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Faculty of Economics

Study programme: Economics and Business Administration



WHEN AUSTERITY DIDN'T WORK: A CASE
STUDY OF GREECE

Bachelor Thesis

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Year: 2016

I hereby declare that I have written this thesis on my own and I have only used the sources I have referred to.

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Prague, 16.08.2016

Acknowledgement

I would like to thank my thesis supervisor Ing. Helena Chytilova, Ph.D., M.A. for her mentoring and guidance throughout the process of writing this thesis.

Abstract

The aim of this thesis is to evaluate the austerity measures implemented by Greece during the Eurozone sovereign debt crisis. After providing information on the structural deficiencies of the Greek economy and how they created the crisis and affect economic growth, this thesis provides academic literature and empirical research on the austerity effects on the Greek economy and the Greek people. Furthermore, it criticizes austerity and the fallacies of the IMF, while also debating the Keynesian and supply-side approaches. The results show that albeit remarkable achievements in fiscal consolidation, austerity caused an ongoing recession, while failing to tackle existing structural problems of the Greek economy and increasing regional inequalities and deterioration of the Greek people's physical and mental health.

Keywords: Greek crisis, austerity, IMF, fiscal multipliers

JEL classification: E02, E12, E14, F18, I14, R12

Table of Contents

Introduction.....	1
1. The Greek Economy; Its Structure and Deficiencies	3
1.1 Balance of Trade.....	3
1.2 Competitiveness.....	7
1.3 Size of Greek Firms	12
1.4 Tax Evasion	15
1.5 Public Finances and Composition of Public Spending.....	17
1.6 GDP and Investment.....	20
1.7 Summary.....	22
2. Austerity	23
2.1 Austerity Packages Overview.....	24
2.2 Effects of Austerity.....	28
2.2.1 Effect on Deficit; Fiscal Consolidation.....	28
2.2.2 Effects on GDP; debt-to-GDP ratio and Fiscal Multipliers	29
2.2.3 Geographical Effects of Austerity.....	32
2.2.4 Distributional Effects of Austerity	36
2.2.5 Effects on Health and Suicide Rates	38
2.3 Summary.....	42
3. Criticism	43
3.1 Say's law vs. Keynesian General Theory	43
3.2 The IMF policy and implications; the Polak model and fiscal multipliers	45
Conclusion	47
References.....	50

Introduction

The crisis in Greece, also known as the Greek sovereign debt crisis, started in late 2009 in the aftermath of the 2007-2008 global financial crisis. In October 2009 George Papaconstantinou, finance minister of Greece, disclosed that the Greek government deficit was expected to reach 12.5% of GDP, surpassing previous estimates that wanted the deficit not to exceed 8% or 9% of GDP and exceeding by far the 3% requirement laid by the Stability and Growth Pact for all Eurozone members. This, in combination with previous reports that the Greek government misrepresented statistical figures to underreport government debt and deficits (Eurostat, 2004) inflated a crisis of confidence in the ability of Greece to repay its debt and serve its debt obligations (Gibson et.al., 2011). By December 23, 2009, all major rating agencies such as Fitch, Standard and Poor's and Moody's had downgraded Greece's credit rating. As a result of these events the Greek/German 10-year government bond yield spreads reached 300 basis points.

In response to the peer pressure from its Eurozone partners and the financial markets, and for fear of a default, the Greek government introduced measures to counter the growing deficit. On February 9, 2010 the first minor austerity measures were passed by the Greek parliament. These first measures included a salary freeze for all public employees, a 10% cut in bonuses, a 30% cut in overtime employment and cuts in work-related travel. Moreover, government hiring in all sectors besides healthcare, education and security was suspended for the year 2010 (Greek Government Gazette, 2010).

Amid new fears of bankruptcy, the Greek government announced new supplementary measures aiming to lower the deficit by another €4.8 billion. This second, more radical austerity package was enacted by the Greek parliament on March 5, 2010. The new "Economic Protection Bill" included among others, a pension freeze, an increase in VAT to 21% from 19%, 10% from 9% and 5% from 4,5% (respectively on different categories of products), a 30% cut on Easter, Christmas and leave of absence bonuses, an additional 12% cut in public bonuses, a 7% cut in public sector pay, an increase in petrol, alcohol and cigarettes taxes, while a new luxury tax was introduced. Imported cars would also be taxed an additional 10% - 30% on the already existing taxes (Greek Government Gazette, 2010).

However, these measures did not manage to reassure the markets and Greece's credit rating was downgraded once again by Fitch to BBB- from BBB+ and by Moody's to A3 from A2. On April 23, 2010 the Greek Prime Minister George Papandreou formally requested financial support by the IMF and the European Union and four days later, on April 27 Standard and Poor's downgraded Greece's credit rating further to a junk status. By April 28, the Greek government bond yield spreads over the German bunds skyrocketed exceeding 1000 basis points.

The answer to Greece's request for financial aid came on May 2, 2010, when the International Monetary Fund, the European Central Bank and the European Commission agreed with the Greek government on a 3-year financial assistance programme, in the form of loans totaling the amount of €110 billion. The European Union would provide €80 billion in bilateral loans centrally pooled by the European Commission, while the rest €30 billion would be provided via a Stand-By Arrangement by the IMF. This First Economic Adjustment Programme for Greece came together with a third austerity package that was passed by the Greek parliament on May 6, 2010, with additional separate votes taking place in June, 2010 to implement portions of the package. The third austerity package, known as the First Memorandum, was met with anger by the Greek public and inflated massive protests, creating a state of chaos in the country.¹ Since then Greece has been implementing consecutive austerity packages with no signs of growth.

The purpose of this paper is to evaluate the austerity measures implemented by the Greek government since the spark of the crisis in 2009. The evaluation will be undertaken on how austerity measures affected the Greek economy, in supply and demand side and the effects austerity brought upon the physical and mental health of the Greek people. Furthermore, discussion will be provided on how the consolidation efforts can be improved with respect to the findings of this study. To do so, this thesis provided academic literature and data from Eurostat, the World Bank and the OECD, alongside data taken from other studies. Section 1 will provide information on the economic fundamentals of Greece and how the economic structure created the crisis and affects the austerity implementation. Section 2 will analyze the austerity measures and their effects on the Greek economy and the Greek people, while section 3 will provide criticism

¹ Protests led to the death of three people, employees of Marfin Egnatia Bank, when the branch they were working at was put on fire by extremist protestors (Bilefsky, 2010).

on austerity, the policies of IMF and debate two theoretical approaches, the Keynesian approach versus Say's law (or supply side growth).

1. The Greek Economy; Its Structure and Deficiencies

In order to fully understand the necessity and results of the austerity measures in Greece, it is rather imperative to analyze the structure of the Greek economy; its drawbacks and idiosyncrasies that created the crisis and now affect the implementation and outcomes austerity. This section will show the problems of economic growth in Greece; how trade deficits were built due to the lack of Greek competitiveness and weak export capabilities, and how fiscal profligacy and tax evasion deepened the government deficits and obliged Greece to undergo fiscal consolidation.

1.1 Balance of Trade

One of the prominent remarks on the Greek crisis, reflected largely by the public opinion and propagated by many politicians, is that the roots of the crisis can be found in fiscal imbalances and excessive government spending. However, academic literature reveals another, more important aspect of the European periphery's economic underperformance and consequent need to financial help.

Even though it is true that "fiscal profligacy" as Galenianos (2015) describes it, played a substantial role in today's economic deterioration in Greece and other Eurozone countries, it cannot solitarily explain the causes of the crisis. To support this argument Galenianos, in his paper "The Greek Crisis: Origins and Implications" (2015), analyzed data on fiscal imbalances in countries of the European periphery, namely Greece, Portugal, Spain and Ireland for the time period leading to the Eurozone crisis (i.e. 1999-2008). His research shows that although Greece and Portugal may display strong correlation between fiscal imbalances and economic

deterioration, Spain and Ireland had lower levels of public debt than Germany for example for the period 1999-2008 and a general better fiscal performance than many core European countries, as Figure 1.1 shows. When he then analyzed the external imbalances of the same countries, the results showed that the countries with the largest external imbalances (i.e. current account deficits, current account deterioration and external indebtedness) reached for financial help from the EU, as depicted in Figure 1.2

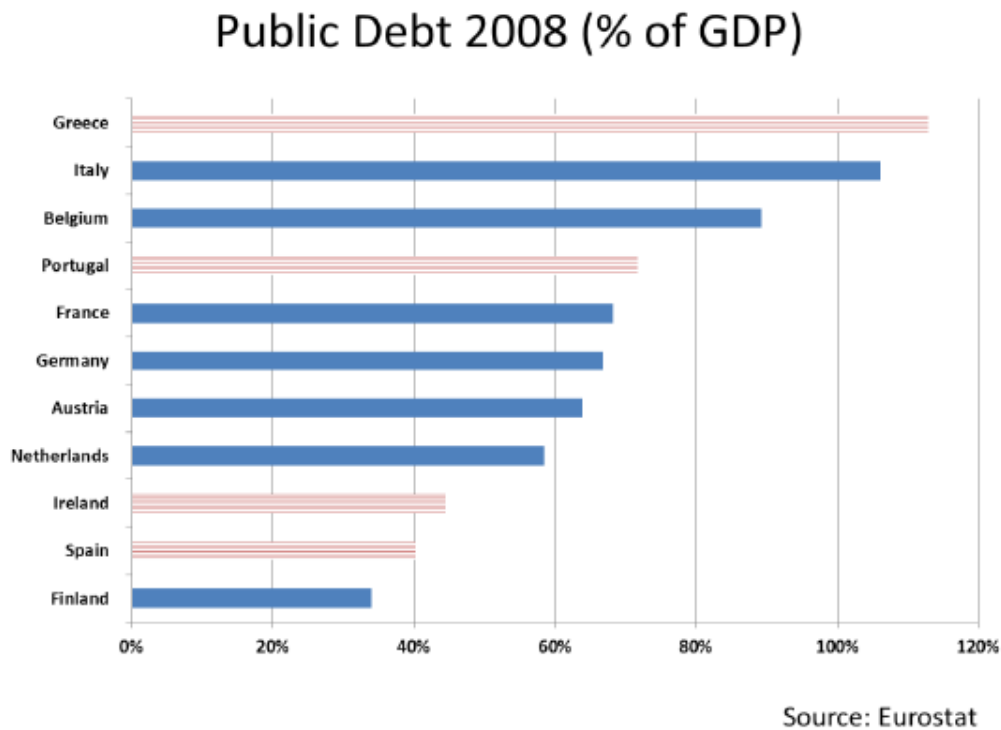


Figure 1.1 Source: “The Greek Crisis: Origins and Implications” (Galenianos, 2015)

The main component of the current account balance is the balance of trade (or net exports), in addition to two smaller items, net transfers and net income. Typically net transfers and net income are relatively small and have very little variation over time. When a country imports more than it exports, it experiences a trade deficit. To finance this deficit the country needs net capital inflows from abroad, meaning the country is a net borrower. When exports are higher than the imports, the country is experiencing a trade surplus, meaning the country is a net lender (Mankiw, 2006).

The direct implication of the above findings is that the reasons behind the Eurozone crisis were mainly trade deficits, while government debt indicated the depth of the crisis in the respective countries. Thus reducing fiscal deficits alone will not solve the problem (Galenianos, 2015).

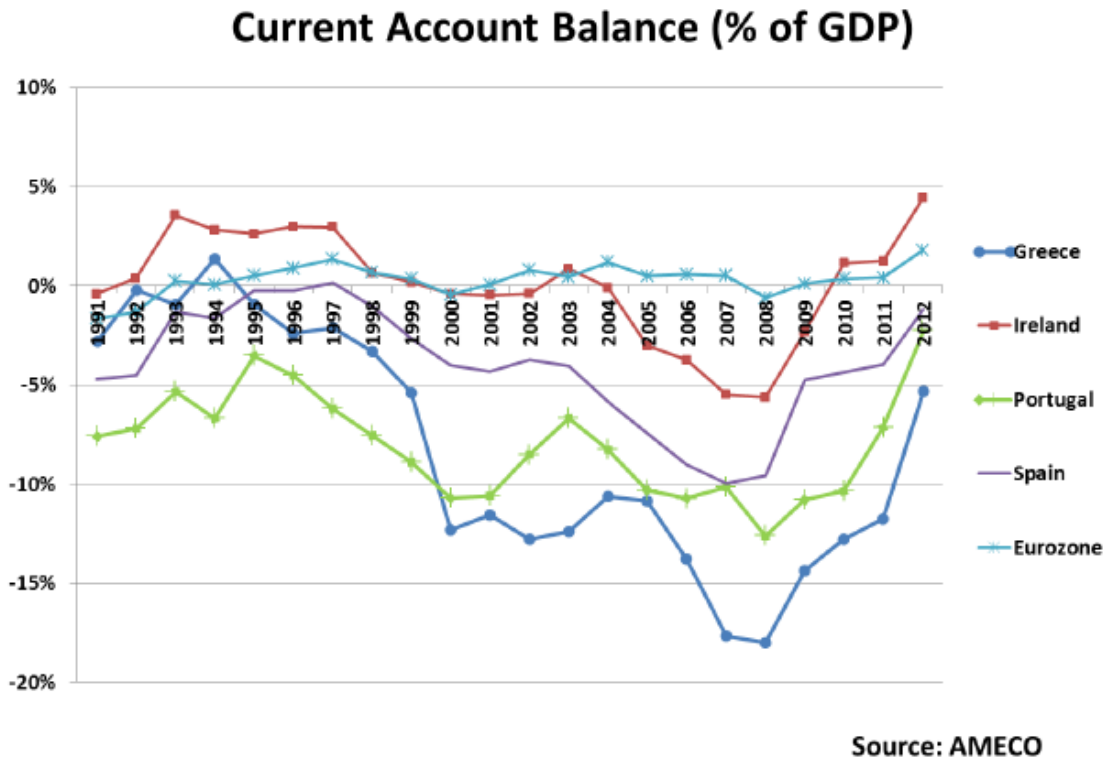


Figure 1.2 Source: “The Challenge of Trade Adjustment in Greece” (Arkolakis et. al., 2014)

As a result of the crisis Greece’s trade deficits indeed declined by 10% of GDP for the period 2007-2012, however this was not materialized through exports, which actually fell during this period, but solely in consequence of import reduction (Arkolakis, Doxiadis and Galenianos, 2014). Import reduction was a direct consequence of austerity and the ongoing recession as domestic demand for goods and services declined together with domestic income. Export suppression on the other hand reveals structural problems that do not let Greece utilize lower wages and labor productivity.

