected in the respective contribution rates. Trade unions representing the most generous funds have in the past systematically opposed any attempt to consolidate the funds (Davaki and Mossialos, 2005). These particular insurance funds (OPAD, OAEE and the funds serving the banking sector and public services, which are considered "noble funds"), for example, offer access to private hospitals and freedom to choose one's own doctor for primary care, which neither IKA nor OGA offers. In contrast, the NHS primary care facilities open to OGA members are short on equipment and

personnel or are staffed by interns completing their training and having limited clinical experience. This impairs the services they deliver (Tountas *et al.*, 2005).

Too few resources seem to be allocated to prevention, which hampers the efficiency of the system. The population's immunisation rate would suggest that Greece lags behind in this area. While the vaccination rate has risen sharply over the past 20 years, it is still lower than in most other OECD countries. For instance, 12% of children have not been immunised against diphtheria, tetanus, whooping cough (DTP3) or measles (Figure 3.11). Another key component of prevention involves the promotion of healthy lifestyles, with respect to eating habits and smoking in particular. Among OECD countries for which data are available, Greece holds the record for smoking and ranks fifth in calorie consumption per capita, after the United States, Portugal, Ireland and Austria. While much of the Greek population still seems to adhere to a Mediterranean diet,[4] a growing proportion, many of whom are young, tends to adopt eating habits involving substantial intake of sugar and fats (Costacou *et al.*, 2003). These trends over the past two decades have had detrimental effects on public health. For example, illnesses of the circulatory system, for which smoking is another contributing factor, represent a relatively greater cause of mortality in Greece than in the OECD area as a whole, with 47% of deaths being related to cardio–vascular problems (Figure 3.12).[5] Moreover, despite recent increases, tobacco prices are still low. Smoking could be cut back by raising the excise tax on these products, as shown by the experience of other OECD countries. A more active prevention programme would probably have beneficial effects on health outcomes. Here, the efforts undertaken since 2005 to promote health should be stepped up.[6]

Figure 3.11. **Children immunised in OECD countries**

Per cent of children immunised, 2006[1]



StatLink http://dx.doi.org/10.1787/686024288448

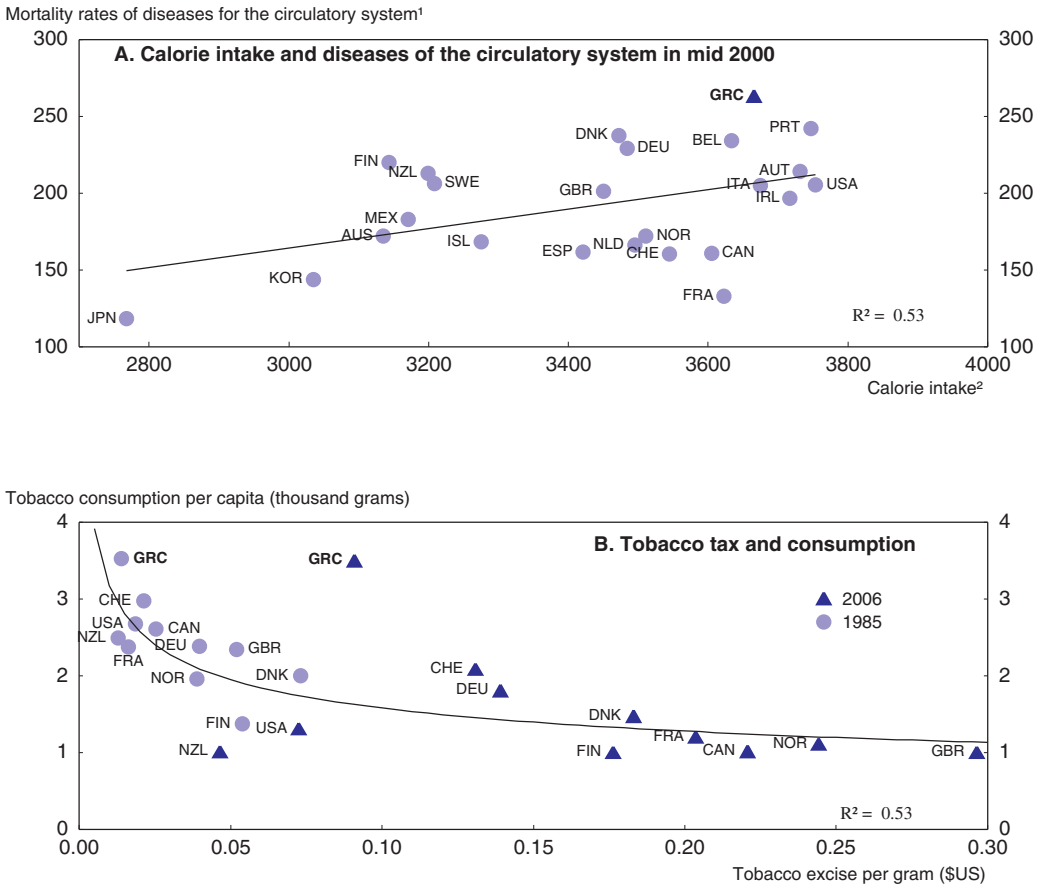
1. 2006 or latest year available.

Source: OECD Health Data 2008.

Control over public health spending is steeped in bureaucracy

The way the control of public health spending is wielded creates inefficiencies. Analysts has pointed out that cost control by the Ministry of Health is too bureaucratic and too centralised (WHO, 1996; Ballas and Tsoukas, 2004; Mossialos *et al.*, 2005a). The Ministry sets most of the fees and wages for public-sector medical services and determines staffing levels at rural hospitals and health care centres, along with the mix of specialities. In

Figure 3.12. **Calorie intake, tobacco consumption and health risks**



StatLink http://dx.doi.org/10.1787/686027743757

1. Deaths per 100 000 inhabitants, 2006 or latest available year.
2. Per capita/days, 2003.

Source: OECD Health Data 2008.

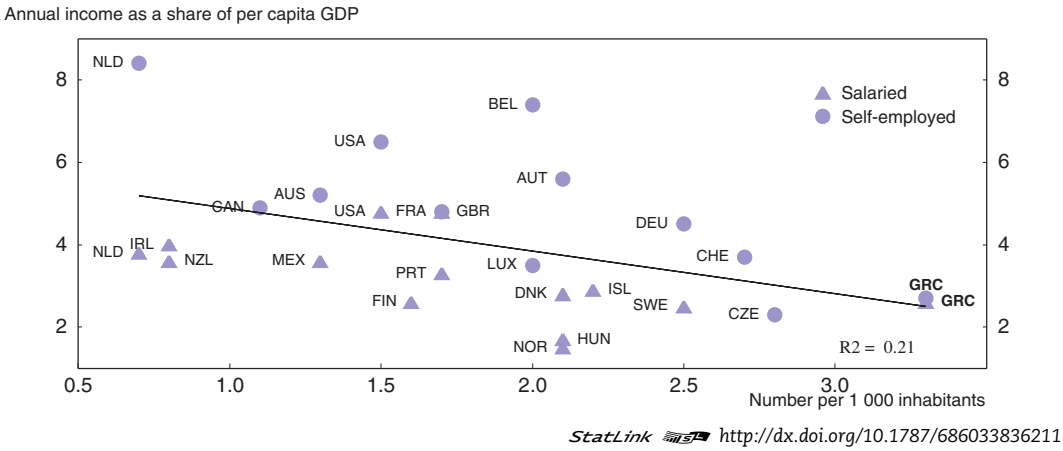
tandem with the Ministry of Economy and Finance, it also sets these fees for the civil service sickness fund (OPAD). Fees charged by the other funds require approval by the Ministry of Employment. Despite the glut of physicians, the NHS suffers from labour shortages in some fields and some locations, due in part to hiring restrictions imposed for budgetary reasons, and from the weakness of incentives for doctors to go to remote areas. Moreover, the financial administration of hospitals and health care centres is strictly regulated, and the Ministry gives hospitals very little leeway in management and organisation, which, combined with the fact that the government takes on deficits *ex post*, is hardly conducive to efficiency. The creation of administrative health care regions (DYPEs) in 2001 was meant to decentralise some of the powers of the Ministry of Health so as to improve the allocation of human resources between departments and hospitals within a given region. This decentralisation process, which eliminated the rigidities caused by the fact that staff report directly to hospital departments, had little success, however. Despite the reform, DYPEs have not enjoyed real independence that would enable them to improve

management. Their governing bodies and directors-general are appointed by the Minister of Health (Economic and Social Council of Greece, 2005a). Regional health authorities, which are responsible for co-ordinating resource allocation within their geographic areas, also lack the means to finance substantial capital investment or to recruit practitioners, and all their financial transactions have to be approved by the Ministry (WHO/EURO, 2006). DYPEs, the number of which was reduced from 17 to 7 in 2006 to achieve economies of scale,[7] have proved to be yet another bureaucracy and, above all play an advisory role for the Ministry of Health and supervise implementation of its policy (Economic and Social Council of Greece, 2005).

The low level of prices of public-sector medical services and salary scales for NHS doctors and those working for sickness funds creates large private payments. There is no differentiation between hospital doctor salaries according to speciality (Mossialos *et al.*, 2005a). Compensation, which is set *via* mechanisms of indexation to historical costs, is a recurring source of conflict between the medical profession and the government. To circumvent the pay limits for NHS doctors, doctors are paid for fictitious overtime. Even so, by international standards, the average compensation level per doctor would seem rather low, but another partial explanation of this could be the large number of doctors (Figure 3.13). Similarly, the sickness funds' reimbursements for medical services are also set at levels far below market prices in the private sector. In the case of pap smears (to screen for uterine cancer), for example, the gap between reimbursements and market prices is a factor of one to ten. Sickness funds also pay hospitals on the basis of a per diem that represents only 20 to 30% of the total daily cost of services. To compensate, NHS hospitals get roughly 65% of their funding from the state budget and about 35% from payments by sickness funds and insured patients' direct contributions to costs.

Figure 3.13. **Compensation level of practising specialists**

2006[1]



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1. Or latest available year.

Source: OECD Health Data 2008.

The relatively low prices paid by sickness funds for public hospital services create distortions and prompt them to make excessive use of hospital care as opposed to outpatient care, thus overloading hospital capacity. The fee structure of sickness funds' reimbursements for hospital services is shaped more by the desire to control public

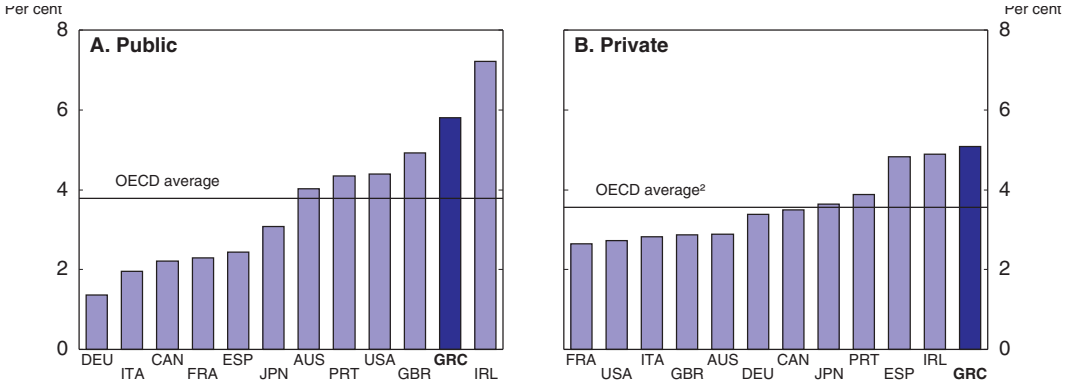
spending than by concerns for the system's efficiency. It eases the financial burden on sickness funds and trims non-wage labour costs, which are high in Greece and conducive to undeclared work. This leads to hospital outlays as a percentage of aggregate health care costs that are significantly higher than the OECD average (Figure 3.8). This situation also reflects the authorities' stated desire to provide a primarily public supply of hospital care, even since the ban on building private facilities was lifted in 1992. Underfunding of hospitals by the sickness funds makes it difficult to sustain a viable supply of private services without additional financing. As a result, the private sector's share of total hospital beds dropped from 42% in 1980 to 25% in 2006, and less than 20% of admissions are to private hospitals.

Deficiencies in the public system boost private spending…

The rapid expansion of private medical spending (Figure 3.14), despite the numerous impediments imposed, for example, in the realm of hospital care, bears witness to the population's dissatisfaction with the public health care system (Tountas *et al.*, 2005; Siskou *et al.*, 2008). This stems from the poor quality of food and accommodation at hospitals and, more fundamentally, the shortage of hospital facilities in certain areas and long waiting lists for certain specialities, such as cardiac surgery and oncology. In contrast to the procedure at private hospitals, it is not possible to choose one's own doctor. As a result, 64% of private hospital care consists of surgical acts, while the proportion is 44% in the public sector.

Figure 3.14. **Health expenditure growth**

Per capita,[1] 1990-2006



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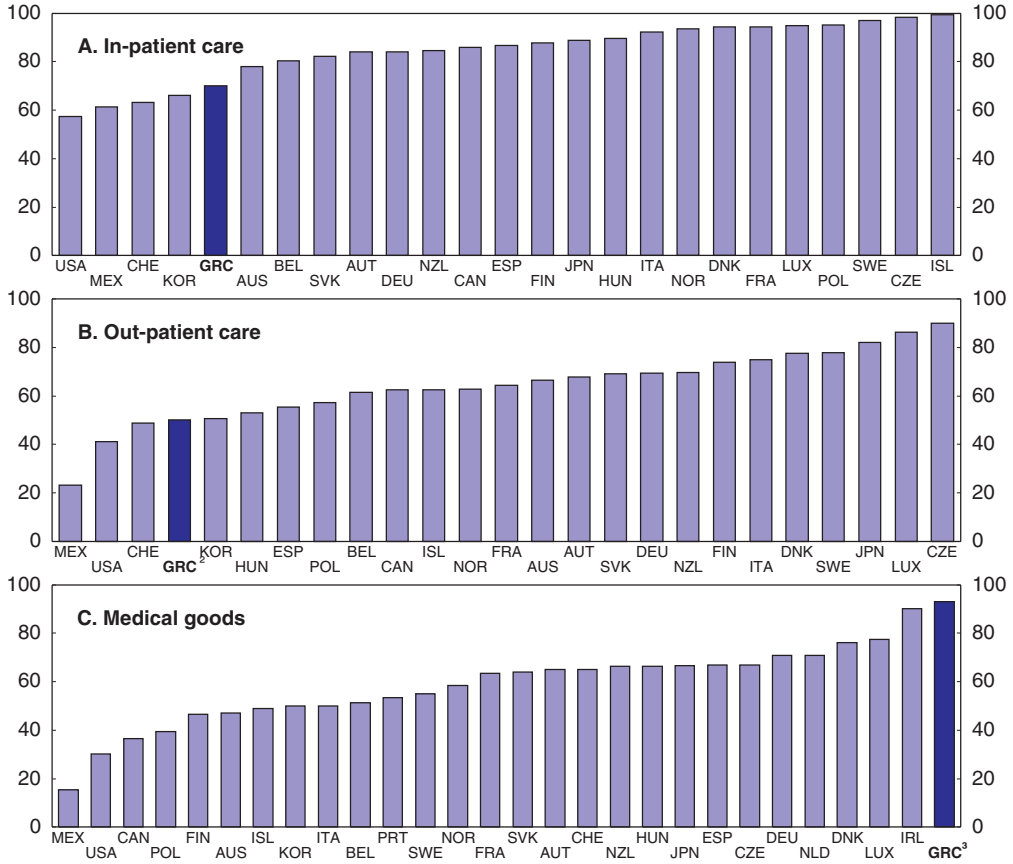
1. 2000 GDP price.
2. Less Czech Republic, Hungary, Poland and Slovak Republic.

Source: OECD Health Data 2008.

Dissatisfaction with the public health care system is most intense for primary care. The sector suffers from a lack of credibility: after consulting a doctor in the public sector, patients frequently turn to the private sector for a second opinion (Mossialos *et al.*, 2005a). It is thought that about 50% of aggregate primary care outlays are financed directly by households, whereas the corresponding proportion for hospital care and pharmaceuticals does not exceed 30% (Figure 3.15). This stems not only from the public sector's incomplete cover for certain types of care, such as dentistry (see below), but also from a shortage of technical equipment (MRI, CT scanning, etc.) which forces sickness funds to resort to the private sector to meet many of their requirements for diagnostic services. Following the

Figure 3.15. **Share of health care financed by public expenditure**[1]

2006



StatLink http://dx.doi.org/10.1787/686062873041

1. Under the SHA classification the important criterion is the mandatory nature of social insurance. Compulsory insurance administered by private companies is classified under the public sector. This type of insurance is particularly important in the Netherlands and in Switzerland.
2. Medical services.
3. Pharmaceuticals and other medical non-durables.

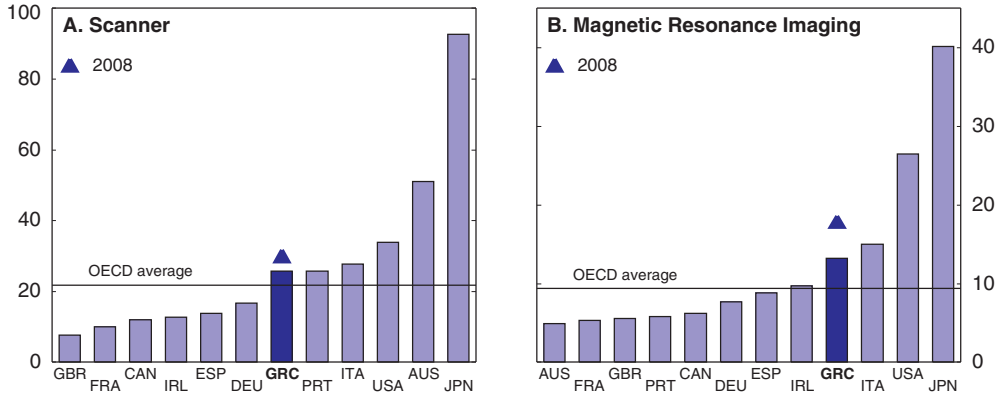
Source: Health database 2008; Siskou O, *et al.*, "Private health expenditure in the Greek health care system: Where truth ends and the myth begins", *Health Policy* (2008), doi: *10.1016/j.healthpol.2008.03.016*.

ban on the development of private hospital services until the early 1990s, rapid growth was observed in private laboratories and private diagnostic centres, which made substantial investments (Tountas *et al.,* 2005). Moreover, in 2005, Greece's overall medical equipment rate (CT scans, MRI) was well above the OECD average, despite the equipment shortages in the public sector (Figure 3.16).

