

**The economic crisis in Greece:
A time of reform and opportunity**

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Abstract

This article explains the causes of the Greek crisis, as well as the key reforms that are needed to get Greece out of the crisis and make it prosperous. Reforms are on two main fronts: those designed to improve the government's finances and those designed to improve competitiveness. Some of the reforms that we outline in this article are part of the agreement between Greece and its lenders (EU/IMF); at the same time, we seek to describe a more comprehensive and long-run reform agenda. We present many numbers and facts about the Greek economy, and use simple and self-contained arguments accessible to non-economists.

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Introduction

Greece is at a critical juncture of its recent history: the economic policies of the last three decades have brought it close to bankruptcy, but bankruptcy can be avoided and growth can resume if important economic reforms are made and rigorously implemented. For the reforms to succeed, a social consensus is important. In particular, there must be general agreement on why reforms are needed and what reforms should be made. Yet, consensus is missing. Some oppose the reforms that Greece has agreed on with its lenders on the grounds that they are misguided or that they imply a loss of national sovereignty. Others defend the reforms, but on the grounds that these are the price to pay for avoiding bankruptcy---thus suggesting that if Greece's lenders had asked for different reforms they would have defended those instead. And a large fraction of the general public is left unsure about whether Greece will manage to exit the crisis, and how the reforms will help achieve that goal.

In this article we would like to help build a social consensus around the reform process by explaining what key reforms are needed to get Greece out of the crisis, and why these reforms can make Greece prosperous. Understanding what the necessary reforms are requires understanding the causes of the crisis, and we explain these as well. We seek to explain the issues in a manner that is simple and intuitive, yet scientifically precise.

Much of the debate about Greece's current problems has focused on the short-run management of the crisis. Will Greece be able to repay its debt, or will it have to restructure? Will Greece exit the euro, and should it do so? Will the European Union and the European Central Bank decide to offer further assistance to Greece? Discussion of these issues is pointless unless Greece undertakes the type of reforms that we outline in this article. If reforms are not undertaken, Greece is bound to default and the crisis to deepen. If instead reforms are undertaken, the management of the debt will become much easier: Greece will be able to borrow at much lower interest rates as its lenders will become more assured about its ability to repay.² Moreover, reforms are necessary not only for repaying the debt, but also for Greece's long-run growth and prosperity. Even if Greece's debt were to magically disappear overnight, the same reforms would be needed; or else Greece would find itself with a new debt problem again soon.

Some of the reforms that we outline in this article have been discussed before, but successive Greek governments have chosen to ignore the debate---until, of course, they were forced into it by the crisis. This is either because of lack of vision and courage, or because of vested interest in the status quo, or because of lack of understanding of the economic realities. It is time that such populism and lack of leadership of the past is

² Moreover, the decrease in interest rates will be immediate even though reforms can take time to be fully implemented because the rates at which Greece can borrow today depend on lenders' beliefs about its ability to repay in the future.

replaced by political courage guided by the principles of modern economics, so that Greece can resume growth and unleash the genuine productive creativity of which there is much among Greeks.

Section 1 of this article explains when Greece's vast public debt was accumulated and how it affected the economy. Sections 2 and 3 outline the key reforms, which are on two fronts: reforms to improve the government's finances, outlined in Section 2, and reforms to improve competitiveness, outlined in Section 3. Each section starts with questions and answers that summarize the main points. Some of these points stand in sharp contrast to commonly-held views about the Greek economy and the reform process; we highlight these views and explain why they are incorrect in boxes spread throughout this article.

1. The Public Debt

- *When was the public debt accumulated? Debt increased sharply during the 1980s, and further increased, at a lower pace, during the 1990s and 2000s.*
- *How did the public debt affect the economy? Debt triggered a decrease in productive investment and an increase in consumption.*
- *Why is Greece heavily indebted to foreigners? Because Greek citizens were consuming beyond their means with money that their government was borrowing from foreigners.*

When was the public debt accumulated? Let's first explain the difference between debt and deficit. In any given year, the government has some revenue, e.g., arising from taxes, and some expenditure, e.g., to pay public servants. If the expenditure is higher than the revenue, then the government has a deficit and needs to borrow. This generates debt. Moreover, if the government has accumulated debt over previous years, because it was running deficits during those years, a deficit in the current year further raises the debt. Note that the relationship between debt and deficit goes in both directions: not only a deficit in a given year raises debt accumulated over previous years, but also debt accumulated over previous years raises the deficit in the current year. This is because interest payments on debt that has accumulated over previous years are an expenditure during the current year, and add to that year's deficit.

Table 1 describes the historical evolution of the deficit. For each decade we report the deficit, expressed as a percentage of the size of the Greek economy and averaged over the

ten years. Size is measured by GDP, the total value of goods and services produced in Greece.³

Table 1: Government deficit (Source: OECD)

Decade	1960-1969	1970-1979	1980-1989	1990-1999	2000-2009
Govt. deficit as % of GDP	-0.6	1.2	8.1	8.4	5.9

During the 1960s and 1970s the government was essentially breaking even. The deficit increased dramatically during the 1980s: in each year during that decade, government expenditure exceeded revenue by an average 8.1% of GDP. The deficit remained high during the next two decades.

The evolution of the deficit is reflected into that of the public debt. Table 2 reports the public debt at the end of each decade, expressed as a percentage of GDP.

Table 2: Government debt (Source: OECD)

Year	1980	1990	2000	2009
Govt. debt as % of GDP	26	71	101.5	115.1

The high deficits in the 1980s led to a dramatic increase in debt: from 26% of GDP in 1980, debt rose to 71% of GDP in 1990. Debt further increased during the next two decades in response to the high deficits---which were high partly because of the interest payments on the accumulated debt.

How did the public debt affect the economy? Table 3 reports consumption and investment, expressed as a percentage of GDP and averaged over each decade.

Table 3: Consumption and investment (Source: OECD)

Decade	1970-1979	1980-1989	1990-1999	2000-2009
Consumption as % of GDP	77.2	85.1	90.1	88.8
Investment as % of GDP	30.7	23	20.6	22.6

Compared to the 1970s, consumption went up significantly during the 1980s, and investment went down by a roughly equal amount (8% of GDP). This means that Greek

³ GDP includes some of the goods and services produced in Greece's informal economy. The informal economy accounts for 25-30% of GDP (Katsios 2006).

citizens were consuming more, while less was spent on productive investment, such as factories and highways. Both effects were caused to a large extent by the drastic increase in public debt during the 1980s, and by the way the government spent the money that it borrowed. Indeed, less than 25% of the money was spent on productive investment, i.e., public infrastructures. The bulk was spent instead to increase the wage bill in the public sector, i.e., more public servants and higher salaries, and to increase the pension bill, i.e., more pensioners and higher pensions (Rapanos 2009). The recipients of the government money increased their consumption in response to their higher incomes, and this explains the increased consumption in Table 3. Investment decreased because fewer private savings were available to finance it. Indeed, the government was borrowing by selling bonds to Greek citizens, who were in effect dividing their savings between bonds issued by the government and bonds issued by private firms. As a consequence, fewer savings were available to finance productive investment by private firms. And since most of the money that the government was raising by issuing bonds was not spent on public infrastructures, the aggregate productive investment by the public and the private sector decreased.