In their paper “The Challenge of Trade Adjustment in Greece” (2014) Arkolakis et. al. used an economic model of trade, based on the work of Eaton and Kortum (2002) and Dekle, Eaton and Kortum (2007), to benchmark the adjustment of trade in Greece. The model was used to analyze both the long-run (frictionless model) and the short-run (frictional model) of the trade adjustment.

The model uses pre-crisis data to estimate the export capabilities of a country. The main takes into consideration trade costs faced by exporters² and capital flows. To sum up the model determines the export capability of the country by evaluating production, trade and input costs³.

According to the frictionless model, Greece should have experienced an increase in exports by 25% in the long run, but the reality was that exports fell by a little more than 5% between 2007 and 2012. Compared to the other three countries analyzed in the paper, Spain, Ireland and Portugal that saw an increase in exports by more than 5% in the same period, it is evident that domestic frictions (trade adjustment costs) are guilty of Greece's underperformance. Even though labor markets adjusted to an extent very close to the frictionless model's prediction, prices in the other hand increased, contrary to an 8% decrease predicted by the model, implying they are the main reason behind Greece underperforming exports.

In the short-run (frictional model) analysis, the results show that taking into account the different short-run obstacles the countries face in increasing exports, wages in Greece should have fallen further than they actually did, while prices should have fallen by 21% instead of a 2% increase that they saw between 2007 and 2012.

To summarize, frictions in Greece's trade adjustment that led to export underperformance account for almost one third of the lost Greek GDP between 2007 and 2012. Moreover existing frictions push the burden of adjustment to wages and prices.

² Trade costs comprise: transportation costs, administrative costs and ease of financing international trade

³ Such as wages and product prices

1.2 Competitiveness

The obstacles (frictions) to trade adjustment mentioned in the previous section are explained by factors establishing the country's competitiveness. The two most widely cited benchmarks for competition performance is the "Global Competitive Index" (GCI) provided by the World Economic Forum (WEF) and the "Doing Business" rankings by the World Bank (WB).

WEF writes, that competitiveness is defined as a set of institutions, policies and factors that determine the country's productivity and prosperity (Global Competitiveness Report, 2015-2016). The GCI index is composed of 12 pillars: institutions, infrastructure, macroeconomic environment, health and primary education, higher education and training, goods market efficiency, labor market efficiency, financial market development, technological readiness, market size, business sophistication, and innovation. See Figure 2.1

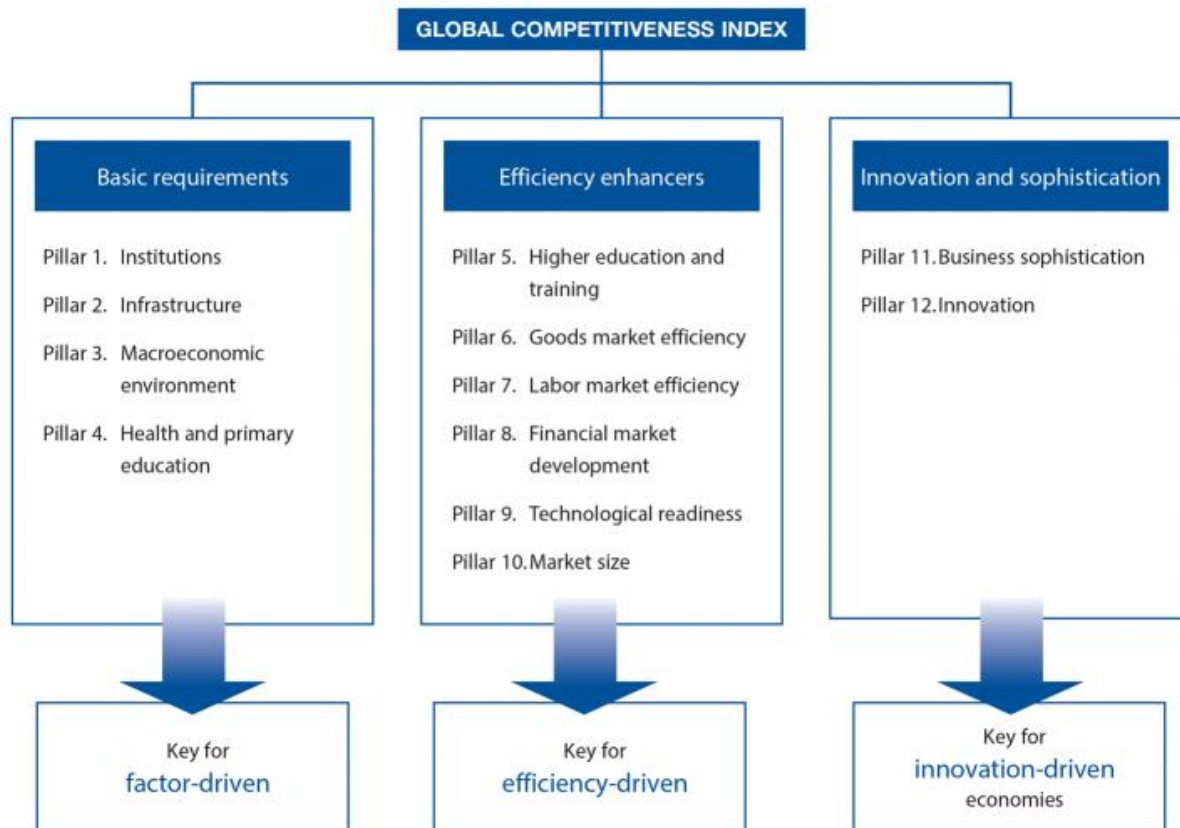


Figure 2.1

Source: WEF

In the latest 2016 Global Competitiveness report by WEF, Greece ranks 81st among 140 economies, the worst ranking OECD member and far from the next worst performing Slovak Republic that ranked 67th. In the sub-index “Innovation and sophistication” that is directly linked to the business “ecosystem” and the indirectly to export capability, Greece had the worst performance among all OECD members. Table 1 shows Greece’s performance in the 12 pillars.

Even though these indicators differ conceptually from data on productivity used in economic analysis, they describe well the business environment that firms operate in and usually correlate with GDP per capita and total factor productivity in the long-run and across countries (Arkolakis et. al. 2014).

Another index by the World Bank, the World Governance Indicators (WGI) reflects the quality of institutions and governance in a respective country. The WGI report comprises of six aggregate indicators: Voice and Accountability, Political Stability and Absence of Violence/Terrorism, Government Effectiveness, Regulatory Quality, Rule of Law and Control of Corruption (WB,

2014). In the case of Greece all those indicators show a deterioration of the institutional quality during the crisis, especially for regulatory quality and control of corruption. Figure 2.2 and Figure 2.3 show how Greece ranks in regulatory quality and control of corruption among other countries in the world, with 0 being the lowest rank and 100 being the highest.

GCI ranking of Greece in the 12 pillars

	GCI 2016 Rank (out of 140 countries)
Overall Ranking	81
Basic Requirements	74
1st pillar: Institutions	81
2nd pillar: Infrastructure	34
3rd pillar: Macroeconomic environment	132
4th pillar: Health and primary education	41
Efficiency Enhancers	62
5th pillar: Higher education and training	43
6th pillar: Goods market efficiency	89
7th pillar: Labor market efficiency	116
8th pillar: Financial market development	131
9th pillar: Technological readiness	36
10th pillar: Market size	52
Innovation and Sophistication	77
11th pillar: Business sophistication	74
12th pillar: Innovation	77

Table 1

Source: WEF

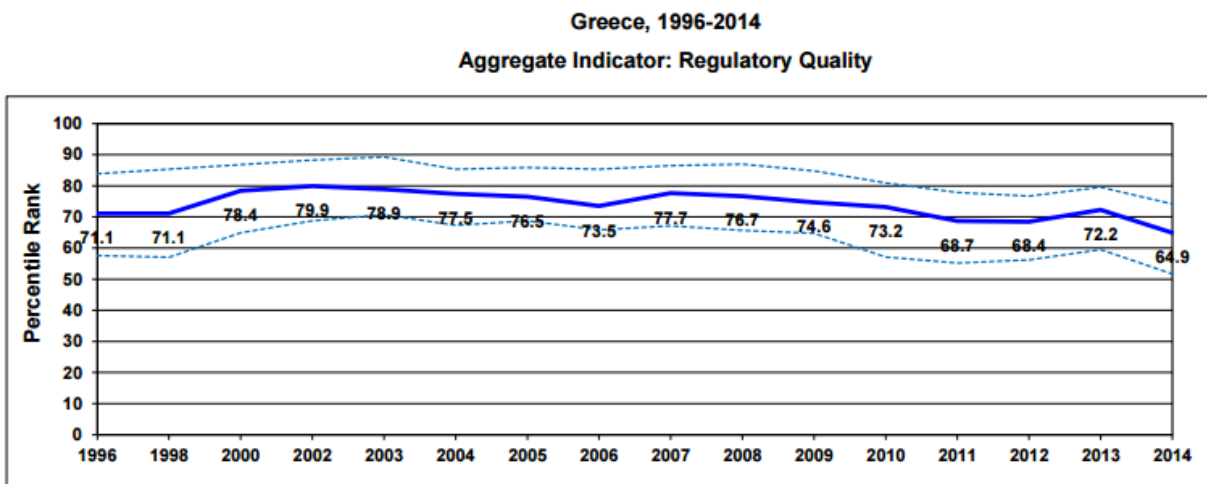


Figure 2.2 Source: WB

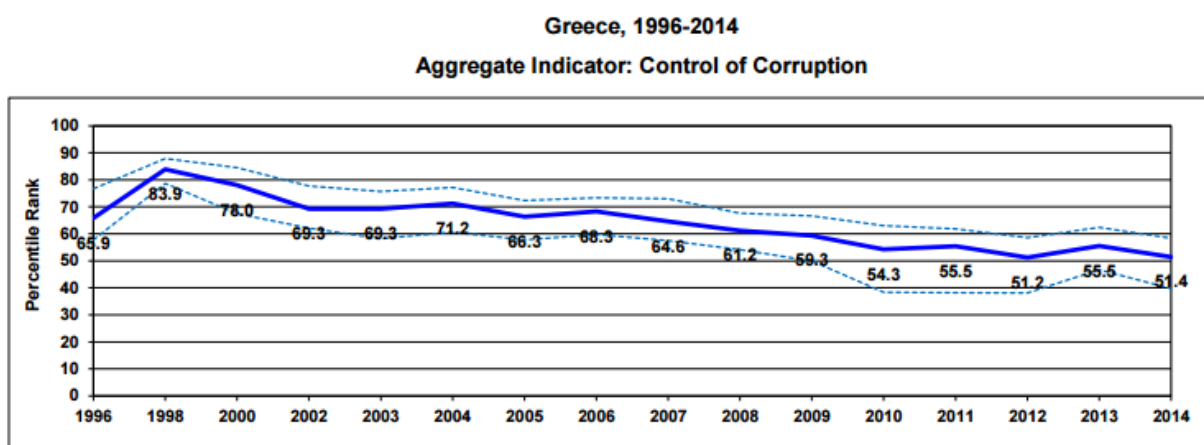


Figure 2.3 Source: WB

The third report used in this paper is provided by the World Bank again. The “Doing Business” report 2016 positions Greece in the 31st place out of 32 OECD members right before Luxemburg, confirming once more that Greece does not provide a business-friendly environment for a firm to start and/or operate.

The above mentioned indexes are further backed by academic literature. The main factors hindering the ease of doing business in Greece during the crisis are access to finance, tax regulations, policy instability and high operating costs (Arkolakis et. al., 2014). Katsoulacos, Genakos and Houpis (2015) write that competitiveness derives predominately from the rules and

regulations markets are based on and product markets in Greece are among the most severely and ineffectively regulated in OECD economies right now. They identify the mis-regulation in Greece as two main factors; excessive and low quality regulations in a large number of markets resulting in high regulatory burden, “closed” professions⁴ and protected product markets, and inefficient implementation of regulation in the form of Competition Law and Sectoral Regulation of network industries. To address the source of this issue they write *“More specifically, the main cause of this situation is that in Greece there is no institutional framework for the assessment of regulations which allocates responsibilities to suitably organized and staffed institutions to examine existing regulations and abolish those that are not necessary or create high social cost and to forbid the creation of new regulations which are expected to yield this result. There is neither an authority for the Assessment of the Effects of Regulations (AAER) nor any other institution or mechanism.”* (Katsoulacos et. al., 2015,p.11).

In the same paper titled “Product Market Regulation and Competitiveness: Towards a National Competition and Competitiveness Policy for Greece”, Katsoulacos et. al., (2015) use case studies to analyze the issue of defective regulation in Greece and their effect on product prices. First, the road freight transport sector, which is one of the strictest regulated among OECD member, functions under government granted licenses and minimum tariffs. Because the Greek government has not granted new licenses since 1970, new agents could only buy already existing licenses in a secondary market at a costs varying between €30,000 to €300,000. This resulted in high rents and consequently higher prices for consumer goods. Another deficiency can be found in regulation for the sale of fruits and vegetables. A maximum markup was set at both wholesale and retail level, motivating collusion and thus higher prices. In the “fresh” milk industry, Greece is the only European country that only allows pasteurized milk with a self-life of up to 7 days to use the word “fresh” on their packaging. This regulation makes “fresh” milk imports from other EU countries impossible and creates a very costly system of returning expired products leading in 34% higher average “fresh” milk prices compared to the rest of the EU. Last, Greece imposes a relatively high tax on advertising at 20% on the press and 21,5% on TV and radio. Costs from this tax are resulting in higher product prices.

