

An Explanation of the Greek Crisis: “The Insiders – Outsiders Society”[#]

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Abstract : In this paper we present stylized facts of the Greek economy that characterize the causes and the consequences of its ongoing crisis. Then, we offer an explanation that can account for those causes and consequences. This explanation is based on the view of Greek society as consisting of two groups with conflicting goals: “insiders” and “outsiders”. Insiders are enjoying rightful and unrighteous benefits and the system is protecting them from their own potentially unlawful behavior, competition and meritocracy. Outsiders are the rest of society. The economic consequence of the “insiders - outsiders society” is the accumulation of public and foreign debts as well as relatively low overall growth – features that characterize the Greek economy, for some time. Finally, following the insiders- outsiders explanation, we offer policy recommendations for an exit from the crisis and the resumption of growth.

JEL classification: D72; E62; E65; F34; O43; O52

Keywords: Greek crisis; Insiders - Outsiders; Twin Deficits; Total factor productivity; Growth; Competitiveness

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1. Introduction

The purpose of this paper is first, to present those features of the Greek economy that characterize its current crisis and to investigate possible causes that led to it. Second, to provide a unifying explanation of the crisis that is consistent with the features and the causes mentioned above.

This explanation derives from the view of Greek society, since the return to democracy in 1974, as consisting of two groups with conflicting ends – “insiders” and “outsiders.” Insiders are enjoying rightful and unrighteous benefits and the system is protecting them from their own potentially unlawful behavior, competition and meritocracy. Outsiders are the rest of society. Typical insiders are considered to be civil servants and especially employees of public sector enterprises, private sector companies engaged in public procurement, the media, “closed” or “regulated” professions and tax evading professionals and companies. Typical outsiders are considered to be employees and pensioners of the non-protected private sector, new entrants to the labor force, unemployed and discouraged workers, immigrants, those needing the social protection net, exporters that compete in competitive world markets and companies that cannot tax evade. Although, outsiders outnumber insiders by a great margin, they are widely dispersed and contrary to insiders hardly, if at all, organized in promoting their common interest.¹

Each and every group of insiders seeks rents from the political system and especially government incumbents. On the other side, politicians are, in general, eager and willing to provide these rents in exchange for the political support and/or the avoidance of political harassment by those groups.² But, these rents are directly or indirectly increasing budget deficits and/or decreasing output and output growth and thus, affect negatively all outsiders and society as a whole.

The economic consequence of the insiders-outsiders society, is the accumulation of public and foreign debts as well as relatively low overall growth – features that characterize the Greek economy, for some time. The debts in turn, emanate from excessive public and

¹ This is a consequence of the free rider problem, present in large groups with anonymous members (Olson (1971)). In such groups, each member of a group behaves according to the motto: “What is going to happen will happen without me, anyway, so, why take any action that entails personal costs.”

² The term insiders-outsiders society is inspired by the insiders-outsiders theory of Lindbeck and Snower (1986) of labor markets, whereby some worker participants (“insiders”) have privileged positions relative to others (“outsiders”). Insiders get market power by resisting competition in a variety of ways, including harassing firms and outsiders that try to hire / be hired, by underbidding the wages of insiders. Obviously, the classification of all society members into insiders and outsiders is highly schematic. Closer to reality would have been a framework, where any member of society could potentially exhibit insider or outsider – type behavior vis-à-vis certain economic functions. The dichotomy adopted here is useful for theorizing, particularly in identifying political and economic forces that can explain stylized facts of aggregate economic behavior in a unifying and consistent way.

current account deficits, respectively. The public deficits are initially brought about by high government spending and/or low tax burden, mainly for the benefit of insiders.³ These deficits lead to higher consumption and imports and lower savings and investment. In addition, the public deficit-related rents to insiders as well as other (non-deficit related) rents to insiders lead to lower total factor productivity and jeopardize the competitiveness of the economy, resulting in lower exports and output. Output growth also diminishes due to the combined effects of low total factor productivity growth and lower capital formation. The lower output feeds back to the public deficit via automatic stabilizers-type effects. The accumulation of public deficits in combination with the relatively low growth increases the public debt-to-GDP ratio to the point where interest payments as a share of GDP tower over output growth, leading to debt sustainability problems. Furthermore, the accumulation of current account deficits, increases the foreign debt-to-GDP ratio, which in view of the fact that Greece is a member of the Euro area and cannot devalue its currency, leads to credibility problems. And, therefore we have the present crisis.

The insiders-outsiders society explanation relates to several strands of the literature on sovereign debt. First, it deals with the debt sustainability issue, for it explains chronic public deficits along with relatively low growth.⁴ Second, it relates to the “common pool property” of public finances, whereby there is an inherent bias towards higher government spending (lower tax revenues), due to the externality present in the financing of specific government goods and services (tax cuts).⁵ This externality is generated by the fact that those that enjoy the benefits of specific government benefits (tax cuts) are fewer and possibly different than those that pay for these benefits (share the cost of no tax cuts, such as with debt financing). And, as a result, there is higher demand for spending (tax cuts). In a way, the insiders-outsiders society incorporates the common pool problem, as the reason that an outsider does not react to the insiders behavior, is also due to the free rider apathy of those that share the cost of insiders’ benefits. But, the insiders–outsiders society explanation goes beyond the existence of chronic public deficits due to political economy reasons, in connecting those deficits to lower exports, output, and output growth. Third, the workings of the insiders-outsiders society explain the “twin deficits” formation, as a consequence of demand-side as well as supply-side effects. The former depend on the dominance of income and wealth

³ As we shall see later, higher government spending can also be brought about by policies for the appeasement of outsiders.

⁴ This effect has been emphasized in the early literature on sovereign debt sustainability (see, e.g., Giavazzi and Spaventa (1988) and Dornbusch and Draghi (1990)).

⁵ See Hallerberg and von Hagen (1999), Hallerberg et al. (2009), von Hagen and Harden (1994), Milesi-Ferretti (2004), Velasco (1999), Kontopoulos and Perotti (1999) and Eichengreen et al. (2011).

effects on consumption and therefore imports, possibly associated with legal and illegal rents of insiders, over general Ricardian-type effects. The latter are associated with rents of insiders that may or may not be associated with the budget deficit. For example, high wages in heavily unionized public sector enterprises directly affect the budget deficit and at the same time drive up cost of intermediate products to the private sector and put upward pressure on private sector wages, as well. And, high fees in regulated professions (e.g., lawyers, engineers, architects, pharmacists, notary publics, certified accountants) drive up production costs in the non-traded and, worst, in the traded goods sectors, jeopardizing the competitiveness of the economy and therefore reducing exports. Furthermore, to the degree that it applies, the insiders-outsiders society provides an explanation to the so called Feldstein–Horioka puzzle, as it predicts a positive correlation between national savings and investment.⁶ That is, budget deficits lead to lower savings (dominance of wealth and income over Ricardian effects) and investment, due to crowding out and lower returns to capital, brought about by low total factor productivity, at the same time.

Last but not least, the insiders-outsiders explanation relates to the rent seeking / special interests political economy literature.⁷ In particular, it is based on two basic ideas of that literature. First, that insiders seek rents from the political system for their own benefit and that the agents of the political system accommodate these demands in pursuit of their economic and political goals. Second, that, once the political system allows it, insiders are formed in groups, so as to take advantage of their common interests in rent seeking. Also, it shares with the recent political economy and economic growth literature, the idea that resources devoted to rent seeking are ultimately detrimental to growth.⁸ To our knowledge, this literature has not investigated the effects of these activities on the public and current account deficits and their accumulation.

In terms of economic policy, there seems to be an obvious recommendation: Structural reforms to dismantle the insiders-outsiders society. Unfortunately, nothing of this kind was implemented under Memorandum I (May, 2010), which was associated with the first EU-IMF rescue package, for the Greek economy. To a great extent, however, policies aiming at dismantling the insiders-outsiders society do characterize Memorandum II, which is associated with the second EU-IMF rescue package (February, 2012).⁹ There are some

⁶ In the sense that there is no puzzle.

⁷ See, e.g., Tullock (1967, 2010), Dixit and Londregan (1996), Grossman and Helpman (2002).

⁸ See, e.g., Angeletos and Kollintzas (2000), Hillman and Ursprung (2000), Park et al. (2005) and Acemoglu (2008), chapters 22 and 23.

⁹ See European Commission (2010, 2012). A list with examples of those policies is attached as Appendix C.

obvious lessons for countries that share features of the insiders–outsiders society with Greece, especially for those that are also members of the Euro area.

We adopt the following methodology: First, we present stylized facts of the public sector finances and the macroeconomy, in Greece, over the last four decades and we compare these facts to the corresponding ones of the Euro area. In so doing, we can spotlight the idiosyncratic features of the Greek economy vis-à-vis the Euro area that, according to economic theory, could lead or contribute to a crisis such as the one Greece is experiencing. We opted to present these facts without making, from the outset, any link between the evidence (data) and the insiders-outsiders society or any other explanation (theory). That way, the stage is set for presenting a theory that, while consistent with the broad features of the Greek economy, can explain how, those peculiarities of the economy lead or contribute to the present crisis, without picking and choosing the facts against which this theory is tested .

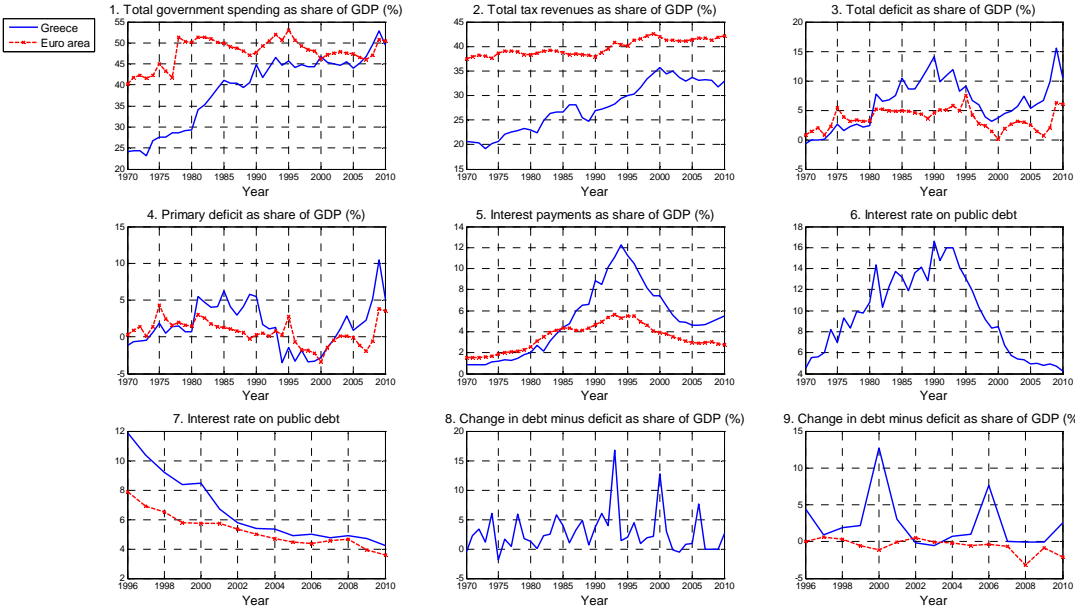
The plan of the paper has as follows: In Section 2, we present the stylized facts of public finances for Greece and compare them to the corresponding Euro area averages. In particular, we examine and compare the evolution and, most importantly, the composition of public expenditures, public debt, budget deficits, tax revenues and effective tax rates in Greece and the Euro area over the last four decades. In Section 3, we examine and compare the evolution of real economic activity variables, total factor productivity and various competitiveness indices in Greece and the Euro area over the same period. In Section 4, we show how the insiders – outsiders society explanation accounts for the observed stylized facts and most importantly the causes underlying the current Greek crisis. Section 5 concludes. A detailed explanation of the data used is contained in Appendices A, and B.

2. Stylized Facts of the Greek Public Sector

Figures 1 and 2 present the aggregate features of public finances in Greece and the Euro area. Total government spending as a share of GDP has escalated in Greece from about 24% in the early seventies to over 50% in the last few years, catching up with and even surpassing the Euro area average. On the other hand, total tax revenues as a share of GDP have increased from about 20% in the early seventies to about 33% in the last few years. Tax revenues as a percentage of GDP are lower in Greece relative to the Euro area. The underlying gap has remained about 10 percentage points for most of this period. Thus, at first glance, it seems that the high Greek public deficit compared with that of the Euro area is mainly due to the relatively lower tax revenues in Greece. Further below, we shall see that this is only partly true. And, that the high Greek deficit is due to many factors.

More significantly, Greece ran a primary deficit for most of this period. And, had a primary surplus only in the early seventies and in the late nineties, prior to EMU entry (see Subfigure 1.4). Meanwhile, interest payments on public debt as a share of GDP kept rising up to 1994, when they peaked to 12% of GDP, and they had a steep decline, up to the mid 2000's (Subfigure 1.5). The main reason for this is the remarkable drop in interest rates as Greece moved towards EMU membership and up to the start of the crisis in the beginning of 2010 (Subfigures 1.6 and 1.7).

Figure 1: Public finances



In view of the high primary deficits, the decline in interest payments was not enough to prevent total public deficits from increasing throughout this period. Starting from 1980, the budget deficit as a percentage of GDP in Greece has been constantly higher than the Euro area average. It increased until 1990, when it peaked at 14%. After 1990, the deficit showed a significant decrease, mainly due to the increase in tax revenues, in support of Greece's application to the EMU and the lower interest payments in anticipation of the eventual acceptance to the EMU.

As already noted, the cost of servicing public debt as a percentage of GDP in Greece, after following a steep upward trend leading to a peak of 12% in 1994, is thereafter characterized by an equally steep decreasing course that stops in 2006.¹⁰ This feature characterizes also the Euro area, but in a less dramatic way. No doubt, the prospective and

¹⁰ The fact that, over the last four decades interest payments on public debt averages at 5.1% of GDP, while the real per capita GDP growth rate averages at 1.77%, is an important fact which we will come to in the next section.

eventually the actual entry of Greece in the EMU lowered public borrowing costs after 1994 and helped finance the ever growing level of debt, despite the growing debt-to-GDP ratio. Figure 2 gives an impressive depiction of this story. In retrospect, it seems that the common view about countries with high debt-to-GDP ratio, having higher interest rates due to higher risk premia did not apply here for a long period. That is, from 1994 to 2010.