Why is Greece heavily indebted to foreigners? Greece's external debt, defined as debt owed to foreigners, was 82.5% of GDP in 2009 (Cabral 2010). This is a large number: for example, it is about twenty times Greece's annual spending on education.

How was the large external debt accumulated, and how did public debt contribute to this? A country accumulates external debt when its government or private sector (i.e., firms and citizens) borrow from foreigners. In the case of Spain, whose external debt is almost as high as Greece's, much of the external borrowing was done by the private sector: Spanish banks were borrowing from foreign banks to give loans to Spanish citizens, who would then buy (what turned out to be) overpriced houses. In the case of Greece, the private sector did not, in the net, borrow from foreigners: the savings of Greek citizens were enough to cover loans to the private sector. External borrowing was instead done by the government. Indeed, Greece's external public debt, defined as the part of external debt accumulated by the government, was 89% of GDP in 2009 (or 79% of total public debt in Table 2). Thus, Greece's external debt essentially coincides with its external public debt.

When a country borrows from foreigners, it consumes more than it produces. The extra consumption is derived from imports, which the country can buy from foreigners with the money that it borrows from them. In the case of Greece, this means that Greek citizens were consuming imported goods with money that their government was borrowing from foreigners. The borrowed money was flowing from the government to the citizens through various channels, e.g., wages paid to public servants, payments to government suppliers, pensions paid to pensioners. In response to their higher incomes, citizens were consuming more---and in the aggregate Greece was consuming more than it was producing.

To understand more precisely the evolution of Greece's external debt during the past two decades, we use Table 4. We also bring into the discussion investment and exports, from which we abstracted away in the previous paragraph.

Table 4: Trade balance and external borrowing (Source: OECD)

Decade	1990-1999	2000-2009
Trade balance (exports minus imports) as % of GDP	-10.7	-11.4
Net borrowing as % of GDP	4.1	10.2
Net transfers received from foreigners as % of GDP	5.9	2

The first row in Table 4 is the trade balance, defined as exports minus imports. During the past two decades (and even in the more distant past, but to a lesser extent), the trade balance was negative, meaning that Greece was importing more than it was exporting. The negative trade balance also means that Greece was consuming and investing more than it was producing. Indeed, the extra consumption and investment were derived from imports that were higher than exports. (More generally, the sum of consumption and investment, minus GDP, is the negative of the trade balance, as Tables 3 and 4 confirm.)

Greece could import more than it was exporting because it was borrowing from foreigners. During the 1990s, it was borrowing an average of 4.1% of its GDP per year. While this borrowing rate is high, it increased dramatically---to 10.2%---during the 2000s. And not surprisingly, external debt increased dramatically as well: from 42.7% of GDP in 2000 to 82.5% in 2009.

Table 4 shows that external borrowing increased because Greece was importing even more relative to its exports, and because transfers received from foreigners decreased. Two main effects drove the decrease in transfers. First, transfers from the European Union decreased as countries poorer than Greece joined and funds earmarked for cohesion purposes were reallocated accordingly. Second, Greece had to make higher interest payments on its larger external debt.

In summary, Greece became more indebted to foreigners during the 2000s because it was importing even more relative to its exports, despite receiving fewer transfers from the European Union, and despite being already in debt. Why such profligacy? Part of the reason was that investment increased during the 2000s---with the Olympic Games being an example. But the main reason was that Greek citizens became less willing to save during the 2000s, because interest rates were lower and consumer loans from banks better available.

How did the decrease in savings interact with the public debt? Despite their lower savings, Greek citizens were still saving enough during the 2000s to finance loans to their fellow citizens and to private firms. The problem is that savings had become insufficient to buy the

bonds issued by the government. As a consequence, the government had to turn to foreigners to meet its financing needs. In this sense, the increase in Greece's external debt during the 2000s was caused by the combination of the government's large borrowing needs, and its citizens' insufficient savings.

How can Greece repay its debt? Some commentators have argued that Greece cannot repay its debt, and that it should restructure it or default altogether. Let us put this discussion aside, and assume instead that Greece will aim to fully repay its debt. How can it accomplish that objective?

Repaying the debt requires, first of all, to reduce the deficit. Recall that the deficit is the government's expenditure minus its revenue, and one source of expenditure is the interest paid on debt. The component of deficit that does not include interest payments on debt is known as the primary deficit. A zero primary deficit means that the government breaks even in the absence of the debt burden bequeathed to it by previous governments. A positive primary deficit means that the government creates a new debt burden.

In 2009, Greece's primary deficit was 8.5%. Clearly, with a primary deficit, and of such large magnitude, it will be impossible to ever pay back the debt. The debt can be paid back only if the government stops running a primary deficit, i.e., does not create a new debt burden each year. The government must run a primary surplus.

How much of a primary surplus is needed? If the primary surplus exceeds the interest payments on debt, the (total) deficit will be negative, and the debt will decrease. If the primary surplus is equal to the interest payments on debt, the deficit will be zero, and the debt will remain constant over time.

While a negative deficit is effective in reducing the debt, even a zero or slightly positive deficit can suffice. This is because the relevant quantity is not debt, but debt relative to GDP. If Greece's GDP doubled overnight, without any change in the public debt, Greece would have a much smaller debt problem. Indeed, paying for the debt by, e.g., raising taxes would become much easier. Therefore, a zero or slightly positive deficit can suffice in reducing the debt if Greece can grow its GDP quickly over the next decade.

Greece can achieve and sustain high GDP growth if it makes its economy more competitive. Gains in competitiveness are all the more important because of Greece's large external debt. Indeed, a country can repay its external debt by exporting more than it imports. Since Greece is currently importing more than it exports (Table 4), large gains in competitiveness are necessary so that exports overtake imports.

Greece's current problem is the combination of high debt, high deficit and low competitiveness. It is because of this combination that Greece could only borrow at very high interest rates in financial markets. Markets were not conspiring against Greece; they

were merely reflecting economic reality---as well as protecting the interests of those who had lent their savings to Greece.

To repay its debt, Greece must succeed on two fronts. First, the government must improve its finances and turn a significant primary surplus. Second, the economy must become more competitive. Success on each front requires important reforms that we outline in Sections 2 and 3, respectively. Reforms targeted towards the government's finances include austerity measures, such as tax increases and cuts in pensions and public servants' wages. The hardship caused by austerity measures will bear fruit only if these measures are accompanied by more radical reforms designed to make the public sector more efficient and the economy more competitive.

The reforms that Greece has agreed on with its lenders (EU/IMF) aim at enabling it to repay its debt. Some reforms contribute to that goal by improving the government's finances, while other reforms aim at raising competitiveness and growth. Many of the reforms are necessary and overdue, as we explain in Sections 2 and 3, and should be supported. At the same time, it is important to go even beyond these reforms and think more generally how to raise the growth of Greece and the incomes of its citizens in the long run. The reforms that Greece has agreed on with its lenders do not focus on the long run, e.g., none concerns education or basic research, both of which have a significant effect on a country's long-run growth. This is natural: a comprehensive long-run reform of the Greek economy is not the job of the EU/IMF but of Greeks themselves. Some of the reforms that we outline in this article concern the long run, and more attention should be given to reforms of that type.