⁴ Closed professions in Greece comprise: lawyers, taxi drivers, doctors, pharmacists, truck drivers etc.

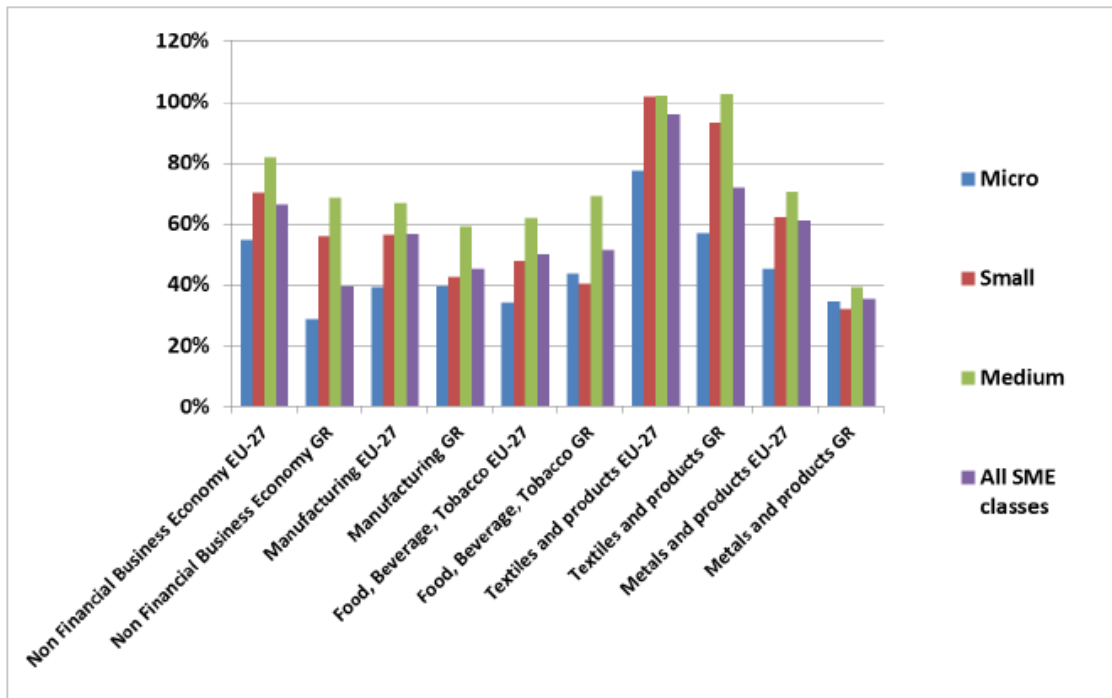
Policy and regulation reforms in product markets could have a significant positive impact on Greek exports. By reducing product market regulation (PRM), as the regulation stated above, to reach the European average, Greek exports could increase by around 6%. While an increase in the WGI from 67 to 91, which is the EU average, could boost exports by 8% (de la Maisonnette, C., 2016).

An empirical study on 3400 Greek firms showed that liberalization in network sectors has surged Greek exports and further liberalization would have similar effects (Daude and De la Maisonnette, 2016).

1.3 Size of Greek Firms

An important factor in export capabilities of a country is the size of the firms operating within its market. Smaller firms tend to be less productive and export less than larger firms (Arkolakis et. al., 2014; de la Maisonnette, C., 2016). This is because of the fixed costs and specialization needed to discover and enter new foreign markets; something rather impossible for small firms that cannot bear those costs or cannot maintain research and sales departments to work beyond the already existing client base. Greece has the largest share of micro firms (those employing up to 9 people) in the non-financial business economy (NFBE) within the European Union, accounting for 58% of the total NFBE contrary to EU-27 average of 30% (Arkolakis et. al., 2014). Greek micro firms employ an average of 1,9 people. Moreover, small and medium firms (SMEs; those employing up to 50 people) account for 99% of Greek firms and employ 80% of the labor force (de la Maisonnette, C., 2016). Greek SMEs productivity compared to large firms is lower than the EU-27 average difference, as figure 3.1 shows.

Labor Productivity in SMEs as % of Large Firms



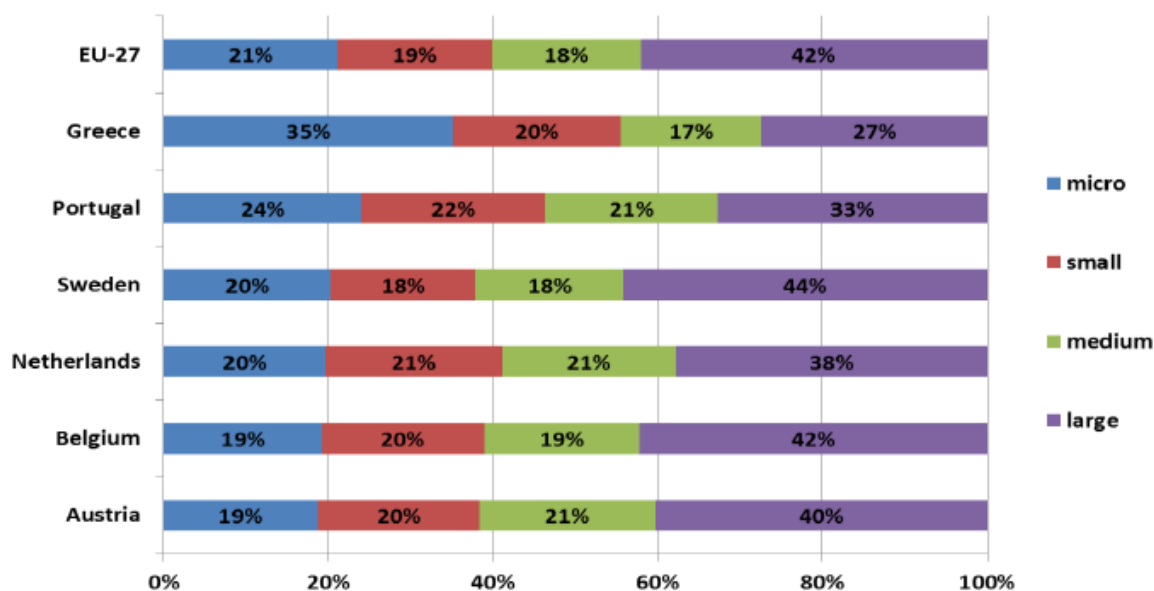
Source: European Commission, SME Performance Review Database 2009

Figure 3.1

Source: "The Challenge of Trade Adjustment in Greece" (Arkoulakis et. al., 2014)

Another aspect of the problematic firm size distribution in Greece is that the total value added in the economy is materialized through micro firms; 35% of all value added, with the EU-27 average being 21%. See Figure 3.2

Gross value added by size class Non Financial Business Economy, 2007



Source: European Commission, SME Performance Review Database 2009

Figure 3.2

Source: “The Challenge of Trade Adjustment in Greece” (Arkolakis et. al., 2014)

The evidence shows that Greece is a country with many low-productivity small firms, unable to export. Even though unit labor costs have adjusted to the new economic environment, as shown in Figure 2.6, Greek firms cannot take it into advantage partially because of their size and due to the inefficient regulation and policies. In addition, mis-regulated product markets raise the prices of goods and consequently further discourage competitiveness and exports.

Unit Labor Costs (2000=100)

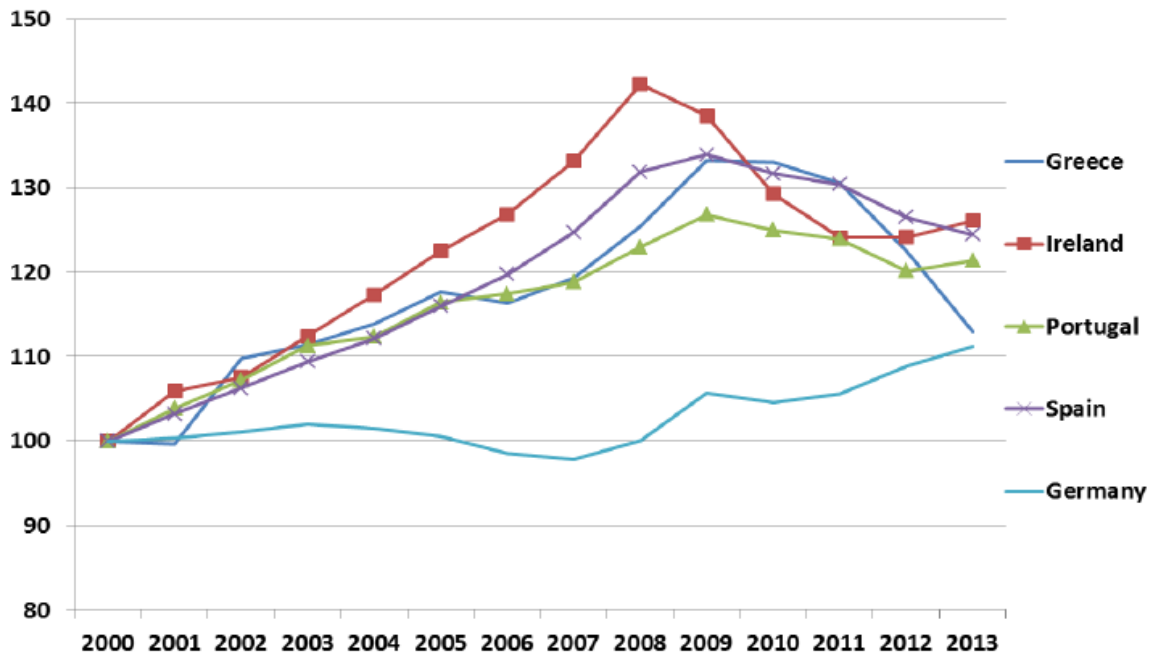


Figure 3.3

Source: "The Greek Crisis: Origins and Implications" (Galenianos, 2015)

1.4 Tax Evasion

Greece has the highest number of self-employed workers in the European Union, with 36% of the total labor force being self-employed, followed by Romania with a 32,1% (WB Indicators). The importance of this fact lies to academic literature that claims not only Greeks do not pay their taxes but also that Greek self-employed and farmers are the prime suspects of this tax evading culture (Leventi et. al., 2013; Mitsopoulos and Pelagidis, 2011).

Tax evasion accounts for 29,7% of lost tax receipts in Greece and makes the tax system less progressive (Leventi et. al., 2013). Greece has the least public receipts within Eurozone, contributing to public deficits and debt (Mitsopoulos et. al., 2011).

A case study by Oxfam in 2013 writes that Former Finance Minister Evangelos Venizelos complained in parliament back in 2011, that not more than 25,000 Greeks declared an annual

income of more than €100,000 and roughly 160,000 declared income of more than €50,000. When the Minister of Finance makes such a complaint, it is obvious that fraud control is lacking. Mr Venizelos said further that changing the situation is an economic and moral obligation. (Cavero and Martin Cortes, 2013).

Another study found that for the year 2009 the self-employed evaded €28 billion, while the GDP for the same year was €235 billion. The taxes of the underreported €28 billion income, would account for 31% of the public deficit for 2009. The study also found the self-employed Greek workers have a true income of 1,92 times their reported income (Artavanis et. al., 2012). Even though the results are biased (showing more conservative estimates) because wage earners do tax evade as well, it is obvious that the magnitude of tax evasion in Greece, undermines any endeavor for tax progressivity and income equality within the society, as the tax burden falls mostly to the other classes of the employed labor force. Besides the economic importance of tax evasion, there lies a social and political significance as well, as tax evasion undermines the sense of fairness and legality among the citizens (Leventi et. al., 2013).

A political story of conflict of interest presented by Artavanis et. al., (2012) that discourages reform and deteriorates the institutional effectiveness prevailed. The Greek legislative body is seemingly inadequate to pass reform bills, as seen by the failure of a legislative bill in 2010. The bill's concept was that when a self-employed worker in some specific occupations (the bill would address eleven occupations⁵) declares annual income below a minimum amount set by the law, the worker was consequently obligated to undergo a tax audit. These eleven occupations targeted by the bill are the ones that engage in the highest levels of tax evasion. *"The occupations of parliamentarians line up very well with the tax evading occupations, and these same parliamentarians failed to pass mild reform targeting their own industries."* (Artavanis et. al., 2012,p.29).

⁵ These occupations included: doctors, dentists, veterinarians, accountants, lawyers, architects, economists, firm consultants, engineers and topographer engineers

1.5 Public Finances and Composition of Public Spending

Greece has been known for high budget deficits and increasing debt since its entry into the Eurozone. Low interest rates, reflecting the security its Eurozone membership provided, allowed the Greek governments to borrow at high levels without restrictions. There is a growing trend in budget deficits in Greece since 2004, as shown in the Figure 4.1 below. Consecutive deficits were building up the enormous public debt that has skyrocketed to almost 126,7% of GDP or a little more than €300 billion in 2009 (see Figure 4.2). If one had to look into Greek public finances he would witness that public transfers and consumption are driving up the public spending, while exceeding the levels of the EU average (Kollintzas et. al., 2012).