Figure 2: Total gross public debt as share of GDP and interest rate on public debt

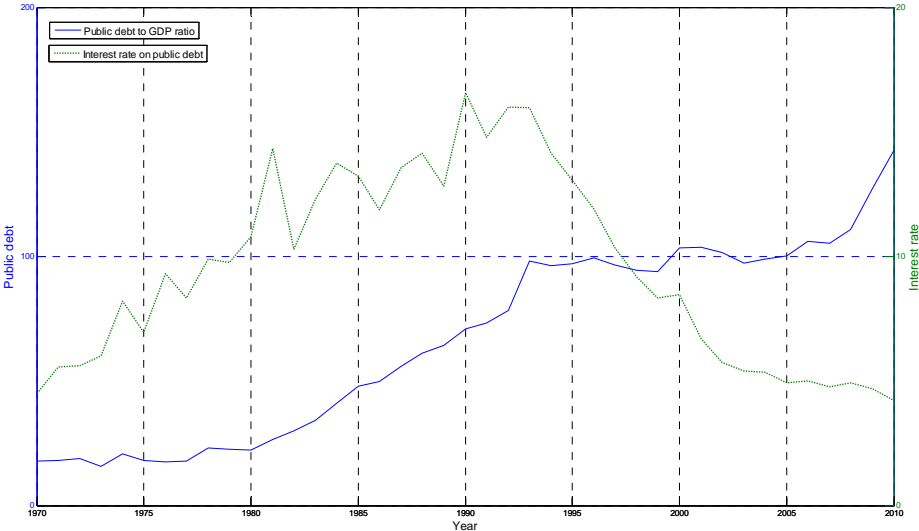
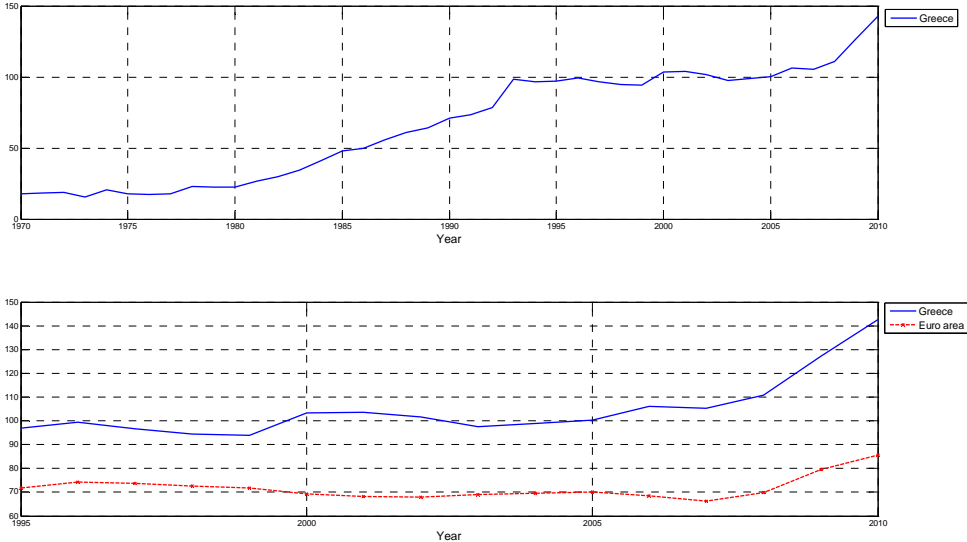


Figure 3: Total gross public debt as share of GDP (%)



Since 2000 – the year the decision was taken to accept Greece in the EMU, however, the budget deficit resumed an upward trend, which exacerbated after 2007, so as to lead to its historical peak of 15.4% in 2009. Moreover, total government deficits in Greece exceeded those of the Euro area significantly, especially over the last thirty years. As a result, as seen in

Figure 3, total gross public debt as a share of GDP, skyrocketed from 20% in the early seventies to about 170% of GDP, presently.¹¹ Note that, over the last fifteen years total gross public debt as a share of GDP in Greece has been more than 35-67 percentage points higher than that of the Euro area average. Obviously, to the extent that the Greek public debt and deficit figures systematically violate the Growth and Stability Pact ceilings, the observed differences in the public finances stylized facts vis-à-vis the Euro area, do not only reflect risks to macroeconomic stability and growth, but, also, as became evident the last year, threaten Greece's position in the Euro area.¹²

Finally, as Subfigures 1.8 and 1.9 reveal, a remarkable feature of the increase in gross public debt as a share of GDP, is that a substantial portion of it has come from sources that they were not included in the deficit (guarantee forfeitures, creative accounting, etc.).¹³ That is, the change in debt minus deficit as a share of GDP, that should have been a number around zero, as is the case in the Euro area, in the case of Greece remains significantly above zero and is very volatile. Significantly, most of these peaks occur on or close to election years.¹⁴ And, it is also remarkable why the European Commission permitted this to happen, for so many years, especially after 2000 when Greece joined the Euro area.¹⁵

Table 1 provides a more detailed cross country comparison of domestic and external debt. It is worth observing that, unlike the Euro area and most other countries with high public debt-to-GDP ratios (e.g., USA, Japan), most of the Greek public debt (about 60% of it in 2011Q1 or 88.3% of GDP) is held by foreigners, when in the case of USA, Japan and the Euro area, the respective figures in 2010 were only 29.66%, 14.1% and 23.9%, respectively. No doubt, this dependence on foreign lending, in view of the fact that Greece is a member of the Euro area and cannot devalue its currency, had important consequences for Greece's sovereign debt crisis that started at the beginning of 2010, whereby Greece was shut off

¹¹ This is before the, so called, PSI plan whereby about 207 billion of old Greek debt is to be exchanged for new debt and cash that amounts to about 46.5% of the face value of the old debt. The main target of Memorandum II is to bring the debt-to-GDP ratio to about 120% by 2020. Observe, however, that this is still thirty percentage points higher than the critical 90% threshold of Reinhart and Rogoff (2009) to avoid sovereign borrowing problems.

¹² The size of the Greek debt-to-GDP ratio is such that there would still be credit problems even if European institutions were designed so as to deal more effectively with such crises. To make things worse, the size of the EFSF/ESM mechanisms instituted for dealing with sovereign debt crisis in the Euro area, is widely considered as perceived inadequate by markets, and the fact that ECB cannot act as a lender of last resort for the Euro area countries is considered as limiting a sovereign's funding possibilities unduly (Buiters and Rahbani (2012)).

¹³ In the 2000 peak in Subfigure 1.8 must have contributed capital injections towards the Bank of Greece by means of bond issues that increased debt without affecting the deficit. See Christodoulakis (2012).

¹⁴ The idea that the lack of transparency may increase the electoral cycle of deficits is put forward in Alt and Lassen (2006).

¹⁵ The need for transparency and enhanced monitoring in countries with high deficits and debts in the Euro Area was eventually recognized but not effectively pursued (see European Commission (2008)).

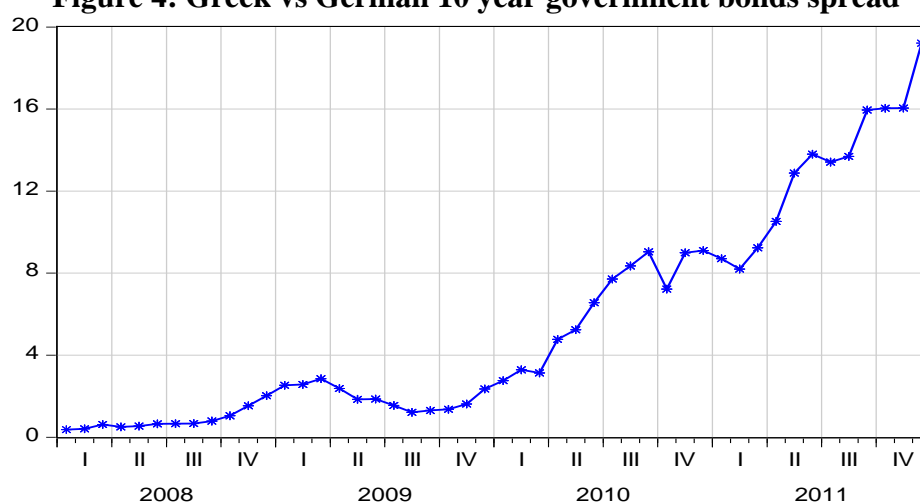
international markets and put in the spotlight of world finance media coverage as the most likely candidate for sovereign default.

Table 1: Domestic and External Debt: A Cross Country Comparison

| | Greece | | | Euro area | | USA | | Japan | |
|--|--------|--------|--------|-----------|-------|--------|--------|--------|--------|
| | 2009 | 2010 | 2011q1 | 2009 | 2010 | 2009 | 2010 | 2009 | 2010 |
| Total Gross Public Debt / GDP | 127.1 | 142.7 | 149.8 | 79.3 | 85.2 | 84.4 | 94.31 | 192.76 | 198.39 |
| Gross External Public Debt / GDP | 93.7 | 81.3 | 88.3 | 22 | 23.9 | 26.21 | 29.66 | 12.97 | 14.1 |
| Gross Domestic Public Debt / GDP | 33.3 | 61.4 | 61.5 | 57.3 | 61.3 | 58.18 | 64.65 | 179.79 | 184.29 |
| Gross External Debt / GDP (other sectors) | 80.4 | 96.3 | 91.4 | 94.1 | 93.9 | 69.09 | 67.55 | 27.23 | 30.56 |
| Total Gross External Debt / GDP | 174.1 | 177.6 | 179.7 | 116.1 | 117.8 | 95.3 | 97.21 | 40.2 | 44.65 |
| Total Gross Debt / GDP (total economy) | 428.09 | 463.25 | - | 444 | - | 368 | - | 466.76 | - |
| <i>of which</i> | | | | | | | | | |
| Non-Financial Corporations | 65.30 | 59.1 | | 81.35 | | 77.03 | | 95 | |
| Financial Corporations | 183.31 | 201.42 | - | 221 | - | 110.45 | - | 110 | - |
| Households | 52.38 | 59.97 | | 62.35 | | 96.35 | | 69 | |
| General Government | 127.1 | 142.7 | | 79.3 | | 84.4 | | 192.76 | |
| Net Foreign Asset Position / GDP (total economy) | -85.2 | -95.3 | -100 | -16.4 | -12.9 | -19.4 | - | 57.1 | 52.4 |
| Net Foreign Asset Position / GDP (other sectors) | 8.51 | -14 | -12.6 | 5.6 | 11 | 6.81 | - | 70.07 | 66.49 |
| Primary Deficit / GDP | -10.3 | -4.9 | -2.25 | -3.5 | -3.2 | -10.9 | -8.87 | -6.04 | -6.45 |
| Total Deficit / GDP | -15.4 | -10.5 | -9.15 | -6.3 | -6 | -12.66 | -10.58 | -7.09 | -7.69 |
| Current Account Balance /GDP | -10.98 | -10.45 | -14.4 | -0.1 | -0.8 | -2.68 | -3.20 | 2.8 | 3.44 |
| Trade Balance / GDP | -10.73 | -8.5 | -7.5 | 1.3 | 1.3 | -2.73 | -3.67 | 0.3 | 1.25 |

See Appendix A.2 for details

Figure 4: Greek vs German 10 year government bonds spread



As shown in Figure 4, the spread of the ten year Greek Bond over its German counterpart skyrocketed from 2.03% in December 2008 to 9.1% in December 2010 and

19.21% in December 2011. ¹⁶And, for good or for bad, this spotlight had, in turn, important consequences on a more transparent depiction of Greece’s economic and social state and revealed its deeper economic and social structure deficiencies.

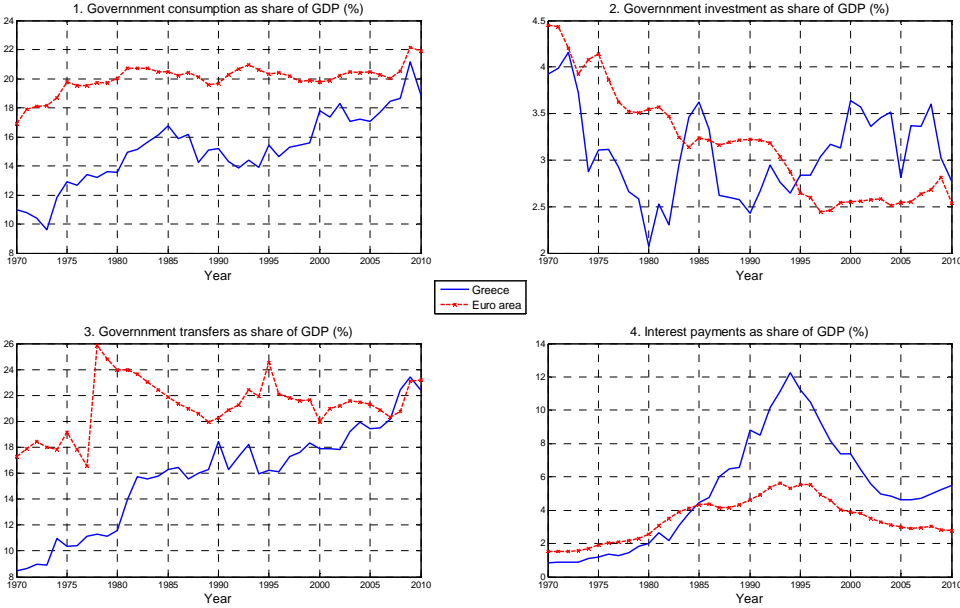
2.1 Composition of Public Spending

The aggregate public finance figures discussed above do characterize the facts that markets typically associate with a sovereign debt crisis but they do not explain how they came about. To do this we need to get deeper into the composition of both tax revenues and public expenditures.

Figure 5 depicts the composition of public expenditures as a percentage of GDP in Greece and the Euro area, during the period 1970-2010. Public expenditures are classified into four main categories: 1) Government Consumption, 2) Government Investment, 3) Government Transfers, and 4) Property Income (i.e. interest payments) paid by Government.

The government consumption-to-GDP ratio in the Euro area remained relatively constant within the 1970-2008 period, hovering around a 20% average. On the other hand, the path of the government consumption-to-GDP ratio in Greece, although starting from much lower levels in the seventies, is generally characterized by strong upward trend, almost catching up with the Euro area average.

Figure 5: Composition of public expenditure



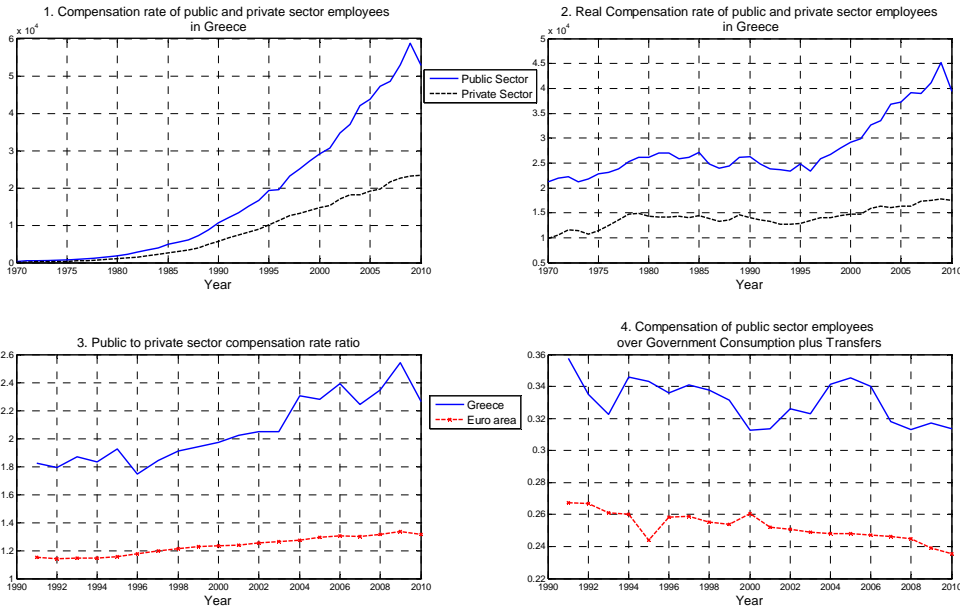
¹⁶ The current account deficit as a primary contributor to the high interest rates on Greek public debt has been emphasized by the Bank of Greece (see, e.g., Bank of Greece Annual Report 2009 (2010), p. 26).