2. The Government's Finances

- *What is the main source of Greece's deficits? Government expenditure is comparable to the European Union (EU) average, but revenue is well below because of tax evasion. In this sense, tax evasion is the main source of Greece's deficits.*
- *Tax evasion: what are its costs and how to fight it? Tax evasion prevents the government from providing a high quality of public services, introduces unfairness into the tax system, and subsidizes low growth activities at the expense of high growth ones. Tax evasion is common in Greece not because it is in the genes of Greek citizens but because not enough incentives are in place to discourage it.*
- *Should the public sector be made smaller? Greece's main problem is not that the public sector is too large, but that the money is spent inefficiently. That is, the quality of public services can be improved and money can be economized at the same time. This money can be used to pay for other public services, which are currently under-provided but are important for competitiveness, e.g., investment in*

infrastructure and human capital. Productivity in the public sector should be measured, as is done in any private firm, and public agencies should be evaluated based on how they meet explicit productivity targets.

- *How to fight corruption in the public sector? As with tax evasion, corruption is common in Greece because not enough incentives are in place to discourage it. In particular, penalties for corruption should become much tougher, accounting practices should be modernized, the institutional framework that governs the interactions between government and citizens should be simplified, and these interactions should become more anonymous.*
- *Why is reform of the pension system essential? Until the recent reform, Greece's pension system had some of the most generous provisions in the EU, and was ill-suited to cope with population ageing. Had it been left unreformed, it would have created an additional deficit of 12% of GDP by 2050. Paying for that deficit would have required, for example, cutting completely spending on education and health combined. While the current reform is an improvement, there is scope for a more radical redesign that can render Greece's pension system both more efficient and fairer.*

What is the main source of Greece's deficits? Tables 5 and 6 report the revenue and expenditure, respectively, of Greece relative to the EU average, in 2007.⁴ For brevity, we report only the main items.

Table 5: Government revenue (Source: Eurostat)

	Total revenue as % of GDP	Indirect taxes (VAT) as % of GDP	Direct taxes as % of GDP	Social contributions as % of GDP
Greece	39.7	12.5	7.9	13.4
EU27 average	44.9	13.5	13.4	13.5

Table 6: Government expenditure (Source: Eurostat)

	Total expenditure as % of GDP	Intermediate consumption as % of GDP	Compensation of employees as % of GDP	Interest as % of GDP	Social benefits as % of GDP
Greece	45	5.7	11.2	4.4	17.6
EU27 average	45.7	6.4	10.4	2.7	19.1

⁴ Unless we explicitly state otherwise, EU refers to the EU27. The numbers are similar if we limit ourselves to the Eurozone.

Tables 5 and 6 indicate that the key difference between Greece and its EU partners lies in the revenue rather than in the expenditure. While expenditure is comparable to the EU average, revenue is well below. Moreover, the discrepancy in revenue lies mainly in the government's ability to collect direct taxes, i.e., taxes on income. Indeed, in the average EU country, the government collects 13.4% of GDP from direct taxes, while in Greece it only collects 7.9%. This discrepancy does not arise because tax rates on income are low in Greece---they are comparable to other EU countries. The discrepancy arises instead because of tax evasion: if the government had been able to collect direct taxes in line with the EU average, it would have had no deficit in 2007. The same statement cannot be made for 2010, partly because the global financial crisis has had a negative effect on government finances around the world. Yet, eliminating tax evasion would restore a primary surplus in 2010.

Tax evasion: what are its costs and how to fight it? Fighting tax evasion should be a top priority for the government. Indeed, if the government had been able to collect taxes from all citizens according to their actual incomes, deficits would have been much smaller, and Greece would not be having a debt problem today. Of course, deficits would have been smaller even in the presence of tax evasion, if the government had cut down on its expenditure. Yet, the expenditure of the Greek government is not high by EU standards, and key areas such as education and health are underfunded. In summary, the first and big cost of tax evasion is that it worsens the government's finances, and prevents the government from providing a high quality of public services.

A second, and equally important, cost of tax evasion is the unfairness that it introduces into the tax system. A key objective of the tax system is to redistribute income from the rich and more fortunate to the poor and less fortunate. This is done by collecting higher taxes from the rich and using the proceeds to provide public services that benefit rich and poor alike. Tax evasion undermines this objective because it is done mainly by the rich: the taxes evaded by Greece's high-income households are greater than for low-income households not only in absolute terms but also as a proportion of income (Flevotomou and Matsanganis 2010). The unfairness that tax evasion introduces into the tax system has an important political consequence: it undermines social consensus and inhibits the ability of the government to undertake painful reforms. Indeed, reforms are perceived as harming the low-income households, who also feel that they are carrying a disproportionate share of the tax burden.

Tax evasion has an additional cost that is little noticed but as important as the other two: it subsidizes low technology and low growth activities at the expense of high technology and high growth ones. Indeed, the former typically require low investment and are performed at a small scale, e.g., by the self-employed or very small firms, where tax evasion is hard to detect. Conversely, the latter typically require high investment and are performed by larger firms, where tax evasion can be detected more easily. Tax evasion by the self-employed and

very small firms forces the government to maintain a high tax rate, so to collect the taxes from larger firms, which cannot evade them as easily. This discourages the creation of large firms, as well as the high growth activities and well-paying jobs that many of these firms are associated with.

Fallacy no 1: Tax evasion stimulates growth because firms pay low taxes and hence have higher incentives to invest. *Firms that manage to evade taxes are typically small and in low technology and low value-added sectors (e.g., restaurants and night-clubs). To make up for the lost revenue from these firms, the government has to collect more taxes from the firms that cannot evade them, which are typically large and in high technology and high value-added sectors. This discourages the creation of such firms, and has a negative effect on economy-wide growth.*

Tax evasion is deeply engrained in the Greek economy and cannot be eradicated easily. At the same time, one of the main reasons why tax evasion is deeply engrained is that not enough incentives are in place for citizens to pay their taxes. Strengthening these incentives can reduce significantly tax evasion. We recommend the following measures:

- Audits of individuals and firms should become regular and be based on profiling of evaders and random selection. Profiling will focus attention on types of individuals and firms most likely to evade. Randomness will imply a chance to be audited even for those not having the profile of tax evaders. The key difficulty is to organise audits that are beyond corruption. One way of achieving this is to pursue the entire process by correspondence, where audited individuals and firms have to provide the required evidence without meeting the tax officials. The tax officials handling the case should remain anonymous and all correspondence signed by someone with overall responsibility but without direct involvement. Penalties should be proportionate to the offence and serious offenders should be prosecuted in the criminal courts. Less serious offenders should be fined in proportion to the tax evaded.
- Cross-referencing between expense claims and tax declarations should become automatic. For example, all expense claims that individuals declare relating to a specific doctor should be automatically added up and checked to see if they match the doctor's tax return. Even better: when a doctor presents a receipt, this should be automatically registered to his tax account, very much like individual salaries. Moreover, to reinforce the role of receipts in improving tax revenue it is worth considering increasing the tax deductibility of certain expenses even at the cost of some tax revenue so as to change the culture to one where it is natural to provide receipts for services and declaration of taxes.