Supervision of diagnostic services outsourced to the private sector must be improved, however, to reduce waste. Sickness funds complain regularly about the billing methods of private hospitals, which enable them to include supplemental medical services, the need for which is in some cases doubtful (Tountas *et al.,* 2005). Sickness funds lack bargaining power and meaningful oversight capability, as clinical protocols and payment according to diagnostic categories are absent. This is conducive to overconsumption of care, especially given the scant control over doctors' prescriptions in this area, and it cannot be ruled out that doctors enjoy some informal financial incentives provided by private diagnostic centres (Mossialos *et al.*, 2005a).

Figure 3.16. **Medical technology equipment**

Unit per million inhabitants, 2006[1]



StatLink http://dx.doi.org/10.1787/686105623880

1. Or latest year available.

Source: OECD Health Data 2008.

Another factor that has contributed to the expansion of the private sector is the large number of trained doctors whom public-sector hiring restrictions encourage to set up in private practice. Many of these physicians practice simultaneously in both sectors. Indeed, constraints on pay rises for medical staff in the public sector have prompted the government to authorise dual practice for doctors employed half-time by sickness funds. But these doctors use their public consultations to build up a private clientele and boost their income, to compensate for the low level of salaries in the public sector and the wide gap between official reimbursement rates for medical acts and market prices. Complaining about their heavy workload and limited time to devote to each patient, these practitioners often refer public patients to their own private consultations.

... which poses problems of fairness...

The high level of private expenditure is one reason why modest–income segments of the population seek dental care less frequently than affluent households, the difference in Greece being wider than for the OECD average (Van Doorslaer *et al.*, 2004). According to available estimates, dental care, which is covered poorly by most public health care systems, accounts for an especially large proportion of private medical expenditure in Greece (31%), or nearly 1% of GDP, *versus* 0.7% of GDP in the United States and 0.3% of GDP in the European countries (Siskou *et al.*, 2008). More generally, the tight budget constraint for modest–income households limits their spending on private primary care. According to Huisman *et al.* (2003), Greece is also one of the European countries in which the impact of income or educational inequalities on the health of the elderly is greatest. Moreover, the use of many health care services may be affected to a significant extent by an income effect, which may pose access problems for families with scant resources (Mergoupis, 2003). This income effect, which may also reflect differences in education or a lack of information for certain social groups, is more pronounced than in Italy. It is also greater in the case of services specially aimed at women, which raises a potential problem of gender inequality in access to care.[8]

Paradoxically, visits to private doctors seem more frequent in rural areas than in urban ones (Siskou *et al.*, 2008), although regional disparities in the allocation of health care

infrastructure would not appear exceptional in Greece as compared with other OECD countries (OECD, 2007). This would seem to reveal the existence of gaps in the supply of some medical services, which in some cases force people who are not very well off to avail themselves of private services. These outcomes are especially significant insofar as education and income effects would presumably be greater in urban environments. Similarly, households headed by a person with a low level of education are relatively more likely to consult private surgeons, which might stem from greater exposure to the risk of accidents requiring emergency care that cannot be delivered quickly enough in the public sector. Because of this forced recourse to private medical services, 2.4% of Greek households are believed to spend over 40% of their disposable income on health care, because of unexpected medical expenses (Economou *et al.*, 2004). This proportion is high by international standards, since the corresponding average for twenty OECD countries for which the information is available is 0.6%, and in ten of those countries the proportion is no greater than 0.2% (Xu *et al.*, 2003).

... and contributes to the development of informal payments

The private outlays of households also include a significant proportion of informal payments. As noted by Souliotis and Kyriopoulos (2003), no realistic analysis can disregard this phenomenon, even if the extent of it is difficult to measure. For example, Kyriopoulos and Karalis (1997) have measured the share of the underground economy in the health sector at 13.4% of aggregate medical expenditure. More recently, Kyriopoulos (2004) revised this estimate upwards to 17% of total expenditure on health. These estimates are not out of line with the relatively high proportion (between 20 and 25% of GDP) generally attributed to unreported activity in the economy as a whole (Chapter 2). Siskou *et al.* (2008) arrived at an estimate of informal outlays in the hospital sector, amounting to only some 20% of private household spending in the sector, or as much as their formal contributions to hospital costs.

Informal transactions are typically direct payments by patients for services to which they are entitled free of charge. Such payments generally take the form of "gratuities" or "bribes" (*fakellaki* in Greek, meaning "small envelopes") paid during consultations at doctors' offices or for hospital services. A recent survey, based on a sample of 4 738 individual observations, concluded that 36% of the people treated in public hospitals had made at least one informal payment (Liaropoulos *et al.*, 2008). For 19%, these payments were additional fees exacted by salaried doctors, while for 17% they were "voluntary gratuities". The probability of making such payments was 72% greater for people wishing to avoid a waiting list as compared to those following standard admission procedures and 137% greater for patients requiring surgery. The median amount of payments was EUR 300, or double the amount of monthly household spending on private health care (or 15% of their aggregate monthly outlays), and EUR 200 in the case of gratuities. Nurses also receive gratuities, but of a lesser amount (EUR 25 to EUR 35). This behaviour is encouraged by low pay in the public sector. As a result, it has been estimated that, on average, patients pay additional fees of approximately EUR 5 300 for heart operations for which the reimbursement is EUR 8 800 (Siskou *et al.*, 2008).

Such practices constitute an obvious sign of the population's lack of faith in the public health care system. On the demand side, these transactions, which are sometimes explained by sociological factors like "the tipping culture",[9] which is widespread in Greece, demonstrate the need to close gaps in the system, eliminate waiting lists or improve the quality of care. On

the supply side, informal payments highlight the absence of effective supervisory mechanisms which allows care providers to exploit their market power for private gain.

These direct payments exacerbate the health system's problems. They skew resource allocation towards those who are able to pay, and away from those with the greatest need, who will have to wait longer and will not enjoy an equivalent quality of service. Informal payments also tend to be regressive: while poor individuals may pay less than the rich, their contributions represent a greater proportion of their incomes, and the phenomenon is rectified only very imperfectly by the positive discrimination in which doctors sometimes engage to favour modest–income patients on the basis of subjective and vague criteria (Allin *et al*., 2005). Moreover, these practices may encourage unprofessional conduct such as rent–seeking by medical personnel. This impairs transparency and fosters corruption through the use of public facilities for private ends and tax evasion. In addition, by appropriating all of the payments made by patients, doctors reduce the resources available for improving how the health care system works.

The quality and efficiency of public health care services need to be improved

The shortcomings of public primary health care services have to be remedied

Apart from the quality problems affecting public primary care services, microeconomic studies show that there is wide scope for improving how resources are deployed. According to Kontodimopoulos *et al*. (2007), for example, there is an average 15% technical efficiency differential between the primary care centres managed by IKA and those of the National Health System (NHS). However, efficiency problems also affect the medical centres of each network.[10] These differentials demonstrate the lack of incentives for care providers to improve their services. The current policy of limiting salary levels and reimbursements of fees by the public sector, combined with the lack of control over the number of practitioners, can lead to opportunistic behaviour. The many physicians working part–time for IKA often put in fewer hours than their contracts call for, and they minimise the effort they devote to the public sector to promote their private practice (Mossialos *et al*., 2005a). Moreover, if doctors are barred from private practice, in many cases they receive informal payments.

Enhancing incentives poses difficult problems, however. One possibility might be to bar dual practice. The risk here, however, is that it might trigger an increase in informal payments if compensation stays low. Even so, there is no guarantee that higher pay would succeed; the sharp pay rises (of up to 250%) granted to NHS doctors in 1985 to put an end to informal payments did not have the expected results (Mossialos *et al*., 2005a).[11] Changes in how compensation is paid would probably be more effective in bolstering the incentives of public care providers to improve their services. Informal transactions, which expanded under the impetus of market forces, actually introduce a form of fee-for-service payment to obtain higher–quality care. But shifting to such a system of payment would pose difficulties for public spending control. The level of expenditure *per capita* at OPAD (which covers civil servants), where this form of compensation is in effect, is in fact three times higher than at OAEE, where doctors are paid by capitation, and double that of IKA, whose physicians are salaried. Fee-for-service, which also applies to private service providers working for sickness funds, encourages physicians to induce additional demand, since they are in a better position to increase the volume of acts to offset low fees per consultation. To avoid such a problem, one solution might be a hybrid system combining

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capitation payments and payments per act. This would foster competition among doctors more than the salaries used at IKA or in the NHS, while at the same time allowing a certain degree of control over spending (Simoens and Hurst, 2006).

Another option for reconciling control over public spending and improvements to primary care would be to establish a gate-way system. In this way, patients' demand could be met more effectively, following an assessment of their needs, unnecessary technical examinations could be avoided, and health care would become more cost-effective (OECD, 2004). Such an approach would in fact help take better account of people's social, family and cultural particularities rather than focusing on pathologies associated with particular fields of medicine. It would also result in a better balance between preventive and curative medicine, improved follow-up and enhanced co-ordination of care for persons afflicted with chronic illnesses, whose ranks are expected to increase due to population ageing (WHO, 2008; Saltman *et al.*, 2008). As a growing body of empirical work suggests, health systems that provide comprehensive, continuous general care accessible to the entire population, and which co-ordinate care of a more specialised nature, are generally associated with better health indicators and lower costs for all medical services (Starfield and Shi, 2002; Macinko *et al.*, 2003; Starfield *et al.*, 2005). But to set up such a system, which has been considered in the past, runs into the problem that the proportion of general practitioners is very low. It also prompts reticence because it could restrict choice. The success of such a system would also hinge on the incentives for GPs to provide high-quality diagnoses (Garcias-Mariñoso and Jalovac, 2003). In the case of Greece, this would probably entail increasing the compensation of GPs and changing the way they are paid, *inter alia,* to reinforce their incentive to locate outside of urban areas.

More generally, the continuity of the supply of health care should be improved, and there should be greater supervision of medical practices. There are no portable individual health care records nor any mechanisms for organising and co-ordinating medical files amongst health care providers, even if each of them is required to keep a written record of patient files. Legislation adopted in 2004 called for the introduction of an electronic medical file for each patient, but the files were never issued. Lack of this information can lead to unnecessary duplication of acts, examinations and prescriptions. Nor had there been any mechanisms for supervising or assessing doctors' practices that could detect any "excessive" behaviour and harmonise prescription habits on the basis of diagnostic protocols factoring in, *inter alia*, economic evaluations.[12] However, the new mechanism for monitoring prescriptions for drugs that has been launched recently (see below) aims to address some of these shortcomings. Greece had the highest rate of antibiotics prescriptions of 13 OECD countries at the end of the 1990s (Mossialos *et al.*, 2005a), and the proportion of Caesarean deliveries, which seems singularly high, would not appear to reflect just medical needs. The 2002 Caesarean birth rate in greater Athens, estimated at 53% for private hospitals and 42% for public ones, far exceeded the average for the other OECD countries (of roughly 25%). Analysis of the reasons for this high incidence validates the hypothesis of induced demand stemming from a financial and comfort-related motivation (Mossialos *et al.*, 2005b).

To improve operations in the primary care sector and reduce its fragmentation, the authorities are preparing a draft legislation to establish a system of referring physicians with free choice of personal doctor. The bill, which is to be submitted to parliament during the summer 2009, would establish a network of both public and private primary care providers and help to ensure a better coordination between them. It also calls for the introduction of

medical protocols and procedures as basis for fees and benefits. To rein in the growth of public health spending, each patient will be given an individual health account with a yearly expenditure ceiling. Spending above this limit will require an authorisation to justify the allocation of more resources. To reduce the existing inequality of access to the primary health care services across the insurance sickness funds, the same minimum package of services will have to be provided by all funds. These provisions will be initially applied to the fund of public sector employees (OPAD), with the other insurance funds having the possibility to participate to this project on a voluntary basis over the next five years.

The reforms considered in this bill appear to be going in the right direction, although many points have still to be clarified to ensure its effective application: What kind of incentives will be put in place to favour the development of a referral system? How will the diffusion of medical protocols and procedures be ensured among the physicians? How will the individual health accounts be managed in practice? On what basis will the expenditure ceiling be set? Should specific provisions be adopted to prevent healthy people to consider this budget as an "entitlement" and to consume more? How can excessive increase in management cost of this system be avoided?

Hospital funding should be rationalised and its management professionalised

Efforts have been made in recent years to make hospitals more efficient. Average hospital stays and the number of acute-care beds per thousand population have been scaled back, occupancy rates have increased and these indicators were close to the OECD average in the mid-2000s. Despite these improvements, which in part reflect better clinical practices, efficiency gains of some 20 to 30% of hospital expenditure may be feasible (Aletras, 1999; Giokas, 2001).

The need for further efficiency gains is especially great as hospitals are subject to strong demand pressures. Given the problems affecting the outpatient care system, external consultations at NHS hospitals are used extensively as an initial contact point for primary care. These pressures, which exist with respect to care that requires hospitalisation as well, are especially perceptible for nursing services. The lack of resources in this area often drives patients to resort to private health care aides during their stay in hospital.[13] In addition, waiting lists exist. Despite the lack of statistics in this area, most observers acknowledge the existence of problems associated with certain types of care. According to the daily newspaper *Ta Nea*, the wait is six months for surgery in Athens hospitals, for example, five months for an outpatient neurological consultation and approximately three months for radiotherapy or an operation to treat a malignant tumour (Tanner, 2008).

A number of factors limit the efficiency of the hospitals. One is the NHS staff's status as relatively poorly paid civil servants. The biggest problem, however, probably has to do with the financial management of hospitals. Accounting is on a cash rather than transaction basis, thus making it difficult to assess the financial position of hospitals. Indeed, the system cannot determine the relationship between financial resources committed and how they are used, which precludes any assessment of the efficiency of resource allocation in absence of cost accounting (Ballas and Tsoukas, 2004). These defects, which have been acknowledged for many years, will soon be resolved, since all NHS hospitals would report their financial statements with a new accounting system by 2010. Already, 100 of the 130 hospitals have complied. The use of a double-entry accounting system will also facilitate data collections needed to improve the quality of Greek health statistics.

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According to Ballas and Tsoukas (2004), one of the reasons why not enough attention is paid to developing robust management tools is a lack of professionalism in the administration of the NHS. NHS hospital directors are appointed on the basis of political criteria, as are the presidents of administrative health regions, and only a minority of these have managerial skills. The 2001 reform, which decentralised the health system into regions, had revamped the system of hospital governance by instituting executive boards headed by managers appointed on the basis of their professional qualifications to five–year terms. However, that reform was called into question in 2005, in part because of opposition from the medical profession to what they deemed illegitimate "technocratic" management of health care (Rovithis, 2006).

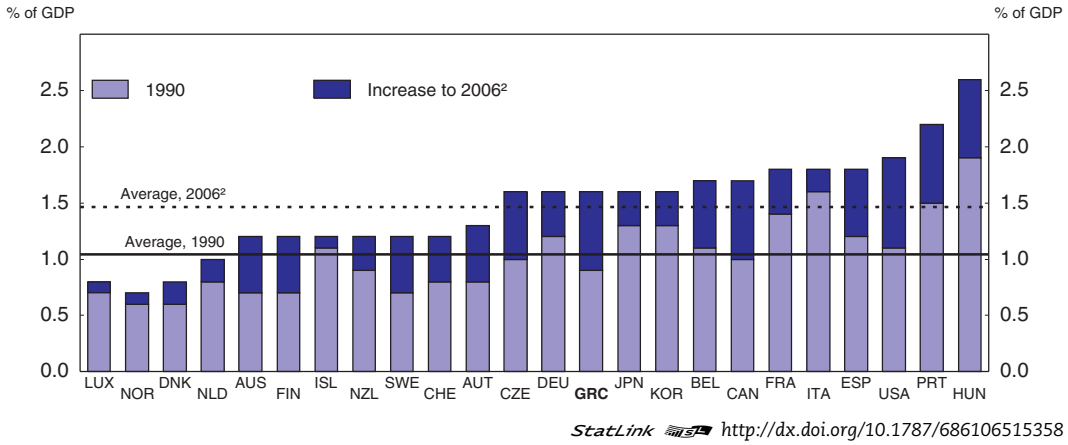
Recent initiatives have focused on improving the management of public procurement. Under the 2007 reform, which is currently being implemented, procurement will be centralised and managed by a specialised committee. Until now, each hospital had for the most part purchased its medical products. The Ministry of Health had of course established a list of medical goods and equipment for which purchases required its prior approval. Frequently, however, contract award procedures were disregarded because of the non–exhaustive nature of the list, or on the pretext that it was difficult to foresee needs for certain medical devices, such as pacemakers, implants or artificial kidneys. The reform is therefore welcome as a means to rationalise the management of public procurement, improve transparency and achieve economies of scale.

Since 2005, the authorities have also expanded options for partnerships with the private sector in the management of public hospitals. This has paved the way for the construction, financing and management of auxiliary services (such as catering, security and maintenance), as well as the supply and upkeep of clinical and support equipment in four hospitals since 2007. Public/private partnerships (PPPs) can be beneficial if they are approached with a view to raising efficiency and control of cost and not merely by a desire to take the financing of capital investment off the public accounts. Well-designed projects can allow the public sector to benefit from private-sector know-how, but international experience also shows that the use of PPPs can prove costly for public finances if projects are managed poorly (OECD, 2008b). The use of such instruments thus demands great caution and a transparent evaluation of projects. It is also important to clearly specify who bears the financial risks attached to these projects.

Better control over pharmaceutical expenditures is possible

As in many other countries, the growth of spending on drugs has outpaced that of other medical outlays. While this trend increase was more pronounced in Greece (Figure 3.17), the share of drug consumption, which rose to about 18% of aggregate health outlays in the mid-2000s, was close to the OECD average. Slowing the cost escalation has run up against a number of difficulties. The control of drug price increases has had little impact on rising pharmaceutical outlays,[14] as restrictions have been circumvented by the introduction of new, more expensive products (Mossialos *et al*., 2005a). To limit the rise in expenditure, the authorities also introduced a positive list of reimbursed products in 1998, which remained in effect until 2006. This list was updated regularly by a unit of the Ministry of Health, the National Organisation for Medicines (EOF), which evaluates drugs on the basis of therapeutic effectiveness, product safety, daily treatment cost and reimbursement in other EU Member States. However, this policy seems to have had only a limited and temporary effect

Figure 3.17. **Pharmaceuticals expenditure**[1]



1. And other medical non–durables.
2. Or latest year available.

Source: OECD Health Data 2008.