Unlike the Euro area, public investment as a percentage of GDP is very volatile in Greece. This suggests that public investment plays the role of a buffer with respect to total government spending. Public investment around the 2004 Olympics was higher in Greece than in the Euro area but, in general, they are on a downward trend both in Greece and the Euro area.

Government transfers follow a similar behavior to that of government consumption. Thus, the government transfers-to-GDP ratio in Greece shows an upward trend, eventually catching up and even exceeding, after 2006, the Euro area average.

In sum, government consumption and government transfers have driven the escalation in government spending in Greece and this despite the decline in government investment and, after the mid-nineties, in interest payments. And, since this increase in government consumption and transfers was not matched by a corresponding increase in tax revenues, it is apparent that the high deficits were a consequence of both an increasing governmental spending and inadequate increases in tax revenues. Moreover, in order to understand how these developments came about, one has to go even deeper into the composition of government consumption, transfers and tax revenues.

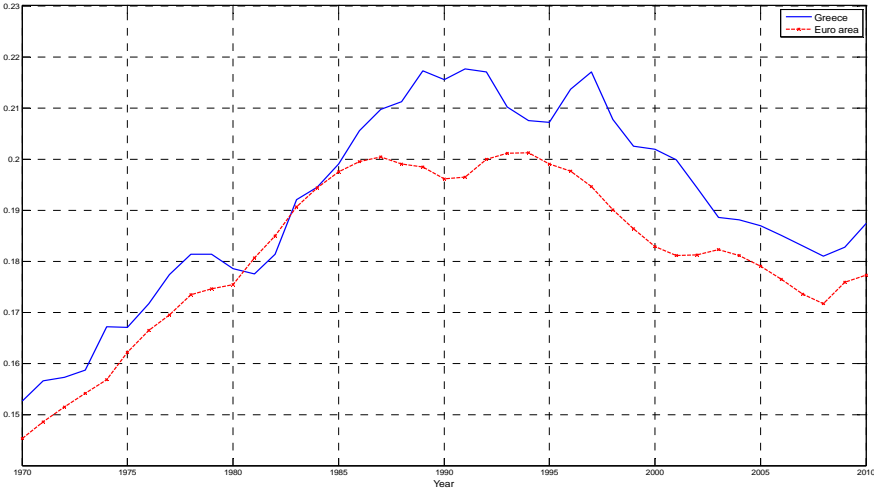
Figure 6: Compensation of employees in the public and private sectors



Now, a primary contributor of the aforementioned government consumption and transfers escalation is the increase in the costs of public employment. This includes the wage bill and the respective social security contributions. As can be seen from Figure 6, public sector nominal wage rates increased the last forty years by a factor of fourteen. More

importantly, this increase has been much faster relative to what happened in the private sector. Consequently, the ratio of the average wage rate in the public sector relative to the average wage rate in the private sector has increased over the last two decades by about forty percent. However, what is even more astounding, is the fact that this ratio has remained about sixty percent above the respective Euro area average. For example, in 2010 the average wage rate in the public sector in the Euro area was about 30% more than that in the private sector. But, in Greece, the average wage rate in the public sector was more than double relative to the average wage rate in the private sector. It could be argued that the wage bill of the public sector does not necessarily pose a problem for the public deficit as long as the number of public employees is decreasing. Moreover, as Figure 7 indicates, total public sector employment over the sum of public and private sector employees it not only did not decrease, but it is persistently higher in Greece relative to the Euro area. Thus, it seems that the huge wage premium in the Greek public sector must be a significant contributor to the primary public deficit.¹⁷ We shall examine the important consequences of the public sector wage premium for the overall economy later (Section 3.3).

Figure 7: Employment in the public sector as a share of public plus private employees



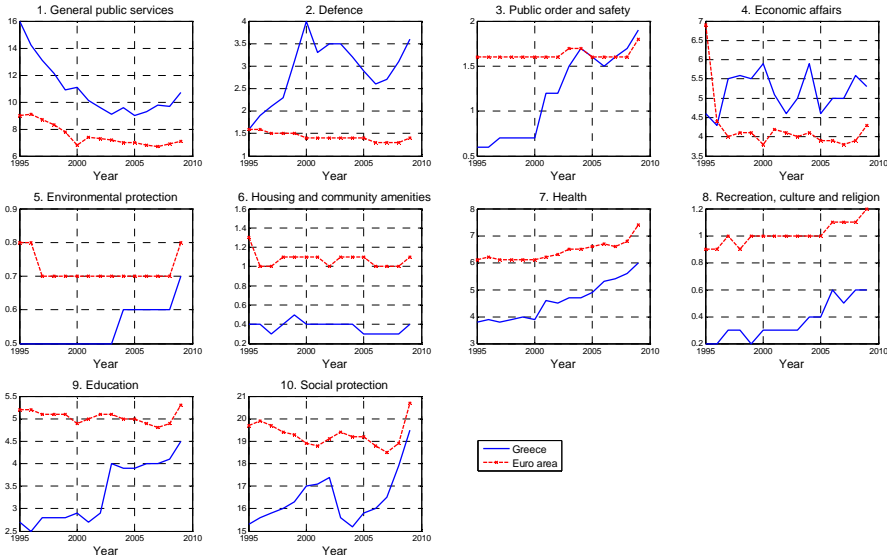
As seen in Subfigure 6.4, further evidence of the importance of the wage premium that characterizes the Greek public sector lies with the fact that in Greece the compensation of employees in the public sector accounts for a much bigger share of government spending on consumption and transfers relative to the Euro area. Again, the significance of this finding for

¹⁷ If one includes the number of self-employed to private sector employees, the ratio of public sector employees over total employment in Greece is three percentage points lower relative to the Euro area. But even so, the wage premium is so big that does not change this conclusion.

a unifying explanation of the causes of the twin deficits of the Greek economy - public deficit and current account deficit - will be highlighted shortly.

We now proceed to a more detailed break down of public expenditures, focusing on their classification by function. This provides further information regarding the way, and to what extent, the State participates in economic activity and interacts with economic agents. Specifically, public expenditures are classified into the following ten categories: 1) General Public Services, 2) Defence, 3) Public Order and Safety, 4) Economic Affairs, 5) Environmental Protection, 6) Housing and Community Amenities, 7) Health, 8) Recreation, Culture and Religion, 9) Education and 10) Social Protection.¹⁸ Figure 8 shows the evolution of public expenditure by function as a percentage of GDP for the period 1995-2009.

Figure 8: Government expenditure by function as share of GDP (%)



Given that government spending as a share of GDP in Greece caught up with the Euro area figures only after 2007, one should have expected a more or less similar pattern in what concerns major spending categories by function. However, as can be seen in Figure 8, there are significant and persistent differences in the composition of government spending by function category between Greece and the Euro area throughout this period. Greece spends

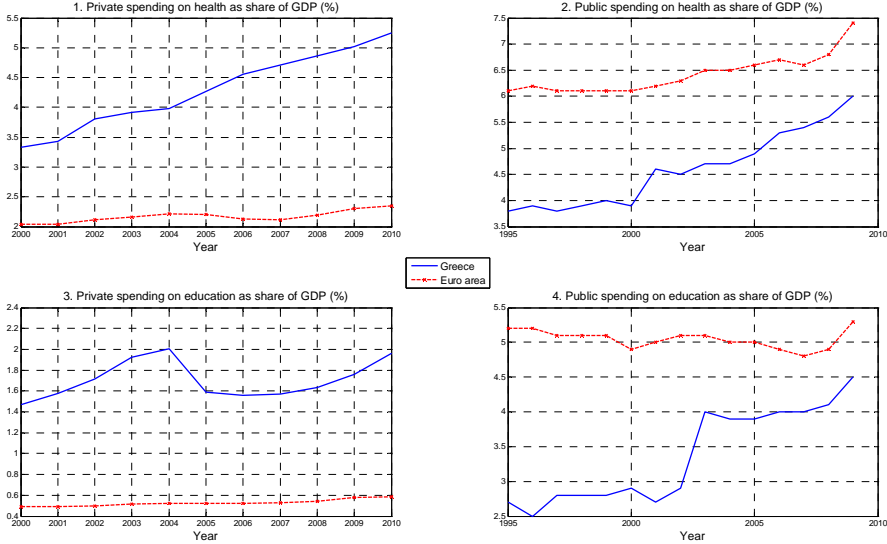
¹⁸ The “General Public Services” category includes costs for management fees, operating, purchasing materials and equipment in the public sector, and costs for repaying debt. The “Economic Affairs” category includes costs for construction and maintenance of public infrastructure (roads, ports, airports, railways), telecommunications fees, grants and provide loans in the agricultural sector, fisheries and energy sectors, spending on economic and political advertising (e.g., promoting tourism through advertising, promotion of Greek products abroad) and expenses for reforestation. For a detailed description of the different categories of public spending, see Eurostat (2011).

significantly higher percentages of GDP, than the Euro area, for “general public services,” “national defence,” and “economic affairs.”

The extensive borders of Greece and its long standing rivalry with Turkey can explain its relatively high defence expenditures. However, the relatively high “general public services” and “economic affairs” figures cannot be explained in such a straightforward manner. Since the “general public services” category includes interest payments it follows by comparison of Subfigures 8.1 and 8.4, that about half of the difference between Greece and the Euro area can be explained by these payments. The other half, however, reflects a higher cost of general public services that cannot be attributed to the provision of public goods (“public order and safety”, “environment protection”, “defence”) and merit goods (“housing and community amenities”, “recreation, culture and religion”, “education”, and “health.”). This other half, that is, reflects a high cost of central and local government operation. This, of course includes the wage bill and procurement costs. And, the difference in the “economic affairs” category reflects a taste for subsidies.

Finally and not surprisingly, Greece spends lower percentages of GDP, than the Euro area, for “public order and safety”, “environment protection”, “housing and community amenities”, “recreation, culture and religion”, “education”, and “health.”

Figure 9: Public and private spending on health and education



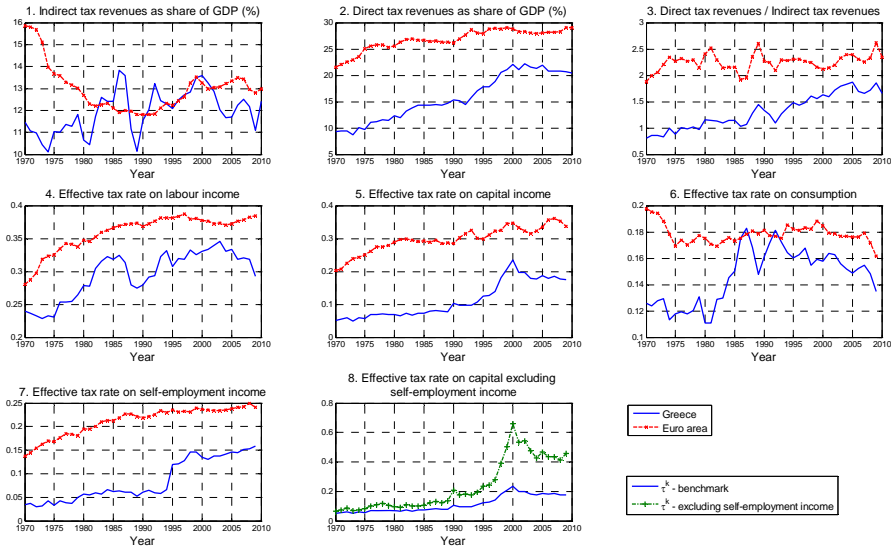
Note, however, that private spending on health and education in Greece is much higher than the respective public spending, contrary to what is in general the case in the Euro area (see Figure 9). And, moreover, private and public spending on health and education in Greece have not moved in the opposite direction. Several authors (see, e.g., Fiorito and Kollintzas

(2004), Afonso and Aubyn (2006), Afonso et al. (2003, 2006) and Kollintzas et al. (2010)) have interpreted this complementarity of public and private spending in Greece as an indication of inefficient public services. This of course has, also, important implications for both public deficits and growth that we will consider in Section 3.

2.2. Composition of Tax Revenues and Effective Tax Rates

We now turn to the evolution of tax revenues and effective tax rates in Greece and the Euro area. This provides information on the distribution of tax burden among economic agents and sources of income, as well as the way taxation affects the incentives to produce, save, invest and work.

Figure 10: Tax revenues and effective tax rates

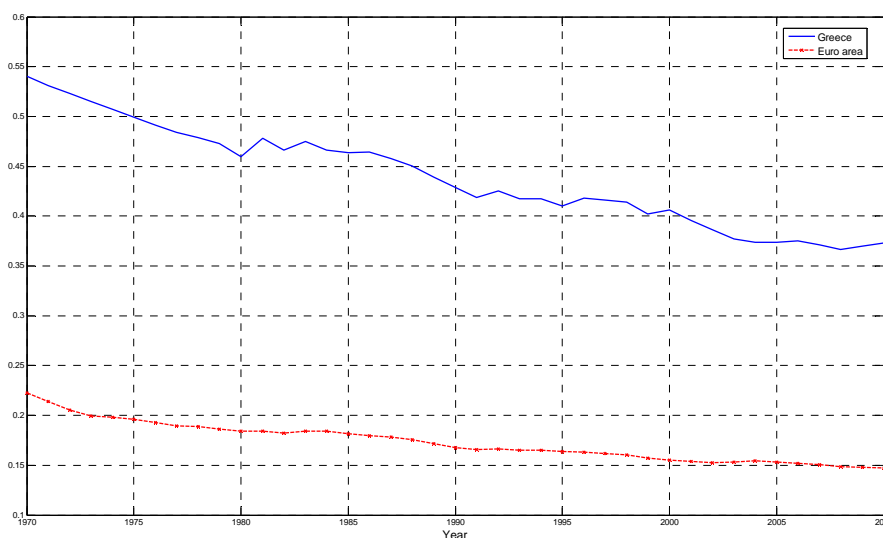


As can be seen in Figure 10, direct tax revenues have increased from 10% of GDP in early seventies to about 20% of GDP in recent years, but, as already mentioned, remain around 10 percentage points below the Euro area average, for most of this period. Indirect tax revenues, which are very volatile, have roughly converged to the Euro area average, to about 13% of GDP. Consequently, the direct to indirect tax revenues ratio has increased to about 1.7 in Greece but remains much lower than the corresponding ratio in the Euro area which fluctuates around 2.3. Since statutory income tax rates are similar in Greece and in other Euro area countries, this reflects an inefficient tax collection mechanism.

