



## STRUCTURAL PROBLEMS OF THE GREEK ECONOMY AND POLICY RECOMMENDATIONS

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### Abstract

The goal of the current article is to explore structural problems of the Greek economy and make policy recommendations. Greece is currently faced with large macroeconomic problems as a shrinking GDP, budget deficits, large accumulated national debt, high employment, poverty and a business sector faced with closures and job losses. Many foreign and domestic economists and politicians claim that these problems were created mainly due to low government revenues and high government expenses. Based on this belief, they propose and apply a set of policies that aim specifically at these two factors: decreasing government expenses e.g. through reducing civil servants and minimising health costs, and increasing government revenues e.g. by creating new taxes. This research assesses the effect of the previous factors on the economy, based on statistical comparisons with other European countries. Moreover, it uses comparisons in order to assess the effect that other factors may have on the economy, particularly the trade balance, industrial production and entrepreneurship.

*Keywords:* Greece; economy; crisis; debt; policies.

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## Introduction

The goal of the current article is to explore structural problems of the Greek economy and make policy recommendations. Greece is a large European economy, placed among the first 40 countries in the world by GDP. In 2009 Greece was faced with a large debt crisis, which was triggered by a large government budget deficit (15% of the budget). The announcement of this deficit downgraded the country's ability to borrow funds in the international financial markets and raised substantially the lending cost. This debt crisis affected the whole Eurozone, as the scenario of Greece exiting the euro and returning to a national currency was very probable.

The decision made by the Greek government was to turn for funds to the International Monetary Fund (IMF) and the European Central Bank (ECB). These two organizations, along with European Commission, signed a memorandum of cooperation with the Greek government, which included various lending terms. These lending terms were centered in decreasing government expenses e.g. through firing civil servants and minimising health costs, increasing government revenues e.g. by creating new taxes, and protecting private Greek banks from possible bankruptcy by offering them vast amount of state funds (more than 90 billion € since 2008).

This research assesses the effectiveness of the policies applied, by presenting the country's current macroeconomic profile, and also tries to point out some of the most important causes behind the country's macroeconomic problems.

## Methodology

In the first part of the analysis the following Greek macroeconomic indicators will be presented:

- Gross Domestic Product
- Public surpluses/deficits
- Public debt
- Unemployment
- Poverty
- Business sector

In the second part there is going to be an examination of the causes behind the macroeconomic problems faced by the Greek economy. The causes examined in the current research are the following:

- Government expenditures
- Government revenues
- Trade balance
- Industrial production
- Entrepreneurship

The results of the analysis will be discussed. Conclusions and policy recommendations will be proposed in last part of the research.

## Analysis

### Greek Macroeconomic Indicators

The following macroeconomic indicators will be examined: GDP, public surplus/deficit, debt, unemployment, and poverty and business sector.

#### *Gross Domestic Product*

Gross Domestic Product (GDP) is the basic measure of a country's overall economic wealth. It is measured by the market value of all officially recognized final goods and services produced within a country in a given period of time. The Greek GDP is presented in Table 1.

Table 1

#### *Greek Gross Domestic Product at market prices*

Year	GDP in market prices (millions €)	GDP Percentage change
1998	121.985,2	-
1999	131.936,1	8,2
2000	137.930,1	4,5
2001	146.427,6	6,2
2002	156.614,3	7,0
2003	172.431,8	10,1
2004	185.265,7	7,4
2005	193.049,7	4,2
2006	208.622,3	8,1
2007	223.160,1	7,0
2008	233.197,7 (p)	4,5
2009	231.081,2 (p)	-0,9
2010	222.151,5 (p)	-3,9
2011	208.531,7 (p)	-6,1

Source: Eurostat

From Table 1 it can be observed that the Greek GDP was rising from 1998 until 2008, reaching up to 233 billion €. From 2008 onwards, the GDP decreased, losing almost 1% in 2009, 3,9 % on 2010 and 6.1 % in 2011. The money value of the GDP on 2011 was 208 billion €.

However, it must be noted that the values of the GDP presented above, are not accurate and final. From 2008 until 2011 the GDP values given by Eurostat database have the sign provisional (p), which means that they are still not definite. It has been noticed by the author that during the last 3 years the GDP values (along with other Greek macroeconomic data), have changed at least once a year. When the Eurostat Greek user support service was questioned about the reasons for these frequent changes and why the data are still definite, the reply was that the data are not definite, because they are provisional! (no actual answer was given...).

A country's production value, which is measured by the GDP, comes from three different sectors:

- The Primary sector that involves the extraction and production of raw materials from the earth.

- The Secondary sector that involves the transformation of raw materials into goods.

- The Tertiary sector that involves the provision of services to consumers and businesses.

The sources of the Greek GDP by production sector are presented in Table 2.

Table 2

*Greek GDP distribution by sector*

<b>GDP distribution by sector (2010):</b>	Primary Sector	3.6%
	Secondary Sector	18.1%
	Tertiary Sector	78.3%

*Source: 1. CIA World Factbook, 2. Global Finance*

Even though Greece is an economy traditionally based on farming and the primary sector in general, as the land and climate conditions are suitable for this kind of production, presently the contribution of the primary sector to the GDP is only 3.6%. The secondary sector contribution is also very small (18.1%), while the services sector has by far the largest contribution in the economy (78.3%).

Regarding the size of the GDP compared to other countries, the Greek GDP is among the largest ones in the world, despite the small population size of the country (10,8 million inhabitants in 2011, while the world population is around 7 billion). According to the World Bank, in 2011 Greece was the 34th largest economy in the world by Gross Domestic Product, in a total of 190 countries. Another way to measure the total size of an economy's is the GDP at Purchasing Power Parity (PPP). The PPP is a theory of exchange rates whereby the exchange rate is adjusted so that an object has the same value in two different countries, when expressed in the same currency. Calculating the country's GDP in PPP terms, in 2011 Greece was ranked 45th economy in the world by GDP size (World Bank, 2012).