(Contiades *et al.*, 2007 and Yfantopoulos, 2008), especially because physicians frequently exercised their right to authorise the reimbursement of products not on the list.

In 2006, the government adopted new rules for setting drug prices and reimbursements. The list of reimbursable drugs was eliminated, and a new system of reference prices, determined on the basis of the lowest prices in the European Union countries plus Switzerland, came into effect. The new regulations also introduced a mechanism whereby pharmaceutical companies were to reimburse health funds for any excess of the price of a reimbursed treatment over the reference price set by a committee established for that purpose. The mechanism was never implemented, however, because of opposition and legal challenges from drug manufacturers. On balance, the recent changes would seem to have reduced the amounts that households pay directly for medicine. That contribution fell from 18% of aggregate costs in 2004 to 7% in 2006. The share of private–sector contributions to aggregate drug costs is thus very low by international standards, and the proportion is lower than for hospital or outpatient care. This situation is paradoxical, because co–payment mechanisms are generally more effective in restraining demand for medicine than for other forms of care.

A new mechanism for monitoring prescriptions for drugs has been launched recently (see Annex 3.A2 for a detailed description). This reform (Law 3697/2008) is based on a new IT system, in line with international practice, which provides detailed information on prescriptions in all public hospitals and private pharmacies. The centralised monitoring of prescriptions will help rationalise and combat abusive prescriptions by enabling comparisons with average behaviours, taking into account the specificities of doctor specialities, geographical areas, population insured by the various sickness funds and pharmaceutical products. This system will take about 6-months to implement and is expected to be fully functional around mid-2010. The authorities estimate that the system would cut prescription costs by up to 30% generating annual savings of about EUR 2 billion (0.8% of GDP).

To tighten control over the consumption of medicine, other measures ought to be taken. The use of generic drugs, which accounted for only 10% of the total drug market in 2003, ought to be encouraged (Geitona *et al.*, 2006). The penetration rate of such products

is one of the lowest in Europe, demonstrating that Greece lags behind in promoting generics (Vogler *et al.*, 2008). The penetration rate of generics in the drug market no longer protected by patents was 26% by value and 36.5% by volume at the beginning of 2008, whereas the corresponding figures were respectively 39.8% and 48.7% for the average of 16 European countries and 60.0% and 71.6% for the Netherlands (Wildson *et al.*, 2008). Better incentives are needed, and one solution would be to encourage drug prescriptions to be based on active ingredients rather than brands, as in certain regions in Spain (OECD, 2005), and to authorise pharmacists to substitute generic drugs for branded ones. This would be fostered by changing how pharmacists are compensated, which is currently based on their margins and encourages them to sell products that are more expensive. As in Switzerland, their compensation should be based in part on set charges for services rendered to customers rather than being tied to sales revenues (OECD, 2006b). Alternatively, pharmacists' margins could be made the same for generics as for branded products with the same active ingredients, as they are in France. Competition in the generic drug market could also be spurred by rescinding the current regulation that sets their prices at a 20% discount off the price of patent–protected products. Moreover, the use of a system of reference prices that are established on the basis of foreign prices also has its drawbacks, because the system can be manipulated by drug producers (OECD, 2008c). Another option would be to alter the packaging of pharmaceuticals so as to allow sales of single doses, which would avoid waste. Lastly, stricter rules could be adopted to further reduce the pressures exerted by drug producers that try to influence doctors' prescriptions, while the public could be better informed in an effort to scale back unnecessary prescriptions for antibiotics.

Conclusions and recommendations

The Greek health care system has produced relatively favourable outcomes. However, as in the other OECD countries, it is under growing pressure from households' increasing demand for care and for improved quality. The current system cannot cope satisfactorily with this pressure, as evidenced by the population's dissatisfaction with the public health system. It suffers from underfunding which impairs the quality of its services, especially in primary care. The proportion of private medical outlays is high, and unequal access to health care services raises equity issues. Moreover, the management of public resources has serious shortcomings, as reflected, for example, in the large volume of informal payments. Significant reforms are needed to correct these deficiencies and enhance the quality of public health services.

Review the structure of the health care system and its governance

Reforms should revolve around four major objectives (Box 3.2). First, planning and resource allocation, which is hampered by the current lack of uniformity in the organisation and governance of the health care system, ought to be rationalised. It would seem advisable to consolidate all health-related powers, which are currently dispersed throughout the government, within a single ministry. This could contribute, for example, to managing the supply of health care professional to be better in line with the population's present and future health care needs. The fragmentation of the public health care system between the NHS and the many different health funds, administered by different ministries, is another factor that undermines efficient management of resources. The separation between the administration of pensions and health care, which is planned by

Box 3.2. **Recommendations for health policy reforms**

Review the structure of the health care system and its governance

- Consolidate all powers within a single ministry. Separate health insurance funds from pension funds, as planned by the government.
- Consolidate the funds and hospitals in one entity, such as the NHS. Make basic medical cover uniform for the entire population.
- Separate the functions of insurer and care provider and develop an internal market for health care services. Discontinue administrative regulation of the prices of medical goods and services and develop mechanisms for negotiations between a single insurance fund and health care providers.
- Tailor the management of medical demography to the population's present and future health care needs. *Inter alia*, increase the number of nurses and the proportion of general practitioners. Avoid training more specialists than are warranted in view of the outlook for care growth.
- Improve the collection and administration of medical statistics. Rapidly introduce the OECD system of health accounts. Create a body to dispense advice on economic assessment of health goods and services and medical practices, such as the National Institute for Clinical Excellence in the United Kingdom.
- Bolster efforts in the realm of prevention, as well as incentives to adopt healthier lifestyles. Continue to raise the excise tax on tobacco.

Enhance the quality of public primary health care services

- Develop a system of referring physicians. This would require incentives to restructure the medical profession, increasing the proportion of general practitioners and encouraging specialists to shift to general practice.
- Introduce portable health record books along with incentives for patients to show them systematically at each medical consultation.
- Bolster supervision of medical practices to limit the spread of informal payments. Introduce formal co-payments for outpatient care.
- Review how doctors are paid. Introduce a hybrid system combining capitation payments and fees for service. Reinforce the incentives for physicians to work in remote areas. Differentiate the compensation of hospital doctors between specialities. Put an end to dual practice.

Modernise hospital administration

- Complete the replacement of the cash-based accounting system with a transaction-based system. Introduce a cost accounting system.
- Pursue efforts to rationalise the management of public hospital procurement, improve transparency and achieve economies of scale.
- Professionalise hospital administration by appointing qualified managers. Extend the administrative autonomy of hospitals.
- Institute a forward-looking system of hospital funding which would ultimately be based on pathological categories (DRG).
- Exercise caution in using private/public partnerships to develop health care infrastructure. Evaluate selected projects cautiously and transparently.

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Box 3.2. **Recommendations for health policy reforms** *(cont.)*

Continue efforts to tighten control over pharmaceutical expenditure

- Promote the distribution of generic drugs. Encourage physicians to prescribe on the basis of active ingredients rather than branded products. Allow pharmacists to substitute generics for branded drugs.
- Consider reviewing how pharmacists are compensated to reduce incentives to sell the most expensive drugs.
- Review packaging standards for pharmaceutical products so as to limit waste.
- Increase co-payments.
- Restore a positive list of reimbursed drugs, with very limited possibilities for derogation.
- Adopt stricter rules to reduce the influence of pharmaceutical laboratories on doctors' prescriptions. Improve public information so as to limit demand for unnecessary prescriptions for antibiotics.

the government, is necessary, and the creation of a single health insurance fund should be considered. With no choice between funds, their multiplicity and differences in cover are a source of fairness and efficiency problems. The alternative approach, implying the introduction of competition between several funds, would require a more radical change in the functioning of the system without guaranteeing a better quality and equity of medical service supply, while ensuring cost control.[15] Consolidating the funds would bolster the bargaining power of public insurers and cut the system's administrative costs. Multiple attempts to unify the health funds have failed because of opposition from the most generous funds. It might be possible to reduce resistance to change if a single, compulsory insurance scheme was supplemented by options for voluntary membership of supplemental funds for households wishing to broaden their medical protection.

It would also be advisable to review arrangements for the funding of medical outlays by doing away with transfers to hospitals from the state budget. Administration of all public resources for health care, whether from the budget or from social security contributions, by a single body in charge of funding all care providers would contribute to better resource allocation. The current allocation of resources is skewed in favour of hospital care as opposed to primary care, while too few resources would seem earmarked for prevention. Separating the functions of medical insurer and caregiver by service providers competing amongst themselves could also play a useful role in better determining the relative prices of medical services and improving resource allocation. More generally, allocation should be based more on economic assessments so as to promote medical practices that are cost–effective. However, this would entail substantial progress in filling the major gaps in the collection of information. In this perspective, the modernisation of the hospital accounting system, which is almost completed, should help to remedy the existing deficiencies. In addition, the recent government initiative to establish a committee with the responsibility to introduce the OECD system of health accounts is welcome. Better statistical data are indispensable for enhancing the monitoring of the performances of the health care system and identifying the required actions to correct its problems.

Enhance the quality of public primary health care services

The way practitioners are compensated and other related incentives should be reviewed. Introducing a hybrid system combining capitation payments and fees for service for physicians working for the funds would probably help spur competition in this sector and improve the supply of health care. International evidence shows that a more diversified compensation system, including a fee-for-service component, would increase physicians' activity rate (Simoens and Hurst, 2006). Such a reform could be combined with a ban on dual practice, which also impairs the quality of public services. More generally, reducing the number of doctors, or of those working half-time, and increasing their compensation in line with their productivity, would be one option to explore.

Changing how practitioners are paid could also help scale back the prevalence of informal payments, which constitutes one of the biggest problems in the Greek health care system. It is important to factor in the loss of income that medical service-providers would incur if these practices were eliminated.[16] In the hospital sector, salary differentiation between specialities might be necessary to attract more doctors to fields for which demand and "bribes" are high. Another option would be to implement a bonus system tied to the productivity and quality of services (rate of client vaccination, suitable follow–up of diabetics, etc.). Another possibility would be to formalise informal payments in the form of a patient charge for outpatient care, with provisions for exemptions if need be. Lastly, it is essential to establish effective mechanisms for supervising and auditing payments. Efforts are crucial to restoring trust and enhancing transparency, as well as the accountability of care providers. A multi-pronged strategy is probably needed to put an end to informal payments. It would also demand strong political determination to combat and sanction these illegal practices.

Improving the quality of public primary services also requires greater continuity in the supply of health care. The measures that the government has recently envisaged, such as introducing a system of referring physicians and medical protocols, are a step in the right direction. These initiatives could be supplemented with the introduction of portable health record books (*carnets de santé*), along with incentives for patients to show them systematically at each medical consultation. These measures would foster care that is more patient-oriented and avoid unnecessary duplication of tests or consultations. Measures would also be needed to improve the supervision and control of diagnostic services outsourced to the private sector. To compensate for the low number of general practitioners, practices in the outpatient sector could be developed with multidisciplinary teams combining medical and non-medical personnel, including persons specialised in the co-ordination of primary health care services (Hofmarcher, Oxley and Rusticelli, 2007). This would undoubtedly entail training more nurses.

Modernise hospital administration

Health care reform should also focus on modernising hospital administration. Existing mechanisms for controlling public outlays lead to excessive and inefficient micromanagement of NHS establishments by the Ministry of Health. Improving the efficiency of hospitals entails completing the upgrading of their accounting systems, appointing qualified managers, widening hospitals' managerial scope and revamping their funding system. This should be based on a comprehensive budget that is determined on a forward-looking, binding basis, which should gradually incorporate cost assessments by category of pathology (Diagnostic Related Group, DRG) rather than by length of hospitalisation.

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Continue efforts to tighten control over pharmaceutical spending

The recently launched system for monitoring prescriptions for drugs is an important contribution to controlling pharmaceutical expenditures. A variety of complementary measures could be adopted to improve the control over this spending: these include an increase in patients' contribution to costs to rebalance the structure of private spending, which would also reduce out-of-pocket expenditure for health services; regulations more favourable to the use of generic drugs; a revision of drug packaging standards, and reforms of the system for compensating pharmacists. Restoration of the positive list of reimbursed drugs, excluding all possibilities for exemption, should also be considered. While the effectiveness of any one of these measures, taken on its own, may potentially be limited, a programme encompassing various actions would certainly prove more effective.

Notes

1. As acknowledged in Joumard *et al.* (2008), the usual health indicators provide incomplete information on the benefits delivered by health care systems; they convey nothing about quality-of-life gains or how medical services are distributed in the population. The linkages between these indicators and their potential determinants, such as pollution or smoking, also pose delicate problems: for instance, emissions provide only an imperfect reflection of the degree of the population's exposure to pollution. Likewise, the data available cannot be used to factor in the very long lead time (up to 30 years) of smoking's impact on health. Consequently, the assessments of the efficiency of health care systems that are provided by econometric models are impaired by substantial problems of measurement or omitted variables.
2. In the case of Greece, the estimated degree of efficiency of the health care system is slightly higher than reported in Joumard *et al.* (2008) if the resources allocated to health are measured in monetary terms, because the level of aggregate medical expenditure was revised downward after that study was conducted.
3. In 2008, for example, health care spending for 2005 was revised by 10.0%, to 9.1% of GDP, as compared with the series available one year earlier, and the proportion of private expenditure in aggregate outlays dropped from 57.4% to 37.1%.
4. A Mediterranean diet features substantial consumption of fruit, vegetables and olive oil and only small quantities of meat, poultry and saturated fats. It is associated with lower mortality from heart disease and cancer (Trichopoulou *et al.*, 2003).
5. International comparisons highlighting the relatively high mortality, but not the frequency, of cardio-vascular diseases in Greece could also indicate that these pathologies are treated less well than they are in the other countries.
6. A consultation process is underway to develop a national public health action plan extending until 2013. The emphasis is on five major threats to health: cancer, AIDS, rare diseases, drug use and eating disorders.
7. The scaling back of the number of DYPEs could reduce their operating costs from EUR 50 million to EUR 15 million. Also, 400 of the 750 persons employed by DYPEs will be transferred to hospitals suffering staff shortages.
8. Huisman *et al.* (2003) evaluate the use of 17 health care services that are standardised, have limited cost and are important for prevention. Eleven of these services are aimed at the entire population (hospital stays, medical consultations, eye tests, hearing tests, blood and urine tests, screening for diabetes, cholesterol and cancer, x-rays and heart check-ups), and seven specifically target women (mammography, palpation of the breasts, gynaecological and ovarian examinations, pap smears and osteoporosis screening). Four of these services (hospital stays, medical consultations, hearing tests and osteoporosis screening) feature non-significant income elasticities. Among the other services, which feature significant and positive income elasticities, those elasticities are 50% higher on average with respect to services aimed at women.
9. This is probably one reason for the limited growth of private insurance, the intervention of a third party to make such payments being perceived as a dilution of the close relationship that patients wish to establish with their doctors.

10. The efficiency of care centres is measured by Kontodimopoulos *et al.* (2007) using a DEA analysis in which inputs include medical, nursing and administrative staff and outputs are quantified by the number of consultations and medical examinations performed. Using the same methodology, Zavras *et al.* (2002) compare the efficiency of 133 IKA primary care units and highlight that the best results are achieved by medium-sized centres (covering a population of 10 000 to 50 000 people) that are equipped with the infrastructure needed to perform laboratory and radiological examinations.

11. Examples in other countries show that it is often the highest–paid doctors who engage in such practices, which probably reflects their power (Allin *et al.*, 2005).

12. Nor have any random audits of the insured's medical consumption behaviour been introduced, as they have in some other countries (such as France), to limit "medical nomadism".

13. The frequency of use of such services and the induced private expenditure (estimated at 4% of private hospital care) would not seem correlated with socioeconomic variables. The practice would therefore seem fairly widespread throughout the hospital system. The services of these private health care aides, in many cases under-qualified, are arranged for outside the normal procedures for nursing care (Siskou *et al.*, 2008).

14. Between 1990 and 2008, the increase in drug prices as recorded in the consumer price index was below the rise of the index as a whole.

15. Introducing competition between health insurance funds would for instance require giving insured persons the choice of their funds. Regulation would also be needed to avoid the risk of adverse selection associated with this system. This would imply a radical change in the logic of functioning of the current system. International experience suggests that such an approach lead to a significant rise in management costs, without generating necessarily a better performance.

16. The amount of informal payments for heart surgery, for example, would suggest tax evasion representing 85% of aggregate income for the practitioners in question (Siskou *et al.*, 2008).

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ANNEX 3.A1

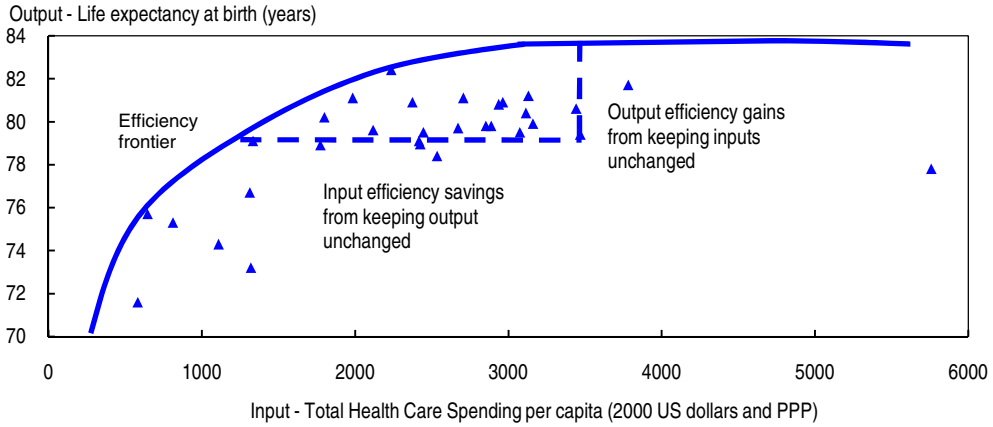
Data envelopment analysis

This annex provides the technical details of the data envelopment analysis (DEA) used in this survey to measure the health system efficiency of OECD countries. The DEA technique is commonly used to assess health system efficiency because of the ease with which it deals with complex problems without restrictive statistical conditions (Cooper *et al*, 2004 and 2006).