- Payments for many medical services should take place not between a doctor and a patient, but directly through the patient's health insurance fund or company. Evading taxes on payments made through the latter channel is much more difficult.

Should the public sector be made smaller? It is often claimed that the Greek public sector is very large and consumes a vast amount of resources. The total wage bill in the Greek public sector is indeed higher than the EU average: for example, in 2007 Greece spent 11.2% of its GDP to pay public servants, while the EU spent 10.4%. But this difference is small when put in broader context. For example, Sweden spent 15% of its GDP to pay public servants.

The relevant question is not whether the total wage bill in the Greek public sector is slightly above or slightly below the EU average, but whether the public sector's productivity is high or low. That is, are the resources that the government puts into the public sector spent efficiently? If resources are spent inefficiently, the quality of public services can be improved and money can be economized at the same time.⁵

Productivity is measured in every private firm and should be measured in the public sector as well. Of course, the public sector differs from a private firm because its objective is not to achieve a high profit, but to provide services that benefit society, e.g., education, protection of the environment, security against crime, protection against external threats. Moreover, measuring the quality of public services is harder than measuring profits. Yet, measures of quality can be computed, and public agencies should be evaluated in terms of the quality of services they provide given the resources they are allocated. More generally, the notion that the public sector is there to serve society, and do so in a cost-efficient manner, should enter the culture of the Greek public sector. The public sector should be viewed as an efficient provider of services and not as a means to provide employment to political favourites.

Measuring productivity in the Greek public sector is challenging because data on resources spent and on quality of services provided are generally not available, unlike in many other EU countries. For example, it is hard to find data even on the total number of public servants.

One area in which data are available is education. We focus on that area solely because of the availability of data, and not because we intend to suggest that productivity in education is lower than in other areas of the public sector.⁶ We should add that our productivity measures are imperfect and can certainly be improved. Our main goal in computing these

⁵ The productivity question is relevant not only for the central government, but for also municipalities and local governments, where inefficiencies appear to be even larger.

⁶ Indeed, productivity appears to be especially low in areas such as health care, public transportation and defence.

measures is to emphasize that measurement of public-sector productivity is possible and should be carried out more systematically.

The OECD measures the quality of primary and secondary education through standardized tests in reading, mathematics and science (known as PISA tests), offered to children aged 15. Table 7 reports the performance of Greece relative to the OECD average in the more recent tests, performed in 2005. For tertiary education, we consider two measures of quality, one emphasizing research and one teaching. The first measure is the Shanghai Jiao Tong (SJT) annual world ranking, where universities are ranked based on the quality of the research they produce. Table 7 reports the number of Greek universities in the top 500, and compares with the total number of EU universities in the top 500, adjusting for the relative GDP of Greece within the EU (i.e., multiplying by the fraction of Greek GDP relative to total EU GDP). The second measure is graduation rates, defined as the percentage of 18-year olds who enter tertiary education in a given year and eventually graduate, relative to the total number of 18-year olds in that year. Table 7 reports graduation rates in Greece relative to the OECD average in 2007 (OECD 2009a).

Table 7: Measures of outputs in education (Source: OECD, SJT annual world ranking)

	PISA score, reading	PISA score, mathematics	PISA score, science	Number of universities in SJT top 500	Graduation rates
Greece	460	459	473	2	29.8
EU27 or OECD average	492	498	500	4	48.1

Quality measures at all levels of education are significantly lower for Greece. The Greek average score in the PISA tests is worse than that of all 30 OECD countries, except for Mexico and Turkey. And while Greece has two universities in the top 500, it should have four according to its GDP within the EU. Moreover, none of the two universities is in the top 100, while countries with comparable GDP and/or population as Greece (Finland, Sweden, Denmark, Netherlands) have one or more universities in the top 100. Finally, graduation rates in Greece are significantly lower than the OECD average.

The under-performance of the Greek educational system is a matter of serious concern. Providing quality education to the next generation is not only a moral imperative, but also brings an important economic benefit: a highly educated workforce contributes to an economy's competitiveness. We return to competitiveness in Section 3, but for now we focus on productivity: are the resources that the government puts into education spent efficiently to provide the outputs in Table 7?

Table 8 compares Greece to the EU average in terms of expenditure in different levels of education, and ratio of students to teachers in primary and secondary education. The expenditure data are from 2005 and the student/teacher ratio data from 2006 (OECD 2009a).

Table 8: Measures of inputs in education (Source: OECD)

	Expenditure in primary and secondary education as % of GDP	Expenditure in tertiary education as % of GDP	Ratio of students to teachers in primary education	Ratio of students to teachers in secondary education
Greece	2.7	1.5	10.6	8.2
EU19 average	3.6	1.3	14.5	11.9

Tables 7 and 8 suggest that expenditure in tertiary education is inefficient: Greece's expenditure is comparable to the EU average, but the outputs (top universities and graduation rates) are significantly lower. The picture for primary and secondary education is less clearcut. Greece underspends significantly relative to the EU average, so the lower outputs (PISA scores) could be reflecting the lower expenditure. At the same time, there is an inefficiency because Greece is achieving the lower outputs by employing more teachers per student relative to the EU average. We should note that Greece's lower expenditure in primary and secondary education despite the higher number of teachers is not because teachers are severely underpaid; it is mainly because Greece spends little on education infrastructure (e.g., buildings and teaching equipment) and on pre-school education.

In summary, the data suggest that there is ample room for increasing productivity in education: it should be possible to improve the quality of tertiary education while also economizing on expenditure, and to improve the quality of primary and secondary education while also employing fewer teachers. We should emphasize that the low productivity is not a reflection only on the teachers; it concerns the entire educational system of which the teachers are only one part.

How to raise productivity in the public sector? All employees, whether in the public or in the private sector, are more productive when they are given incentives based on their performance, i.e., good performers are rewarded with higher salaries and better promotion opportunities than bad performers. Such incentives, however, are largely absent in the Greek public sector. In fact, a pre-condition for such incentives is that individual performance is measured (fairly and accurately), but such evaluations are not common. Returning to the area of primary and secondary education, promotion is largely based on a teacher's length of service, and not on the teacher's performance in the classroom, or on whether the teacher has attended on-the-job training (OECD 2009b). Measuring and rewarding individual performance would lead to significant productivity gains.

Performance-based incentives should be given not only at the level of individuals, but also at that of organizational units. For example, the performance of each school and university should be measured, and more resources should be allocated to top performers. Together with this greater accountability, organizational units should be given greater autonomy. For example, schools and universities should be given more freedom on which teachers and professors to hire, and how to allocate their budgets.

The productivity gains achieved through performance-based incentives should be complemented by rationalizing the resources allocated to specific activities. For example, employment levels seem to be excessive in some activities, such as primary and secondary education, and should be reduced. Such a reduction could partly be achieved through redeployment to other activities of the public sector. By rationalizing resources, it would be possible to free up resources from activities where spending is inefficient, and redeploy them to activities where spending is currently minimal, but which are important for competitiveness. Examples include education infrastructure and pre-school education, basic research, labour market programmes and assistance to the unemployed, transportation infrastructure, etc.