Effective tax rates on labor roughly converged with Euro area averages until 2003, but they have been diverging thereafter. Similarly, effective tax rates on consumption roughly converged with Euro area averages over the last forty years. At the same time, however, the effective tax rate on the income of the self-employed is about 10 percentage points lower in

Greece relative to the Euro area. This can explain the substantial difference in the behavior of direct tax revenues between Greece and the Euro area. This is also extremely important, for a striking feature of the Greek economy is that, the fraction of self-employment over total employment is more than double in Greece than in the Euro area (44% vs 17% on average, over the last 40 years, see Figure 11). The great difference in the effective tax rates on the self-employed in Greece and the Euro area is also a strong indication of the inefficiency of the Greek tax collection system.¹⁹

Figure 11: Self-employed as a share of total employment



The difference between the effective labour tax rate and the effective tax rate on the self-employed is no doubt one of the contributing factors of the great number of self-employed in Greece relative to the Euro area. Moreover, the behavior of effective tax rates on capital, crucially depends on the treatment of the income of the self-employed. As it has been pointed out in many studies (see, e.g. Ioannidis (2003)), the self-employed in Greece is not so much related to entrepreneurial opportunities as is “by necessity”. In other words, people choose to become self-employed in order to avoid taxes and/or hide their income (see, e.g., Banerjee and Newman (1993)). This is the reason self-employed income in Greece should not necessarily be considered as capital income as is usually done in the literature (see, e.g., Mendoza et al. (1994)).²⁰ If the income of the self-employed is included in capital income, effective tax rates on capital income in Greece appear to lie about 10 percentage points below the Euro area averages. However, once we subtract self-employed income from capital

¹⁹ See, e.g., Kollintzas et al. (2010)

²⁰ See Martinez-Mongay (2000) for the case in which the income of the self-employed is treated as both labor and capital income.

income, a great peculiarity emerges. Namely, the effective tax rate on capital in Greece quadruples, especially over the last fifteen years, and thus becomes much higher than that of the Euro area average.

In summary, factor income tax rates in Greece relative to the Euro area are greatly influenced by the taxation of the self-employed. First, the very low effective tax rate on the income of the self-employed accounts for most of the difference between the average income tax rates (i.e. direct tax revenues as a share of GDP). Second, it accounts for the much higher effective tax rate of capital income observed in Greece. Again, these findings have important consequences for a unifying explanation of the causes of the twin deficits of the Greek economy. And, as it has been pointed out in several studies, the high effective tax rate on capital income is a deterrent to savings, investment, capital formation and growth.²¹

3. Stylized Facts of the Macroeconomy

In the previous section we focused on the determinants of the numerator of the public debt-to-GDP ratio. It could have been argued that deficits and debts may not have been a problem, as long as they contribute to high output and growth. Albeit, we shall find out that this was not the case here. And, moreover, there is a number of Greek peculiarities in the composition of output and its growth that some are and some are not related to public finance policies.

3.1. Output and the Current Account

As can be seen in Figure 12, GDP per capita in Greece a little more than doubled over the last forty years. This growth was no faster than that of the Euro area or the EU (i.e., average (geometric mean) annual growth rates of 1.43%, 1.68%, and 1.56% in Greece, EU, and the Euro area, respectively, over the period 1975-2010). So, contrary to common view (standard neoclassical growth theory) there was no convergence with the rest of the Euro area or the EU. However, the composition of GDP and the growth of its components are quite different in Greece than in the Euro area.

²¹ See, Papageorgiou (2012) for an extensive discussion of the general equilibrium effects of distorting taxes in Greece.

Figure 12: Real per capita GDP

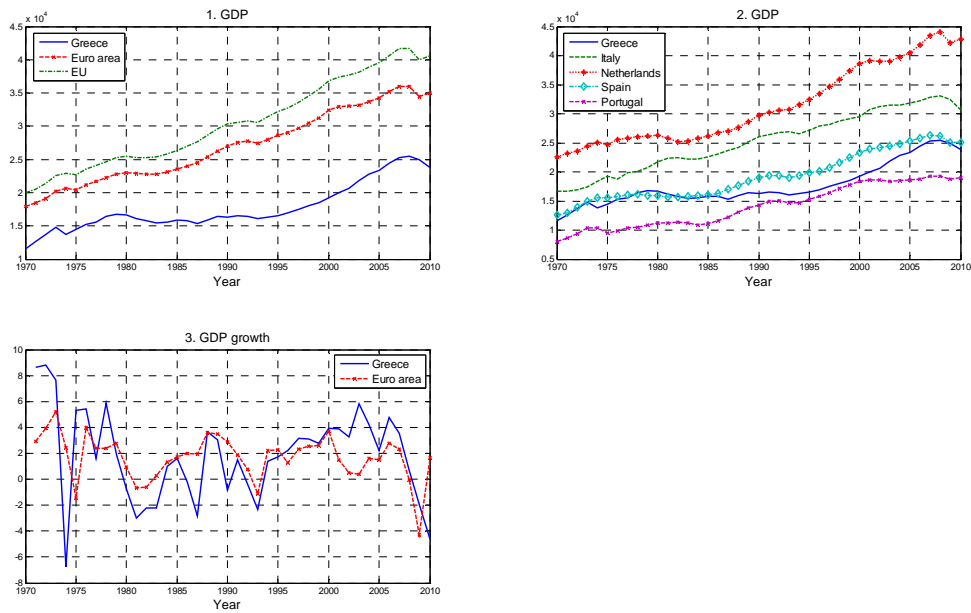
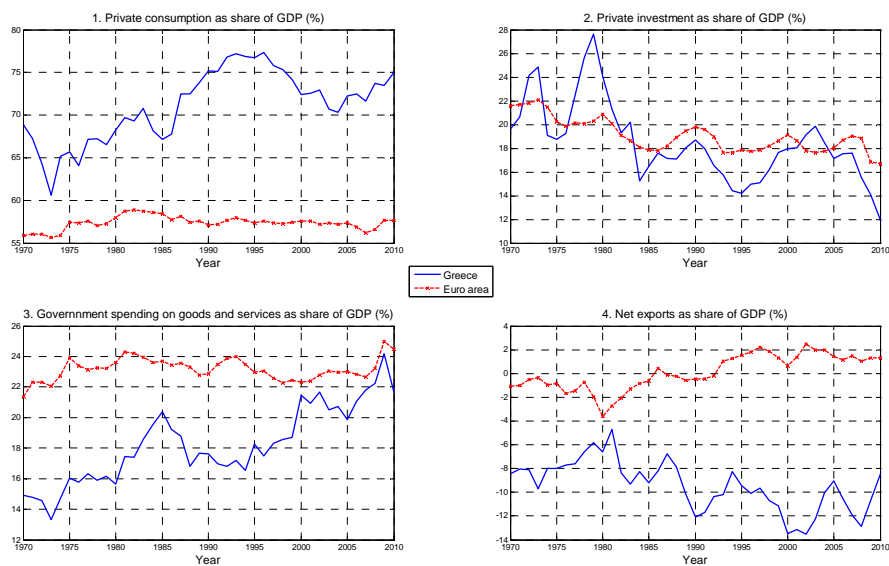


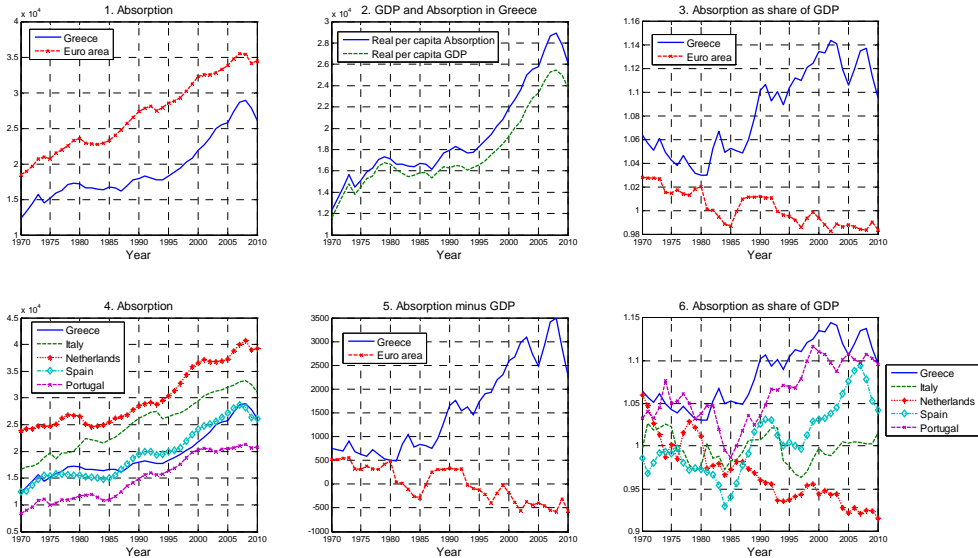
Figure 13: GDP decomposition



As can be seen in Figure 13, private consumption as a share of GDP grew from about 60% in the mid seventies to 75% in 2010, while private consumption as a share of GDP in the Euro area hovers around 57%, in the same period. In fact, since Greece's entry in the EU, the difference between private consumption as a share of GDP in Greece and the Euro area is more than 20 points and has a positive trend! Private investment as a share of GDP, in Greece, fell from about 24% of GDP in the middle seventies to 12% of GDP in 2010. In the same period, Euro area private investment as a share of GDP also declined, but this decline was modest by comparison (from 22% to 17%). As, we have already seen, government

spending on goods and services, in Greece increased from about 15% in the mid-seventies to 22% in 2010, almost catching up with the Euro area average. Finally and consequently, net exports as a share of GDP, for the most part of the last 35 years has the opposite sign from the Euro area average and remains below -8%. That is, the net imports as a share of GDP figure in Greece is one of the highest among developed economies and moreover, displays a positive trend. On the contrary, it is net exports in the Euro area that have a positive trend. These differences in the composition of GDP between Greece and the Euro area have all important consequences for the present crisis, which we shall investigate in due course. However, it should be stated at the outset that, obviously, the country as a whole consistently spends over and above what it produces. To appreciate this, observe from Figure 14 that, real per capita absorption (or Total Domestic Expenditure) in Greece systematically outstrips real per capita GDP and their difference has a positive trend.^{22, 23} The Euro area as a whole exhibits no such behavior. To get a feeling of the importance of the gap between GDP and domestic absorption in Greece, observe from Subfigures 12.2 and 14.4 that, since 2007 Greece had a lower real per capita GDP, but a higher real per capita absorption than Spain.

Figure 14: Real per capita GDP vs Absorption



As seen in Table 2, in Greece, the level of net imports in real terms (i.e. real absorption minus real GDP) correlate positively with private consumption, government consumption plus investment expenditure, as well as total government spending, and

²² This point has been repeatedly made by the Bank of Greece and by several authors, see, e.g. Dimelis (2010).
²³ Absorption is defined as $A = C + I + G$. Recall, also, that $GDP = C + I + G + X - M$, while the current account is defined as $CA = X - M + NIFA + NFTR$, where NIFA is net factor income from abroad and NFTR is net foreign transfers. It follows from the above definitions that $M - X = A - GDP = -CA + NIFA + NFTR$.

correlate negatively with private investment, all as a share of GDP. Strikingly, the Euro area as a whole behaves quite the contrary. In particular, there is a weak countercyclical relationship between net imports and private consumption as well as with the sum of government consumption and investment expenditure, and a strong procyclical relationship with private investment.²⁴ In other words, it seems that, in what concerns the Euro area, consistently with long held views, net capital inflows and income payments from abroad were directed towards private investment, while in the case of Greece they were directed towards public and private consumption, to the detriment of private investment.^{25,26}

Table 2: Cross Correlations
Cross Correlations $\rho(NM_t, x_{t+i})$ between net imports NM_t and x_{t+i}

| x_{t+i} | Greece | | | Euro area | | |
|---|---------------|---------------|---------------|--------------|---------------|--------------|
| | $i = -1$ | $i = 0$ | $i = 1$ | $i = -1$ | $i = 0$ | $i = 1$ |
| NM_t | 0.968 | 1 | 0.968 | 0.90 | 1 | 0.90 |
| Private consumption as share of GDP | 0.597 | 0.565 | 0.535 | -0.249 | -0.202 | -0.102 |
| Private investment as share of GDP | -0.493 | -0.488 | -0.523 | 0.693 | 0.766 | 0.768 |
| Government consumption and investment expenditure as share of GDP | 0.765 | 0.804 | 0.798 | -0.127 | -0.135 | -0.260 |
| Total government spending as share of GDP | 0.797 | 0.802 | 0.798 | -0.36 | -0.343 | -0.26 |

Note: Bold numbers indicate statistical significance at the 5% level. The value required to reject the null hypothesis that the population correlation is zero in a two sided test is 0.308 at the 5% level of significance.

Furthermore, we use the CUSUM and Quandt-Andrews tests to identify unknown structural breaks in net imports. Figure 15 reports the results from the CUSUM squares test which reveals evidence of structural change.²⁷ In particular, the CUSUM statistic values fall outside the 5% confidence boundary for the years 1998 through 2004, which indicates parameter instability during this period. We also use the Quandt-Andrews test to identify the

²⁴ For a statistical justification of the “strong” and “weak” terminology see Fiorito and Kollintzas (1994).