This survey uses a modified version of the DEA developed by Joumard *et al* (2008).[1] DEA creates an efficiency frontier by optimising the input to output ratio, a common measure of efficiency, to calculate efficiency scores for each country. Figure 3.A1.1 shows how efficiency scores can be measured by an input-oriented approach (minimising input without reducing output) or an output-oriented approach (improving output without additional input). The efficiency scores measure the distance between individual countries and the efficiency frontier. In this survey it is assumed that the DEA efficiency frontier has non–increasing returns to scale. Figure 3.A1.1 shows that the efficiency frontier is convex inward. This is because the marginal cost of producing units of health beyond a certain level becomes higher than average.

Figure 3.A1.1. **A stylised example of an efficiency frontier and non-increasing returns to scale**

A scenario with one input and one output, 2006 or latest available data



Source: OECD Health Data 2008

This survey uses two output-oriented DEA models to measure health system efficiency over time for OECD countries by looking at two points in time (1990 and 2006). The first model measures health system efficiency in terms of cost efficiency. It includes one output, life expectancy (LE) at birth of the total population, and three inputs related to health care production: 1) health care resources (measured by health care spending per capita); 2) socio-economic conditions (measured by GDP per capita); and 3) lifestyle factor (represented by per capita consumption of fruits and vegetables). The second model measures health system efficiency in terms of technical efficiency by replacing health care spending per capita with the number of health practitioners. Two models are used to ensure the consistency of the DEA results.

The efficiency scores are upwardly biased because the calculation benchmark from the observed efficiency frontier is always lower than that of the theoretical efficiency frontier (Staat, 2006). This annex uses the statistical technique "bootstrapping"[2] to correct potential upward bias and provide confidence intervals for the efficiency scores. The estimation of confidence intervals is important because the statistical estimators of the frontier are sensitive to selection errors, statistical noise and outliers. Another limitation of DEA is that while it provides a good estimate of "relative" efficiency, it does not allow for a quick convergence to "absolute" efficiency. Countries with the best use of inputs may be perceived as efficient when in fact they are not because theoretical maximum efficiency is unknown.

Notes

1. Joumard *et al.* (2008) used the PISA Index of Economic Social and Cultural Status to measure socio-economic conditions. As this data is only available for 2004, this survey uses GDP per capita to measure of socio-economic conditions. Joumard *et al.* (2008) also used GDP per capita in alternative models to test the sensitivity of their original results.
2. The bootstrapping method creates an appropriately large number of resample S^* by repeatedly sampling with replacement from the original sampled data set S. It measures the distance between the original S to S^* for each observation. It then creates a bootstrap distribution based on the statistics collected through solving the bootstrap estimator. This method can correct any finite sample bias in the estimators of the distance functions and calculate the desired confidence intervals.

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ANNEX 3.A2

A new mechanism for monitoring prescriptions for drugs

The authorities have announced a reform initiative to reduce public spending on prescription medicines and pharmaceutical materials. They see the implementation of an efficient IT system for monitoring and controlling prescription medicines and pharmaceutical materials as a catalyst to managing public resources in an effective and transparent way. Specifically, the introduction of a national electronic monitoring system is the backbone of the mechanism to control costs. Among the many benefits, the initiation of a monitoring system will allow the immediate collection of the legislated 3% manufacturers' rebate, and will generate estimated annual revenues of about EUR 140 million.

A modern IT system monitoring prescriptions at all public hospitals and private pharmacies will provide the necessary transparency controls as well as the appropriate intervention mechanisms. The system will use modern information and communication technologies – in line with international practices – for the implementation of electronic monitoring and data processing of prescriptions, and for links to the outlets. The system will involve:

- The installation of a central facility for electronic gathering and processing of prescription and health material data from pharmacies.
- The processing of data for rapid calculation and documented financial reporting, securing public revenue collection.
- The leveraging of a Management Information System to enable:
  - central policy enforcement and scenarios management;
  - the application of regulatory interventions in health;
  - mechanisms to combat the abuse of prescriptions;
  - rationalisation mechanisms for health expenditure;
  - complete transparency of the system.

The new system lays the foundation for effective government interventions for the modernization of healthcare, and has the ability to extend beyond the control of medicines and materials to diagnostic tests. Moreover, it is fully in line with the formulation of national and EU policy in the healthcare sector. There is an aggressive implementation plan that aims to bring about an immediate impact on public finances, and to accelerate the procedures for contract award.

ISBN 978-92-64-05427-1
OECD Economic Surveys: Greece
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Chapter 4

Raising Education Outcomes

Despite progress over the past decades, Greece's educational indicators lag behind those of other OECD countries. PISA scores are low, a large number of tertiary students study abroad, and attainment rates are low at all levels of education. Resources devoted to education are also modest. Participation in early childhood education and care is particularly low, influencing education outcomes in later years, the child care sector is poorly regulated and under-developed, and the separate administration of pre-school and childcare has led to inefficiencies. Education quality in primary and secondary levels reflects lack of performance incentives for teachers, deficient curriculum, weak school autonomy and accountability. This has driven children to complementary private courses to prepare for university exams. The university system is rigid and lacks a well performing evaluation mechanism. Recent reforms have addressed some of these issues but more needs to be done. Educational outcomes could be improved by giving more autonomy to schools and universities, and increasing accountability by, for example, performance evaluations of teachers and introducing standard nationwide exams at more levels of school education. A more flexible framework for tertiary education would promote responsiveness to changing demand conditions and enhance the quality of the sector. Educational outcomes could also be improved by more initiatives to counteract the effects of disadvantaged backgrounds on performance. The schools should also ensure that the curriculum prepares students with competences needed to succeed in their post-school life. This includes making vocational and technical education more attractive.

To stay competitive and continue to raise living standards in the face of increasing international competition Greece needs to improve its educational outcomes. Although educational outcomes have improved considerably over the past three decades, the stock of Greek human capital measured by educational attainment is below the OECD average. The quality of educational outcomes is also comparatively poor as indicated by international tests pointing to much scope for improvement. While important challenges remain at all levels, early childhood education and care, and upper-secondary education are in most need of reforms, as discussed below. The government has recognised these challenges and has intensified discussions on education reform aiming at upgrading its quality, with efforts focusing initially on upper secondary education.

An overview of the education system

Administrative control remains focused at the central level

Compulsory education runs from age 5 through 15. This includes one year of pre-primary school (kindergarten), six years of primary school, and three years of lower-secondary school. Kindergarten attendance is optional for four-year olds and child centres (paidikoi stathmoi) and infant centres (*vrefikoi stathmoi*) provide education and care for children under four (European Commission, 2008a). "All day" institutions, providing longer hours of services than the regular kindergartens and primary schools, are also in operation.

Post-compulsory education comprises both general and vocational streams. At the secondary school level, vocational lyceums (EPAL) (lasting three years) combine general education with specialised technical and vocational training, while vocational schools (EPAS) (lasting 2 years) are organised by occupation.[1] EPAL graduates can take entry exams for higher education along with those from the Integrated Lykeio, offering general education. Students from EPAS do not have the possibility to continue to tertiary education.

At the tertiary level, education is provided through public universities and technological institutes. Private higher-education institutions are not allowed by the Greek Constitution. Distance learning is available through the Hellenic Open University for students aged 22 years and over (entering *via* a lottery rather than on performance tests). This initiative aims at addressing the educational needs of remote areas given differences in population density characterising Greece.

The management of the pre-university education system is centralised, although steps have been taken in recent years to devolve responsibilities at the regional level.[2] The Ministry of Education and Religious Affairs has responsibility for the formulation and implementation of educational policies, the budgets and their administration, co-ordination and supervision of decentralised services, approval of primary and secondary school curricula and the appointment of teaching staff (European Commission, 2008a). The majority of educational establishments, including private schools at the

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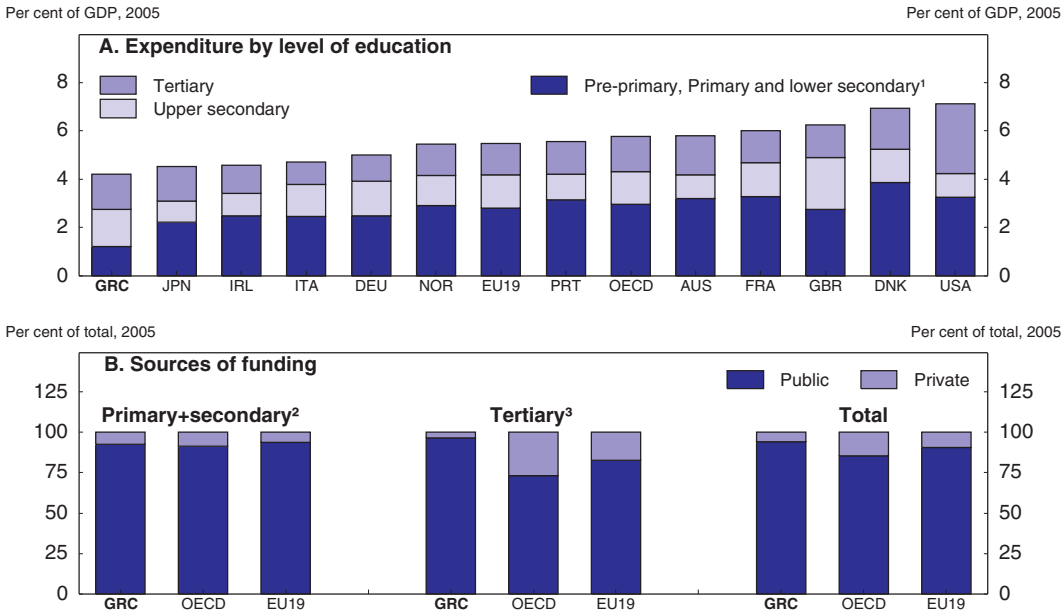
primary and secondary levels without government subsidies, are under the supervision and inspection of the Ministry of Education.

Higher education institutions are self-governing under the auspices of the Ministry of Education. The Constitution gives universities academic freedom. The need for state control arises primarily from the fact that higher education institutions are state-financed. The state also provides grants, academic textbooks, and accommodation and board under specific conditions.

Spending is below the OECD average

Despite a rapid rise in recent years, total public and private expenditure on education remains below the OECD average (Figure 4.1, upper panel). Greece stands out with a very low spending on the compulsory part of its education system (pre-primary to lower-secondary education), which is about half of the OECD average. Spending is somewhat above the OECD average in upper secondary education, and at average for universities. In contrast to many OECD countries, Greece at 94% has a relatively high share of public spending in its total educational outlays (Figure 4.1, lower panel). Public education is provided free of charge at all levels including in universities.[3] In 2006-07, 94% of the students enrolled in primary and secondary education attended public schools (European Commission, 2008a). While private higher education providers are not allowed by the Constitution, private schools are fully self-financed with the level of tuition fees depending on the level of education.

Figure 4.1. **Resources spent on education**



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1. Pre-primary covers children aged three years and older. Upper secondary includes post secondary non-tertiary education. For the United Kingdom, primary and lower secondary only covers primary education, and upper secondary covers all secondary education. No pre-primary data available for Greece.
2. Primary, secondary and post-secondary non-tertiary education.
3. Private funding in tertiary education includes work-related training.

Source: OECD (2008), *Education at a Glance* and OECD (2007), *PISA 2006: Science Competencies for Tomorrow's World*, OECD Publishing.

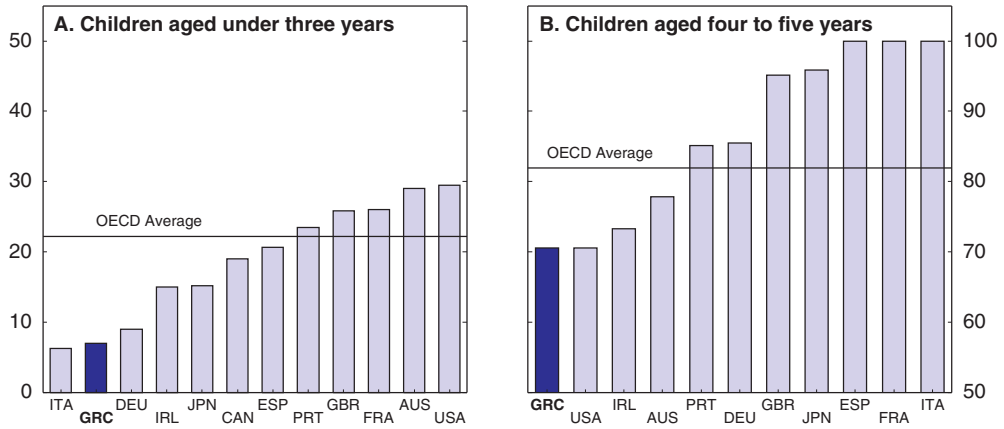
Education outcomes

Attainment is low at all levels of education

Participation in pre-primary programmes is well below international benchmarks

The low enrolment rates of younger children can affect subsequent learning outcomes. Only 7% of children 3 and under were enrolled in childcare in 2003 compared to 22% in the OECD area on average (Figure 4.2, left panel), and the enrolment rate in pre-primary institutions of children aged 4-5 falls below the OECD average and countries such as France and Italy where participation is universal or nearly so (Figure 4.2, right panel). Participation in early childhood education and care is of major importance because the learning skills acquired at a young age have an impact on education outcomes in subsequent stages of education (Carneiro and Heckman, 2003). Evidence from PISA 2003 suggests that students who attended pre-school programmes performed better in mathematics at age 15, even when socio-economic background is taken into account, and that the benefit tends to increase with the years of pre-school attendance (OECD, 2004). Access to early childhood education is also important because of its impact on labour market participation for women (OECD, 2001). For example, in 2002, the EU set an enrolment target for pre-primary education (90% for all children aged between 3 years and the beginning of compulsory education) to raise employment rates in Europe, especially among women (European Commission, 2007a). It is clear that Greece needs to catch up with the best performing countries in the critical area of early childhood education and care.

Figure 4.2. **Enrolment rates in early childhood services, 2003/04**[1]



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1. 2001 data for Canada and Germany; 2002 for France; 2003 for Greece and 2005 for the United States.

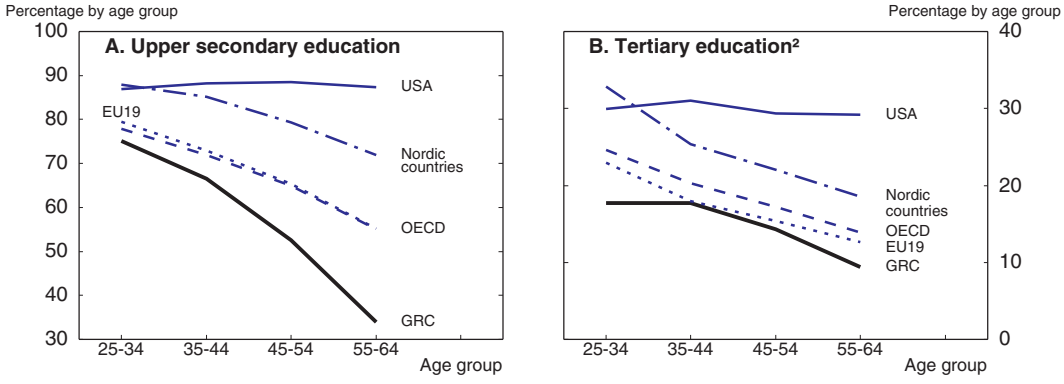
Source: OECD Family database and *Education at a Glance* (2008).

Completion rates of upper secondary education are low in most age groups…

Despite progress in recent decades, upper secondary attainment levels remain below the OECD average, tending to reduce labour force participation rates, although the gap has narrowed considerably for the younger cohorts (Figure 4.3, left panel). Recent EU data suggest that the percentage of 20-24-year olds in Greece having completed at least upper secondary education (82%) was somewhat above the EU19 average (80%) in 2008. The large difference in education levels between younger and older cohorts points to rapid progress in recent years. However, further increases in secondary education completion rates are

Figure 4.3. **Education attainment in international comparison**

Population that has completed at least the level of education indicated, 2006[1]



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1. The aggregates for the OECD and EU19 are unweighted averages.
2. Tertiary type A and advanced research programmes.

Source: OECD (2008), *Education at a Glance*.

important as it has been shown to increase participation in the labour market, especially for women (OECD, 2008a). The employment rate of persons with below upper secondary education was 60% compared to 70% for upper secondary graduates in 2006 for the 25-65 age group. The gap was nearly three times larger for women compared to men.

About 15% of the 18-24 age group left school with less than upper secondary education in 2007 and did not participate in any further education or training (Figure 4.4, upper panel). Furthermore, while three-fifths of early school leavers had completed lower secondary school, 2% of this group did not have any formal education and a fourth had only primary education. These levels are double the EU average. Nearly half of the early school leavers had an immigrant background, which again is above the EU average (European Commission, 2008b) (Figure 4.4, lower panel). As skills impact productivity, reducing the dropout rate has become a policy priority in the Lisbon agenda, which targets an early school leaving rate of 10% for the EU area. Both productivity and equity in Greece would benefit from more attention to special education needs of those with immigrant backgrounds.