Figure 4.1 Source: Eurostat

General government gross debt
 % of GDP and million EUR
 Greece

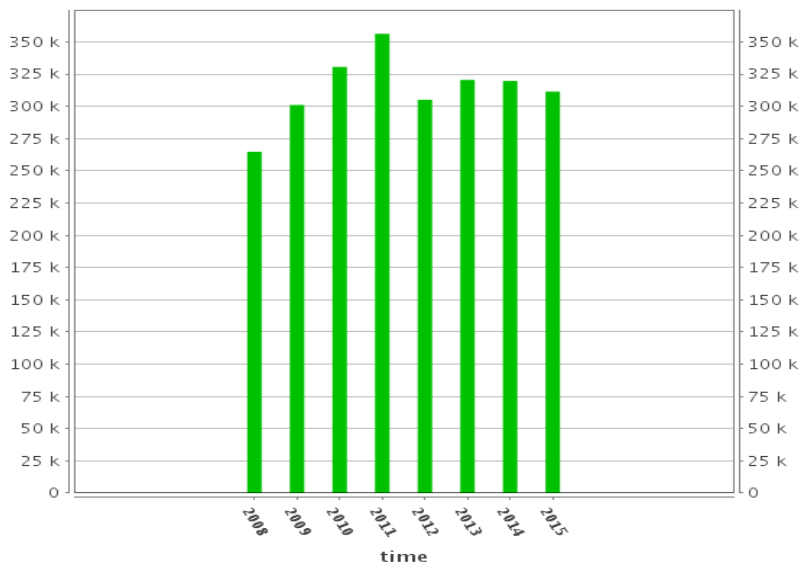


Figure 4.2 Source: Eurostat

Looking at the Greek labor market another negative phenomenon makes its appearance, contributing in lost competitiveness and higher deficits. Greek public employees earn in average 130% more than private sector employees, contrary to a 30% higher wage rate in public versus private sector in the Euro area (Kollintzas et. al., 2012; Caverio and Martin Cortes, 2013). This wage premium for public employees increases the costs of public employment and in addition to the fact that the Greek public sector employs more workers, as a percentage of the total public plus private employees, than the Euro area shows an evident contribution in public deficit.

Going back to the Greek public spending, Figure 4.3, taken from the paper “An explanation of the Greek crisis: “The insiders – Outsiders Society”” (Kollintzas et. al. 2012), shows the sectors where Greece spends its government budget and what it means for the functioning of the economy.

Greek public spending by function as share of GDP (%)

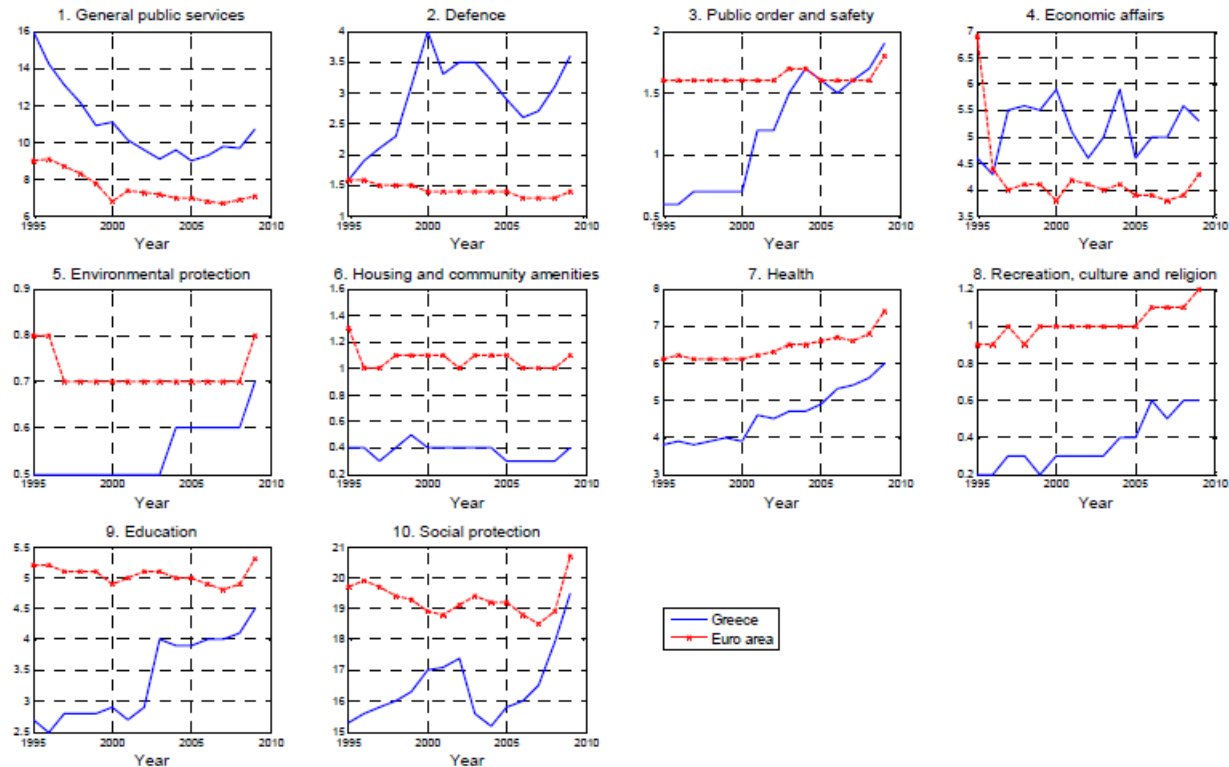


Figure 4.3 Source: “An explanation of the Greek crisis: “The insiders – Outsiders Society”” (Kollintzas et. al., 2012)

The “General public services” includes management fees, operating costs, costs of purchasing materials and equipment in the public sector and debt repayment costs. The “Defense” category comprises costs of national defense. While the “Economic affairs” category consists of costs of construction and maintenance of public infrastructure, telecommunication fees, grants and provision of loans in the agricultural sector, fisheries and energy sector, spending on economic and political advertising and reforestation expenses.

Evidently the Greek budget is absorbed in “General public services”, “Defense” and “Economic affairs”. High levels of spending in national defense (as shown in the graph above) can be attributed to the geographic location of Greece and its “cold-war” situation with Turkey. The countries, even though NATO allies, have a standing rivalry for years. However, high levels of “general public services” do not derive from one source only. As this category includes interest payments, it can be said that about 50% of the difference between Greece and the Euro area can

be attributed to these payments. The remaining half difference arises from higher costs of general and local government operation (including the wage bill and procurement costs). The deviation for the Euro area in the “economic affairs” category reveals the existence of subsidies (Kollintzas et. al.,2012).

Contrary to the Euro area, Greece spends much lower percentages of GDP in “public order and safety”, “environment protection”, “housing and community amenities”, “recreation, culture and religion”, “education”, and “health”, while private spending for the same categories is much higher than both public spending and the Euro area average (Kollintzas et. al.,2012).

1.6 GDP and Investment

Greek GDP has been shrinking since the beginning of the crisis and has now plunged at €176 billion as seen in Figure 5.1 or €16,200 per capita. As we discussed in section 2.1 Greece experiences trade deficits, or in other words, Greece spends more than it produces. Below, Figure 5.2, one can observe the GDP decomposition and the negative net exports, as depicted in a graph by Kollintzas et. al., 2012. Evidently Greek private consumption as a share of GDP grew from 60% to almost 75% in 2010, contrary to a Euro area average of 57% in the same year, while private investment in Greece fell from around 24% of GDP to 12% of GDP in 2010, albeit a similar trend can be seen in the Euro area, the Euro area average private investment fell from 22% to a 17% in 2010. (Kollintzas et. al., 2012).

Gross domestic product at market prices
At current prices
Greece

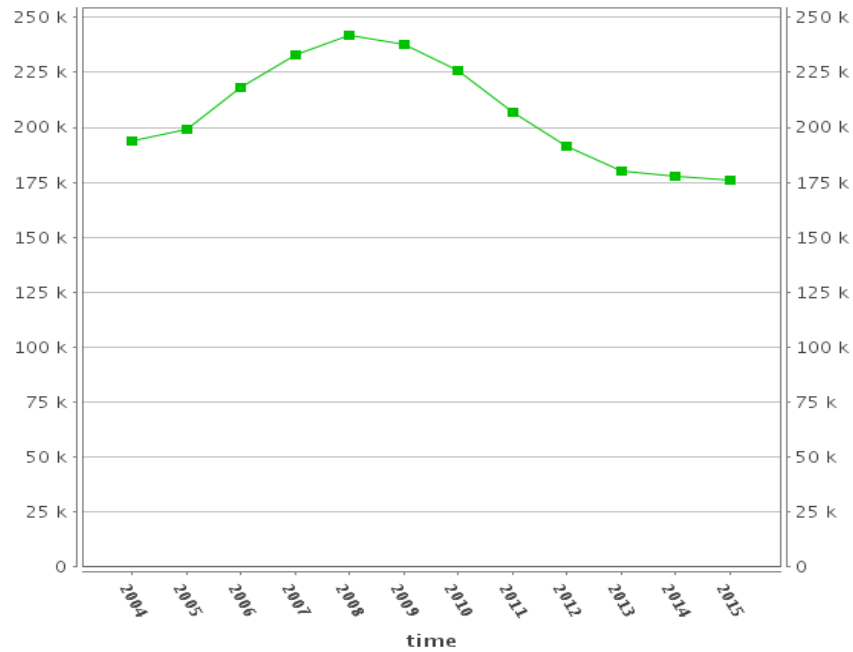


Figure 5.1 Source: Eurostat

Figure 13: GDP decomposition

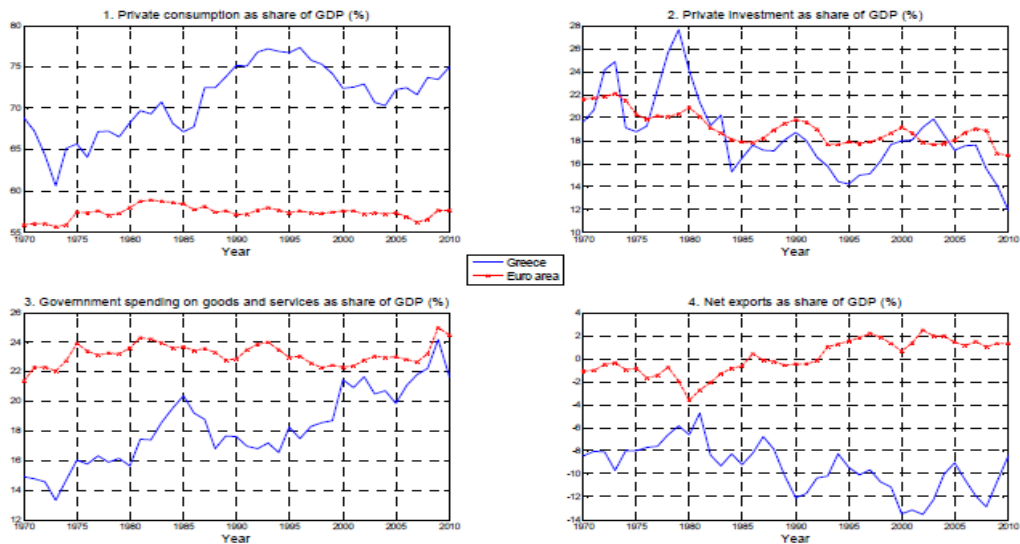


Figure 5.2 Source: “An explanation of the Greek crisis: “The insiders – Outsiders Society”” (Kollintzas et. al., 2012)

To better understand the claim that Greeks lived beyond their means or consume more than they produce, one can take a look at real GDP per capita versus real per capita absorption (or total domestic expenditure), where Greece displays a fashion of real per capita absorption outrunning real per capita GDP. Comparing the graphs above it is beyond doubt that in Greece net imports in real terms (real absorption minus real GDP), correlate positively with private consumption, government consumption plus investment expenditure and of course total public spending while they correlate negatively with private investment, all as a share of GDP, contrary to the behavior of the Euro area (Kollintzas et. al., 2012). To better grasp the above, the data shows that in while in Euro area net capital inflows and income payments from abroad financed private investment, in Greece they were driven to public and private consumption.

1.7 Summary

To summarize, this section showed that the Greek economy is haunted by a number of structural deficiencies both in the public and private sector. Heavy and inefficient regulation plays a predominant role in Greece's economic deterioration. Protected markets, subsidies, "closed" professions, unprogressive tax system and inability to enforce laws comprise the scenery of the Greek economy, leading to continuous recession due to lost competitiveness, declining exports and diminishing domestic demand for goods and services. Large government deficits were building up a huge debt that brought turmoil in financial markets and inflamed doubts about Greece's ability to repay its debts. Austerity, though consolidating fiscal imbalances, does not seem to solve the problems that are hiding behind the debt, with Greece seeing its exports falling and product prices increasing in a time of recession. It is thus reasonable to suggest that reforms must be made to establish a more competitive and productive economy, that will utilize lower wages and high supply of labor through exports of goods and services. Greece should also deal with tax evasion and public sector pay, as it is evident that a large part of the debt is caused by "hidden" or tax-evaded personal income and large wage premia in the public sector. In the next section of this paper, there will be a review of austerity, its effects on the economy as a whole and the Greek people.

2. Austerity

The concept of austerity has been heavily debated since after the spark of the 2007-2008 global financial crisis, when many European countries had to implement austerity measures to reduce budget deficits. The idea of austerity aims to fiscal consolidation for countries that are under the threat of default or show inability to honor debt obligations (debt repayment) and have borrowed in foreign currencies or in currencies that they do not legally have the right to issue (e.g. Eurozone member states). Austerity measures demonstrate to creditors the willingness of a government to tighten the budget, reduce government deficits and as a whole bring revenues close to expenditures. Austerity usually includes public spending cuts and increase in tax rates which in turn often increases unemployment and shrinks household disposable income. Greece is a typical example of an austerity affected economy, as the unemployment rate peaked at 27,5% in 2013 compared to a 9,6% in 2009 (Eurostat) and household disposable income fell to \$19,322 per capita in 2014 from \$25,037 per capita in 2009 (OECD). Spending cuts have also affected healthcare and dramatically raised the suicide rate in both men and women (Charles C Branas et. al., 2015).

Keynesian economists argue that when in recession, an economy should develop budget deficits to decrease unemployment and boost growth. However, in the case of Greece, large public deficits were the results of a combination of fiscal profligacy and trade deficits that built up an unsustainable public debt. By creating more deficits, Greece cannot overcome the tragedy of its debt, especially given the fact that Greece is not allowed to issue its own currency once a member of the Eurozone. This implies that fiscal consolidation must be made, but it is necessary to be accompanied by structural reforms to balance the recessionary effects of austerity and stabilize the economy that has been shrinking since the beginning of the crisis in 2009. In other words, meanwhile Greece should be aiming to bring public finances in balance, policies should also restructure the private sector which in turn will compensate for the spending cuts. This section will deal with this problem, after describing the measures taken by the Greek government and then providing a comprehensive empirical review on austerity and recommendations on how to steer austerity measures to avoid inequality and poverty risks.