How to fight corruption in the public sector? The issue of public-sector productivity is related to that of corruption. Indeed, one reason why productivity is low is that some of the money allocated for public-service provision ends up in the pockets of corrupt public servants. Corruption is a major problem in Greece: in 2009, Transparency International ranked Greece as the most corrupt of the 27 countries of the European Union, together with Bulgaria and Romania.

Corruption has severe costs. It prevents the government from providing a high quality of public services because some of the money allocated for public-service provision is diverted away. It forces the government to impose higher taxes to make up for the lost money---and these taxes discourage productive activities. Corruption also taxes citizens and firms more directly since they must bribe corrupt public servants to be served efficiently by them. Last but not least, corruption causes citizens to stop trusting their government and respecting the law. The costs of corruption are, in many ways, similar to those of tax evasion: in both cases, money that should be collected by the government and spent for public services ends up instead in the pockets of private citizens.

Corruption is deeply engrained in the Greek economy and cannot be eradicated easily. But as with tax evasion, one of the main reasons why corruption is deeply engrained is that not enough incentives are in place to discourage it. We recommend the following measures to fight corruption:

- Penalties for corruption should be made much tougher. For one, there should be no statute of limitations. Moreover, corrupt public servants should be punished by the withholding of their pension as well as by imprisonment.
- Accounting practices should be brought in line with modern international standards. Expenses of public agencies should be recorded in real time in a centralized computer system housed at the Ministry of Finance. Overruns from agencies' annual budgets should be followed up with prompt audits. Under the current system, overruns can take years to discover.
- Performance-based incentives should be introduced. Indeed, one source of corruption is that public servants hold up normal work until they are bribed. Well-designed performance-based incentives will induce public servants to work harder, and this will reduce the need for bribes.
- The institutional framework that governs the relationship between individuals and firms on one hand, and the state on the other should be simplified and made more transparent. Complicated bureaucratic hurdles provide fertile ground for corruption as individuals and firms have an incentive to bribe to get around the hurdles.
- The interaction between individuals and firms on one hand, and the state on the other should become anonymous to a more significant extent, as we already emphasized in the case of tax audits. Simplifying procedures and moving to online and postal transactions is an important step in that direction.

Fallacy no 2: Corruption and tax evasion cannot be eradicated because they are an integral part of Greek culture. Corruption and tax evasion have become part of Greek culture because not enough incentives are in place to discourage them. In particular, accountability in the public sector is low and penalties to offenders are lenient. No culture---including Greece's---is immune to corruption, which can only be eliminated by healthy and accountable institutions.

One area where corruption and waste are rife is healthcare. The notorious brown envelopes are a fact of life and tax the most vulnerable. Moreover, the quality of healthcare provided in the public sector is generally low, with many of those who can afford it switching to private care. Here we need radical rethinking. We need a system that will extend the same quality of healthcare to all income groups, will recognise the need to subsidise the less wealthy, and at the same time will be managed efficiently. The system that we advocate consists of (i) selling the public hospitals to the private sector, (ii) setting up a comprehensive and mandatory health insurance system, where all individuals are required to have insurance, and insurance companies are not be allowed to exclude anyone, and (iii) using public money, subsidize the insurance premia for low-income individuals. This system can bring large gains over the existing one, as we will explain in more detail in a follow-up article.

Why is reform of the pension system essential? A drastic reform of Greece's pension system has recently been voted through Parliament. Such a reform was essential: according to estimates from the European Commission in 2009, if Greece's pension system had been left unreformed, it would have created an additional deficit of 12.5% of GDP by 2050 (OECD 2009b). This is higher than what the entire deficit (including pensions) has been on average over each of the past three decades. It is also higher than spending on education and health combined.

Greece's pension system was in dire need of reform because of its many generous features. Table 9 reports two key features: the official age of retirement and the average pension (where the average is across all employees) (OECD 2006, 2009c).

Table 9: Retirement age and level of pensions (Pre-reform. Source: OECD)

	Official retirement age	Average pension as % of average life-time earnings (replacement rate)
Greece	58	95.7
OECD	63.2	60.8

Employees in Greece could retire at 58 years with full pension, provided that they had completed 37 years of work. The retirement age of 58 was significantly lower than the OECD average of 63.2 years. Moreover, the average pension was significantly higher than the OECD average: it was 95.7% of an employee's average life-time earnings (evaluated at the time of retirement by adjusting for economy-wide earnings growth), against an OECD average of 60.8%.^{7 8}

That the pension system was unsustainable can be seen by the following back-of-the-envelope calculation. The social contribution that the government receives from the average employee is 44% of the employee's gross earnings, with 28% paid by the employer and 16% by the employee (OECD 2009d). About 60% of this goes to pensions, and the remainder goes to other social benefits such as health insurance.⁹ Suppose that individuals

⁷ Pensions are often expressed as a percentage of earnings during the last year of one's work rather than as a percentage of average life-time earnings. This yields smaller numbers than in Table 9 because earnings increase with age. The number for Greece is 70-80% (OECD 2009b).

⁸ In addition to its generous provisions, Greece's pension system has many adverse incentive effects built in. For example, it makes early retirement attractive because this yields a pension that is not much lower than the income earned while working. Moreover, the provision that pensions depend on one's wage during the last five years of work rather than over the entire life-time encourages tax evasion: neither young workers nor their employers have any incentive to declare the full wage.

⁹ This can be seen from the fact that pension contribution revenues are 7.5% of GDP (OECD 2009c), while social contributions are 13.4% of GDP (Table 5).

live exactly up to their life expectancy, which is 80 years for Greece, and suppose that there is no population growth. If individuals work for 37 years and retire at 58, this leaves $37/22=1.68$ employees to pay for each pensioner. Therefore, a pensioner can receive $1.68*44\%*60\%=44.5\%$ of his gross earnings at retirement. This is less than half of the 95.7% figure in Table 9. Thus, if a reform designed to render the system sustainable were to leave the retirement age unchanged, it would have to reduce pensions by more than 50%. The recent reform reduces pensions by about 30%, but also raises the retirement age.

Note that a smaller reduction in pensions could be achieved by raising social contributions beyond 44%. Social contributions, however, are already the second highest in the OECD. Raising them further will make firms even less willing to hire, and raise Greece's already high unemployment rate. Thus, social contributions should not be raised.

The sustainability problem of the pension system had become more acute in recent years because of the combination of two demographic forces: life expectancy has been increasing, while population growth has been decreasing, almost to zero. Low population growth impairs sustainability because fewer employees are available to pay for each pensioner.

A reform reducing pensions should account for poverty in old age, which is higher in Greece than the EU average. This should be done by cutting mainly the larger pensions. More generally, reform should address the unfairness of the pension system, whereby some individuals receive pensions that are large relative to their life-time contributions, at the expense of other individuals who receive much smaller pensions. We next sketch a more radical redesign of Greece's pension system that can render it both more efficient and fairer.