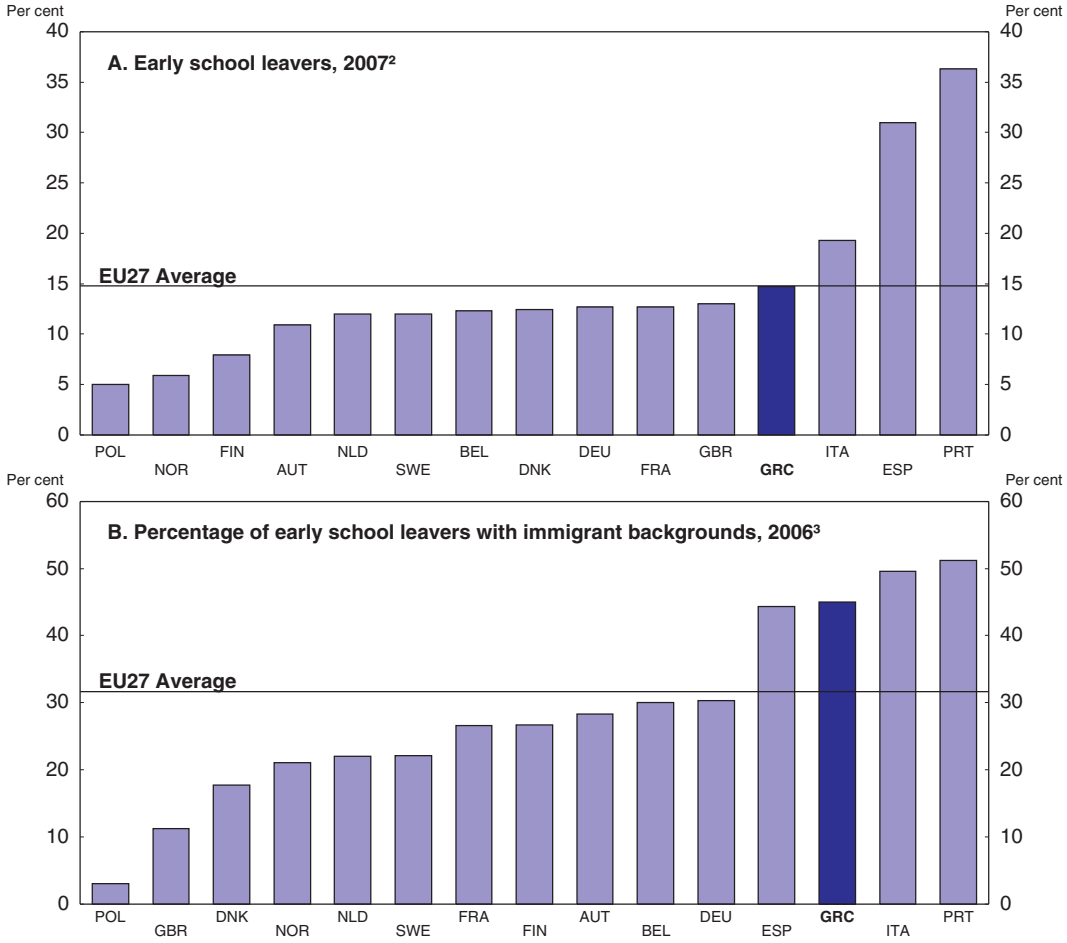
… with scope to raise attainment at the tertiary level

Although an increasing number of younger people now complete university (Figure 4.3, right panel), graduation rates remain among the lowest in the OECD. While enrolment rates tend to be relatively good, the number of drop-outs is high (OECD, 2007a). As discussed later in the chapter, the graduation patterns in Greece are affected by both supply and demand factors. These include the inflexibility of the higher education system, the relatively low private internal rate of return to tertiary education, and the absence of a student loan system to help students financing tertiary education studies.

Overall achievement is below the OECD average

Greece fares poorly in international comparisons in terms of qualitative output indicators in secondary education and has large internal differences in performance. The 2006 PISA scores for mathematics, reading and science at age 15 are all well below the OECD average (Figure 4.5, upper panel). The average reading scores also registered a

Figure 4.4. **Early school leavers**[1]



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1. Percentage of the population aged 18-24 with less than upper secondary education and not in education or training.
2. Provisional data for Portugal and Finland.
3. Limited reliability because of low number of non-nationals for Poland, Denmark, Norway and Finland.

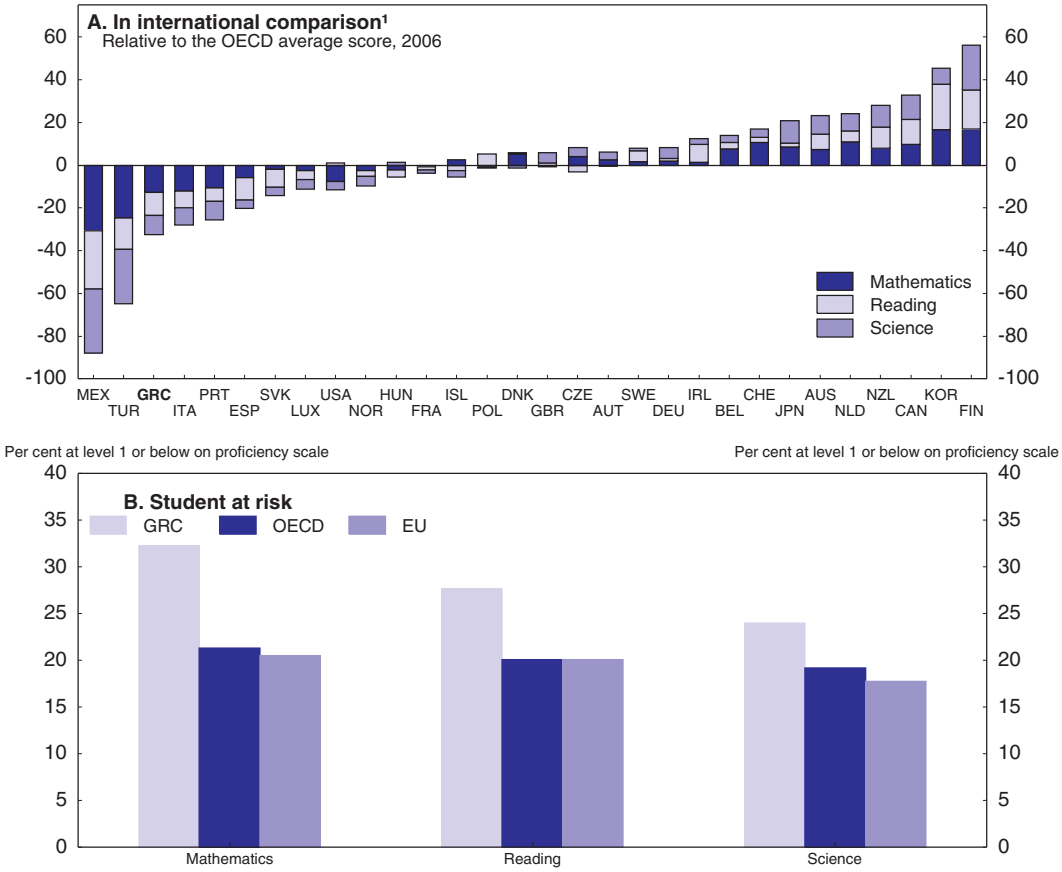
Source: Eurostat.

statistically significant decline between 2003 and 2006, while Greece was one of the two OECD countries (along with Mexico) where performance improved in mathematics. There are also a large number of very poor performers. Evidence from the 2006 PISA study suggests that a fourth of 15-year olds performed below the scientific "baseline" proficiency (proportion of students falling below proficiency level 2), with even higher shares for reading and mathematical skills. These are well above the OECD average (Figure 4.5, lower panel).

Socio-economic background explains much of the variance in student performance in science. Although both native students and those with an immigrant background score below the OECD average and their performance difference has decreased overtime, the gap remains at 49 score points (Table 4.1). While below the OECD average, this represents more than one year of schooling on average in the OECD countries. Students who do not speak the language of assessment (or other official languages or national dialects) at home are 2.3 times more likely to be at the bottom quarter of the science performance distribution. Differences in the schooling conditions contribute to the performance gap (OECD, 2007b).

Figure 4.5. **PISA performance**

Student performance at age 15



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1. The three skills are weighted equally in the total score. Data for the United States in reading proficiency is from PISA 2003.

Source: OECD (2007), *PISA 2006: Science Competencies for Tomorrow's World*, OECD publishing.

As in many other OECD countries, immigrant students tend to attend schools with a more disadvantaged socio-economic intake and a lower quality of educational resources (for example, instructional materials and computers). Dealing with students at risk is a special challenge for the Greek school system.

Cross-country comparisons of the performance of higher education point to quality problems in Greek universities. In the Shanghai Jiao Tong annual world ranking, only two Greek universities were included in the top 500 in 2006.[4] This ranks poorly compared to countries with similar, or even smaller, shares in global GDP. For example, universities in Finland and New Zealand were among the 1% of the top 500. The very high rate of Greek students studying abroad, despite a largely free education at home, is partly due to access restrictions, but it may also reflect low standards in local universities (OECD, 2007a). The small share of foreign tertiary enrolments in total (2.5% compared to an OECD average of 9.6%) constitutes an additional indicator of quality, although linguistic considerations are very important in this regard.

Table 4.1. **The impact of immigrant background on student performance**[1]

	Native students[2]	First-generation students[3]	Difference in science performance between first generation and native students	Differences in science performance between students with an immigrant background (first and second generation[4]) and native students	
	Performance on the science scale			PISA 2006	PISA 2000
Australia	529	527	–3	–2	–13
Canada	541	519	**–22**	n.a	**–22**
France	505	438	**–67**	**–53**	**–66**
Germany	532	455	**–77**	**–85**	**–93**
Greece	478	428	**–49**	**–44**	**–66**
Ireland	510	500	–10	–11	n.a
Italy	479	418	**–61**	**–58**	n.a
Portugal	479	412	**–67**	**–55**	**–31**
Spain	494	428	**–66**	**–60**	n.a
United Kingdom	519	479	–41	**–33**	n.a
United States	499	442	**–57**	**–48**	**–39**
OECD average	506	453	**–58**	**–57**	**–61**

1. Values that are statistically significant are indicated in bold.
2. Born in the country of assessment with at least one of their parents born in the same country.
3. Born in another country and whose parents were born in another country.
4. Born in the country of assessment but whose parents were born in another country.

Source: OECD (2007), *PISA 2006: Science Competencies for Tomorrow's World*.

How to improve the performance of the education system?

Increase participation in early education and care and enhance its quality

The early childhood education and care (ECEC) sector – comprising both child care arrangements for infants and toddlers and pre-primary education[5] – faces a number of challenges related both to access and quality. This is particularly so in the case of services for children aged under 3 years, which has not yet been recognised by society as a "fully-fledged" level of schooling (European Commission, 2009). Petrogiannis (2002) concludes that the quality offered to children in the day care centres in Greece ranges between "minimal" and "marginally good". Access and quality are also affected by the separation of the "child care" and "early education" into different administrative settings.

Concerns relating to access

Social preferences and supply problems influence low enrolment of very young children in formal childcare (Figure 4.2, left panel). Many parents prefer to leave infants to the care of grandparents,[6] although child care costs (net of benefits and tax concessions) are very low by international comparison (OECD, 2007c – Figure 6.5). Enrolment is also influenced by an insufficient supply of child care (Daouli *et al.*, 2004). A recent OECD study supports previous findings that public provision of nurseries for children under 3 years is insufficient (Immervoll and Barber, 2005). Under-supply is particularly acute in urban areas (Petrogiannis, 2002). Existing arrangements grant priority access to poorer families. Combined with the low cost, this shifts the undersupply problem from one group of parents to another without providing a comprehensive policy solution.

Access to early childhood education and care is further constrained by the low number of opening hours and limited number of services. Subsidised provision is offered only on a part-time basis (European Commission, 2009), which has led to low opening hours. The type of services offered are also limited, constraining parents' choice. A European Union

review of childcare statistics found that Greece provides only four types of childcare services, compared with 14 in the United Kingdom with the other member states equally distributed between 5 and 11 and (Eurostat, 2002).

Quality considerations

The lack of a national framework for setting quality standards for early childhood education and care influences quality of services. While national standards exist for pre-primary services (for example, staff to child ratio and maximum class size), in child care it is mostly with the local authorities that set their own standards. There are also marked differences between child care and pre-primary education in their pedagogical frameworks. This is centrally set for pre-school (with contents and methods of primary schooling introduced at the age of 4) but not for child care services. In addition, the child care sector lacks a regulatory framework for the establishment and operation of providers, which has led to differences across providers in terms of fees charged, required staff qualifications and quality of services. Petrogiannis (2002) assesses that the whole system of day care provision in Greece has been structured in a "haphazard and rather poorly regulated manner", resulting in a patchwork of services and wide disparities in the standards of provided services. The lack of standards has also contributed to poor infrastructure. There are no technical specifications and standards for child care premises, while kindergartens, especially those sharing their premises with a primary school, are often given a minimal space with no play areas or rooms for creative activities (OECD, 1997; Xochellis and Kesidou, 2007).

Quality of early childhood services is also influenced by the absence of systematic evaluation and reporting procedures in contrast to many OECD countries (European Commission, 2009). In the Netherlands, for example, the government has set up a special body that monitors the outcomes of early childhood education and care policy, with the municipal authorities being asked to provide data on participation rates, implemented programmes and staff training.

There is ample scope for further action

The government has sought to improve access to and quality of early childhood education and care services. Recent measures for pre-primary education (kindergartens) include a revision of curricula, and increased investment for pre-primary services (including in the number of teaching staff). "Flexible zone" programmes – implemented on a pilot basis – aim to improve the capacities and skills of pre-primary students through activities centred on specific objectives. Moreover, "all-day school" programmes were extended to the pre-primary level. "All-day" kindergartens operate an extended timetable and engage children in creative activities for at least 8 hours per day (compared to 4 hours a day in the case of regular kindergartens). There have also been initiatives to ensure equitable access to pre-school for children with special needs, such as parallel support classes in mainstream kindergartens and the establishment of special education kindergartens, and measures to reduce geographical disadvantages. Students living in remote or sparsely populated regions which do not have easy access to pre-primary school units are provided with transport facilities, as well as accommodation and meals at school premises, which are free of charge. In addition, the government has extended compulsory education to the second year of pre-primary education (5-year olds), with plans to make kindergarten attendance compulsory for four-year olds as well.

The establishment of a regulatory framework for child care services is also underway. A *special committee* has been set up in the Ministry of Interior Affairs – the supervisory authority – that will make proposals to modernise the operational framework by setting technical standards for its premises, the development of a pedagogical programme for pre-school education, and the establishment of parameters which would ensure quality services for all attending children.

The government's initiatives go in the right direction but more reforms are needed. Moving towards a better regulated and more uniform child care sector is critical for the quality of services. Plans to enhance the participation of four-year olds in pre-primary education are welcome (Figure 4.2, right panel). In most OECD countries with high enrolment, pre-school education is optional (Choi, 2004). Universal access – ensuring an affordable place for all children who need it – has been preferable, because needs and demand for early childhood education and care vary according to family circumstances, especially for young children (OECD, 2001). The European Commission has set an objective towards universal provision of early childhood education and care according to which member states would provide subsidised full-day places for one-third of children aged 0-3 years and for over 90% of all 3-6 year olds by 2010 (OECD, 2006). However, there are also benefits from compulsory pre-primary attendance policy. In Greece, for example, such policy would help to ensure that more immigrant children participate in pre-primary education. It would also ensure the effective use of the infrastructure to be built for the early childhood education needs, minimising the risk of overcapacity for the four-year olds.

Access and quality of services can also be enhanced by adopting an integrated approach to early childhood education and care (OECD, 2001, 2006). A split regime – like the current regime in Greece, where responsibility is divided between the Ministry of Interior (child care sector) and the Ministry of Education (pre-primary education) – is detrimental to the rapid expansion of early childhood services (OECD, 1997). The split structure further creates inefficiencies due to the duplication of administrative costs, as the first year of kindergartens (4 to 5 year olds) is also provided by child centres, and complicates regulation and service delivery. International evidence on efficient administrative structures supports having a lead ministry in charge of early childhood education and care (OECD, 2001, 2006). Moreover, to ensure high quality standards, public funding should only be available to providers who respect set standards. Systematic data collection and monitoring are imperative for a high quality early childhood policy.

Well trained staff, good working conditions and the pedagogical frameworks are also essential for enhancing the quality of services. A recent study by the European Commission highlights the importance for the member countries of broadening the initial and in-service training of pre-primary educators and the need to develop strategies to recruit and retain a qualified workforce (European Commission, 2006a). Pedagogical frameworks should facilitate the transition between early childhood services and schools, without a risk of "schoolification" of early childhood institutions. This is particularly important in countries like Greece which adopt a "pre-primary" approach to education, with contents and methods of primary schooling introduced at earlier ages (in particular, at the age of 4 in Greece) (OECD, 2006).

The planned and suggested reforms to enhance access and quality in early childhood education and care would require additional government financing. This would be warranted by Greece's comparatively low level of education expenditure (OECD, 2007c,

Chart 6.1), and the recommendations of the OECD Thematic Reviews for significant public funding to support a "sustainable and equitable" early childhood system (OECD, 2001, 2006). Fiscal constraints nevertheless imply that public resources would need to be freed from other sectors, such as public administration (Chapter 2).

Promoting high quality schooling for all students in other levels

Reducing school failure and improving equity

The authorities have introduced a number of initiatives to reduce early school leaving and help under-performing students. These include evening junior high schools for working students, additional instructive teaching for students who perform poorly in specific subjects, educational programmes operating in all-day schools, and measures to facilitate the integration of students with different cultural and linguistic background. The latter benefit approximately 136 000 repatriate and foreign students.[7] In addition, the new curricula and school textbooks of the mainstream educational system (discussed below) largely take into account the multi-cultural composition of Greek schools and the principles of intercultural education.

These initiatives reduce inequality in the education system and create conditions for more successful schooling, but more needs to be done. Official evaluations of the measures adopted are positive in improving integration of return migrant and immigrant children. However, more measures are needed to address factors stemming from inequities in social backgrounds. Consideration could be given to changing public school admittance arrangements which can favour socio-economic segregation by allocating students to schools solely on the basis of residence criteria.[8] This implies that only the most advantaged groups have the choice to either put their children in a good private school or to buy/rent a home near a good public school, with consequences for the socioeconomic composition of public schools. The PISA findings for scientific literacy suggest that the socio-economic context of the school is more important to learning outcomes than the students' socio-economic background (OECD, 2007b). Governments often allow for parental choice of schools. This policy option, however, requires careful management to avoid increasing differences in the social composition of schools, as popular schools tend to be oversubscribed. Student selection methods, such as lottery arrangements or additional support to schools attracting students from disadvantaged backgrounds, should be considered (OECD, 2008b). Hoxby (2006) indicates three conditions to be met for school choice to be successful: *i)* supply flexibility, implying that schools in demand can increase capacity and those rejected have to close; *ii)* money follows the student; and *iii)* independent management of schools.