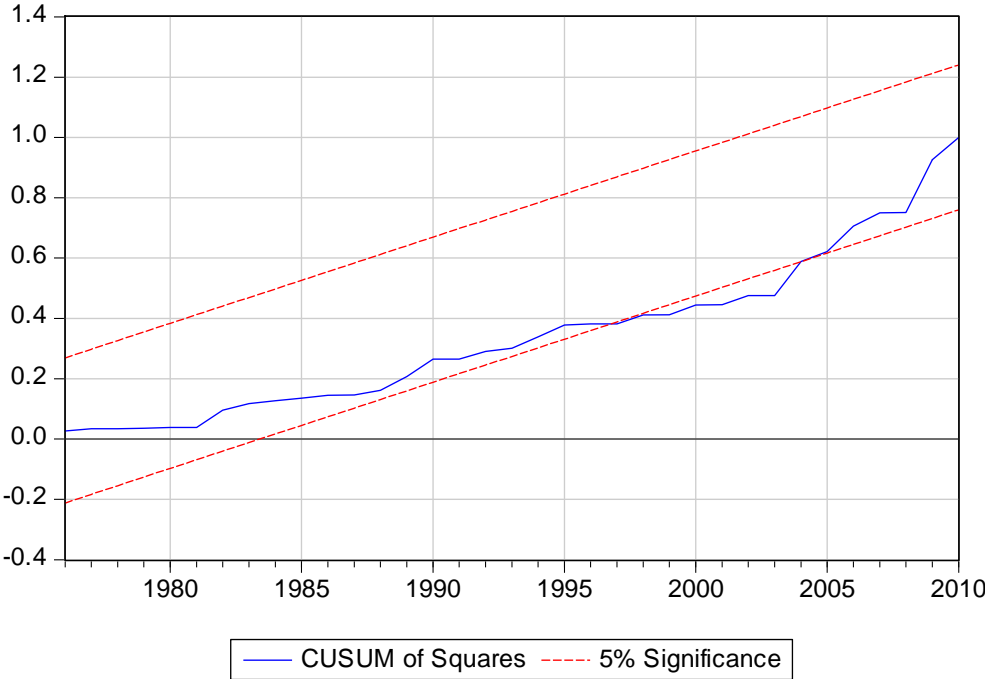
²⁵ Government investment as a share of GDP, as can be seen in Figure 4, has a rather negative trend in Greece the last forty years.

²⁶ Similar results obtain when net imports are substituted by the current account deficit. The strong negative correlation of the investment share of GDP with the current account deficit as a share of GDP, is contrary to the evidence obtained by Blanchard and Giavazzi (2002) over the period 1975-2001. Moreover, their conjecture regarding “the end of the Feldstein-Horioka puzzle” does not seem to be validated when the new data are incorporated. In addition, to the strong negative correlation between current account deficit and investment as shares of GDP, in Greece, there is a strong positive relationship between private savings and investment as shares of GDP over the period 1970-2010. The results are available upon request.

²⁷ The time series behavior of net imports or the gap between real absorption and real GDP, $NM_t = A_t - Y_t$, where A and Y denote real absorption and real GDP, respectively, was modeled as a second order autoregressive process, after taking first differences to eliminate trend: $NM_t = \beta_0 + \beta_1 NM_{t-1} - \beta_2 NM_{t-2}$. And, it was estimated by OLS. The CUSUM (cumulative sum of squares) test is based on the cumulative sum of squares of residuals, and plots the cumulative sum together with the 5% critical lines. The test indicates parameter instability if the cumulative sum goes outside the area between the two critical lines.

specific date of the unknown structural break. The results indicate that the estimated break date is 2004. We take these findings to indicate that the net imports decelerated near the entry to the Euro area and accelerated after 2004, year of the Olympic games. Obviously, this acceleration is an important determinant of the explosive behavior of foreign debt that we will come to shortly.

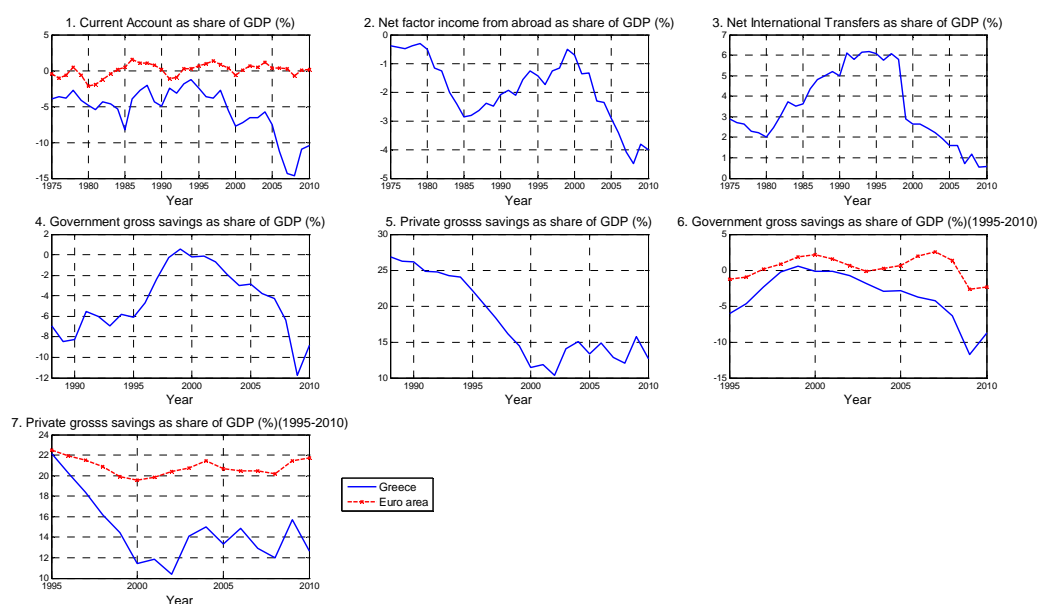
Figure 15: Evidence of structural change in the Absorption – GDP gap



Recall, that net exports along with net factor income from abroad (NIFA) and net transfers from abroad (NFTR) are the components of the current account balance. Thus, net imports is the sum of current account deficits, NIFA and NFTR. NIFA, which includes interest payments on public and private debt held by foreigners and home remittances of immigrants, was mostly negative. Thus, net imports have been financed by current account deficits and foreign transfers. As seen from Figure 16, large current account deficits are an ever present feature of the Greek economy over the last thirty five years. And, in recent years, the current account deficit fluctuates over 10% of GDP. On the contrary, the Euro area exhibits a relatively balanced current account over the same period. Net transfers from abroad, which include transfers from the EU, have also contributed to the relatively high net imports, over the last thirty five years, although in a diminishing way.²⁸ Obviously, the diminishing significance of NFTR as a contributor to net imports has been counterbalanced by the increased significance of the current account deficit.

²⁸ Observe the huge jump in NFTR in 1980, the year Greece entered the EU.

Figure 16: Foreign sector



Recall, also, that, from the National Disposable Income identity, the current account balance is the difference between the sum of private and government net savings and investment. Now, observe that government savings as a share of GDP were negative and decreasing the last 23 years (Subfigure 16.4). At the same time, private investment as a share of GDP was cut in half over the last 35 years (Subfigure 13.2) while private savings as a share of GDP show no trend and fluctuate around 13% (Subfigure 16.5). But, the borrowing needs of the private sector, i.e., private investment minus private savings, were positive although diminishing. It follows that net funds from abroad were used to finance the increasing and decreasing needs of the public and private sectors, respectively. Hence, it is apparent that government deficits, to an increasing degree, are being financed by the current account deficits.²⁹

At this stage it is important to use standard theory to identify the pivotal role of government deficits in order to provide a unifying explanation of these facts. We saw earlier, that private consumption as a share of GDP increased substantially, especially after Greece's entry in the EMU, while private savings as a share of GDP declined or fluctuated around a constant and government deficits were high and increasing. This suggests that income effects associated with the latter dominated over any Ricardian effects. Moreover, the decline in private investment as a share of GDP may have also be due to the crowding out effect,

²⁹ Recall that from the National Disposable Income identity, we have: $CA = S_p + S_g - I$, where S_p and S_g stand for private and government net savings, respectively. The suggested causality is based on this identity as only CA and S_g have strong negative trends.

associated with government deficits.^{30,31} At any rate, the large current account deficits (funds from abroad) may have also been directed towards investment, reducing the strength of the crowding out effect. The decline in investment as a share of GDP before 1996 could be attributed to crowding out, as interest rates were rising. But the decline in investment as a share of GDP from that year onwards cannot be due to crowding out, for as we have seen interest rates were decreasing sharply. Nevertheless, since Greece was and still is at a lower stage of development than the rest of the Euro area, standard economic theory predicts that capital funds should flow in from the EU and other richer countries from the rest of the world, especially after 2000, when Greece entered the EMU, implying better institutions. Thus, the decline in investment as a share of GDP after 1996 and the results of Table 2 that show a strong negative correlation between net imports and investment needs some further investigation into the macro stylized facts of the economy. Before doing so, however, it is important to check what happened with the accumulation of current account deficits.

3.2. External Debt

Obviously, the high and increasing current account deficit discussed above has led to a very rapid increase in external debt that we now turn to. As seen in Figure 17, the accumulation of current account deficits has led total gross external debt as a share of GDP to skyrocket from 10% of GDP in the early seventies to 180% of GDP, at the end of 2010. Furthermore, over the last five years total gross external debt as a share of GDP in Greece has been about 50% higher than that of the Euro area average.

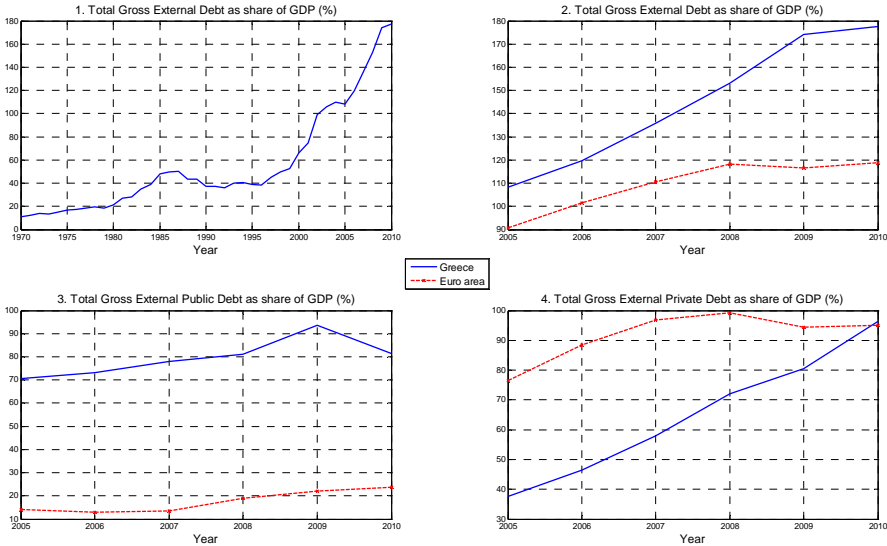
As already seen in Table 1, the primary contributor to the last stylized fact is gross external public debt being, on average, as a share of GDP, more than five times higher compared to the Euro area (Subfigure 17.3). Recently, however, the Greek external private debt as a share of GDP also exceeded that of the Euro area (Subfigure 17.4). These developments, along with the ballooning public debt as a share of GDP, have been at the front stage of the news coverage of the Greek crisis. Obviously the main reason of concern here is the fact that Greece, being a member of the Euro area, cannot devalue its currency. Thus, it is not possible to alleviate the burden of having to service and repay this foreign debt, and this of course leads to credibility problems. These credibility problems have affected not

³⁰ Wealth effects have been associated with the drachma overvaluation at the entry point to the EMU (see, e.g., Bosworth and Kollintzas (2001)).

³¹ In a closed economy this would automatically happen.

only the public but the private sector, as well. For example, letters of credit from Greek banks were not accepted by the foreign suppliers of Greek importing firms.

Figure 17: External gross debt



3.3. Output Growth and Fiscal Policy

So far, we have looked at output and its determinants. Now, we look at growth. First, we examine the role of public finance policies on economic growth. In Table 3, we present the correlations of fiscal policy variables and GDP growth. Total government spending, government consumption, government transfers, total deficit and primary deficit as a share of GDP correlate negatively and statistically significantly, with the growth rate in Greece and in the Euro area. On the contrary, government investment as a share of GDP correlate positively and statistically significantly, with the growth rate both in Greece and the Euro area. Given the fact that, as we have seen in the previous section, fiscal policies in Greece were expansionary and characterized by large government deficits (both primary and total), the results of Table 3 indicate that the fiscal policies implemented do not seem to have helped growth.³² This becomes even more apparent as the public investment-to-GDP ratio, that seems to help growth, declined over the last four decades.

Now, we turn our attention in two other groups of factors that could have influenced growth through the supply side of the economy, namely effective tax rates. The correlations of the effective tax rate on labor income and the growth rate are negative and significant both in Greece and the Euro area.³³ However, the correlations among the other effective tax rates

³² This is consistent with the literature, see, e.g., Easterly and Rebelo (1993).

³³ This is also consistent with the literature, see, e.g., Daveri and Tabellini (2000).

and GDP growth rate are considerably lower in Greece relative to the Euro area and they are not statistically significant. In some cases (e.g., capital income) this correlation is actually zero. An interpretation for these lower correlations could be sought in the actual levels of the effective tax rates which are considerably lower in Greece relative to the Euro area (see Figure 10). Actually, the lower the level of the tax rate, the lower the correlations. One then could argue that this weaker correlation reflects a nonlinearity in the relation between tax rates and growth: Lower tax rate levels have a less distortionary effect on growth. The lower effective tax rates in Greece, in turn, reflect well known tax evasion / compliance and tax collection problems. Note, that, the effects of tackling tax evasion (i.e. increase in the tax base and tax revenues) on effective tax rates is not clear cut since this affects both the nominator (revenues) and denominator (tax base). Whether the effective tax rates will rise or fall depends on the progressivity of the tax rate system and the idiosyncratic characteristics of evasion.

Table 3: Cross Correlations of GDP growth $\rho(y_t, x_{t+i})$ and public finance variables

| | Greece | | | Euro area | | |
|--|----------------|----------------|----------------|-----------|----------------|----------------|
| | $i = -1$ | $i = 0$ | $i = 1$ | $i = -1$ | $i = 0$ | $i = 1$ |
| Real GDP growth | 0.3415 | 1 | 0.3415 | 0.3656 | 1 | 0.3656 |
| Total government spending as share of GDP | -0.2645 | -0.3938 | -0.3482 | -0.2581 | -0.5415 | -0.4916 |
| Government consumption as share of GDP | -0.2606 | -0.4013 | -0.3201 | -0.3760 | -0.7462 | -0.7341 |
| Government investment as share of GDP | 0.2870 | 0.5780 | 0.4186 | 0.3222 | 0.3442 | 0.4354 |
| Government transfers as share of GDP | -0.3425 | -0.4810 | -0.3747 | -0.2428 | -0.4514 | -0.4203 |
| Total tax revenues as share of GDP | -0.0587 | -0.1770 | -0.1611 | -0.2374 | -0.4102 | -0.4685 |
| Direct taxes as share of GDP | -0.0710 | -0.1711 | -0.1300 | -0.3593 | -0.5387 | -0.5527 |
| Indirect taxes as share of GDP | 0.0175 | -0.1390 | -0.2391 | 0.3248 | 0.4089 | 0.3026 |
| Total deficit as share of GDP | -0.4783 | -0.5496 | -0.4919 | -0.0325 | -0.5319 | -0.4531 |
| Primary deficit as share of GDP | -0.4576 | -0.4250 | -0.2846 | 0.1207 | -0.3400 | -0.2636 |
| Effective tax rate on labor income | -0.1752 | -0.2840 | -0.3013 | -0.3680 | -0.4440 | -0.4561 |
| Effective tax rate on capital income | 0.0836 | 0.006 | 0.0535 | -0.4602 | -0.4687 | -0.4124 |
| Effective tax rate on consumption | -0.1394 | -0.1473 | -0.2343 | 0.4060 | 0.6923 | 0.3693 |
| Effective tax rate on self-employment income | 0.0160 | -0.0713 | 0.0080 | -0.3873 | -0.4391 | -0.4286 |
| Effective tax rate on capital income (excluding self-employment income) | 0.116 | 0.0407 | 0.0825 | - | - | - |
| Compensation rate in the government sector / Compensation rate in the private sector | 0.0112 | -0.0507 | 0.0643 | -0.1935 | -0.2577 | -0.1974 |

Notes: Given the number of observations in the sample, the value required to reject the null hypothesis that the population correlation is zero in a two sided test is 0.308 at the 5% level of significance.