Greece's current pension system (pre- and post-reform) is pay-as-you-go, where those currently employed pay the pensions of those currently retired. An alternative is a funded system, where those currently employed save for their own pensions instead of paying the pensions of those currently retired. A funded system has many advantages over pay-as-you-go. First, it is transparent and easy to administer. Indeed, individuals are allocated personal retirement accounts, whose balance they can observe at any moment. Moreover, contribution and investment decisions are made by the individuals themselves rather than by a time-consuming and expensive bureaucratic process. A second and related advantage of a funded system is that individuals are in better control of their retirement: they can decide how long to work and how much to save to achieve their desired pension. In this sense, the system is fair: individuals' pensions depend on how thrifty they were when young. A third advantage of a funded system is that it is immune to the risk that population growth slows down, while pay-as-you-go imposes a large burden on public finances. Finally, under a funded system, individuals save more (since this is how they can accumulate their pensions), and these savings help finance productive investment.

A funded system must include an element of social insurance to protect those who had bad luck in the labour market, e.g., were unemployed for long periods of time. Unfortunately bad luck is hard to distinguish from a choice not to work. However, the government should guarantee a minimum basic pension payable starting at 65-68 to anyone who has worked for a minimum number of years, e.g., 10-15. By carefully calculating the amount of this pension and the age at which it will be payable, incentives to work can be preserved.

A funded system must include some degree of protection not only against adverse outcomes in the labour market, but also in the capital market. This is because the money held in retirement accounts is invested in financial assets, whose prices can drop. Individuals can protect themselves against such drops by holding well-diversified portfolios, and by investing in bonds, which are safer than stocks. At the same time, the government could reinforce this behaviour by restricting individuals' choices to a set of well-diversified portfolios, and requiring that the allocation to bonds exceeds a minimum level, which increases with age. The government could also impose a cap on allowable returns so as to fund a minimum return. For example, the cap could be 6%, and any excess returns could be saved in an independent trust fund to pay for the pensions of those age cohorts who achieve much lower returns.

Fallacy no 3: The state must be the main provider of pensions. Basing pensions on individual savings allows individuals the flexibility of when to retire and how much to save to fund this retirement. It also removes a potential burden on the public finances, as well as an instrument that politicians can use to manipulate the electorate's affections. By a suitable design, risks can be minimised and the unlucky poor can also be supported.

Most OECD countries are moving towards funded systems with characteristics similar to those described above. Such reforms involve delicate transition issues because they impose large burdens on those currently employed, who must save for their own pensions in addition to paying for those currently retired. Despite these issues, we believe that moving towards a funded system with elements of social insurance is the right direction for future pension reform in Greece.

3. Competitiveness

- *Why is competitiveness important? Competitiveness is what allows a country to enjoy prosperity on a sustainable basis. During the 2000s, the average income of Greek citizens rose significantly. This rise was unsustainable, however, because it was financed by external borrowing. Now that Greece can no longer borrow, it faces the risk that the process will run in reverse, i.e., incomes will shrink. The only*

way to avoid this, and to ensure that incomes can rise on a sustainable basis, is to raise the competitiveness of the Greek economy---which currently is the second lowest among the 27 countries of the European Union.

- *How can the Greek economy be made more competitive? The government should provide a stable institutional framework that promotes competition, investment and entrepreneurship. This involves not as much creating new regulations as abolishing many existing ones. A comprehensive regulatory reform alone can raise the competitiveness of the Greek economy---and ultimately the incomes of Greek citizens---by more than 15%, thus reversing most of the negative effects that the crisis is having on incomes. The government can further raise competitiveness by increasing its investment in the education and human capital of Greek citizens.*
- *What key reforms are needed in the product market? Regulations that prevent entry into many industries and professions should be abolished. Abolishing such regulations will promote investment much more effectively than through investment subsidies. Monopoly practices should be prosecuted more vigorously and the Competition Commission should be strengthened.*
- *What key reforms are needed in the labour market? Regulations that make it difficult for firms to fire workers should be loosened. This will ultimately benefit workers because Greece will attract more investment and well-paying jobs. Mobility of workers across firms and industries is a sign of a healthy economy, but mobility in Greece is the lowest in the OECD.*

Why is competitiveness important? For Greek citizens to have access to well-paying jobs and high incomes, and this to happen on a sustainable basis, it is necessary that the economy is competitive. If the economy is not competitive and yet incomes are high, this must be because money is flowing in from abroad in the form of transfers (e.g., from the EU) or external borrowing. In both cases, the high incomes are unsustainable: EU transfers do not last forever, and external borrowing comes at the expense of low incomes in the future.

Greece's performance during the last decade illustrates the importance of competitiveness. Table 10 reports the average growth of real GDP during 2000-8, the change in unemployment during that period, and Greece's competitiveness in 2002 and 2008. Real GDP is GDP adjusted for inflation, i.e., as if prices in 2008 were the same as in 2000. Competitiveness is measured by the number of EU27 countries whose World Economic Forum index of competitiveness is above that of Greece.

Table 10: Growth and competitiveness during the 2000s (Source: Eurostat, OECD, WEF)

	Average growth of real GDP, 2000-8	Change in unemployment, 2000-8	Competitiveness rank among EU27 countries in 2002	Competitiveness rank among EU27 countries in 2008
Greece	3.9%	-4.0	17	26
EU27 average	2.0%	-2.2	14	14

During 2000-8, Greece grew its GDP twice as fast as the EU27 average, and reduced its unemployment rate by twice as much. The high growth translated into high incomes: incomes grew faster in Greece than in most other EU countries. Yet, this growth was unsustainable---as became painfully evident during the current crisis---because it was not driven by improvements in competitiveness. Indeed, Greece's competitiveness, which was already among the lowest in the EU at the beginning of the last decade, decreased even further during that decade. For example, in 2002, there were eight EU27 countries less competitive than Greece, and in 2008 there was only one (Bulgaria).

Growth and job creation during 2000-8 were mainly driven by the money that the government was borrowing from abroad and pumping into the economy. For example, the government spent some of the money on public infrastructure, causing activity to increase and jobs to be created in the construction sector. Growth and job creation propagated throughout the economy, as those whose incomes increased spent more on other goods and services. For example, those working in the construction sector could spend more on holidays, causing activity to increase and jobs to be created in the tourism sector, and so on.

External borrowing is no longer possible for Greece; Greece must instead pay back its debt. This raises the alarming prospect that the process described in the previous paragraph will run in reverse, i.e., jobs and incomes will shrink over many years to come. Negative growth has already begun: for example, real GDP shrunk in 2009.

The only way to avoid a protracted crisis in Greece and to ensure that incomes can rise on a sustainable basis is to make the economy more competitive. The bright side about Greece's abysmally low competitiveness is that there is much room for improvement, and so high potential for growth and prosperity. We next explain how this potential can be realized.

How can the Greek economy be made more competitive? An economy is competitive if its firms and workers can achieve a high level of productivity. When productivity is high, jobs pay well and incomes are high. Moreover, the economy can attract investment by foreign firms, which creates more jobs and further raises incomes.

The main determinant of competitiveness is the set of rules that govern the operation of markets. These rules should promote competition, investment and entrepreneurship. Rules that are well designed and enforced vigorously can make a country competitive and prosperous.