Efforts to reduce geographic disparities in dropout rates are welcome and need to continue. Early school leaving is a more common phenomenon among children living in rural areas than in urban centres, though the difference was reduced considerably over time, reflecting, in addition to the need to support family finances, the student's place of residence.[9] Long distances between the school and place of residence reduce the incentives for students to continue schooling (Alimisis *et al.,* 2007) despite the fact that Greece already has a very high share of "small" schools among OECD countries (Sutherland *et al.,* 2007a, Figure 2). Measures to facilitate transport to schools of students in remote areas, are in the right direction. Distance learning at the school level could also be considered. Overall, it needs to be ensured that students residing in sparsely populated and remote regions are provided with adequate teaching and learning conditions.

Ensuring high teaching quality

Enhancing the attractiveness of teaching

Well-motivated teachers are central to achieving good school results and reducing achievement gaps. Greece appears to have no major difficulty in attracting people into the teaching profession, given high degree of job security and good overall working conditions (Stylianidou *et al.,* 2004). There is even some evidence of over-supply in the case of secondary teachers. However, teaching quality may be influenced by the quality and motivation of teacher trainees. Only 16% of university candidates in 2003 indicated primary teacher education among their top three preferences for study (OECD, 2005). The strict monitoring and control by the state of teachers' work in areas such as delivery of curriculum and students' assessment constitute additional factors for demotivation (Stylianidou *et al*., 2004).

Teachers are also dissatisfied with pay and opportunities for career progression (Koustelios, 2001). Relative salaries for teachers in Greece are below the OECD average, although recent trends do not stand out in international comparison (Figure 4.6). Salary progression reflects the length of teaching service and pay scales are comparatively flat.[10] It takes at least 30 years for lower-secondary school teachers to move from the bottom to the top of the statutory pay scale, which exceeds the average (24 years) of countries examined by the 2005 OECD review of teachers' policy (OECD, 2005). As for career streams, the current model involves three levels of automatic promotion for teachers in the public sector over a period of 8 years. Opportunities for promotion and career diversification in classroom teaching (including mainly the positions of deputy principal or principal) are limited (Stylianidou *et al.,* 2004).[11]

Strategies to recognise and reward quality teaching would strengthen school quality. The introduction of a coherent system of performance evaluation (discussed below) is indispensible for such a policy to work. Lowering the comparatively high teacher to student ratio could release resources to reward good teachers, though such a reform should be combined with developments in distance learning. The teaching profession would further benefit from greater career diversification (OECD, 2005). The ageing of the teaching workforce provides an opportunity to transform teaching jobs in a way that the profession is made more attractive (Figure 4.7). Measures by the authorities to attract teaching staff to disadvantaged areas include through recruitment priority, an increase in the number of points for career advancement and the introduction of settling-down allowances. Additional resources in areas with particular needs, however should be allocated on a school-by-school basis, taking account of relevant needs, rather than on the basis of specific geographic areas (OECD, 2007d). Consideration could be given, as noted earlier, to distance learning at the school level in remote regions.

Further improving the training of teachers

Better training of teachers is also key to enhancing quality of education. A series of training programmes have been introduced by the government in recent years to upgrade teacher skills and improve their managerial capacity. An innovative programme was implemented in 2008 focusing on administrative education bodies (school principals, school advisors and heads of education directorates). Further initiatives should focus on the introduction of pedagogical training for secondary school teachers. Greece follows a "concurrent" education model for primary teachers, which combines pedagogical and practical training. But in the case of secondary teachers, initial education remains largely

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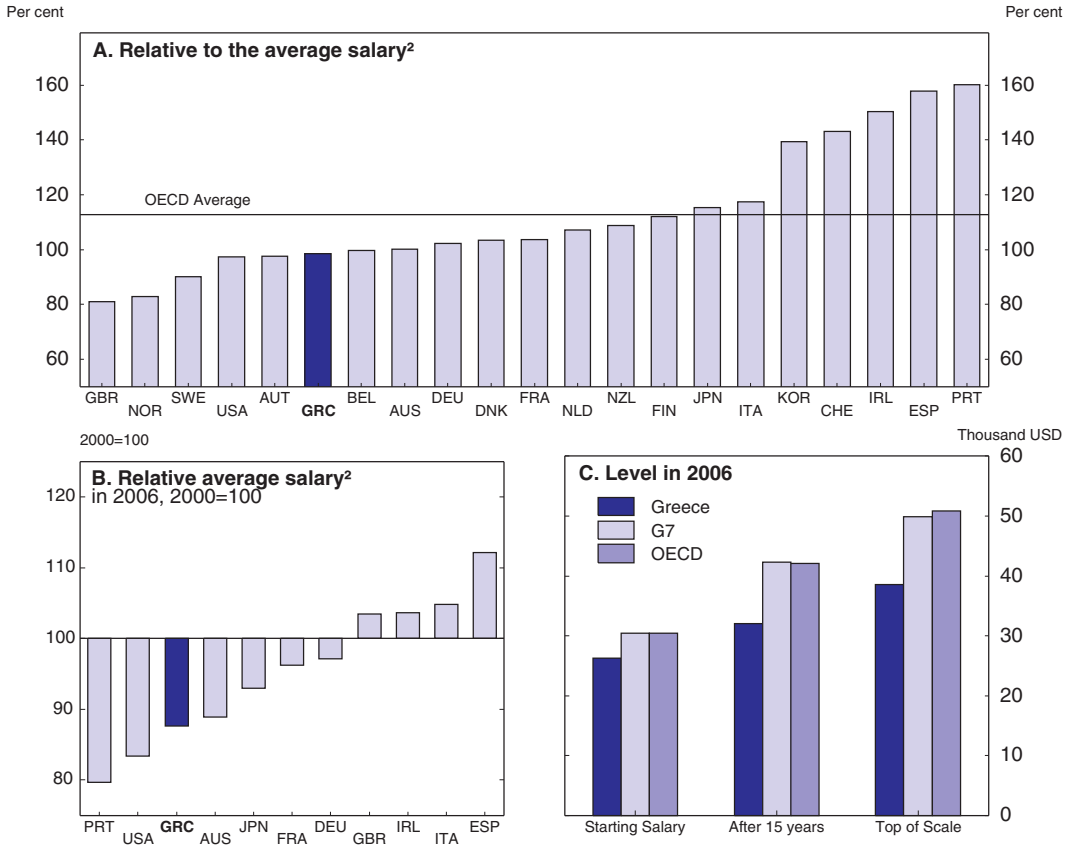
Figure 4.6. **Teachers' salaries: An international comparison**[1]

Average for primary, lower and upper secondary education, 2006



StatLink http://dx.doi.org/10.1787/686237357582

1. Annual statutory teachers' salaries in public institutions. Salary and wage data are in US dollars converted using purchasing power parities. The G7 (excluding Canada) and OECD aggregates (21 countries) are unweighted averages. No data is available at the top level of the scale for the United States in 2006.
2. Average of the three salary scales (starting, after 15 years and top) in per cent of annual average gross wage for a single person without children.

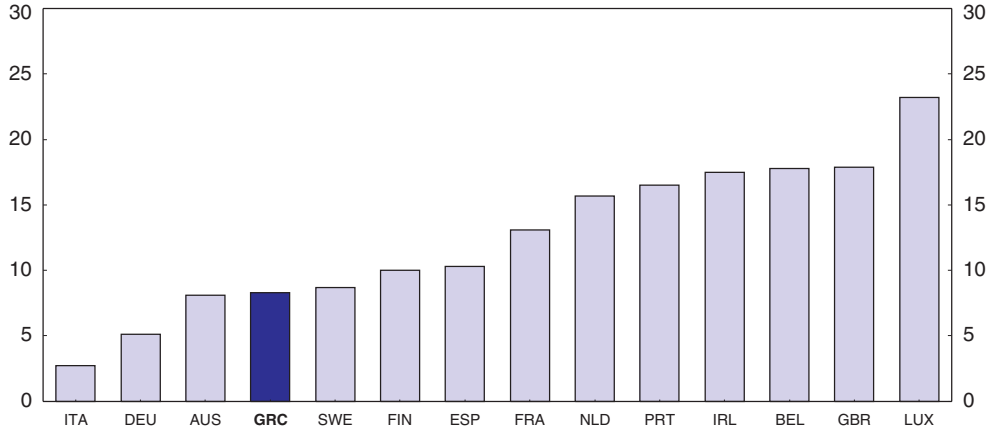
Source: OECD (2002 and 2008), *Education at a Glance* and OECD (2008), *Taxing Wages 2006/2007*, OECD Publishing.

restricted to the subject of their specialisation, without any systematic pedagogical training (Stylianidou *et al.*, 2004). This raises questions about their capacity to deal constructively with heterogeneity in student abilities and their approaches to learning. A compulsory year of pedagogical training should be introduced for secondary school teachers, as required by legislation passed in 1997.[12] It is also important to ensure a better match between the anticipated needs of the education system and initial education of teachers, in view of the over-supply of secondary teachers.

Reinforcing "on-the-job" training is another way to enhance teaching quality. Compulsory programmes for new teachers in the public sector, which include theoretical and practical training sessions, have been available since 1999. However, there is no minimum requirement for teachers to engage in professional development activities ("in-service" training). The completion of such activities is not required for the promotion or recertification of teachers, though it is generally considered beneficial for career advancement (OECD, 2005). In-service teacher training is an important element of teaching quality, affecting positively student achievement (European Commission, 2007c). The

Figure 4.7. **The ageing of the teaching force, 2005**

Teachers less than 30 years old as a per cent of all teachers



StatLink http://dx.doi.org/10.1787/686327088810

Source: Eurostat.

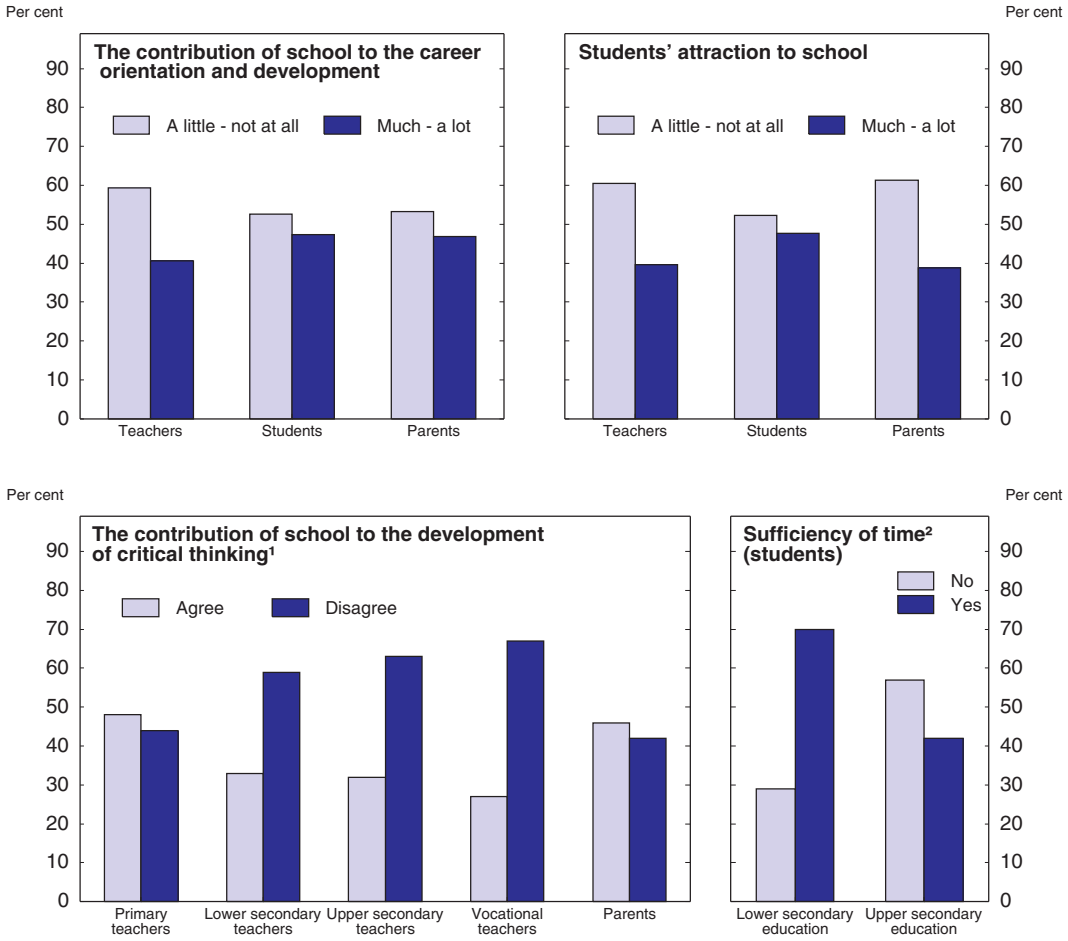
relatively large share of teachers still entering the profession on the basis of candidate lists ("epetirida")[13] creates a need for re-training, as newly qualified teachers may need to remain on the list for ten years or more before being appointed. Based on the 2000 PISA study, less than 10% of teachers participated in professional development, compared to an OECD average of 40% (OECD, 2005, Figure 4.3). While this figure may not reflect more recent developments, the gap *vis-à-vis* other EU countries is likely to have remained large. The ageing of the teaching workforce increases the need to update skills and knowledge of those who have been teaching for a long time (Figure 4.7).

The quality and co-ordination of training programmes also needs to be improved. Until early in the decade, the main decisions for in-service training were taken at a central level with limited evaluation of programmes (Stylianidou *et al.*, 2004). As a positive step, a new organisation (OEPEK) was established in 2003, focusing on planning, co-ordination and implementation of in-service training. OEPEK also allocates and manages funds for teacher training and accredits and certifies teacher trainings bodies. Efforts to establish well-coordinated and sustained in-service training programmes should continue. However, the systematic monitoring and evaluation of in-service training are still pending (European Commission, 2006b). Schools should be able to help to identify the type of training that is needed, so as to make the system more demand driven (Guichard and Larre, 2006). Besides training, a comprehensive evaluation and feedback system is essential for teachers' professional development. This is linked to the needed reforms in the evaluation mechanisms (see below).

Improving school curricula

The poor PISA scores suggest that there may be weaknesses in the curricula of key competences. The general public in Greece has a negative opinion about the contribution of today's school to the development of critical thinking and its links to the labour market (Pedagogical Institute, 2008) (Figure 4.8). The education system is perceived as too examination-centered, which reduces creativity and initiative and provides an incentive for rote-learning (Stylianidou *et al.*, 2004). This is especially so in the case of upper secondary education, where schoolwork is exclusively oriented to the university entrance

Figure 4.8. **Public perception about schools**



StatLink http://dx.doi.org/10.1787/686351428625

1. Percentage of teachers and parents considering that schools cultivate students' critical thinking.
2. Percentage of students consider the time devoted to the teaching of each subset as sufficient or not.

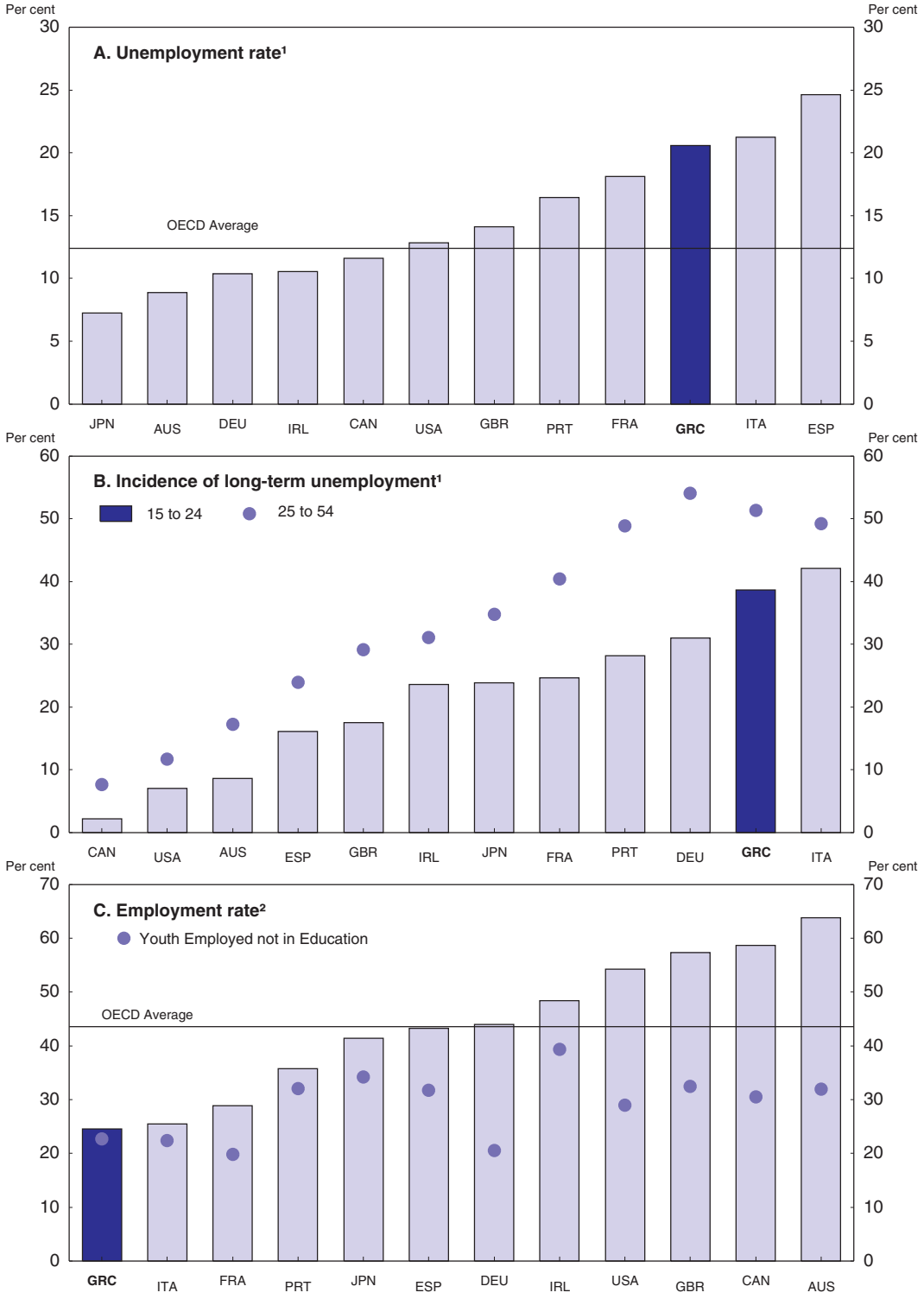
Source: Pedagogical Institute (2008) and Makridis, G. (2008).

examinations (Xochellis and Kesidou, 2007). This suggests that schools should better prepare students to apply knowledge to solve real-world problems, a view reinforced by the difficulties young people appear to face in their transition from school to work. Greece has one of the highest unemployment rates among young people aged 15 to 24 years, with the incidence of long term-unemployment standing at around 40% (Figure 4.9). Equally alarming is the fact that only a quarter of 15-24 year-olds (mostly not in education) was working in 2006, compared with an OECD average of 45% (Figure 4.9, lower panel).