2.1 Austerity Packages Overview

Greece is said to have taken the most radical austerity measures compared to other Eurozone members struggling with the European sovereign-debt crisis, sometimes achieving impressive fiscal consolidation results.

In October 2009, when the Greek budget deficit was expected to reach 12,5% of GDP for that year (it was later revised at 15,2% of GDP) the Greek government announced the implementation of the first austerity measures (the first austerity package) in order to limit the deficit. The first austerity package was implemented in February 9, 2010 and aimed to save €800 million. It included a salary freeze for all public employees, a 10% cut in bonuses, a 30% cut in overtime employment and cuts in work-related travel together with a freeze in government hiring in all sectors besides healthcare, education and security for 2010. Since then, Greece has been implementing new austerity packages (thirteen austerity packages until today) in return to international bailouts by the European Union and the International Monetary Fund (IMF).

In the years up to the first economic adjustment programme in May 2010, Greece has taken measures to cut deficit totaling the amount of €41 billion. These measures are spread over three austerity packages from February to March 2010. Of these €41 billion, €28 billion was related to 2010–11 and the remaining €13 billion scheduled for 2012–14. The second austerity package aimed to save €4,8 billion and included a pension freeze, an increase in VAT to 21% from 19%, 10% from 9% and 5% from 4,5% (respectively on different categories of products), a 30% cut on Easter, Christmas and leave of absence bonuses, an additional 12% cut in public bonuses, a 7% cut in public sector pay, an increase in petrol, alcohol and cigarettes taxes, while a new luxury tax was introduced⁶. Imported cars would also be taxed an additional 10% - 30% on the already existing taxes.

⁶ The luxury tax was enacted upon luxury goods, such as jewelry, leather clothing, gold and silver goods etc.

The third austerity package in May 2010 came with the signing of the first Memorandum (First Economic Adjustment Programme for Greece), a memorandum of understanding on financial assistance to Greece by its international creditors, the European Commission on behalf of the Eurogroup, the European Central Bank (ECB) and lender of last resort, the International Monetary Fund (IMF). The measures brought reforms in the public sector, the pension system and the taxes, aiming to save €38 billion; the largest austerity package implemented by Greece and included the following:

- Public Sector Reform: the number of public-owned companies to be reduced to 2,000 (from 6,000 at the time), introduction of a limit of €500 per month on the 13th and 14th month salaries of public employees while 13th and 14th month salaries were abolished for employees receiving over €3,000 a month, an 8% cut on public sector allowances (additionally to the previous cuts), a 3% pay cut for public sector utilities employees (ΔΕΚΟ), a reduction in the number of municipalities to 400 from 1,000 and a limit of €1,000 to bi-annual bonuses with only for those earning less than €3,000 per month having the right to receive the bonus
- Pension Reform: introduction of limit of €800 per month to 13th and 14th month pension installments and 13th and 14th installment abolished for pensioners receiving over €2,500 per month, equalization of retirement age for men and women at 65 years of age
- Tax Reform: VAT was raised to 23%, extraordinary tax imposed on company profits and rise in the value of property (and thus higher taxes), a 10% increase in luxury taxes and taxes on alcohol, cigarettes and fuel and a 10% additional tax on all imported cars

However, in June 2011 further austerity was passed by the Greek parliament as Greece missed targets of previous austerity packages. This forth austerity package, named as the mid-term programme, included a target of €50 billion in revenue from privatization of government property, increased taxes for those with an annual income higher than €8,000, increased VAT in the housing industry, an extraordinary tax for all those with annual income of more than €12,000 and a “special contribution” in the form of tax of 2% to combat unemployment, while also introducing a lower minimum wage for new labor market entrants and an extension of the maximum duration of fixed-term contracts to three years from two years. A further pension reform introduced pension cuts for pensions above €1,450 from a range of 4%-10% to 6%-14%.

In August the same year new taxes were introduced on immovable property. The tax was paid through the owner's electricity bill and it was expected to raise an addition €4 billion.

To ensure the 6th installment of the bailout package, Greece needed further fiscal consolidation. Albeit furious protests in Syntagma square in Athens, right outside the parliament, the Greek government put forth a fifth austerity package, also called as the multi-bill. This package brought a uniform pay scale in the public sector and a 30% cut in all civil servants salaries, while a cap on wages and bonuses were also came in effect. The institution of labor reserve was enacted, with dismissed civil servants receiving 60% of their salary for one year. Moreover the tax-free income fell to €5,000 from €8,000 previously. Pensions above € 1,200 are cut by 20%, while retirees under 55 years old and earning more than €1,000 saw a 40% cut in their pension. Lump Sum retirement installment for retirees was cut by 20%-30%. And last expenditure on education was cut by closing and/or merging schools.

In the early morning of October 7, 2011 the EU summit concluded that a 50% “haircut” of the Greek public debt should be made in addition to a €130 billion loan to be given to Greece upon further austerity measures be implemented. The austerity needed for the second Greek bailout, was calculated to reduce the 2012 budget deficit by €3,3 billion and €10 billion improvement of the deficit scheduled in 2013-2014. The measures implemented were: a 22% cut in the minimum wage from €751 to €586, 150,000 jobs cut in the public sector by 2015, of which 15,000 shall be cut by the end of 2012, pension cuts worth €300 million in 2012, spending cuts in national defense, healthcare, election budget and operating costs of the public sector, change in laws so that employers in the private sector can more easily fire workers and negotiate lower wages, holiday wage bonuses (one extra full monthly wage being paid each year) are permanently cancelled, opening up of 20 “closed” professions, public transport tickets price to increase by 25%, privatizations worth €15 billion by 2015, including Greek gas companies DEPA and DESFA and finally the abolishment of lower VAT and tax exemptions in Greek islands.

Up to the time of the third Economic Adjustment programme for Greece, five more austerity packages were implemented by the Greek government. The seventh package brought bank recapitalization, reforms in labor market, pensions and taxes and introduced the “Midterm fiscal plan for 2013-2016”. The midterm fiscal plan was an additional package to the bailout package and it contained measures totaling the amount of €5,3 billion for 2015-2016, together with the

€13,5 billion for 2013-2014. The reasons behind this extension lie in the fact that due to political turmoil the previous measures were delayed and so worsened the fiscal situation of Greece.

The rest of the packages included new taxes on immovable property, mass layoff in the public sector and extension of the teacher's working hours which was dealt with massive strikes. In response the government called for Civil mobilization, a freeze in wages and pension for the next four years and up to 2018 and spending cuts in operating costs of the state (e.g. cuts in the Ministry of Health budget). The measures also suggest that the primary surplus in 2014 will be 2.3% GDP (€4.19 billion) and 2,5% of GDP in 2015. In July 2015, the measures raised taxes further, with the transfer of many product categories to the higher VAT of 23%, abolition of VAT discount for most touristic islands as of October 2015, the corporation tax was increased from 26% to 29% for small companies, rise in tax of solidarity for annual incomes that are more than €50,000, a further rise in luxury tax, rise of health contributions paid by pensioners to 6% from 4% previously and finally the measures put an end to early retirement and raised the age of retirement to 67 years by 2022.

The eleventh austerity package came with the third economic adjustment programme for Greece, the third Memorandum, and the bill that was passed by the parliament on August 14, 2015, brought various taxes to farmers (higher diesel fuel tax, higher income tax payment that had to be paid in advance and income tax for farmers was raised from 13% to 20% in 2016 and 26% in 2017), the advance payment of income tax for self-employed was raised from 55% to 75% for income earned in 2015, and to be raised to 100% in 2016, private education to be taxed 23% from previously being untaxed, a reduction in value-added tax rates for islands to be abolished entirely by the end of 2016, interest on expired debt owed to the state is raised to 5% from 3% on amounts over €5,000 and lastly the tonnage tax for the shipping industry was raised by 4% yearly from 2016 to 2020.

The next package of October 2015 brought reforms in pensions and a 10% cut in reduced pensions and the last austerity package the came in effect in May 2016 further reformed pension in an effort to cut €5.4 billion of deficit. In addition to cuts in newly issued pensions, a reduction in higher pensions and an increase in insurance contributions, the package brought more taxes. VAT was increased to 24% from 23% previously and from 19% in the beginning of the crisis, higher fuel tax, new taxes on coffee and electronic cigarettes, an increase in excise taxes on

tobacco and ENFIA tax, a new tax on tourists staying in hotels from 2 stars and up and a levy tax on TV subscriptions, landlines and internet broadband connections.

These measures were strongly opposed by the public and massive protests have been going on since the first austerity measures in October 2009.

From these measures other are still being slowly implemented (in portions) and others have not been implemented yet. Monastiriotis (2013) presents the measures that had not been implemented by 2013. These not fully implemented measures include: liberalization of closed professions, consolidation of public bodies and companies, labor reserve for employees nearing retirement, uniform pay scale for all public employees. Privatizations of state property reached less €1 billion in revenue by 2013, the closure of redundant public bodies remains not materialized, while the 15,000 dismissals have also not come in effect.

Many of other reforms albeit done, they have been very slow, thus worsening the fiscal balance of Greece and require further measures (some of the packages mentioned above were additional to already agreed measures) to cover the gaps.

2.2 Effects of Austerity

Austerity had various effects on the Greek economy and living conditions of the Greek people. In June 2011 Cephas Lumina, a United Nations independent expert on national debt and human rights, gave a warning that austerity measures and reforms happening in Greece might violate basic human rights of the Greek people (UN News Centre, 2011).

2.2.1 Effect on Deficit; Fiscal Consolidation

Greece has achieved very motivating results with respect to its budget deficit. In the first three years of the crisis Greece implemented fiscal tightening of around 20% of GDP (Monastiriotis, 2013). From 15,2% of GDP in 2009, when the crisis started and within 6 years of austerity,

Greece managed to bring down its budget deficit to 7,2% in 2015 (Eurostat). This is a cut of 8 percentage points, as shown in Figure 4.1 in Section 2.

Gechert and Rannenberg (2015) try to analyze the consolidation efforts in Greece using AMECO series. In two tables they show their estimates of the cumulative fiscal consolidation in Greece as the result of spending cuts and revenue hikes. They conclude that the cumulative fiscal consolidation done by Greece by 2014 was at the amount of €58,6 billion or 24,5% of 2009 GDP.

2.2.2 Effects on GDP; debt-to-GDP ratio and Fiscal Multipliers

Depending on how large the fiscal multiplier of the country is, the debt-to-GDP ratio might increase during the first year of austerity. Especially countries that engage in repeated rounds of austerity might see the debt-to-GDP ratio increasing in a span of the first three years of austerity. The results are more severe for countries with large fiscal multipliers and high levels of debt where the debt-to-GDP ratio may keep rising for longer than the three first years of austerity (Eyraud and Weber, 2013). This is the case for Greece, that the gross debt-to-GDP ratio increased from almost 126,7% in 2009, when the crisis started, to 146,2% in the first year of austerity and reached 180% in 2014 and about 177% by the end of 2015 as seen in Figure 6.1 below.

General government gross debt
% of GDP and million EUR
Greece

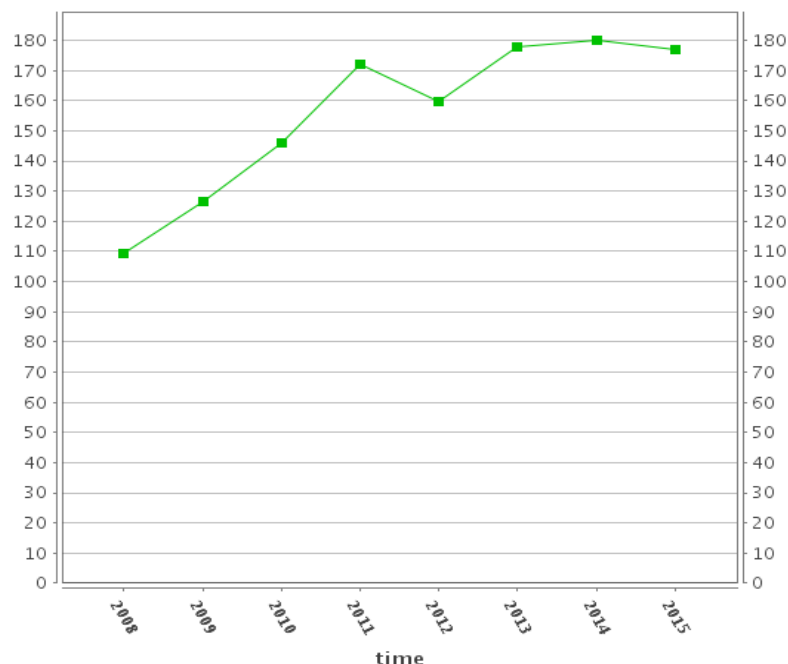


Figure 6.1 Source: Eurostat

Monokroussos (2013) finds that the cumulative losses in GDP due to fiscal adjustment of the Midterm programme for 2013-2016 account for approximately €11,2 billion to €19,6 billion. However he points out that these results need to be treated with extreme cautious, because of the difficulties of this estimation (these difficulties will be further discussed in section 3). He further concludes that according to the total size of the fiscal adjustment of the Midterm programme for 2013-2016, the multiplier estimates suggest that Greek GDP would decline by up to €1,89 cumulatively per €1 of discretionary decrease in real government spending over a three year period, and that this decrease would be considerably softer if the adjustment was to come exclusively through net tax increase; up to €0,5 cumulatively per €1 increase in government net tax revenue over three years.

The GDP shrinkage can be seen in Figure 5.1 Section 2 of this paper, however Greece has been simultaneously in a resection that inadvertently shrinks GDP as well, thus the graph comprises both effects. Whether or not this shrinkage can be exclusively accredited to austerity is analyzed below.

Government consumption cuts brought the most losses in Greek GDP due to its higher share in the fiscal consolidation and their higher multipliers, while tax hikes had a weaker impact on GDP losses (Gechert and Rannenberg, 2015). In Table 2 below the estimated cumulative effects of fiscal consolidation on Greek GDP are comprised.