3.4. Growth Accounting and the TFP Puzzle

In the previous subsection we showed that the Greek growth experience over the last forty years, despite EU participation and the associated institutional and economic benefits (e.g., NFTR), was average, at best, and not what would have been expected, given the massive inflow of funds from abroad or following conventional economic wisdom (i.e., real convergence). To identify the sources of growth, we present the standard growth accounting decomposition for Greece and a number of Euro area countries, from 1975 to 2010.

Table 4. Growth Accounting 1975-2010

| | Belgium | Finland | France | Germany | Greece | Netherlands | Portugal | Spain |
|---|----------------|----------------|---------------|----------------|---------------|--------------------|-----------------|--------------|
| <i>Change in per capita Real GDP</i> | 1.6649% | 2.0761% | 1.4200% | 1.0630% | 1.4145% | 1.6146% | 1.9905% | 1.4880% |
| Due to Productivity Factor | 1.9221% | 2.7676% | 2.0893% | 2.4355% | 0.7844% | 1.9092% | 1.6444% | 1.6193% |
| Due to Capital Factor | -0.0005% | -0.1618% | 0.1068% | -0.1738% | 0.8609% | -0.1513% | 0.2240% | 0.3923% |
| Due to Labor Factor | -0.2568% | -0.5297% | -0.7760% | -1.1987% | -0.2308% | -0.1432% | 0.1222% | -0.5236% |

As can be seen from the results of Table 4, the great difference between Greece and all other countries is in the contribution of Total Factor Productivity (TFP). That is, while the contribution of TFP accounts for more than 100% of GDP growth in Belgium, Finland, France, Germany, France, Netherlands, and Spain, in Greece it accounts for 55% of it.³⁴ Thus, TFP did not drive growth in Greece and in fact, unlike the other Euro area countries, the main contributor to growth was capital. This is a puzzle for standard theory. To see this, observe that it would have been no puzzle if Greece was growing faster than the other, richer, countries. For, if the richer Euro area countries grow with the rate of growth of TFP, Greece should have grown with a growth rate of TFP plus the rate of convergence towards the richer Euro area countries. The latter should have been related to the higher rate of investment in Greece, due to better investment opportunities associated with higher capital productivities, unrelated to TFP growth. If convergence forces were more important than TFP growth, there would be no puzzle, as the primary contributor to growth would be capital. However, the results of Table 4 indicate that growth in Greece was not better than the richer European countries and the main reason for this was that TFP growth in Greece was miniscule, by comparison. So there is a puzzle. In fact the numbers of TFP growth in Greece and the other Euro area countries is so different that one can think of no other reason for this, other than obstacles to the incorporation of the new technology. If one considers EU and EMU participation, and the underlying improvement in institutions, the puzzle becomes even greater.

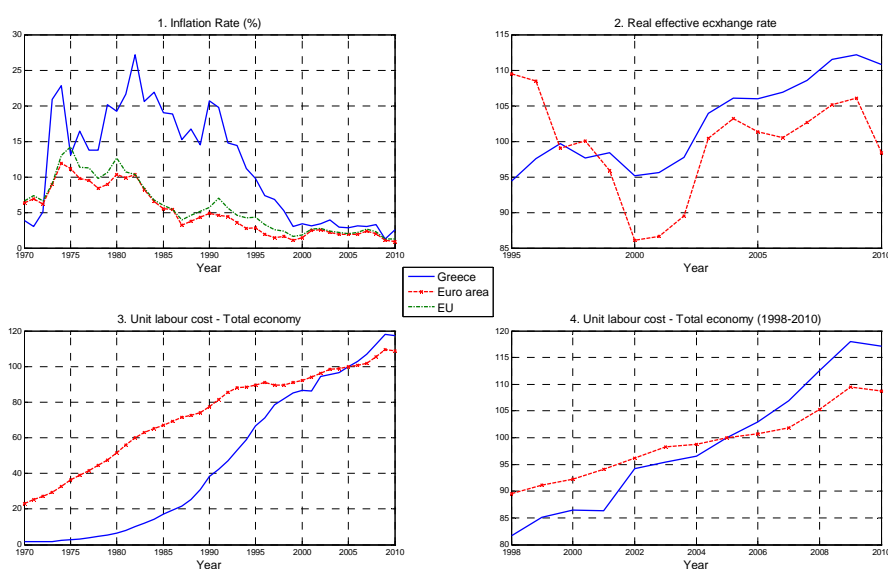
³⁴ In Portugal it accounts for 82.4%.

3.5 Exports and Competitiveness

In the previous subsections we showed that Greece's macroeconomy is characterized by unusually large net imports. These net imports were shown to be associated with increasing government consumption and very high and increasing private consumption. And, they were financed by large current account deficits. The latter were associated to an increasing degree with large public deficits and to a decreasing degree to the funding gap between private savings and investment. This, of course, is an explanation that pertains only to imports, given exports. In this subsection we look at exports.³⁵

In fact, we found out in the preceding subsection that TFP growth in Greece was much lower than in a number of Euro area countries. This, of course, has affected all goods and services produced, and, therefore, exports. Moreover, exports may also have been affected by competitiveness. As can be seen in Figure 18, unit labour costs have increased faster in Greece than in the Euro area and remain at higher levels in Greece than in the Euro area, over the last five years. Likewise, inflation rates continue to be higher in Greece than in the Euro area even after Greece's entry in the EMU. Finally, real effective exchange rates have increased faster in Greece than in the Euro area, and remain at higher levels in Greece than in the Euro area, over the last ten years.

Figure 18: Inflation rate, real effective exchange rate and unit labour cost



According to the standard Balassa – Samuelson explanation, higher factor productivity in the traded goods sectors, drives labor income therein to be higher relative to the non-traded

³⁵ The role of competitiveness in the behavior of the current account deficit and net imports has been traditionally emphasized by the Bank of Greece (see, e.g., Bank of Greece (2010), p. 27).

goods sectors, thereby leading to higher domestic demand for both traded and non-traded goods and services. This results in higher prices in the non-traded goods sectors, as traded goods prices cannot easily adjust due to world competition. In the case of Greece, this effect seems to be further enhanced by the substantial resources borrowed or transferred from abroad at relatively low interest rates.

All the above facts suggest that the Greek economy is prone to a significant competitiveness deficit, which must have put a downward pressure on exports.³⁶

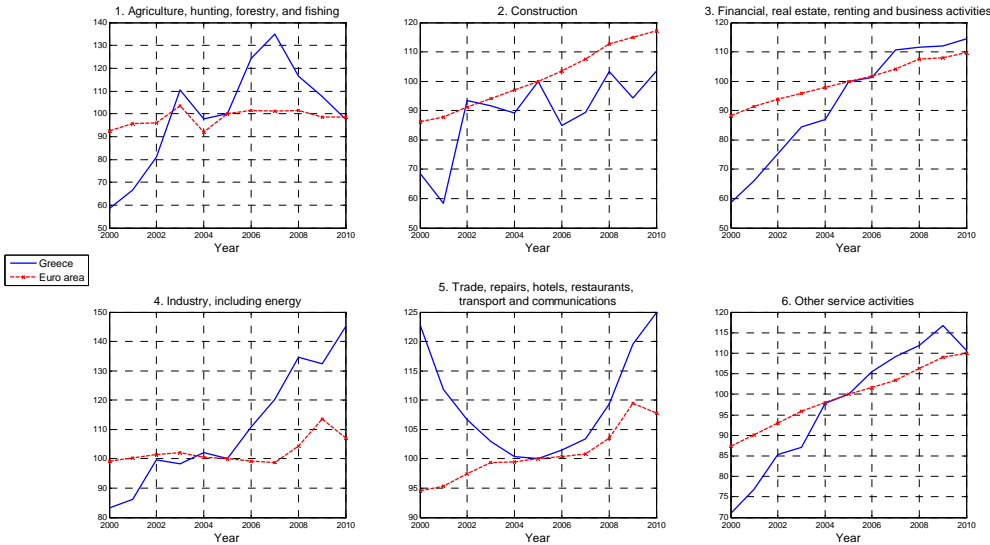
A simple regression confirms this. As seen in Table 5, the unit labour cost has a very strong negative effect on total factor productivity as does the ratio of wages in the public relative to the private sector. It appears, therefore, that the public sector wage premium that was found to be a significant contributor to the public deficit, is also a significant negative contributor to Total Factor Productivity (TFP) and competitiveness (i.e., unit labor cost).

Table 5: The effects of unit labor cost and relative wages on total factor productivity

| | $\Delta \ln(TFP)$ | | |
|-------------------------|------------------------|----------------------|-------------------------|
| | (1) | (2) | (3) |
| $\Delta \ln(ULC)$ | -0.2355*** (-3.252) | | -0.2451*** (-3.9206) |
| $\Delta \ln(W^G / W^P)$ | | -0.261* (-1.9618) | -0.2798*** (-2.6521) |
| <i>R</i> -squared | 0.255 | 0.14 | 0.416 |

Notes: (i) Dependent variable: Total factor productivity (ii) OLS estimates over the period 1970-2009, (iii) *** significant at 1%, ** significant at 5%, * significant at 10%, (iv) t-statistic in parenthesis

Figure 19: Unit labour costs in various sectors



³⁶ See also Footnote 40.

Moreover, proceeding to a more detailed sector-specific breakdown of unit labor cost, it is worth observing (see Figure 19) that unit labour costs in state controlled and heavily unionized industries (energy, transportation, utilities) are higher in Greece than in the Euro area.

4. The Economic Consequences of the Insiders – Outsiders Society

During the ongoing crisis, the twin deficits and the accumulation of debts have led to skyrocketing lending rates from international markets both for the public and private sectors, practically closing the funding taps. This in turn created a liquidity crisis in the Greek banking system (i.e., inaccessibility to international capital markets and low valuations of their assets, dramatic fall in deposits).³⁷ Illiquidity surely exacerbated the downturn of the real economy and through credit defaults deteriorated capital adequacy of the banking sector and jeopardized further the liquidity of banks. The banks in turn closed the taps of borrowing for households and businesses. Obviously, now, apart from high lending rates that "crowd out" the private sector of the economy, the balance sheets of banks and corporations have been adversely affected giving rise to a fully fledged financial crisis - economic recession vicious cycle. This is the well known credit markets accelerator effect.³⁸ Currently, Greece suffers from the biggest recession in sixty years. According to the latest Eurostat data update (03-04-2012), in 2009, 2010 and 2011 GDP fell by 3.3, 3.5 and 6.9 percent, respectively. Overall for the four years 2009 - 2012, the reduction in GDP is estimated to be over 18%. Such a severe recession could only have further negative consequences for the country's ability to repay its debts and unavoidably led to the default of July/October 2011.³⁹

The stylized facts of the preceding sections clearly show how economic policies and the workings of the economy produced the twin deficits and low growth that characterize the Greek economy over the last four decades and are the root causes behind the ongoing crisis. Obviously, this stylized facts analysis cannot account for a causal relationship. In this section we argue that the insiders – outsiders society explanation, can account for the causes as well as the consequence of the ongoing crisis.⁴⁰

³⁷ An early prediction of this happening in the Euro area is Eichengreen and Wyplosz (1998).

³⁸ See, e.g., Bernanke et al. (1999).

³⁹ This restructuring involved the reduction ("haircut") in the face value of the Greek debt of around 110 billion euros in March 2012, which amounts to a 53.5% reduction in the face value of Greek debt held by the "private sector".

⁴⁰ There is already a growing literature on the causes and consequences of the Greek financial crisis, giving alternative explanations, not necessarily inconsistent with the one offered here. As far as the causes, Alogoskoufis (2012), emphasizes the coincidence of the world financial crisis of 2008 and the refinancing needs of the high Greek debt, the announcement of a large deterioration of the projected 2009 deficit and the

The stylized facts identified in Sections 2 and 3 and summarized in Table 6, are fully consistent, both at the sectoral and aggregate levels, with the insiders-outsiders explanation.

Table 6. Stylized facts of the Greek economy that could be accounted for by the insiders–outsiders society

| | |
|-------------|--|
| I | There is a huge wage premium in the Greek public sector, as the ratio of the average wage rate in the public and private sector in Greece and the Euro area is, about, 2.3 and 1.3, respectively. |
| II | Certain government spending categories related to procurement and subsidies are inexplicably high, as the ratio over GDP of “General Public Services” and “Economic Affairs” is about 5 percentage points higher in Greece relative to the Euro area, but only half of this difference can be explained by higher interest payments on public debt in Greece over the Euro area. |
| III | Certain tax revenue categories are incredibly low, as the effective tax rate on the income of the self-employed in Greece and the Euro area is about 15% and 25%, respectively, while, the ratio of the self-employed over total employment in Greece and the Euro area is, about, 37% and 15%, respectively. |
| IV | Private consumption-to-GDP ratios in Greece and the Euro area over the last fifteen years are 70-75% and 55-57%, respectively. The private investment-to-GDP ratio in Greece declined from 24% in the early 70’s to 12% in 2010. |
| V | Net imports and the current account display strong positive correlation with the GDP shares of private consumption and government spending, and a negative correlation with private investment in Greece, while the opposite holds in the Euro area. |
| VI | Despite the massive current account deficits and NFTR over the last four decades, the entry into the EU in 1981 and the Euro area in 2001, the per capita growth rate of the Greek economy was low and no better than the European Union or the Euro area. |
| VII | The low growth in Greece is mainly due to the much lower TFP growth in Greece relative to other countries in the Euro area. |
| VIII | Certain industrial sectors have very high labor costs. For example, unit labor costs in Greece exceed significantly their Euro area counterparts in industry (including energy), Trade, Repairs, Hotels, Restaurants, Transport and Communications, sectors that in Greece are heavily unionized. |
| IX | Both public sector wage premia and unit labour costs have significant negative effects on TFP. |

After the return of democracy in 1974, with the reestablishment of civil and political freedoms which was not complemented with a restructuring of the institutional framework, the stage was set for the advent of various groups of insiders.⁴¹ Since then, the dominant

ineffective fiscal policies that followed. And, Christodoulakis (2012), emphasizes the economic policies pursued in the 1980’s (such as demand push and employment protection), the forces of the inertia of the status quo in the mid 2000’s and the post 2009 election inefficient fiscal policies.