Schools also do not trigger students' interest for the taught subjects (Figure 4.8). The large number of subjects is seen as problematic. About a third of students in lower secondary education consider the time devoted to the teaching of each subject as insufficient for its deep understanding, with the share of dissatisfied students doubling in upper secondary education. A lack of focus promotes memorisation, which, in the absence of a comprehensive assessment system for student performance (see below), results in a large number of students not being prepared properly to cope with the demands in the next stage of education (Xochellis and Kesidou, 2007).

Figure 4.9. **Youth employment**

15-24 years old



StatLink http://dx.doi.org/10.1787/686400125841

1. Year of reference 2008.
2. Year of reference 2006.

Source: OECD *Labour Force Statistic database* and *Education at a Glance*, 2008.

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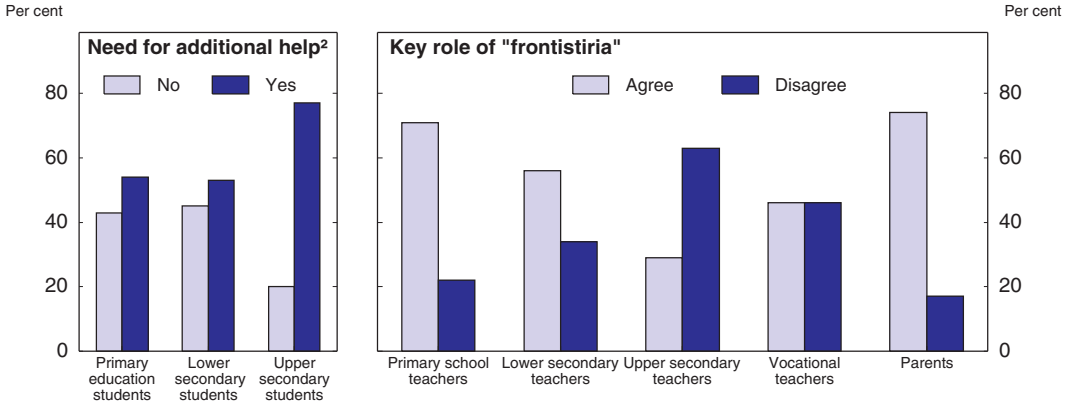
The problems with the quality of school system are highlighted by the extensive use of a parallel private system of additional classes (crammers, or "frontistiria") by students who can afford it. According to the Pedagogical Institute, over 50% of students at primary and lower upper secondary education and 77% in upper secondary education indicated the need for additional support for their schoolwork, mainly in the form of private cramming courses (Figure 4.10, left panel). The dominant role of *frontistiria* is closely connected to the parents' perception that success in the university entry exams is due to preparation at the cram schools (Figure 4.10, right panel). On the other hand, supporting teaching courses (Additional Instruction Programmes) provided for free at public schools have not so far gained the trust of students or parents, reflecting organisational and staffing problems (Pedagogical Institute, 2008). Reliance on cram schools also perpetuates social inequalities with regards to university entry between students whose parents cannot afford the cost of frontistiria and those who cannot (Giamouridis and Bagley, 2006).

Figure 4.10. **The importance of "frontistiria"[1] in education system**



StatLink http://dx.doi.org/10.1787/686431646806

1. Percentage of parents and teachers considering frontistiria as the key factor for such a success.
2. Percentage of students indicating the need for additional support for their schoolwork.

Source: Pedagogical Institute, 2008.

Reform initiatives in recent years have aimed at upgrading the school curricula, with a particular emphasis on inter-disciplinary activities.[14] The revised curricula are expected to promote the development of critical thinking, collaborative skills and creative activity (European Commission, 2007b). New textbooks were also introduced in 2006-07, in line with new curricula, which enhance critical thinking and reduce rote-learning. A second foreign language (in addition to English, which is compulsory) was introduced in the primary school as an optional subject. This is a welcome step in light of the important role that the knowledge of a foreign language plays for the employment potential of secondary education graduates (Paleocrassas *et al.*, 2002).[15] Advancement in linking schools to the internet are also worth mentioning, with more than 95% of schools being connected in 2006, although Greece still needs to close the sizeable gap in digital competency *vis-à-vis* other OECD countries (European Commission, 2008b).

School curricula have also become more flexible in recent years in ways that should enhance quality of schooling. The "flexible zone" programmes, for example, enacted on a pilot basis in compulsory education, set aside a few classes per week for cross-curricular activities. Moreover, "all day" schools not only provide an extended timetable, but also offer

more activities and thematic units (Education Research Centre, 2006). But curriculum policy is still determined largely by the "one-textbook rule" for each subject. The 1997 *OECD Education Review* assessed that such a rule imposes a "stifling uniformity", providing disincentives to teachers' and students' creativity and an incentive to rote learning (OECD, 1997). Teachers must follow the national curriculum and use the approved textbook for each subject, although they can adapt teaching methods to the particular needs of their classes (European Commission, 2008a).

Although the recent measures towards upgrading schooling are welcome, there is ample scope for improvement. A necessary condition for adjusting curricula further, as also recognised by the government, is to change the system of entry to university in order to reduce the negative effects on secondary education (see below). Overall, a critical element for enhancing performance is that there be a close monitoring of student achievements on the basis of nationally consistent and well designed measures, and that the outcomes of these assessments be used to inform future policy development and, where necessary, intervention programmes (see below).

Developing vocational and technical education

The Greek education system is characterised by a bias in favour of general programmes preparing students for tertiary education rather than for work. Despite initiatives to diversify upper secondary education and to upgrade vocational and technical education, only a third of students in upper secondary education were enrolled in vocational programmes in 2006 compared to an EU27 area average of over half (European Commission, 2008b). Young people still consider vocational education as last resort (Vretakou and Rouseas, 2003). The marked difference in the drop-out rates between general and vocational secondary upper education programmes, at 3% and 20%, respectively, is a telling sign (Alimisis *et al*., 2007). Research further suggests that vocational programmes cater for students of relatively low socio-economic background and academic potential (Rouseas and Vretakou, 2008b). Moreover, according to the 2003 PISA study, Greece has one of the highest differences in mathematics between general and vocational programmes, even after controlling for the socioeconomic characteristics of students.

Vocational and technical education needs to be better adapted to labour market needs. Around 12% of graduates from upper-secondary vocational institutions were unemployed 6½ years after their graduation (Rouseas and Vretakou, 2008b). Those employed stated that they needed two years on average to find a job. In addition, only about a quarter of students found employment matching their training, raising additional questions about the effectiveness of the system. Based on the views of a pilot network of labour market "correspondents", a recent study also highlights the need for revising vocational curricula, making them more responsive to employment needs (Paleocrassas, 2008). The study proposes to include a larger number of general courses in vocational curricula in light of the importance of general skills in firms' hiring decisions, so long as such a change would not deter students from enrolling in vocational education. It also proposes to streamline training specialisations offered by the vocational schools and to enhance career advice and orientation at the lower secondary education level.

The structure of upper secondary vocational education was reformed in 2006 by providing students with more study choices.The recent law established two new types of vocational institutions, Vocational Lyceums (EPAL) and Vocational Training Schools (EPAS), and enabled pupils at the former to continue to tertiary education.[16] The number of

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technical-vocational specialisations provided in secondary education was also reduced. Preliminary evidence indicates some positive outcomes in terms of increased participation in vocational training and reduced student dropouts (Ministry of Economy and Finance, 2008). By widening the range of "pathways" to further education, the 2006 law is also expected to reduce the considerable difference between graduates from general and vocational schools as regards their interest and participation in post-secondary education and training (Rouseas and Vretakou, 2008b).

Efforts should continue in this direction. Improving the standing of vocational education so that it becomes a first choice for appropriate students is important to enhance Greece's position in the international ranking of upper secondary education attainment. The scheduled re-examination of curricula and design of qualifications in vocational institutes (post-secondary Institutes of Vocational Training and Schools of Initial Vocational Education and Training) therefore need to proceed rapidly. Furthermore, a broad based vocational system is important for lifelong learning. The enhanced role of social partners in the planning and implementation of vocational training policies, envisaged by government, is a welcome step in this regard. The network of labour market correspondents, discussed above, although still in a pilot phase, could provide a useful basis for updating curricula contents and reducing the deficit in work experience of the curricula developers, who are currently hired mainly on the basis of their scientific qualifications (Paleocrassas, 2008).

Despite steps towards simplification, the process of determining professional rights for the practice of a vocation remains complex and should be simplified. The process is too time-consuming due to the fragmentation of the system,[17] which can reduce the attractiveness of vocational education. The determination of professional rights for all specialities plays an important role for the effectiveness of vocational and technical education.

Effectiveness of the system would further improve from the full and rapid implementation of the *National System of Linking Vocational Education and Training to Employment*. This registers the needs of the labour market at national and local level, coordinates initial (including at secondary school level) and continuing training, and provides accreditation of vocational training qualifications. It also focuses on counselling and vocational guidance.[18] A systematic approach to disseminate information on VET and to provide effective career advice and counselling is essential for better understanding the patterns of required skills and the potential career paths available to school leavers.

Spending better

Recent OECD analysis suggests that the potential for eliminating inefficiency in primary and lower secondary education by reducing input, while holding outputs constant, or increasing output, holding inputs constant, are substantial for Greece (Sutherland *et al.*, 2007b, Figure 8). A major example of inefficiency is the extensive resort of students to the private cramming courses (frontistiria), which, as discussed above, can be seen as compensating for the poor performance of the public education system. According to Psacharopoulos (2004), each year more than one billion euros (around 0.4% of GDP) are spent on preparatory courses aiming to help students enter university. This implies that upper secondary education comes at high cost. The resources absorbed by the private tutoring system could be used for improving the quality of instruction if the money flowed to the public school system.

The overall allocation of resources could also be improved by raising the share of non-wage spending. The wage bill accounts for the bulk of spending in primary and secondary education (92% compared with an OECD average of around 80%). As a result, many schools lack the necessary infrastructure (laboratories and teaching equipment), and are often overcrowded in the larger cities, despite progress in recent years. Inefficiencies also arise from the relatively large share of small schools, although geographic constraints need to be taken into account.

Improving school accountability and autonomy

Education quality would benefit from greater school autonomy. OECD indicators of institutional settings in primary and secondary education rank Greece below best practice in terms of decentralisation, and especially managerial autonomy at the school level (Figure 4.11, upper and middle panels). As discussed above, the central government is the primary decision maker in the education sector, having responsibility for budget administration, approval of school curricula, and the appointment of teaching staff. Cross-country evidence suggests that greater school autonomy and accountability tend to be associated with higher levels of educational efficiency (Sutherland *et al.*, 2007b). School autonomy in procedural matters in formulating the school budget, for example, is estimated to have a positive impact on school outcomes (Wößmann, 2005). Greater autonomy could help teachers to better adapt to the variable learning needs of students depending on their socio-economic background, also increasing the sense of responsibility and motivation for the job. However, while autonomy with regards to teacher salaries can improve schooling outcomes, this impact is subject to the presence of accountability mechanisms (Wößmann, 2005).

Greater school autonomy needs to be accompanied by enhanced accountability. Assessments that monitor student performance and allow benchmarking between schools are widely recognised as prerequisites for raising performance (Sutherland *et al.*, 2007b). Standardised tests across schools are currently available in Greece only for entry to university, which are conducted at the national level and their results are published. External exit exams (which report performance relative to an external standard) is a common accountability device in OECD countries, altering the incentive structure compared to school-based or teacher-based examination (Wößmann *et al.*, 2007). The results of central exit examinations also provide more valuable signals to the job market than those from non-central examinations, since the former are comparable (OECD, 2007e). The authorities should consider introducing more nationwide tests. Such national tests could be mandatory at the level where a tracking decision needs to be taken (for example, at the end of primary education and/or lower secondary school). They can also help detect and correct individual learning and school problems if they are conducted on a regular basis at different grades in primary and secondary education (OECD, 2008c). The results of national assessments could be used to set priorities on the allocation of resources to schools and curriculum planning. School accountability could be further enhanced through benchmarking schools on the basis of student performance assessments (Sutherland *et al.*, 2007b; Wößmann *et al.*, 2007). The use of benchmarking is underdeveloped in Greece (Figure 4.11, lower panel).

Accountability policies concerning teachers can also have positive effects on achievement. Greece has currently no systematic evaluation of teachers. Legislation was introduced in 2002 – but never implemented – that would have required all teachers to be

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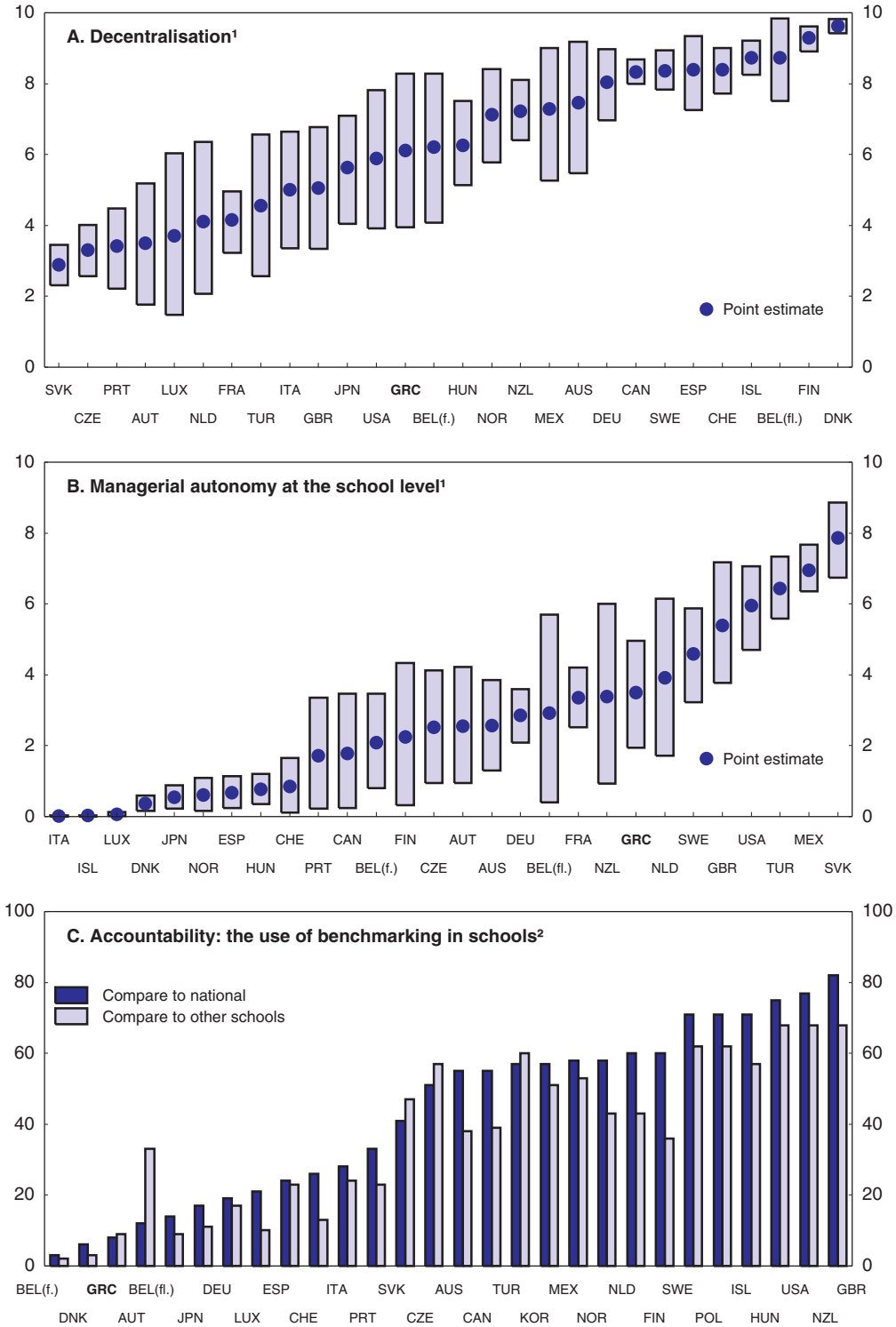
Figure 4.11. **Autonomy and accountability in primary and secondary education**



StatLink http://dx.doi.org/10.1787/686475414451

1. The figure gives the average and the range that contains 90% of the 1 000 random weighted indices.
2. Share of schools in the *PISA 2003 database* reporting using assessment to compare with national performance and other schools.

Source: Gonand, F. *et al.*, (2007), *Public spending efficiency: institutional indicators in primary and secondary education;* and Sutherland D. *et al.*, (2007), *Performance indicators for public spending efficiency in primary and secondary education.*

periodically evaluated by external evaluators and principals. Teacher evaluation could be used to identify priorities and to reward teaching excellence – though the design of the evaluation programmes is of crucial importance in building a closer link between evaluation and rewards (OECD, 2005). Evaluation should take into account that at the secondary level of education teamwork is more important than at higher education level (Chant, 2005). OECD (2005) concludes that, in many circumstances, group recognition and rewards at a school or grade level have been more effective performance incentive schemes than individual teacher rewards.