Table 2a: Estimated cumulative GDP effect
of Greece's fiscal consolidation, Billion Euro

	2010	2011	2012	2013	2014
Revenues	-1.9	-3.0	-3.6	-3.7	-2.4
Transfers	-4.3	-5.2	-9.0	-17.7	-15.6
Government Consumption expenditure	-8.8	-16.4	-21.2	-26.7	-26.3
Government Gross fixed capital formation	-6.5	-10.0	-10.5	-9.9	-7.1
Expenditures	-19.6	-31.6	-40.7	-54.3	-49.0
All measures	-21.5	-34.6	-44.2	-58.0	-51.4

Table 2b: Estimated cumulative GDP effect
of Greece's fiscal consolidation, % of 2009 GDP

	2010	2011	2012	2013	2014
Revenues	-0.8	-1.2	-1.5	-1.5	-1.0
Transfers	-1.8	-2.2	-3.7	-7.4	-6.5
Government Consumption expenditure	-3.7	-6.9	-8.9	-11.2	-11.0
Government Gross fixed capital formation	-2.7	-4.2	-4.4	-4.1	-3.0
Expenditures	-8.2	-13.2	-17.0	-22.7	-20.5
All measures	-9.0	-14.5	-18.5	-24.2	-21.5

Table 2 Source: “The costs of Greece’s fiscal consolidation” (Gechert and Rannenberg, 2015)

In order to analyze the effect of austerity academics use the counterfactual approach. That is two scenarios are drawn, one of which describes what would have happened without austerity and the other scenario accounts for fiscal consolidation and austerity measures implemented by the government (Gechert and Rannenberg, 2015; Matsagannis and Leventi; 2011).

Using the estimated fiscal multipliers and the fiscal measures implemented Gechert and Rannenberg (2015) write that the austerity measures had a large negative impact on Greek real GDP, accounting for 10% loss in 2010 (first year of austerity), 24% loss in 2013 and later a 22% decline in real GDP in 2014. According to the counterfactual scenario of no austerity, it is

estimated that the real Greek GDP in 2014 would be at the same levels of 2009, contrary to the cumulative 25% drop the austerity caused, and also that austerity almost exclusively explains the drop in Greek GDP since 2009. See Figure 6.2 below.

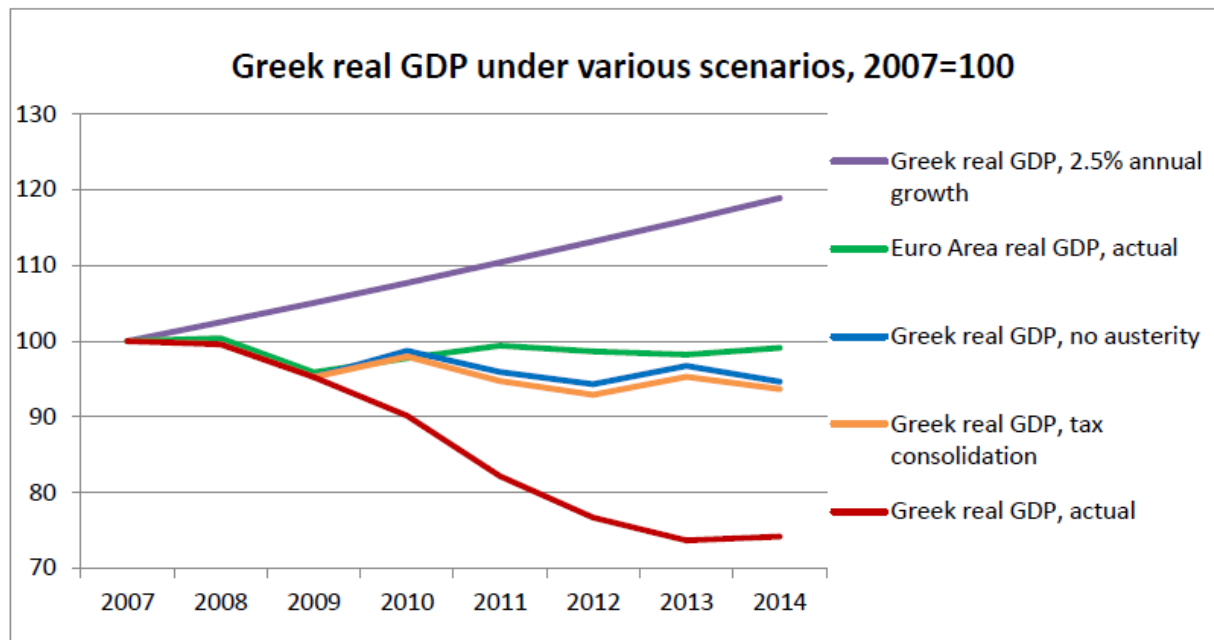


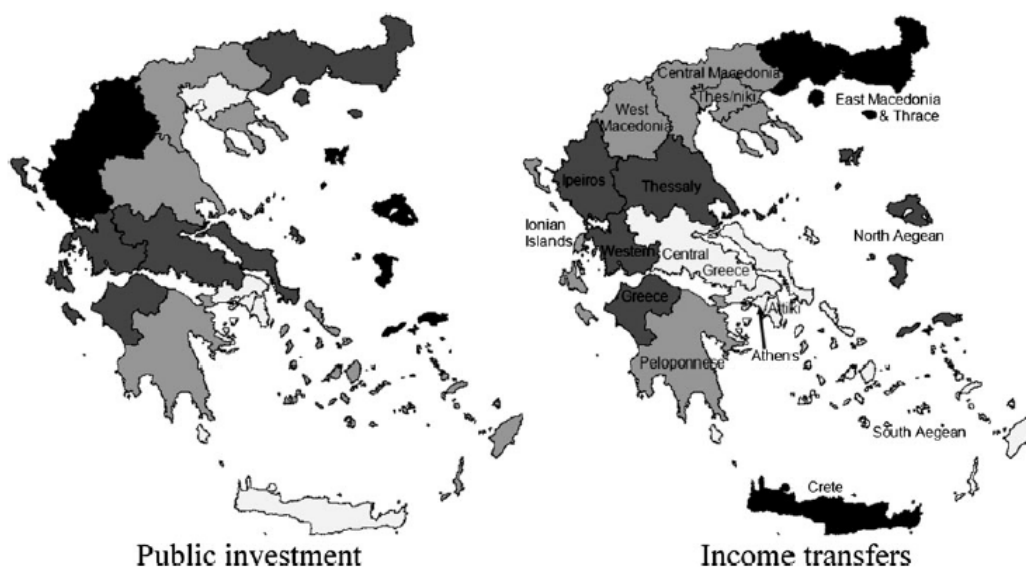
Figure 6.2 Source: “The costs of Greece’s fiscal consolidation” (Gechert and Rannenberg, 2015).

2.2.3 Geographical Effects of Austerity

Importance has also to be given in the geographical distribution of austerity measures. This is because when the government engaged in fiscal consolidation and economic reforms, these measures were applied horizontally across Greece, meaning that these measures had the same nominal effect on the economy and the economic agents no matter their location within the country. Geographically horizontal measures do not take into consideration the underlying economic fundamentals of different regions and tend to magnify already existing disparities amongst them. For example in the UK there is a significant difference with respect to employment between the north and the south. The UK’s north experiences a higher share of employment in the public sector than the south and so any effect of spending cuts done by the government will directly affect the north more than the south (Rowthorn, 2010).

Something similar can be seen in Greece, a country with significant inequalities across its regions and weak cross-regional equilibrations mechanisms. In more detail, the region of Attica inhabits around 40% of the entire population and accounts for almost 50% of GDP, while being the base for most of the industrial activity and foreign-owned and export-orientated manufacturing. The other regions display very low specialization (Monastiriotis, 2011). A graphic representation of this, is shown in Figure 6.3.

Public investment and income transfers by region, Greece



Public investment and income transfers by region.

Note: Regions are grouped along four quartiles (darker shades represent higher values). Public investment data (share of regional GDP) refer to average 2005–2008 values and are derived from Monastiriotis and Psycharis (2011). Income transfers (state benefits as a share of average household incomes) are derived from the 2004–2005 Greek Household Budget Survey (ELSTAT).

Figure 6.3 Source: “Making geographical sense of the Greek austerity measures: compositional effects and long-run implications” (Monastiriotis, 2011)

Monastiriotis (2011) analyzed the geographical impact of austerity in Greece calculating the changes in three categories:

- Public expenditures
- Public sector cuts
- Taxation

According to the results, cuts in expenditures, namely income transfers and public investment, affected peripheral regions that are historically depended on “hard” investment (i.e. infrastructure) in a much more severe way than urban areas. In the region of Western Macedonia for example public investment represents almost 5% of local GDP and the cuts are responsible for an approximate 0,5% of GDP loss. In more central locations such as Attica, Athens, Thessaloniki and Crete the regional GDP losses due to cuts in investment are close to only 0,05% of their GDP. As for the income transfer cuts, they follow a similar fashion, with the burden of austerity falling onto the periphery; East Macedonia and Thrace being the most affected, than regions as Athens, Thessaloniki and the South Aegean (Monastiriotis, 2011).

Due to higher share of public sector pay and pensions in the household incomes in the north and north-west of Greece (accounting for almost 50% of total household income) and due to different composition of public sector employment between regions, public sector pay cuts affected more severely the regions of Western Macedonia, the North Aegean and Ipeiros (regions also having the lowest levels of private employment and weakest industrial bases). In these regions the impact of austerity accounts for a decrease in income between 6,5% and 8%, while in metropolitan areas and the south only 4,5% (Monastiriotis, 2011).

Selected components of household income by region, Greece

Region	All public sector (%)	Pensioners (%)	All affected incomes (%)	Public sector temps (%)	Central government high wages (%)	Public utilities (%)	Projection of total effect (%)
North-west							
West Macedonia	28.40	20.30	48.70	2.70	1.90	9.20	7.97
Ipeiros	23.80	29.70	53.50	1.60	2.20	1.00	6.90
North and north-east							
East Macedonia and Thrace	15.10	20.20	35.30	0.70	1.30	0.30	4.25
Central Macedonia	16.30	22.70	39.00	1.10	1.20	1.10	4.96
North Aegean	22.80	27.10	49.90	1.50	2.40	2.10	6.61
Western							
Ionian Islands	16.90	27.00	43.90	1.00	0.30	0.80	5.22
Western Greece	16.90	27.10	44.00	0.90	1.90	0.80	5.40
Central							
Thessaly	19.50	22.10	41.60	1.20	1.10	0.90	5.26
Central Greece	17.60	22.40	40.00	1.10	1.10	1.70	5.11
Attiki	18.80	20.50	39.30	1.00	1.30	1.60	4.99
South							
Peloponnese	16.00	24.40	40.40	0.80	1.30	1.90	4.99
South Aegean	16.30	18.60	34.90	1.40	0.00	0.80	4.55
Crete	12.80	21.90	34.70	1.00	1.40	0.50	4.43
Metropolitan							
Athens	18.80	20.50	39.30	0.70	1.80	1.70	4.86
Thessaloniki	16.30	22.70	39.00	0.60	2.50	0.70	4.77

Note: Shares show income generated by the specific category as a proportion of total disposable household income. Data are derived from the 2004 and 2005 waves of the Greek Quarterly Labour Force Survey and the 2004/2005 Household Budget Survey (ELSTAT), based on author's calculations. The projection of the total effect (last column) is based on the following calculation: 20% cut in public utilities pay plus 80% cut in fixed-contract incomes plus 25% cut in high-wage incomes in central government plus 10% cut in pensions and in the remaining public sector.

Table 3 Source: "Making geographical sense of the Greek austerity measures: compositional effects and long-run implications" (Monastiriotis, 2011)

Tax reform measures affect similarly the most regions in the periphery, while urban and metropolitan areas see a more benign impact on their incomes. In more detail, purchasing power dropped 3,5% in Attica, 4,3% in Ipeiros and above 4% in the rest of the country (Monastiriotis, 2011).

These results are important for, as stated above, Greece does not have the equilibrating mechanisms to overcome the disparities. Negative demand shocks in the most affected regions (as income declines) lower the consumption in those regions and thus undermine the creation of new jobs. In addition, scarce capital due to higher borrowing costs makes it almost impossible for capital to flow into these low specialization and low demand regions. Thus what we have here is an amplification of already existing disparities and increasing regional inequality within the

country. This could be addressed by concentrating the consolidation efforts in urban areas than the periphery (Monastiriotis, 2011).

2.2.4 Distributional Effects of Austerity

The first years of austerity saw many Greek businesses going bankrupt while many others, especially in the industry of manufacturing, reallocating to Balkans, resulting to a rapid rise in unemployment, as seen in Figure 6.4 below and a drop in private sector wages (Leventi and Matsagannis, 2013). In addition, unemployed who report themselves as “head of the household” have increased by more than 5% in the last three years (Mitrakos, 2014).