Greece's low competitiveness is not due to a lack of rules. Indeed, the Greek economy is one of the most heavily regulated (i.e., tightly controlled by the state) in the OECD: the product (i.e., goods and services) market is the most heavily regulated of all 30 OECD countries, and the labour market is the fifth most regulated (OECD product market regulation indicators 2008, OECD employment protection indicators 2008). Many of the regulations create serious obstacles for competition, investment and entrepreneurship, and should be abolished. At the same time, the few regulations that promote the good operation of markets are not enforced vigorously enough. That should change as well.

Because the Greek economy is heavily and inefficiently regulated, there are large benefits to reap from regulatory reform. According to the OECD (Scarpetta and Tressel 2002) a comprehensive regulatory reform alone can raise the competitiveness of the Greek economy---and ultimately the incomes of Greek citizens---by more than 15%. This can reverse most of the negative effects that the crisis is having on incomes.

If regulatory reform can yield large benefits, why hasn't it materialized yet to a significant extent? One reason is the political pressure by minority groups who would stand to lose from specific reforms. For example, regulations that prevent entry into an industry or profession, and so impair competition, benefit the firms in that industry or the members of that profession because they enable them to charge high prices. Therefore, the industry or profession representatives lobby politicians to maintain such regulations.

An additional reason why regulatory reform has not been high up on the political agenda is that the general public has not fully grasped its benefits. Indeed, there is a widely-held belief that markets should be heavily regulated because they produce undesirable outcomes when left to operate more freely. This belief is partly justified given the public's experience: market liberalization in Greece has often resulted in higher prices. At the same time, the belief is erroneous because markets were made free only nominally but not in substance: regulations preventing entry by new firms were left in place and "freedom" pertained only to the ability of the existing firms to raise their prices. Not surprisingly, prices increased, and this reinforced the public's suspicion of free markets. Had instead entry been liberalized at the same time as prices, prices would have decreased, and market liberalization would have benefited the public.

Fallacy no 4: Prices of many goods are affordable only because the government is imposing price ceilings; if markets are liberalized, prices will go up. Markets are truly liberalized when regulatory obstacles to entry are removed. Such obstacles are imposed by the government, often because of political pressure by incumbent firms and other vested interests. Removing them induces entry, and this results in low prices without the need to impose price ceilings. Regulations that control directly the level of prices should be used sparingly, when the market is too small to sustain many firms.

In addition to sound rules governing the operation of markets, competitiveness requires a highly educated workforce: this makes existing firms more productive and helps attract new firms, especially those engaged in high technology and high growth activities. As we showed in Section 2, Greece must perform better in the area of education: both by allocating more resources to it and by ensuring that resources are used more productively. It should also invest more in research and development (R&D), an area which currently receives very few resources. For example, Greece invested only 0.6% of its GDP in R&D in 2007. The average across the 30 OECD countries was 2%, with Greece scoring the third lowest.

Improvements in education will not bear much fruit unless they are combined with regulatory reform that makes it easier for firms to operate in Greece. Indeed, in the absence of regulatory reform, high technology and high growth firms will not come to Greece, but instead educated Greeks will migrate abroad. Because regulatory reform will induce such firms to come, it will not only stem Greece's brain drain, but will also induce educated Greeks who migrated abroad because of better job opportunities to return home.

What key reforms are needed in the product market? One key reform is to reduce drastically the regulatory obstacles that prevent entry into many industries and professions. Reducing these so-called "barriers to entry" makes an economy more competitive for two reasons. First, the new firms entering an industry might be more productive than the existing ones because they have better technologies or ideas. This raises industry-wide productivity. Second, even if the new firms are equally productive as the existing ones, competition becomes more intense because there are more firms. This lowers prices, and benefits firms in other industries that use as input the output of that industry. The costs of these firms decrease and their productivity increases.

To make things more concrete, we use an example that has been in the news recently: road transportation. Firms that want to enter this industry are currently required to pay a high licence fee, which can be up to 200000 Euros per truck. Reducing this barrier to entry will enable more firms to enter into the industry and will lower prices. Lower prices will, in turn, raise the productivity of firms in other industries that depend on road transportation, e.g., agriculture, construction, etc. For example, if farmers can transport their products more cheaply and to more destinations, they will have an incentive to produce more and to invest in more efficient production methods. The productivity gains are large: according to IOBE (2007), eliminating the licence fee, and so liberalizing road transportation, will lower transportation prices by 20% and raise Greece's GDP by 0.5%.

The gains in GDP achieved by liberalizing road transportation will translate to a higher real income for the average citizen. Indeed, citizens will pay lower prices if they need to move homes and transport their belongings. They will also pay lower prices for goods that depend on road transportation, such as agricultural products. Finally, jobs will be created and incomes will rise in industries that depend on road transportation. Of course, not everybody

will benefit: holders of transportation licences will lose. These losses, however, will be much smaller than the gains for everyone else, and could be compensated to some extent by a time-limited tax credit. Losses will additionally be compensated by the fact that holders of transportation licences will benefit, as consumers, from the lower prices achieved by reducing entry barriers into other industries.

Regulatory barriers to entry can take many forms. Some are due to regulations that limit entry explicitly, as in the case of road transportation. Such regulations have been abolished in some industries during the last decade, partly because of pressure by the European Union. Those that remain should also be abolished.

Other barriers to entry are due to bureaucratic hurdles that the government imposes on all firms and citizens. For example, a new firm that wants to build a factory must obtain an array of permits from multiple authorities, which require it to meet many complicated legal requirements. This provides fertile ground for corruption. Indeed, a firm has an incentive to bribe corrupt public servants so to get around the bureaucratic hurdles and enter an industry. And existing firms in the industry have an incentive to bribe so that entry can be prevented.

Reducing the bureaucratic barriers to entry requires simplifying and clarifying the institutional framework which governs the establishment and operation of firms. For example, the absence of clear zoning laws creates complexity and ambiguity for obtaining a permit by the urban planning office, and is a source of corruption; this should change. A simple and transparent institutional framework will not only encourage entry and investment, but also reduce corruption in the public sector as we emphasized in Section 2. Moreover, the beneficial effect on investment will be much larger than that of direct investment subsidies, which are also subject to favouritism and corruption.

Fallacy no 5: The best recipe for growth is for the government to identify promising industry sectors and subsidize investment in them. More often than not, investment subsidies end up in the pockets of political friends and are wasted. Those best qualified to determine promising industry sectors are not public servants but private entrepreneurs who invest their own money. The best that the government can do is to provide a simple and stable institutional framework in which firms can operate---which in the case of Greece means dismantling many of the existing regulations and ensuring that the few which are useful are enforced vigorously.

The bureaucratic barriers to entry are especially important for foreign firms, which are not familiar with Greek laws and culture. And indeed, foreign direct investment in Greece is extremely low: between 2003 and 2008 it was only 1% of GDP. The average across the 30 OECD countries was 4.1%, with Greece scoring the fourth lowest.

Even if there were no regulatory barriers to entry, some industries could support only a small number of firms because the size of the market is small relative to the size at which firms can operate profitably. For example, there are fewer airlines than road transportation firms because the former can operate profitably only at a large size. An industry that can support only a small number of firms is prone to monopoly practices, e.g., firms form a cartel and charge high prices to consumers. Regulation in such industries should aim to monitor and prosecute monopoly practices. In Greece, this activity is performed by the Hellenic Competition Commission (HCC). While the HCC has made some steps forward in the last decade, it lags in efficiency relative to its counterparts in other OECD countries. Firms that engage in monopoly practices are often not prosecuted, while firms that do not engage in such practices are occasionally prosecuted because of political or other considerations. The HCC should strive to implement the law in a transparent and consistent manner that adheres to the best practices in the EU. This will yield significant benefits: prices will decrease in many industries, and economy-wide employment and productivity will increase. The HCC should be strengthened in terms of human resources, independence from the government and accountability.