Assessments should be used more as a policy making tool. Results from the 2006 PISA survey suggest that only half of the 15-year olds are enrolled in schools which reported that achievement data were tracked over time by the administrative authority. The proportion fell to less than 10% in the case of teacher performance evaluation, and especially that of decisions about resource allocation to the school. The publication of school achievement data is also limited in Greece. Only a third of students are enrolled in schools where the principals reported that such data were posted publicly. This is somewhat below the OECD average (38%) and far behind the percentages reported for other countries, such as 90% in the United Kingdom and United States (OECD, 2007b, Figure 5.9). While the extent to which information on student performance should be publicly reported is a widely debated issue, analysis of the impact of accountability policies on PISA performance shows that students in schools positing their results publicly performed about 15 score points better than their counterparts in schools that did not.[19]

Directions of reform

Education reform is high on the government's agenda and a public consultation on education reform has been initiated.[20] Efforts will focus initially on upper secondary education, which is the most in need of reform, including through a change in the university entry process. In this context it is important to ensure that upper secondary school becomes an autonomous educational level that does not serve solely as a preparatory stage for the exams to university. A more autonomous upper secondary education would enhance the quality of public education and reduce the extensive reliance on private cramming courses. To this end, the *National Council of Education* (ESYP) proposes the introduction of preparatory courses for university in the last two grades of upper secondary school, which will take place after the regular daily teaching hours and will be compulsory for those interested in studying at a university. As an alternative, a preparatory year could be added to upper secondary school for such students, which will focus only on the specific subjects required for university exams. In addition, the Council recommends that the final certificate provided at the end of upper secondary education ("Apolytirio") be given a value in its own right – obtained through a different set of exams which precedes the ones for the university entry and would be conducted at the school or regional level.[21] To promote depth in understanding and reduce rote-learning, ESYP suggests a reduction in the number of subjects taught. The proposals also include an increased focus on career orientation from the first grade of upper secondary school and academic research requirements for students to increase their competencies.

These proposals go in the right direction towards upgrading upper secondary school curricula and disconnecting this level of education from the university entry exams. Nevertheless, as acknowledged by the government, they need to be accompanied by a change in the system of entering university. One alternative would be to have only one national exam,

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based on an improved curriculum, at the end of upper secondary education, leading to the final school certificate. This would measure achievement in the upper secondary school curriculum. The selection for entering tertiary education would be left to the universities themselves. Granting higher education institutions discretion over student admission can facilitate a better matching between their profile and students' characteristics. This strategy would also be in line with international experience (Santiago *et al.*, 2008).

An alternative proposal that has been brought forward in the current debate regarding the process of entering university is to abolish the entrance requirements altogether. This matter needs careful attention, in light of the sizeable demand for higher education, which is perceived as a means of social mobility, the lack of infrastructure and, most importantly, the weakness of the secondary education system in providing students with adequate knowledge and key competencies. The strong demand for universities may be further reinforced by the lack of tuition fees which may create the wrong incentives for students. Favouring a more rigorous selection system would avoid a potential waste of resources, a view further supported by the high number of drop-outs from higher education.

Improving the performance of tertiary education

The lack of responsiveness and flexibility of the university system was found as a key policy issue in the 2007 *Economic Survey of Greece*. Recent OECD indicators suggest that the current institutional framework for tertiary education is among the most centralised and least flexible by international comparison, falling short of best practice by a wide margin (Figure 4.12). As discussed in detail in the previous *Survey,* this reflects Greece's poor scores for all three sub-components of the composite supply indicator (*i.e.* input flexibility, output flexibility, and accountability of the tertiary institutions). Rigidities arise, for example, from the civil servant status of faculty and administrators, access restrictions to tertiary education, and the Constitutional obstacle to the establishment of private universities. The introduction of an evaluation system for universities in 2005 has been a step in the right direction.[22]

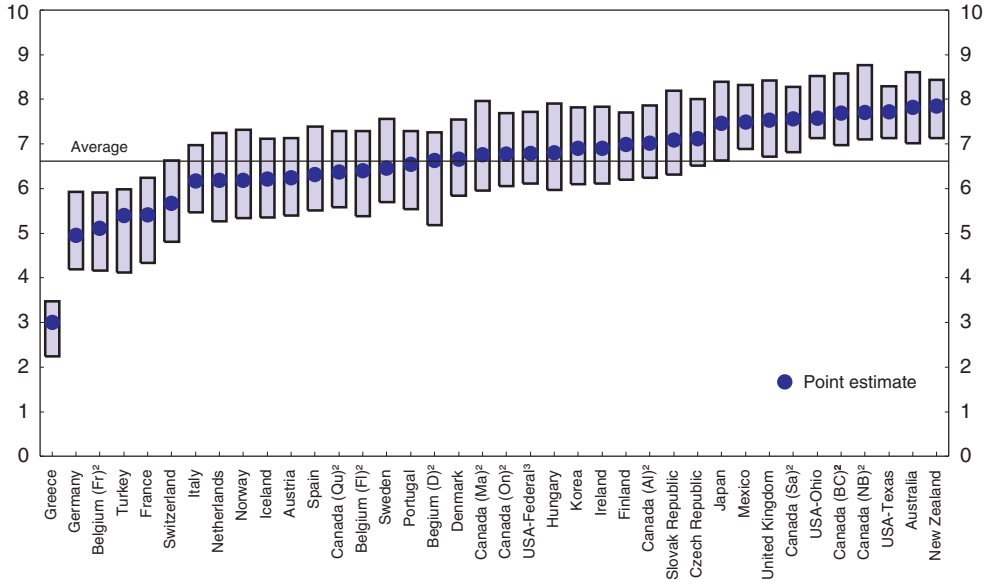
Tertiary education outcomes are also influenced by a relatively low internal rate of return, especially for Greek men[23] (Oliveira-Martins *et al.,* 2007). Private returns are reduced by the long duration of study. The average time taken for a student to graduate from one of five recently assessed university departments was eight years (Kathimerini, 11 February 2009). This reflects the lack of tuition fees for undergraduate students and, until recently, no constraint on the length of study time. Financing constraints may also affect education outcomes. The private cost of tertiary studies (cost of living) is largely met by intra-family transfers, while the grant system is not generous and no student loan scheme is in place (OECD, 2007a).

Unemployment is also high among young tertiary education graduates, indicating a mismatch between the acquired and demanded skills. Even the "upper" segment of the higher education system adapts "rather slowly" to the requirements of a knowledge-based economy (Liagouras *et al.*, 2003). As tertiary education is entirely provided and largely financed publicly, since there are no tuition fees for the undergraduate students, the poor academic and labour market outcomes raise questions about the effectiveness of public spending.

Some reforms are underway, but progress is slow. Legislation passed in 2007 included several measures for improving the governance of universities, ensuring independent evaluation, limiting the duration of academic study and raising the provision of student loans. While in the right direction, the previous *Survey* assessed the 2007 reform initiatives as "modest" compared to the policy challenges facing the higher education system and the

Figure 4.12. **Composite supply indicator of tertiary education, 2005-06**

Increasing in input and supply flexibility and accountability[1]



StatLink http://dx.doi.org/10.1787/686485661518

1. The bars correspond to the 95% confidence intervals obtained through the random weight technique.
2. Belgian regions are: Fr: French Community; Fl: Flemish Community; and D: German-speaking Community. Canadian provinces are: Al: Alberta; BC: British Columbia; Ma: Manitoba; NB: New Brunswick; On: Ontario; Qu: Québec; and Sa: Saskatchewan.
3. In interpreting this value for Federal provisions concerning supply flexibility and accountability it should be taken into account that federal funds only account for a small share of total funding of US tertiary education institutions.

Source: Oliveira-Martins *et al.* (2007), *The Policy Determinants of Investment in Tertiary Education*.

need to bring its performance in line other OECD countries. In addition, reforms have been implemented at a very slow pace. In early 2009, the Hellenic Quality Assurance Agency presented to the authorities – around four years since its establishment – the first results of the evaluation of five departments at universities around the country. Lax standards at the universities were the main shortcoming highlighted by the assessment.

Efforts towards increasing the responsiveness and flexibility of higher education need to continue

Further progress is needed to increase the responsiveness and flexibility of tertiary education to close the performance gap with respect to the other OECD countries (Box 4.1). The recent OECD Review of Tertiary Education advocates giving tertiary institutions ample autonomy over the management of human resources to increase their responsiveness to societies demands (Santiago, 2008). Empirical evidence from a cross-country analysis points that, Greece would have the largest potential gain among the examined OECD countries in terms of higher graduation rates, if flexibility and accountability could be raised to the level of the best performing country in the sample (Oliveira-Martins *et al.*, 2007). Availability of information and analysis about graduate labour outcomes and strengthened career services are also important in ensuring that tertiary education is responsive to labour market needs, according to the OECD review of Tertiary Education.

The needed reforms and their potential benefits were highlighted by the 2007 *Survey*. Particular priority was given to allowing private universities through an amendment of the

Constitution.[24] The lack of competition in the higher education sector, arising from the Constitutional obstacle to the establishment of private universities, and the civil servant status of professors, have been blamed for a significant deterioration in the quality of higher education (Psacharopoulos, 2004). The funding of institutions could be related to indicators of performance which are simple and transparent (Santiago *et al.*, 2008). Such initiatives could be complemented, at a later stage, with "deeper" reforms to university finances, notably introducing tuition fees for undergraduate students – though at a moderate level given the relatively low rates of return to tertiary education in Greece (OECD, 2007a); this reform would also require a Constitutional amendment. Tuition fees would help to increase funding for universities and enhance the diversity of its sources. They would also help to raise the performance of universities by reducing the duration of studies. The introduction of tuition fees should be accompanied by income-contingent loans so as to ease liquidity constraints faced by students from poorer families. However, such schemes also imply that income of graduates needs to be monitored. This is usually done by the tax administration, reinforcing the need of an effective tax collection tax system.

Box 4.1. **Recommendations for raising education outcomes**

Improve access to and quality of early childhood education and care

- Increase the supply of early childhood services, especially for children under 3 years, by eliminating bottlenecks that limit the duration and diversity of these services. This is likely to require more public spending which, given the overall tight budget situation, calls for freeing public resources from other sectors, such as public administration.
- Consider introducing universal access to early childhood education for four years-old in line with international practice, and potentially to three year-olds as well.
- Ensure consistency of supply and quality for early childhood education and care services. Proceed swiftly with the development of a regulatory framework and the modernisation of the child care sector. To ensure more even quality of services this should include, as planned by the government, technical standards for the premises of child care services and the development of a pedagogical programme for pre-school education.
- Develop a more integrated system of early childhood education and care. Having a lead ministry in charge would ensure that polices in the field are coherent. Ensure appropriate mechanisms for monitoring policy implementation and performance.

Improve the quality of primary and secondary education

- Continue strategies to counteract the effects of disadvantaged backgrounds on performance. Reform public-school admittance arrangements, to reduce the risk of socio-economic segregation.
- Ensure that students residing in sparsely populated and remote regions are provided with adequate teaching and learning conditions. Additional resources in areas with particular needs should be allocated mainly on a school-by-school basis, taking account of relevant needs, rather than on the basis of specific geographic areas. Consideration could be given to distance learning at the school level in remote regions.

Box 4.1. **Recommendations for raising education outcomes** *(cont.)*

Improve teaching quality

- Change the system of teacher career progression, which currently provides only limited opportunities for promotion, to increase the attractiveness of the profession. Recognise and reward quality teaching. Lowering the comparatively high teacher to student ratio could release resources to reward good teachers, though such a reform should be combined with developments in distance learning.
- Ensure a better match between the anticipated needs of the education system and the initial education of teachers, and introduce a compulsory year of pedagogical training for secondary teachers.
- Improve teachers' professional development. Introduce minimum requirements for "in service" training. Continue efforts towards well coordinated and sustained in-service training programmes.

Improve the curriculum in secondary and vocational schools

- The curriculum should better equip students with the competences to succeed in their post-school life. Reform efforts should initially focus on upper secondary education, followed by comprehensive reforms of all other levels.
- Introduce a nationwide final exam for upper secondary school and separate it from university access exams.
- Reform of curriculum should also make vocational and technical education more attractive The scheduled re-examination of curricula and the way qualifications are designed in vocational institutes need to proceed at a fast pace. This should ensure that the vocational system is broadly based, in addition to delivering specialist skills.
- Develop a more systematic approach to disseminating information on vocational and technical training and ensure the provision of effective career advice and counselling, in line with international practice.
- Enhance the role of the social partners in the planning and implementation of vocational training policies and curricula, through the development of the network of labour market correspondents. The process of determining vocational rights should be simplified further.

Enhance school autonomy and accountability

- Increase school autonomy. Move towards a less centralised management governance structure. Schools should be given autonomy with respect to staff recruitment.
- Improve school accountability through nation-wide measurement of student achievements. The development of a comprehensive system of teacher evaluation should be given high priority. Accountability measures aimed at entire schools should be considered as a means of improving performance incentives.
- The outcomes of nationwide based assessments should be used to inform future policy development and, where necessary, intervention programmes.

Enhance quality of tertiary education

- Proceed with the amendment of the Constitution to allow private universities.
- Ensure the swift implementation of a well-performing evaluation system of universities.
- The funding of institutions could be related to indicators of performance which are simple and transparent.

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Box 4.1. **Recommendations for raising education outcomes** *(cont.)*

- Increase the autonomy of universities in terms of selecting staff and students.
- Given the high number of drop-outs, a rigorous selection of students for entry to tertiary education should be maintained but the selection should be left to the higher education institutions themselves.
- Introduce fees for undergraduate students (which also requires a Constitutional amendment) at a moderate level and provide student loans. If feasible to implement, 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. EPAS can be attended by graduates of the first class of the General Lyceum or EPAL.
2. There are 13 Regional Education Directorates under the Ministry of Education that implement educational policies and have the responsibility for the administration and supervision of the other decentralised services in their area and for the co-ordination of local school advisors. Education Directorates in each prefecture and district offices provide administrative support and supervise and co-ordinate school units (European Commission, 2008a).
3. The provision of services in the municipal child care centres are subject to a small fee, though there is no fee for certain categories of families (European Commission, 2008a).
4. The Shanghai Jiao Tong ranking is primarily a measure of research output rather than teaching output, and the methodology is likely to favour English-language institutions and, also larger institutions over smaller ones. Other rankings, which are less comprehensive but probably less subject to these biases, though also rank Greek universities relatively low. The UK Times Higher Education Supplement, for example, a kind of "peer review" which ranks institutions on the basis of the subjective opinions of university researchers, places the University of Athens in last place out of 200 top world universities.
5. The term "pre-primary" refers to kindergartens (nipiagogeia) which provide preschool education for children 4 to 6 and operate independently, under the supervision of the Ministry of Education, or in centres together with the state nursery schools (child centres) supervised by the Ministry of Interior Affairs (European Commission, 2007b). Education for children aged 4 or under is provided at the child centres (and at infant centres that are either municipal (under the supervision of the Ministry of Interior Affairs) or private (under the supervision of the Ministry of Health).
6. For a discussion, see Hank and Buber (2007).
7. Initiatives take the form of reception and support classes and the so called "intercultural schools" attended by students of native and immigrant origin and staffed by specially trained teachers.
8. The only exception is the experimental schools where students are accepted by means of a public draw.
9. For a discussion, see Lariou-Drettaki (1993), Ministry of Education-Pedagogical Institute (2006), Alimisis *et al.*, 2007, and Rouseas and Vretakou (2008a).
10. The differential between the initial and top salary is around 50% compared to an OECD average of 70%.
11. There are also possibilities for moving to non-classroom teaching posts, including, for example, becoming responsible for environmental or health education, head of an education directorate or school advisor at secondary or primary level (Stylianidou *et al.*, 2004).
12. The 1997 law was never implemented as some subjects related to pedagogical issues and teaching methods were included in the core curriculum of secondary teachers.
13. In 1998, the system of "waiting list" was replaced (though provision was made for a five year transition period). However, 40% of teachers are still entering the profession on the basis of candidate lists (epeterida) with the remaining entering on the basis of national competitive examinations (ASEP).

14. The Uniform Cross-Curricular Thematic Framework for compulsory education was adopted in 2003, along with the revised curricula.

15. The extensive use of private cramming courses by students in lower levels of education for the learning of foreign languages provides further evidence in this regard (Pedagogical Institute, 2008).

16. Graduates from EPAL receive a school leaving certificate which enables them to continue their studies in higher education institutions, if they succeed the national entry examinations. Students from EPAS do not have the possibility to continue to tertiary education.

17. The professional rights of graduates of the Vocational Apprenticeship are established in a Presidential Decree. For the implementation of the Decree the involvement of the Ministry of Education and Ministry of Employment is necessary as well as that of other co-qualified Ministries and social partners, should the occasion arise, is required (National sources).

18. The sub-systems of ESSEEKA for the development and implementation of an integrated system for the analysis of labour market needs, and of an advisory system within the framework of lifelong learning are currently being developed under the framework of the Operational Programme "Human Resources Development" (Ministry of Economy and Finance, 2008).

19. The association remains positive even after taking into account the demographic and socio-economic background of students, though it no longer statistically significant (OECD, 2007b).

20. The government indicated that its education policy will be a "tabula rasa" (Kathimerini, 14 January 2009).

21. Under current arrangements, graduates of upper secondary education are provided not only with a leaving certificate but also with the relevant attestation ("veveosi"), which proves that its holder can claim admission to university (European Commission, 2007b).

22. *Input flexibility*, for example, is especially low because of the civil servant statues of faculty and administrators, the inability (due to the Constitutional obstacle) to charge tuition fees for undergraduate students and access restrictions to tertiary education. *Output flexibility* is also limited as major decisions are on a central level and private universities are not allowed. In terms of *accountability*, no evaluation system for universities was available before 2005, when the Quality Assurance Agency for Higher Education was established (OECD, 2007a).

23. Gender differences in the internal rates of return to higher education may reflect differences in the employability *premia*, which are much higher for women. In addition, wage *premia* are relatively low in Greece in international comparison, reflecting the poor performance of the tertiary education.

24. In 2007, the government made an effort to tackle the Constitutional hurdle regarding the establishment of private universities by proposing a Constitutional amendment. However, the effort failed because the amendment could not muster an enhanced parliamentary majority. There was also a ruling by the First Instance Administrative Court for the recognition of the post-graduate degrees granted by the private colleges in Greece that are affiliated with foreign universities (Kathimerini, 22 January 2009).

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OECD PUBLISHING, 2, rue André-Pascal, 75775 PARIS CEDEX 16
PRINTED IN FRANCE
(10 2009 15 1 P) ISBN 978-92-64-05427-1 – No. 56903 2009

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Volume 2009/15
July 2009

ISSN 0376-6438
2009 SUBSCRIPTION
(18 ISSUES)

OECD*publishing*
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ISBN 978-92-64-05427-1
10 2009 15 1 P

9 789264 054271