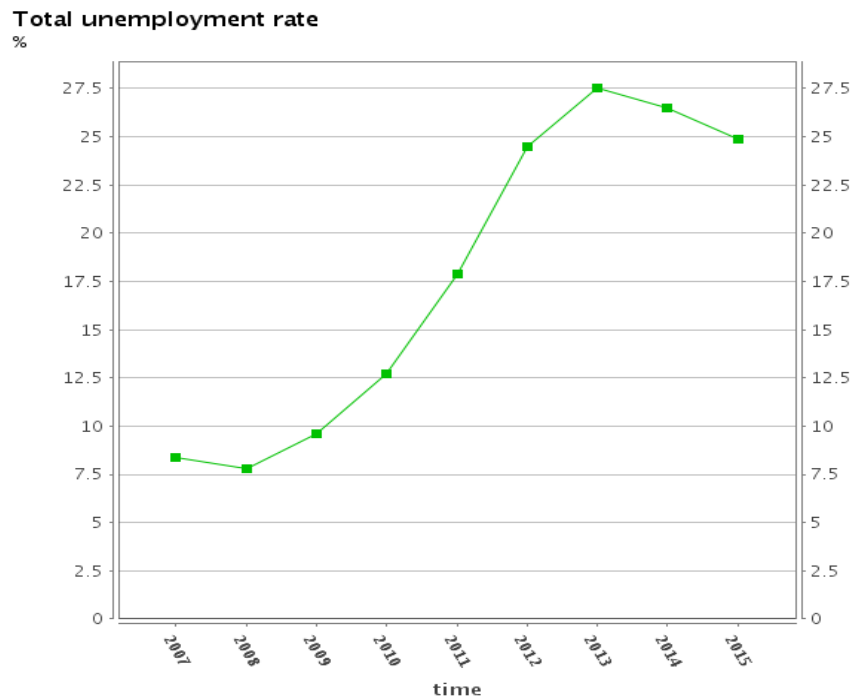


Figure 6.4 Greece Source: Eurostat

Studies show that the rise in relative poverty is only benign from 20% in 2009 to 21,3% in 2013. However, when adjusting the poverty line to pre-crisis levels in real terms, poverty seems to have increased to 37% (Leventi and Matsaganis, 2013). While distinguishing the population into different sub-groups, it is the unemployed, the inactive, single parent families and non-EU migrants who are under greater risks of poverty or exclusion (Mitrakos, 2014). Table 4 below comprises the risk of poverty indicators for different population groups.

It is further noticed that only 29,4% of the unemployed receive some kind of unemployment benefits, while only 19% of the unemployed received the 12-month unemployment insurance (Mitrakos, 2014; Leventi and Matsaganis, 2013).

Risk of poverty, inequality and social expenditure as a percentage of GDP indicators, Greece

Indicator	Greece							EE-15 ⁽¹⁾	EE-27 ⁽¹⁾
	2005	2006	2007	2008	2009	2010	2011		
I. Risk of poverty									
<i>1. At-risk-of-poverty rate</i>									
<i>1.1 Total population</i>	19.6	20.5	20.3	20.1	19.7	20.1	21.4	16.7	16.9
<i>a. People aged 65+</i>	27.9	25.6	22.9	22.3	21.4	21.3	23.6	16.1	16.0
<i>b. Children aged 0-15</i>	19.3	21.5	22.8	22.7	23.4	22.3	23.3	19.5	20.3
<i>c. Single-parent households</i>	43.5	29.6	34.2	27.1	32.1	33.4	43.2	34.7	34.5
<i>d. Two adults with 3 or more</i>	32.7	38.0	29.7	27.2	28.6	26.7	20.8	24.0	25.9
<i>1.2 In-work poverty</i>	12.9	13.9	14.3	14.3	13.8	13.8	11.9	8.5	8.9
<i>a. Part-time employment</i>	24.1	26.1	27.2	26.0	26.9	29.4	21.4	12.1	13.5
<i>b. Temporary employment</i>	17.4	18.2	19.0	15.9	15.1	13.4	8.9	13.7	13.2
<i>1.3 Unemployed</i>	32.6	33.3	35.9	37.0	37.9	38.6	44.0	45.1	45.1
<i>2. At-risk-of-poverty gap ⁽²⁾</i>									
<i>Total population</i>	23.9	25.8	26.0	24.7	24.1	23.4	26.1	22.5	23.3
<i>a. People aged 65+</i>	23.7	24.4	24.2	20.8	14.7	14.6	21.1	16.4	16.6
<i>b. Children aged 0-15</i>	22.5	25.7	30.0	26.5	26.4	27.3	27.8	23.5	24.4
<i>3. At-risk-of-poverty line (in</i>									
<i>a. Single-member households</i>	5,650	5,910	6,120	6,480	6,897	7,178	6,591	...	...
<i>b. Two adults with two children</i>	11,866	12,411	12,852	13,608	14,484	15,073	13,842	...	...
II. Inequality indicators									
<i>1. Gini coefficient</i>	33.2	34.3	34.3	33.4	33.1	32.9	33.6	30.8	30.7
<i>2. S80/S20 ratio ⁽³⁾</i>	5.8	6.1	6.0	5.9	5.8	5.6	6.0	5.1	5.1
III. Social welfare									
<i>1. Social expenditure, % of GDP</i>									
<i>Total</i>	24.9	24.7	24.8	26.3	28.0	29.1	...	30.3	29.5
<i>a. Pensions</i>	12.2	12.1	12.3	12.7	13.4	13.9	...	13.3	13.1
<i>b. Social transfers</i>	12.7	12.6	12.5	13.6	14.6	15.2	...	17.0	16.4
<i>2. Reduction in the at-risk-of-</i>									
<i>Social expenditure (total)</i>	19.6	20.0	21.6	21.4	22.3	22.7	23.5	25.8	26.3
<i>a. Pensions</i>	16.6	17.1	18.2	18.2	19.3	19.0	20.1	16.1	17.1
<i>b. Social transfers</i>	3.0	2.9	3.4	3.2	3.0	3.7	3.4	9.7	9.2

Source: Eurostat (EU-SILC).

¹ Data for the EU-15 and EE-27 are estimates and refer to the latest available year (2011 survey year, data referring to the earnings of 2010).

² The relative at-risk-of-poverty gap is the difference between the at-risk-of-poverty threshold of the total population and the median equivalised income of persons below the poverty threshold, expressed as a percentage of this threshold.

³ Share ratio, defined as the ratio of total income received by 20% of the households with the highest income (highest quantile) to that received by 20% of the households with the lowest income (lowest quantile).

Table 4 Source: "Inequality, poverty and social welfare in Greece: distributional effects of austerity" (Mitrakos, 2014)

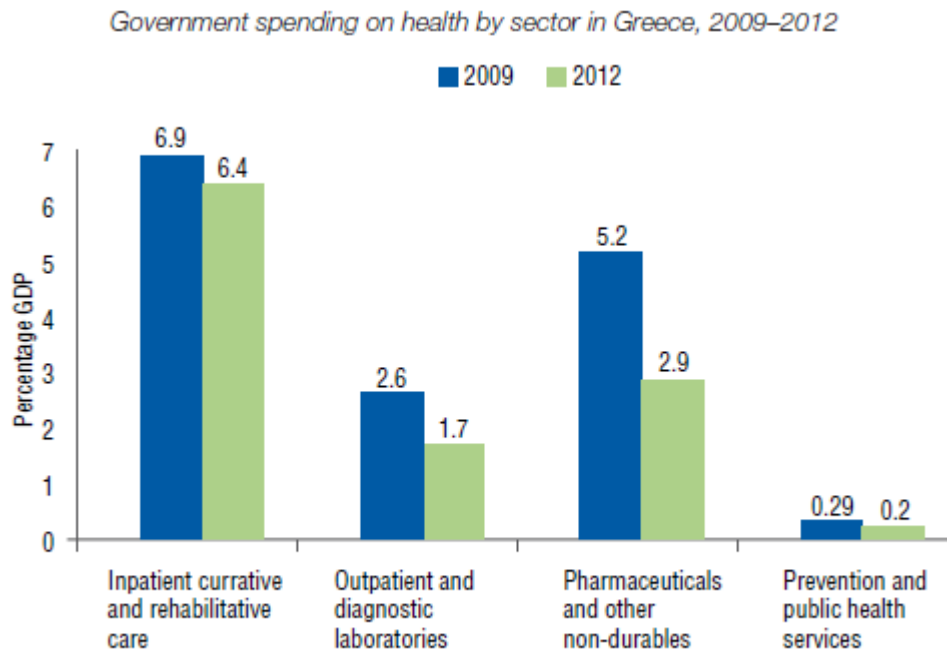
Albeit some of the austerity policies per se were progressive, meaning that it pushed the burden of adjustment to higher income groups, the property tax, the reduction in unemployment insurance benefit and the self-employed contributions had regressive effects and seemed to be offsetting the inequality-tackling policies. Thus inequality rose during the time of austerity and especially after 2011 (Leventi and Matsaganis, 2013). During the years of austerity, a large portion of the public claims that austerity made the poor poorer and the rich richer. This is something also propagated by a large portion of populist media and anti-austerity politicians.

What is interesting is that when not allowing for income re-ranking between years and taking income deciles as fixed in 2009, the poor seem to have lost a somewhat smaller portion of their 2009 household disposable income than those in the richest decile by 2012. However when incomes were re-ranked each year, then the poorest decile in 2012 lost around 56% of their household disposable income contrary to the average income loss of 28,4% in real terms. This proves that poverty now affects different groups, or that in other words, the population under poverty has different composition than during the pre-crisis years (Leventi and Matsaganis, 2013). What is also alarming is that families with both parents unemployed and dependent children face a poverty rate of 54% (Mitrakos, 2014).

2.2.5 Effects on Health and Suicide Rates

Unfortunately austerity measures affected the public healthcare system as well. Through the spending cuts, funds directed to the Ministry of Health and various healthcare programmes, started either being significantly cut or even abolished. In more detail, healthcare in Greece saw a 40% budget cut in hospitals, together with understaffing and reported shortages of medical supplies as a result of fiscal consolidation efforts (Karanikolos et. al., 2013; Kentikelenis et. al., 2011). Greece had one of the lowest public health expenditure ratios as a share of total public expenditure within the European Union by 2012. In 2012 the total current health expenditure in Greece saw a decline of €5,4 billion or 23,7% related to 2009 and the total public health expenditure saw a deeper decline of 25,2% (€4 billion) during the same time period (Economou et.al., 2014).

The Memorandums of Understanding demanded wide cuts in hospitals and pharmaceutical expenditure. According to Economou (2014), total public sector hospital expenditure (only inpatient) fell by 8% (€ 600 million) between 2009 and 2012. Total outpatient pharmaceutical expenditure decreased by a larger proportion of an estimated 32% (€2,1 billion), while public pharmaceutical expenditure and other nonmedical durables received the greatest decline of 43,2% between 2009 and 2012.



Source: OECD, 2013.

Figure 6.5 Source: “The impact of the financial crisis on the health system and health in Greece” (Economou et.al., 2014).

It is further noted that government expenditure on prevention and public health services was also reduced by 13%, albeit this sector has been experiencing underfinancing even before the crisis. Compared to the rest of the EU, where the mean per capita expenditure on prevention services is €75,8 in 2009, in Greece it is not more than €23,1 in 2012 (Economou et.al., 2014).

Other changes in the public health system due to austerity include changes in population coverage. Changes in the healthcare system give to the unemployed healthcare entitlement only for two years and with a rise in unemployment to around 27% during the crisis, almost 2 million unemployed are not officially insured (Economou et.al., 2014). As for the benefits given to the insured, cuts have been made resulting in many of the expensive examinations (e.g. tests for thrombophilia and polymerase chain reaction tests) not to be included in the insured coverage. Since 2011 the user charges in outpatient departments was raised from €3 previously, to €5, however these charges excluded special groups of patients (e.g. diabetics, transplant recipients), while user charges for diagnostic tests in public hospitals have been abolished. (Economou et.al., 2014; Kentikelenis et. al., 2011).

Last but not least, co-payment of drugs was increased as shown in Table 5 below.

Increases in medicine co-payment for specific diseases in Greece, 2011

Diseases	Co-payment increase
Alzheimer's disease, dementia, epilepsy, angiopathy, Buerger's disease, diabetes type 2, Charot's disease	From 0% to 10%
Coronary heart disease, hyperlipidemia, rheumatoid arthritis, psoriatic arthritis, lupus, vasculitis, spondyloarthritis, scleroderma, chronic obstructive pulmonary disease, pituitary adenomas, osteoporosis, Paget's disease, Crohn's disease, cirrosis	From 10% to 25%
Pulmonary hypertension	From 0% to 25%
Haemodialysis	No co-payment for medicines specifically treating the disease; previously patients were exempt from co-payments on all drugs

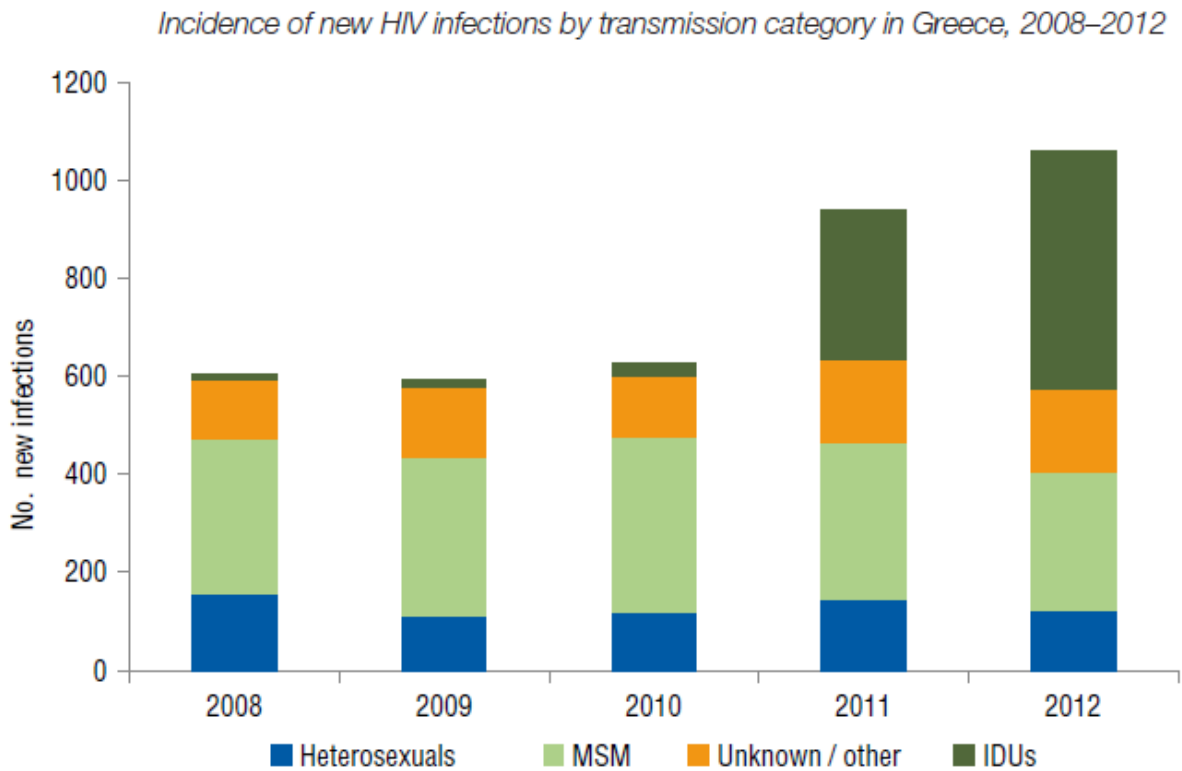
Table 5 Source: "The impact of the financial crisis on the health system and health in Greece" (Economou et.al., 2014).