⁴¹ This is what the rent seeking / special interests groups theory would have predicted (see, e.g., Tullock (1967, 2010).

parties that alternated in power (“PASOK” – center left, “New Democracy” – center right) had an incentive to adopt the positions of the median voter, who as already mentioned was and still is an outsider.⁴² Before Greece’s entry in the Euro area in 2001, the political practice was dominated by targeted subsidies to various groups of insiders, such as: high wages and salaries for powerfully unionized employees of public enterprises, irrational farm subsidies, mechanisms that tied up the fees of professionals such as doctors, pharmacists, lawyers, notaries, engineers, to the prices of the underlying services, and protective regulations for the transportation industry. This was complemented by across the board transfers to insiders and outsiders alike, such as wage increases brought about by seniority clauses in labor laws and labor contracts that are activated automatically every time general collective bargaining agreements set the minimum wage rate in the public and the private sectors of the economy, avoidance and evasion prone tax system, early retirement and extremely generous pension schemes. As shown in Section 2, public expenditures rose from 29% as a share of GDP in 1979 to 47% in 2000, while public debt rose from 22.5% in 1979 to 103% in 2000.⁴³

Since 2001, pre-election rhetoric had to become more inventive because of the constraints imposed by EMU participation (The Growth and Stability Pact). It had to appear that the policies that were supposed to be implemented, on the one hand were not expansionary, but on the other hand, had to imply benefits for the outsiders. For example, “New Democracy” in order to come to power (2004-2009) promised to “re-establish the state”, e.g., fight corruption, provide quality public services with lower administration costs and hence lower taxes. By the same token, PASOK who came to power in 2009, had as a pre-election banner the motto “there is money available.” This meant that resources could be obtained from: redistribution from the “rich” to the “poor”, reducing bureaucracy and corruption as well as, containing tax evasion. But once in power, though, both governments found out that in order, for example, to reduce waste in public enterprises and the Public Sector in general, or reduce bureaucracy and corruption, they had to face the insiders and their potential reaction. The government cannot overcome the obstacles against reforms put by insiders, since, as mentioned above, it is the inertia of the status quo forces (free rider

⁴² By the way, coalition governments being more prone to create deficits, as emphasized by Roubini and Sachs (1989), do not seem to characterize the Greek case, where, except for a small period during 1989-1990, there were no such governments.

⁴³ There is substantial journalistic documentation for many case studies of insiders rents. Good examples include Michas (2011) as well as a number of articles by Kathimerini columnist Paschos Mandravelis (see, e.g., www.medium.gr) and by www.capital.gr columnist George Kraloglou. Moreover one can get a pretty good idea of various types of insiders’ rents by going over the policies of Memorandum II that have been selected in Appendix C. For an early warning on the dangers for the economy’s development behind rents to special interest groups and policies for the appeasement of the general public, see Kollintzas and Bitros (1992).

behavior) that dominates.⁴⁴ All this is reflected in public expenditure that reached 53% of GDP in 2009.

Worse than that, though, is the impact of this insiders-outsiders organization of society on the economy's competitiveness and the current account deficit that financed consumption and government spending. As we showed in Section 3, the current account deficit remained well above 8% of GDP since 2000, while in 2008 it reached the exorbitant 15% figure. Thus, external debt (public and private) is estimated to have exceeded 180% of GDP in 2011. It is not only the persistent current account deficit that characterizes the lack of competitiveness of the Greek economic system, but also a good deal of other macroeconomic indices such as structural unemployment as well as the persistently above Euro area average levels of unit labor cost and inflation. The lack of competitiveness is also reflected in the poor performance of Greece with respect to various international indices related to competitiveness⁴⁵. Moreover, as we showed in Sections 2 and 3, the huge public sector wage premium exercises at the same time a strong positive and a strong negative influence, respectively, on the public deficit and Total Factor Productivity and Unit Labor Cost. Likewise, the extremely low effective tax rate on the income of the self-employed exercises a strong positive effect on the deficit and by distorting occupational choice it negatively affects Total Factor Productivity and growth, as well. In conclusion, the insiders-outsiders society accounts for the underlying causes of the ongoing crisis. That is, chronic public deficits and a non-competitive economy, as a politico-economic equilibrium, where the self interests of the various groups of insiders and the apathy of outsiders lie behind the causes of the crisis and their consequences.

The main consequence of the insiders – outsiders society is the systematic and persistent creation of the twin deficits: the government budget deficit and the current account deficit, along with low growth and competitiveness. It is by now well documented and understood, that the current problems of Greece (e.g., the vicious circle of debt crisis, recession, illiquidity and capital inadequacy in the domestic banking sector, political stability and social cohesion problems) are emanating from these two deficits, in combination with the

⁴⁴ A list of reforms that they were thought to be beneficial but never implemented because of the inertia of the status quo forces was presented in Kollintzas (2000).

⁴⁵ For example, in 2010 Greece was ranked in the 88th position according to the "degree of business and economic freedom" Heritage Foundation index, 109th according to the "ease of doing business" World Bank index, 78th according to the Transparency International's "perceived corruption index" and 154th according to the "investment protection" World Bank index. Undoubtedly, the above rankings reflect chronic pathologies, such as, bureaucracy and corruption along with a rent seeking society that hinder the optimal choice of talent with respect to professional orientation and raise barriers to the adoption and development of new technology. In what concerns investment protection, Greece's poor performance has been definitely affected by phenomena such as law violation and disrespect for the rights of others. These features characterize the behavior of certain groups in our society in recent years and which almost always remain unchecked.

low output growth and the lack of competitiveness in the overall economy. The default that occurred in July/October 2011 was the climactic point of the accumulation of public deficits as well as current account deficits. Markets realized that Greece had borrowed too much and with a noncompetitive economy, it would have been impossible to repay its debts. So, in order to deal with these twin deficits one must first understand how they come about.

The exegesis given above is consistent with the creation of these deficits, the causes of the crisis, as well as several stylized facts of public finances and the macroeconomy. In summary, the excessive wage premium in the public sector, the excessive government spending for procurement and subsidies, the extremely low effective tax rates and especially those for the income of the self-employed, have led to the chronic and high public deficits. These deficits have crowded out private investment and in combination with diminishing public investment, have lowered capital formation to the detriment of economic growth. At the same time, high capital taxation and bad government services in areas such as health and education have increased the appetite for private consumption and lowered savings. The decrease in savings has caused a substantial part of the excessive government and private consumption to be financed from abroad. Current account deficits and EU transfers have provided the funds at a relatively low cost, as complacent EU and Euro area authorities have neglected to lift “the veil of ignorance”, for too long. Other forces have also worked in the direction of low domestic output and borrowing from abroad. The great difference in TFP growth between Greece and the Euro area countries over such a long time period and despite the introduction of the EU and Euro area institutions could be attributed to obstacles in the adoption of new technology. This is fully consistent with the insiders – outsiders society, for the insiders and the political system oppose the forces of “creative destruction” (Parente and Prescott (1994)). Further, high and rapidly rising unit labor costs especially in protected and heavily unionized industries and non-competitive product industries have aggravated the Balassa – Samuelson effect, resulting in a chronic high inflation gap over that of the Euro area. This inflation keeps eroding the competitiveness of the economy, resulting in low output and high unemployment.

5. Policy Recommendations and Concluding Remarks

It is already two years since Greece has been applying the policies associated with the two rescue packages that were provided under strict conditionality by the Euro area countries and the IMF. The policies associated with the first package of 110 billion euros, enacted in May 2010 (Memorandum I) were primarily focusing on reducing the fiscal and current

account deficits, using horizontal policies to increase tax revenues, decrease government spending, reduce pensions and lower wages in the central government sector. Although in 2010 the government deficit was reduced by five percentage points of GDP, there was no any significant reduction in the current account deficit. And, as already noted, there was a considerable decline in output and increase in the unemployment rate. By mid 2011, these developments fostered expectations that both fiscal and real economy targets were not going to be met. As bond spreads and CDS spreads skyrocketed and international rating agencies downgraded Greek bonds to pre-default status, the second rescue package involving a 130 billion euros loan was agreed. This package includes, as already mentioned, a 110 billion euros reduction in the face value of outstanding Greek debt and the recapitalization of Greek banks by about 50 billion euros. Like Memorandum I, Memorandum II also focuses on reducing the fiscal and current account deficits using horizontal policies. In addition, it has a number of specific structural reforms that aim at improving the competitiveness of the Greek economy. Although the process towards the implementation of some of these reforms has started (e.g., pension and healthcare system, labor market flexibility, better governance practices) very few have actually been fully materialized. There is no doubt that the political system undermines the genuine implementation of these reforms as the insiders - outsiders society fights for its survival. It is worth noting, here, that the rhetoric of the political parties that ended up supporting Memorandum II was and still remains against the underlying policies.⁴⁶

As we are writing these lines, there is considerable skepticism whether Memorandum II policies will continue to be implemented, much less whether they will be successful. Part of this skepticism stems from the perceived ineffectiveness of the implemented policies. There are two main criticisms directed towards Memorandum II. First, it seems that the horizontal tax policies have been proved unsuccessful, for in most cases considerable increases in the statutory tax rates lower rather than increase tax revenues. This is due to the deeper than anticipated recession (automatic stabilizers) and the continuing ineffectiveness of the tax collection system. On the other hand, the “internal devaluation” policy, implemented via the horizontal decreases in the public sector wages as well as the cut in the private sector

⁴⁶ What makes things worse is the fact that even the left wing parties that presumably fight for the less privileged members of society are the most vivid supporters of the rents of insiders and vehemently oppose the reforms that would eliminate them.

minimum wage, other than contributing to an unprecedented recession, so far, do not seem to be effective in tackling either the current account deficit or low growth.^{47,48}

The main reason these things are happening is a straightforward implication of the insiders – outsiders society: The implemented policies do not directly deal with the root cause of the problems of the Greek economy, although, their manifestations were correctly identified in both Memorandum I and II, as the chronic public and foreign account deficits and their associated debts. Moreover, horizontal policies tend to punish outsiders and insiders alike and this is naturally perceived as unfair by outsiders. This has the further undesirable repercussion of turning society against the Memorandum policies, further jeopardizing their implementability. Thus, delays and failures in implementing structural reforms aiming at reducing the cost of the public sector, a more effective tax and social security contribution collection mechanism and improving competitiveness of the economy, revealed the powerful forces behind the insiders- outsiders society. We became witnesses of the unwillingness of the political system to assume "political cost" and come to battle with the insiders. And, at the same time, we became witnesses of how powerful the various groups of insiders are.

If this explanation is correct, the way to deal with the problems that brought Greece to its present crisis is, to dismantle the insiders – outsiders society. This requires a deeper look into the organization of Greek society and the workings of the political and economic system. First, rents to groups of insiders must be identified and second, appropriate policies for their dismantling must be implemented. Only, a powerful commitment technology mechanism such as an appropriately designed Memorandum that takes fully into account the idiosyncrasies of Greek society can achieve this. Only such a Memorandum can gain the necessary social support and create well grounded expectations for getting out of the crisis. As already noted (Appendix C) Memorandum II correctly incorporates policies aiming at dismantling the insiders-outsiders society, although the reduction of the public and current account deficits continues to rely predominantly on horizontal measures.

⁴⁷ The idea here is based on the standard tradable / non-tradable goods (TNT) model. To the extent that there is no possibility for any exchange rate devaluation that would raise import prices and lower export prices, there is a need for an "internal" devaluation. That is policies that lower prices and wages mainly in the non-tradable goods sector. Presumably, there will be two effects that both work towards reducing the current account deficit. First, due to the decline in domestic income, consumption of both types of goods decreases. Second, as wages and prices decrease in the non-traded goods sector more than in the traded goods sector, labor and the other factors of production move towards the traded goods sector and increase exports and output. This is admitted to be a long and painful process even by the IMF that prescribes it (see, e.g., Blanchard (2012)).

⁴⁸ Both in theory and practice, internal devaluation can also be achieved by the so called "fiscal devaluation". According to the latter, if nominal rigidities are strong, fiscal measures may reduce labor costs, promote labor, output and exports. A fiscal measure thought to do this (as planned under Memorandum II) is a decline in social security contributions and other non-wage labor costs. See, e.g., IMF (2011), Appendix 1.

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Appendix A: Data

A.1: Figures

Figure 1

Notes: (i) Greece and Euro area-15 countries. Euro area-15 consists of Austria, Belgium, Cyprus, Finland, France, Germany, Greece, Italy, Ireland, Luxembourg, Malta, Netherlands, Portugal, Slovenia and Spain. The data source is the OECD Economic Outlook no. 88 and 89 and covers the period 1970-2010, (ii) Total tax revenues are computed as the sum of direct and indirect tax revenues. Direct tax revenues include total social security contributions received by the government, (iii) Interest payments correspond to the series “property income paid by government” ($YPEPG$), (iv) The interest rate on public debt is derived as: $R_t^b = YPEPG_t / B_{t-1}$, where $YPEPG_t$ denotes property income paid by the government and B_{t-1} denotes gross public debt, (v) Data on public debt for Greece over the period 1970-1994 are taken from AMECO. Data on public debt for the Euro area-15 are available over 1995-2010.

Figure 2

Notes: (i) Greece. The data source is the OECD Economic Outlook no. 88 and 89. Data on public debt for Greece over the period 1970-1994 are taken from AMECO, (ii) The interest rate on public debt is computed as: $R_t^b = YPEPG_t / B_{t-1}$, where $YPEPG_t$ denotes property income paid by the government and B_{t-1} denotes gross public debt.

Figure 3

Notes: (i) Greece and Euro area-15 countries. The data source is the OECD Economic Outlook no. 89. Data on public debt for Greece over the period 1970-1994 are taken from AMECO. Data on public debt for the Euro area-15 are available over 1995-2010.

Figure 4

Notes: (i) The spread is computed as the difference between the Greek and German interest rate on 10-year government bonds (ii) Data are monthly and cover the period 2008-2011. The data source is the ECB, Statistical Data Warehouse.

Figure 5

Notes: (i) Greece and Euro area-15 countries. The data source is OECD Economic Outlook no. 88 and 89 and covers the period 1970-2010, (ii) Government transfers are computed residually as $GTR = YPGT - GC - GI - YPEPG$, where, $YPGT$, GC , GI , $YPEPG$ denote, respectively, total government expenditures, government consumption, government investment and property income paid by the government, (iii) Interest payments correspond to the series “property income paid by government” ($YPEPG$).