What key reforms are needed in the labour market? One key reform is to loosen the regulations that make it difficult for firms to fire workers. The main such regulations concern severance payments that firms must make to workers who they fire, and limits on the number of workers that firms can fire in any given month. A reform that lowers severance payments and raises limits on collective dismissals has recently been voted through Parliament. It goes in the right direction, although the regulations should be loosened even further.

Reducing firms' firing costs is in the best interest not only of firms but also of workers: this may appear surprising, but is true as we explain below. But first, it is useful to clarify for which workers firing regulations should be loosened. Greece has a large informal economy, which accounts for 25-30% of GDP (Katsios 2006) and where employment protection is minimal---in particular, firing is unregulated. These workers should be brought into the formal economy and provided with employment protection. Additionally, firing regulations for blue-collar workers are much looser than for white-collar. Firing regulations should be the same for all workers, and this should be accomplished by loosening those for white-collar.

How can reducing firms' firing costs benefit workers? First, firms will be better able to survive a downturn and more eager to hire again when business picks up. Indeed, a firm that is unable to reduce sharply its workforce in a downturn faces large costs and possibly even bankruptcy. Low firing costs can prevent bankruptcy, and so allow at least some workers to keep their jobs. Moreover, low firing costs will make the firm more eager to hire again when business picks up because it knows that it can reduce its workforce more easily in the next downturn.

Perhaps the main benefit of low firing costs---and of flexible labour markets in general--- is that they attract more investment, including by foreign firms. As already emphasized, foreign direct investment in Greece is very low because foreign firms are reluctant to enter into Greece's heavily regulated market. Making the labour market more flexible, together with the additional reforms discussed earlier, will bring more investment and well-paying jobs.

Finally, low firing costs (and lighter regulations in general) will bring more activity from the informal to the formal economy: one reason why activity becomes informal is the high regulatory burden. The beneficial consequences will be that workers in the informal economy will receive employment protection, and the government will collect more money in taxes and social contributions.

A reform that lowers firing costs will generate some losers in the short run: the workers who will lose their jobs as a consequence. But once the reform process is well underway and the Greek economy picks up, everybody will benefit as more and better paid jobs will become available. Those currently unemployed, a disproportionate fraction of whom are young, will particularly benefit since they will be able to find jobs more easily. Opposing labour-market reform serves only to protect the short-run interests of only a fraction of employed workers (white-collar), without regard to the remaining workers and the unemployed---and without regard to the long-run benefits that the reform will bring to all workers.

Fallacy no 6: Regulations that restrict severely firms' ability to fire workers are good for workers.

Tight firing regulations discourage job creation because of the potential costs of adjusting the workforce in a downturn. Youth, who are inexperienced and untried, are particular victims of such policies as evidenced by the huge youth unemployment rates in Greece and other countries with tight labour market regulations, such as France and Spain.

Some have argued that reducing firing costs is irrelevant because these affect only large firms, which are not prevalent in Greece. For example, firms with fewer than ten employees are not subject to any limits on collective dismissals, and they constitute 98% of all Greek firms. This argument, however, serves only to reinforce our point: one of the reasons why Greece does not have large and dynamic firms is because of its strict labour-market regulations, which discourage foreign direct investment. Loosening these regulations will affect not as much the firms that Greece currently has, as those that it does not have and should aspire to have.

Fallacy no 7: Tight labour market regulations do not matter if the economy has a vibrant informal sector, where these regulations can be circumvented. *Firms in the informal economy are typically small and in low value-added sectors. Large firms, which are typically in high value-added sectors, cannot operate in the informal economy. Tight labour market regulations (and tight regulations in general) discourage the creation of large firms, thus subsidizing low value-added sectors and low skill labour at the expense of high value-added sectors and high skill labour.*

A second key reform is to decentralize labour negotiations to the level of individual firms. Wages and working conditions are currently agreed on at the national or industry level, and firms are required to conform to the agreements whether or not they are represented in the negotiations. Many issues, however, should be left for negotiation between individual firms and their workers. This is because different firms face different market environments, and requiring that they all offer the same wages or working conditions damages their productivity. For example, a firm for which overtime work is valuable could negotiate a lower compensation for overtime with its workers in exchange for a higher overall wage. Such flexibility is not available in the current system. We recommend that negotiations at the national or industry level concern only minimum levels of wages and working conditions, leaving significant room for top-ups to be negotiated at the firm level.

A flexible labour market should be accompanied by a well-developed unemployment insurance system. Greece has relied on firms to insure workers against unemployment, through severance payments and other restrictions on firing. This is inefficient for the reasons discussed earlier. Unemployment insurance should instead be provided by the government, and in a way to avoid moral hazard, i.e., make unemployment too attractive an option. We recommend a modern contributory unemployment insurance system. In such a system a basic component comes from the general taxpayer and an additional component is tied to individual contributions. Individuals can accumulate contributions in an unemployment fund, which they can run down during spells of unemployment. This solves the insurance problem and at the same time keeps moral hazard to a minimum by linking the amount of unemployment benefits to the level of contributions; this sounds like compulsory savings, which it is. The point is precisely moral hazard, because if individuals know that the government will pick up the bill when they are unemployed they will not save enough.

Conclusion

The economic policies of the last three decades have brought Greece close to bankruptcy. Reforms that other countries undertook many years ago were postponed over and over again, leaving Greece with an unproductive public sector, an unfair and inefficient tax

collection system, an unsustainable pension system, and a heavily regulated economy whose competitiveness is low and declining.

The lack of reforms has been especially costly for Greece's young. The education that the state is providing them with lags relative to international standards. Once they finish their studies, they find it hard to enter the labour market because strict regulations discourage firms from investing and creating jobs. When the young will eventually find jobs, their taxes will be high to repay the debt that previous governments have accumulated, and so will their social contributions to pay for Greece's generous pensions. Unless Greece reforms its economy rapidly, it runs the risk that many of its young (and especially the most creative and entrepreneurial ones) will migrate abroad.

The bright side about Greece's current situation is that much improvement is possible. Indeed, there exists a clear path of reforms that can help Greece recover much of the lost ground. The reforms agreed between Greece and its lenders go in the right direction, and should be supported: for example, the reforms recently voted through Parliament concerning the pension system and the labour market are necessary and overdue. This article explains why such reforms are necessary, and outlines a broader long-run reform programme for the Greek economy

The reforms outlined in this article will benefit the economy and raise the income of the average citizen. At the same time, a minority will lose from each reform. For example, lowering regulatory barriers to entry into an industry will benefit consumers and will increase employment, but will hurt existing firms in the industry. Those who lose from one reform, however, will benefit from many others, and once enough reforms are implemented almost everybody will have gained. Reaping these gains requires that reforms are implemented successfully and without delay.

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