There is significant evidence in health deterioration as the number of people self-reporting their health status as "bad" or "very bad" rose in comparison with pre-crisis data (Kantikelenis et. al., 2011). While suicide rates rose rapidly as well. The Greek Ministry of Health provided reports that the rise in suicides reached 40% between January and May 2011 compared to the same period in 2010 (Economou et. al., 2014; Karanikolos et. al., 2013; Kentikelenis et. al., 2011). The suicide helpline reported that 25% of those who called were experiencing financial difficulties (Kentikelenis et. al., 2011) while Economou et. al. (2014) associates the rise in suicidality with financial distress caused by austerity, as well.

In more detail, suicide rates caused by austerity and recession are gender and age specific. Male suicide rates rose in response to austerity measures, while there is no significant evidence on female suicide rates. The age group most affected by suicidality caused by austerity is those between the ages of 45 and 89 years old (Antonakakis and Collins, 2014).

In addition to the above, infectious diseases display an increasing trend during the years of austerity; Greece was ranked 4th out of 30 countries in deaths from A(H1N1) influenza virus. As shown in Figure 6.6, HIV infections seem to follow in a similar fashion as the infections rose

significantly, with the largest portion of this increase caused by injecting drug users (Economou et.al., 2014).



Notes: IDU: Injecting drug users; MSM: Men who have sex with men.

Source: European Centre for Disease Prevention and Control, 2012; KEELPNO, 2013.

Figure 6.6 Source: “The impact of the financial crisis on the health system and health in Greece” (Economou et.al., 2014).

More specifically, from 10 to 15 yearly reported HIV infections in injecting drug users (IDUs) in the time period between 2007 and 2010, 256 new infections in IDUs were reported in 2011 and the number reached 314 new HIV infections in IDUs in the first 8 months of 2012. These increases are attributed to the lack of preventive services following the expenditure cuts on public health (Karanikolos et. al., 2013).

2.3 Summary

Albeit remarkable results in fiscal consolidation, austerity seems to evidently come at a high cost for the people of Greece. The Greek budget deficit fell by 8 percentage points, however as the canon suggests, the debt-to-GDP ratio rose significantly to almost 180% in 2015. Large fiscal multipliers in government spending in combination to tax hikes and extraordinary taxes, brought down real GDP by 25% since 2009 and deteriorated the purchasing power of the Greek people and had a significant impact on household disposable income. These changes not only affected the mental health of the Greek citizens, leading to higher suicide rates but also, through expenditure cuts in the budget for public health, brought health deterioration and infectious disease outbreaks, especially in the cases of H1NI and HIV viruses. Austerity policies also had a negative effect on Greek businesses with many shutdowns or reallocations abroad, leading to the highest unemployment rates in the EU. Last but not least the geographically horizontal character of austerity amplified existing disparities among regions that due to weak cross-regional equilibrating mechanisms led to higher cross-regional inequality compared with pre-crisis years.

What is also demotivating is that many reforms that would actually solve the problems mention in section 1 did not occur. Privatisations of public property was minimal with only €1 billion in revenue, liberalization of closed professions and consolidation of public bodies and companies has still to be undertaken, while labor reserve for employees nearing retirement and uniform pay scale for all public employees have stayed only as priorities, but yet not implemented.

3. Criticism

“The boom, not the slump, is the right time for austerity” said John Maynard Keynes (1937, p.390). Today many Keynesian economists including Paul Krugman support this claim and debunk the idea of austerity during crises (Krugman, 2011). Other academics criticize not just the timing of austerity but the underlying economic models austeritarians use to manifest their policies (Betz and Carayannis, 2015). This section will provide two theoretical approaches for boosting economic growth, criticism on austerity and discuss the drawbacks and implications in the case of Greece.

3.1 Say’s Law vs. Keynesian General Theory

Say’s law states that supply necessarily creates an equal aggregate demand. In his book “A Treatise on Political Economy: Or, The Production, Distribution, and Consumption of Wealth” Jean Baptise Say (1834), claims that a product is created due to the need of the producer to buy another product. In other words that in order for one to demand he needs first to supply and use the income provided by his supply to demand other goods. According to Say there cannot be a general glut once supply equals demand, and so an excess in the supply of one product will be compensated by the shortage of another. Say’s law implies two assumptions:

- Full employment; as for everybody to demand goods he/she needs to supply goods of equal value
- Barter economy; as for every product produced there is an equal demand for other products or, that money serves as a mere medium of exchange

However, during the Great depression, the unemployment rate reached 25% in the U.S. This is when John Maynard Keynes came to refute Say’s law by claiming the demand and not supply is the driver of economic activity. In his interpretation, Say’s law assumes:

- Barter economy
- No government intervention
- Flexible prices

Keynes opposed Say's view and supported government intervention during recessions. He further theorized that aggregate demands depend on two fundamental ratios:

- Propensity of agents to consume; what portion of their income individuals are willing to spend and what portion to save
- Propensity of businesses to invest; the ratio of change in investment to change in income

For Keynes the time of recession is when the government should use a stimulus to boost demand and thus economic growth. Keynes opposed wage cuts efficiency as in his theory he states that not only people are reluctant to wage cuts, but even if those cuts were made the recession would rather deepen than be overcome. The Keynesian approach to recession is a combination of two stimuli:

- Reduction in interest rates (monetary policy)
- Public investment in infrastructure (fiscal policy)

Keynes approach however has noticeable implications in the Greek crisis. First the Bank of Greece has no legal authority over the euro currency and thus cannot manipulate interest rates and second, public investment, which is financed through public debt, cannot be materialized as Greece experiences prohibitively high interest rates on its sovereign bonds.

In summary Say claimed that recessions occur due to low supply, while Keynes attributed recessions to a lack in demand. Even though Keynes came to refute Say's law and lay the foundations for modern economics, the debate of whether supply or demand drive economic activity seems to hold till today, with France's President Francois Hollande stating that "supply creates its own demand" (Baker, 2014).

In the case of Greece neither of the two approaches has been taken to its full extent. Albeit the IMF and the EU in agreement with the Greek government have taken an interventionist approach, this approach does not provide the Keynesian stimuli but rather harsh consolidating measures. In addition, even though austerity policies implemented by Greece and agreed upon with its

international creditors lowered significantly unit labor costs (ULC), tax hikes and insolvency of the Greek banks⁷ seem to undermine these changes bringing no growth but rather a decline in exports.

3.2 The IMF Policy and Implications; The Polak Model and Fiscal Multipliers

IMF admitted miscalculating fiscal multipliers, leading to false projections on GDP growth. Data from 28 economies undergoing fiscal consolidation showed that fiscal multipliers used by the IMF in forecasting economic growth have been “systematically too low, by 0,4 to 1,2 (World Economic Outlook, 2012). Larger actual fiscal multipliers signify larger GDP deterioration due to austerity policies. These mis-projections have inflamed doubts in the financial markets, as Greece seemed to miss targets in the consolidation efforts, and consequently might have led to austerity packages extensions.

Betz and Carayannis (2015) test the validity the Polak model, a macroeconomic model used by the IMF to justify austerity policies. The Polak model comprises the following equations:

1. $I=kP$; Imports (I) are proportional (k) to GDP (P)
2. $E - I = (\Delta R - C)$; Exports (E) minus Imports (I) are equal to (Change-in-Reserves (ΔR) minus Net-Capital-Inflow (C) of the non-banking sector)
3. $\Delta M = k\Delta P$; Change-in-Money-Supply (ΔM) is proportional (k) to Change-in-Gross-Domestic-Product (ΔP)
4. $\Delta R = (\Delta M - \Delta D)$; Change-in-Reserves (ΔR) equals (Change-in-Money-Supply (ΔM) minus Change-in-Domestic-Credit (ΔD))

They argue that none of the above equations are true about Greece and this is why the austerity policies based on this model were ineffective. In more detail, Greece was able to import due to low interest rates on car loans (a consequence of Greece membership in the Eurozone), and thus imports were not so much associated with GDP than with interest rates. The second equation has

⁷ As stated in the previous sections one of the most prominent problems in doing business in Greece is reported to be access to finance

no factual base in the case of Greece as exports did not increase over imports when the central bank reserve of money increased. Imports were rather dependent on foreign credit from the sale of Greek sovereign bonds than central bank money reserves. As for the third equation, Greece once again is not the case as Greece is a member of Eurozone and has no control over its currency and could not inflate euro to serve its national debt at lower costs. Last, the fourth equation, in a similar manner, deviates from reality. When domestic credit paused due to the insolvency of Greek banks in 2010, the central bank reserves did not increase. The money supply was dependent on the European Central Bank, the change in bank reserves was dependent upon capital flight from Greek banks abroad and the change in domestic credit was dependent upon insolvency of Greek banks.

Bird, Graham (2001) argues that IMF programmes do not usually seem to have effective results and there is room for improvement. The reasons behind IMF programmes disfunctionality include “recidivism, low rates of completion and insignificant effect on other capital flows”. Thus reforms should be made in the areas above to tackle the lack of effectiveness of the fund, reconstructing conditionality and providing more accurate policies concerning the underlying political sceneries of respective countries in which the programmes are implemented.

Conclusion

This thesis came to provide an in depth analysis on the effects of austerity on the Greek economy and the Greek people. To evaluate austerity, this thesis used academic literature and official data from numerous organizations such as the Eurostat, The World Bank, the OECD and others.

First this thesis provided a comprehensive investigation in the deficiencies of the Greek economy and reported the main drawbacks that austerity and reforms should target. Large trade deficits and fiscal profligacy that were financed through “cheap credit”, due to the membership of Greece in the Eurozone, have been building up an unsustainable debt. According to academic literature the main drivers of export underperformance in Greece is the lack of competitiveness, heavy and inefficient regulation and the distribution and size of Greek firms, while government deficits are the result of excessive tax evasion, high government operating costs, subsidies, high levels of spending on national defense and wage premia in the public sector. As analyzed in section 1, defective regulation creates oligopolies, that combined with markups and high advertising fees that act like taxes, raise the product prices and lead to increased production costs. The difficulties of doing business in Greece are also high, with the major problem reported being access to finance. The competitiveness indicators place Greece as one of the least competitive countries among OECD members and prove its lack of export capabilities. Greece comprises micro and small firms that as academic literature shows are less productive and export less. Tax evasion on the other side is so widespread that only the tax evaded income of the self-employed for the year 2009 accounts for around 31% of the deficit of that year. Public sector’s high levels of spending on operating costs, wage premia, subsidies and national defense account for large deficits and undermined productivity and investment.

Section 2 of this paper, after describing the austerity measures and where they were aimed at, provided a multifarious evaluation of austerity on the economy and the people. It is evident that the austerity packages did not target the problems mentioned in section 1 but rather dealt with public sector cuts and tax hikes. Austerity, even though achieving remarkable results in fiscal consolidation decreasing the deficit by 8%, came at a high economic and social cost. Debt-to-GDP ratio increased rapidly and is still at around 180%, the economy experiences an ongoing

recession with a GDP shrinkage of around 25% since 2009. The geographically horizontal implementation of austerity measures did not take into account preexisting disparities across regions and brought further cross-regional inequality in a country with weak cross-regional equilibrating mechanisms. Austerity further increased unemployment, which is currently at around 25% and reduced significantly disposable household income, bringing increase in inequality and slightly higher risks of poverty especially in groups as the unemployed. These effects were more severe in the periphery. Furthermore academic literature and data show a deteriorating in the health of the citizens with many reporting their health status as “bad” or “very bad”. Mental health of the Greek male population has also been affected, as suicide rates for males between the ages of 45 to 89 skyrocketed in 2011 reaching a 40% increase relative to the previous year. Last but not least the spending cuts in public healthcare saw infectious diseases outbreaks, with a massive increase in HIV new infections. Greece also ranked 4th out of 30 countries in deaths from the A(H1N1) influenza virus. Reforms that would solve the problems mentioned in section 1 however were not made, and the ones that passed by the parliament are either not implemented or being implemented very slowly.

Criticism has been casted upon the IMF programmes and even the fund itself reported in the World Economic Outlook in 2012 that they have miscalculated fiscal multipliers, leading to Greece’s deviation from the targets and increased pressure from financial markets as Greece seemed to fail in its fiscal consolidation efforts. Moreover, wrong fiscal multipliers imply that the effects on Greek GDP and debt-to-GDP ratio have been worse than expected. The Polak model that has been used by IMF to justify its policies for years, does not apply in the case of Greece and its invalidity might have brought the failure of austerity as seen in the analysis. It is evident that neither the Keynesian approach nor the supply side economic growth concept can answer the dilemma of Greek economic growth.

As a consequence of austerity Greece seems to have been caught in the paradox of thrift. Not only little has been done to boost export growth and entrepreneurship, but rapid spending cuts and tax hikes undermine both demand and supply side economic growth. As this thesis does not act as a policy recommendation, further analysis on an efficient approach is beyond the scope of this paper. However, with respect to austerity measures effects, it is evident that consolidation efforts should be concentrated in urban areas where the incomes are higher and the effects do not

pose the same threats as they do in the periphery. Social welfare should target groups in risk of poverty such as the unemployed, especially those with families with dependent children. The European Union and the IMF should reconsider the structure of their policies and take a more understanding approach in the situation of Greece, providing economic stimuli and political support to overcome financial market turmoil and speculation. It is not clear what the future of the Greek crisis will be, but austerity and the way it was implemented seem to have failed.

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