Figure 6

Notes: (i) Greece and Euro area-15 countries. The data source is the OECD Economic Outlook no. 88 and 89. The data source for general government employment in Greece is the OECD Economic Outlook no. 85, (ii) The compensation rate in the private sector is computed as the ratio between the total nominal compensation of employees in the private sector and the number of employees in the private sector, (ii) Total compensation of employees in the private sector is computed as the difference between total compensation of employees and general government final wage consumption, (iii) The compensation rate in the public sector is computed as the ratio between general government final wage consumption and the number

of employees in the public sector (general government employment), (iv) Real compensation of employees is nominal compensation divided by the GDP deflator (expressed in 2000 prices).

Figure 7

Notes: (i) Greece and Euro area-15 countries. The data source is the OECD Economic Outlook no. 88 and 89 and covers the period 1970-2010. The data source for general government employment in Greece is the OECD Economic Outlook no. 85.

Figure 8

Notes: (i) Greece and Euro area-12 countries. The data source is Eurostat and covers the period 1995-2009, (ii) Euro area-12 consists of Austria, Belgium, Finland, France, Germany, Greece, Italy, Ireland, Luxembourg, Netherlands, Portugal and Spain. For a detailed description of the different categories of public spending see Eurostat (2011).

Figure 9

Notes: (i) Greece and Euro area-12 countries. The data source is Eurostat (ii) Data on private spending on education and health cover the period 2000-2010. Data on public spending on education and health cover the period 1995-2009.

Figure 10

Notes: (i) Greece and Euro area-15 countries. Data for direct and indirect tax revenues are from the OECD Economic Outlook no. 88 and 89, (ii) Direct tax revenues include total social security contributions received by the government, (iii) The effective tax rates have been constructed following the methodology of Mendoza et al. (1994) and cover the period 1970-2009 (see Appendix B for details). The effective tax rates for the Euro area are the GDP weighted averages of the effective tax rates of ten Euro area countries: Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Netherlands and Spain.

Figure 11

Notes: (i) Greece and Euro area-15 countries. The data source is the OECD Economic Outlook no. 88 and 89 and covers the period 1970-2010.

Figure 12

Notes: (i) Greece, Italy, Netherlands, Spain, Portugal, Euro area-15 and EU-21. The data source for real GDP and working age population is the OECD Economic Outlook no. 88 and 89 and covers the period 1970-2010, (ii) Real GDP is expressed in 2000 prices.

Figure 13

Notes: (i) Greece and Euro area-15 countries. The data source is the OECD Economic Outlook no. 88 and 89 and covers the period 1970-2010, (ii) Government spending on goods and services is the sum of government consumption and government investment.

Figure 14

Notes: (i) Greece, Italy, Netherlands, Spain, Portugal and Euro area-15. The data source for real GDP and working age population is the OECD Economic Outlook no. 88 and 89 and covers the period 1970-2010, (ii) Real GDP is expressed in 2000 prices, (iii) Real absorption corresponds to the variable “*Total domestic expenditure*” (code “*TDDV*”) and is expressed in 2000 prices.

Figure 16

Notes: (i) Subfigures 1-3: Greece and Euro area-15 countries. The data source is the OECD Economic Outlook no. 88 and 89, (ii) Net factor income from abroad corresponds to the series “Balance of income” (code “*BSII*”) (iii) Subfigures 4-7: Greece and Euro area-16 countries. Data for gross public and private savings as shares of GDP are from AMECO. They cover the period 1988-2010 for Greece and 1995-2010 for the Euro area-16.

Figure 17

Notes: (i) Greece and Euro area-17 countries, (ii) Data sources for Greece: (a) Gross external total debt: Over 1970-2002 the data source is Reinhart and Rogoff (2009). Data over 2003-2005 are from the World Bank Quarterly External Debt Statistics. Data over 2006-2010 are from the Bank of Greece (b) Gross external public and private debt: The data source is the Bank of Greece, (iii) The data source for the Euro area-17 countries is the ECB, Statistical Data Warehouse.

Figure 18

Notes: (i) Subfigure 1: Greece, Euro area-15 and EU-21 countries. Data are from the OECD Economic Outlook no. 88 and 89 and cover the period 1970-2010. Inflation rates have been computed from the GDP deflator. The base year is 2000, (ii) Subfigure 2: Greece and Euro area-17 countries. Data for the Real Effective Exchange Rate (EER) or Harmonised Competitiveness Indicator (HCI) are from the ECB, Statistical Data Warehouse. The EER is available on quarterly basis. Each annual observation has been obtained as the arithmetic average of the corresponding four quarters, (iii) Subfigures 3-4: Greece and Euro area-17 countries. The data source is the OECD.Stat. The base year for the unit labour cost index is 2005.

Figure 19

Notes: (i) Greece and Euro area-17 countries. The data source is the ECB, Statistical Data Warehouse. The base year for the unit labour cost index is 2005.

A.2: Tables

Table 1

Notes: (i) Greece, Euro area-17 countries, USA and Japan. Data source: Eurostat, ECB (Statistical Data Warehouse), World Bank Quarterly External Debt Statistics, OECD Economic Outlook no. 88 and 89, Federal Reserve Bank of St. Louis, Bank of Greece, Bank of Japan, McKinsey Global Institute. Euro area-17 consists of Euro area-15 (see above) plus Slovakia and Estonia, (ii) Data for debt by sub-sector for the Euro area covers 16 countries (Estonia is not included). Debt of non-financial corporations, financial corporations and households for Greece and the Euro area-16 is computed as the sum of the following series: a) currency and deposits b) securities other than shares, excluding financial derivatives and c) loans (see Eurostat, Annual Sector Accounts for details), (iii) Data for debt by sub-sector for USA and Japan are respectively from the Federal Reserve Bank of St. Louis and the McKinsey Global Institute, (iv) For a detailed definition of each sub-sector (see Eurostat, Annual Sector Accounts), (v) The net international investment (assets) position shows the difference between what the economy owns in relation to what it owes. Hence, a negative sign means that the economy is a debtor. The net international investment position of private sector is computed residually as net international investment position of total economy plus gross external public debt. That is, we assume that gross and net external debt of the public sector is the same since the public sector has very small foreign assets.

Table 2

Notes: (i) Greece and Euro area-15 countries. The data source is the OECD Economic Outlook no. 88 and 89 and covers the period 1970-2010.

Table 3

Notes: (i) Greece and Euro area-15 countries. The data source is the OECD Economic Outlook no. 88 and 89 and covers the period 1970-2010, (ii) The effective tax rates have been constructed following the methodology of Mendoza et al. (1994) and cover the period 1970-2009 (see Appendix B for details). The effective tax rates for the Euro area are the GDP weighted averages of the effective tax rates of ten euro area countries: Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Netherlands and Spain.

Table 4

The growth accounting exercise is based on the formula

$$\log\left(\frac{Y_t}{N_t}\right) = \left(\frac{1}{1-\alpha}\right)\log(A_t) + \left(\frac{\alpha}{1-\alpha}\right)\log\left(\frac{K_t}{Y_t}\right) + \log\left(\frac{L_t}{N_t}\right)$$

where Y is real GDP, A is total factor productivity, K is the real capital stock, L is labor hours, N is working age population and α is the capital share in output. We use data on: 1) Real GDP, 2) Nominal GDP, 3) Nominal Gross Fixed Capital Formation, 4) Nominal Consumption of Fixed Capital, 5) Working Age Population, 6) Total Annual Hours Worked, and 7) the Labor Share. For (1), (2), (3), (4) the data sources are OECD National Accounts Statistics (Aggregate National Accounts) and OECD Economic Outlook n.88 and n.89. For (5) the data source is OECD Employment and Labour Market Statistics (Labour Force Statistics: Population and labour force). For (6) and (7), the data source is the Groningen Growth and Development Centre, The Conference Board Total Economy Database, “Output, Labor, and Labor Productivity Country Details, 1950-2010” and “Growth Accounting and Total Factor Productivity Country Details, 1990-2009”, respectively.

The following Table summarizes the implied by the data values for the labor share and the capital depreciation rate:

| | $1-\alpha$ | δ |
|-------------|------------|----------|
| Belgium | 0.67 | 0.045 |
| Finland | 0.67 | 0.048 |
| France | 0.66 | 0.034 |
| Germany | 0.67 | 0.029 |
| Greece | 0.60 | 0.037 |
| Netherlands | 0.67 | 0.037 |
| Portugal | 0.67 | 0.053 |
| Spain | 0.63 | 0.039 |

For details on the methodology and data construction see, e.g., Gogos, et al (2012).

Table 5

Notes: (i) Greece and Euro area-15 countries. For data information see notes in Figures 6 and 18 in Appendix A.1, (ii) for details concerning the construction of the TFP, see e.g., Gogos, et al. (2012).

Appendix B: Effective tax rates

The approach of constructing effective tax rates on labor income, capital income and consumption, follows as close as possible Mendoza et al. (1994). Data are obtained from the OECD Economic Outlook no. 88, OECD Revenue Statistics Vol. 2010 and AMECO.

Effective tax rate on consumption

$$\tau^c = \frac{5110 + 5121 + 5123 + 5126}{C + CGNW - (5110 + 5121 + 5123 + 5126)} \quad (\text{B.1})$$

where

- 5110 : general taxes on goods and services
- 5121 : excise taxes
- 5123 : import and custom duties
- 5126 : taxes on specific services
- C : private final consumption expenditure
- CGNW : government final non-wage consumption expenditure

Personal income tax rate

The personal income tax rate that applies both to labour and capital income of households is:

$$\tau^h = \frac{1100}{WSSS + YOTH - 2000} \quad (\text{B.2})$$

where

- 1100 : taxes on income, profits and capital gains of individuals
- WSSS : compensation of employees
- YOTH : net self-employment and property income received by households⁴⁹
- 2000 : total social security contributions

Effective tax rate on labour income

$$\tau^h = \frac{\tau^h (WSSS - 2100 - 2200) + 2100 + 2200 + 3000}{WSSS} \quad (\text{B.3})$$

where

- WSSS : compensation of employees
- 2100 : social security contributions paid by the employees
- 2200 : social security contributions paid by the employers
- 3000 : taxes on payroll and workforce

Effective tax rate on capital income

$$\tau^k = \frac{\tau^h (YOTH - 2300) + 1200 + 4100 + 4300 + 4400 + 5212}{(GOS - CFC - 2300)} \quad (\text{B.4})$$

where

- YOTH : net self-employment and property income received by households

⁴⁹ For Greece YOTH is not available and is approximated as $OSPUE - HCFC + PEI$, where $OSPUE$ is the net operating surplus of unincorporated enterprises, $HCFC$ is the consumption of fixed capital of households and PEI is property income received by households.

- 2300 : social security contributions paid by the self-employed
- 1200 : taxes on income, profits and capital gains of corporations
- 4100 : recurrent taxes on immovable property
- 4300 : estate, inheritance and gift taxes
- 4400 : taxes on financial and capital transactions
- CFC* : consumption of fixed capital, total economy
- GOS* : gross operating surplus of the total economy

Effective tax rate on self-employment income

$$\tau^{self} = \frac{\tau^h (YSE - 2300) + 2300}{YSE} \quad (B.5)$$

where

- YSE* : net self-employment income received by households. This is computed as $YSE = YOTH - PEI$, where *PEI* is property income received by households.
- 2300 : social security contributions paid by the self-employed

Appendix C

Memorandum of understanding on specific Economic Policy Conditionality, Draft of 9 February 2012 sets conditions that are grouped together in five sections: 1. Fiscal Consolidation, 2. Structural Fiscal Reforms, 3. Financial Sector Regulation and Supervision, 4. Growth – Enhancing Structural Reforms and 5. Reform Monitoring and Technical Assistance. From the plethora of conditions set in these sections, some of those in Structural Fiscal Reforms and especially some of those in the Growth – Enhancing Structural Reforms may be thought as directed against the insiders- outsiders society. Herebelow, we mention some of the most important ones, so that the reader gets a feeling of what we view as reforms for the dismantling of the insiders-outsiders society: (a) Clauses in the law and in collective agreements, which provide for automatic wage increases, including those based on seniority, are suspended. (b) The Government will engage with social partners in a reform of the wage-setting system at national level. The proposal shall aim at replacing the wage rates set in the National General Collective Agreement (NGCA) with a statutory minimum wage rate. (c) Legislation is revised, so that arbitration takes place when agreed by both employees and employers. And, the Government will clarify that arbitration only applies to the base wage and not on other remuneration, and that economic and financial considerations are taken into account alongside legal considerations. (d) An independent assessment of the working of arbitration and mediation shall be prepared, with a view to improve the arbitration and mediation services in order to guarantee that arbitration awards adequately reflect the needs of wage adjustment. (e) Clauses on tenure (contracts with definite duration defined as expiring upon age limit or retirement) contained in law or in labor contracts are abolished. (f) The Government carries out an actuarial study of first-pillar pension schemes in companies where the contributions for such schemes exceed social contribution rates for private sector employees in comparable firms/industries. (g) The Government screens and makes the necessary changes to the regulatory framework (i.e., laws, presidential decrees, ministerial decisions, circulars), so as to repeal all restrictions to entry in the following professions: (i) private providers of primary health care (private doctors and dentists’ practices; private group doctors’ and dentists’ practices; private centres for physical medicine and rehabilitation); (ii) chronic dialysis units other than in hospitals and clinics; (iii) dental laboratories; (iv) shops for optical use and contact lenses; (v) physiotherapy centers; (vi) beauty salons; (vii) slimming/dietary businesses; (ix) stevedores/loaders for land operations at central markets; (x)

sworn-in valuers; (xi) accountants and tax consultants; (xii) actuaries; (xiii) temporary employment companies; (xiv) private labor consultancy offices; (xv) tourist guides and (xvi) real estate brokers. (h) The Government screens and makes the necessary changes to the regulatory framework, so as to repeal the minimum fees of engineers, architects and related professions, lawyers and related professions and decouples taxation, social security contributions and fees to professional associations from legal fees. (i) The fees of notary public professionals are to be set as diminishing fractions of the value of the object of exchange and in addition a floor is to be put on these fractions. (j) The Government adopts legislation to reinforce transparency in the functioning of professional bodies of regulated professions. (k) Adoption of pending acts, with respect to; (i) the implementation of the business tax (minimum levy on self-employed); (ii) Full implementation of the new wage grid in the general government sector; and (iii) Legislation for an average reduction by 10% in the so-called “special wages” of the public sector (i.e., doctors, judges, university professors, diplomats, military) to which the new wage grid does not apply. (l) The Government undertakes to reform the public procurement system including works, supplies and services with a view to (i) simplifying, streamlining and consolidating the body of public procurement legislation and (ii) rationalizing the administrative structures and processes in public procurement to desired procurement results in terms of efficiency and efficacy. (m) The Government will move towards more centralized procurement, especially in the field of health procurement, services and supplies. (n) Reduction in pharmaceutical expenditures by at least €1,076 million, in 2012 by reducing medicine prices (generics and branded medicines), increasing co-payments, reducing pharmacists’ and wholesalers’ trade margins, application of compulsory e-prescription by active substance and protocols, the update of the positive list of medicines and the implementation of a mechanism of quarterly rebates