### *Surplus/Deficit*

The government deficit/surplus is the difference between the revenues and the expenditures of the general government sector. In Eurostat the general government sector comprises central government, state government, local government, and social security funds. Table 3 presents the money value of the Greek general government yearly surplus/deficit from 1998 to 2011, and the surplus/deficit value as percentage of the GDP.

Table 3

*Greek Government Surplus/Deficit*

Year	Surplus/Deficit in millions €	Surplus/Deficit as % of GDP
1998	-5.092,6 (e)	-4,2
1999	-5.092,6 (e)	-3,9
2000	-5.092,6	-3,7
2001	-6.542,0	-4,5
2002	-7.465,0	-4,8

<b>2003</b>	-9.738,0	-5,6
<b>2004</b>	-13.940,0	-7,5
<b>2005</b>	-10.068,0	-5,2
<b>2006</b>	-12.109,0	-5,7
<b>2007</b>	-14.475,0	-6,5
<b>2008</b>	-22.880,0	-9,8
<b>2009</b>	-36.127,0	-15,6
<b>2010</b>	-23.719,0	-10,7
<b>2011</b>	-19.834,0	-9,5

Source: Eurostat

First of all we can observe the continuous presence of deficits throughout the whole 14-year period, as there are no surpluses and not even a balanced budget. The deficit varies from 3.7% of GDP in 2000 (5 billion €), to 36 billion € and 15.6 % of GDP in 2009. As a result of the continuous yearly general government deficits, the country had to borrow funds in order to balance its budget. The result of continuous borrowing from the internal and external financial markets, is the accumulation of national debt.

### Debt

National Debt, according to Eurostat, refers to each country's consolidated general government gross debt at nominal value, outstanding at the end of the year, in the following categories of government liabilities: currency and deposits, securities other than shares excluding financial derivatives, and loans. Table 4 presents the money value of the Greek general government debt from 1998 to 2011, and the debt value as percentage of the GDP.

Table 4

#### Greek National Debt

<b>Year</b>	<b>Debt in billions €</b>	<b>Debt as % of GDP</b>
<b>1998</b>	115.679,0	94,5
<b>1999</b>	122.334,7	94,0
<b>2000</b>	140.971,0	103,4
<b>2001</b>	151.869,0	103,7
<b>2002</b>	159.214,0	101,7
<b>2003</b>	168.025,0	97,4
<b>2004</b>	183.157,0	98,6
<b>2005</b>	195.421,0	100,0
<b>2006</b>	224.204,0	106,1
<b>2007</b>	239.300,0	107,4
<b>2008</b>	263.284,0	112,9
<b>2009</b>	299.685,0	129,7
<b>2010</b>	329.515,0	148,3
<b>2011</b>	355.172,0	170,3

Source: Eurostat

Greek national debt starts with a value of 115 billion € in 1998 and ends up in the value of 355 billion € in 2011. The debt as percentage of GDP was fluctuating around 100 % of GDP until 2007, however after 2008 it has launched to 129 % in

2009, 148 % in 2010 and 170 % in 2011 (note that as GDP values are not final from 2008 onwards, the percentage values are not final also).

### *Unemployment*

Every economy has a certain population size. For reasons of economic analysis, the population is divided into economically active and economically inactive. The economically active population is the labor force of the economy and includes those individuals who are able and willing to work. The economically inactive population includes those people who cannot work (e.g. small children, elderly patients, soldiers, etc.) and people who can work, but for various reasons are not willing. People that cannot or do not want to work, don't belong to the labor force. The labor force is divided into two categories:

- Those that are working - the employed

- Those that are not working - the unemployed. The unemployed are those people that want to work but cannot find jobs.

The sum of the employed and unemployed is equal to the total workforce. The unemployment rate shows the percentage of unemployed people as part of the total workforce. It is worth mentioning that according to economists, a small unemployment rate is justified by the movement of personnel from one job to another. This is called natural rate of unemployment, and it is estimated at around 3-5% of the total workforce. Table 5 presents data on employment and unemployment for Greece.

Table 5

#### *Employment and Unemployment*

	2007	2008	2009	2010	2011	2012
<b>Employed</b>	4.477.591	4.552.398	4.496.158	4.405.388	4.146.136	3.695.053
<b>Unemployed</b>	418.175	385.509	448.646	591.655	801.883	1.295.203
<b>Economically Inactive Population</b>	3.426.777	3.391.426	3.355.519	3.293.576	3.344.840	3.373.692
<b>Unemployment Rate</b>	8,5%	7,8%	9,1%	11,8%	16,2%	26%

*Source: Greek Statistical Agency*

From Table 5 we can observe the rapid increase in the unemployment rate over the past 2 years, reaching 26 % of the total workforce in 2012. It is also worth noticing that in 2011 and 2012 the size of unemployed and economically inactive population surpassed the size of the economically active population.

From 2009 onwards, there is a large increase in unemployment in the country, almost doubling the rate within two years. In September 2012 the Greek Statistical Service announced an increase in the rate to 26%, counting the number of unemployed at 1.295.203. Regarding employment of labor per production sector, estimates indicate the following (Table 6):



Table 6

*Employment per Sector of Production*

Production Sector	Percentage of Total Employment %
Primary	12,5
Secondary	17,9
Tertiary	69,6

Source: Greek Statistical Agency

From Table 6 we observe that the largest percentage of employees is working in the tertiary sector (69.6%), while the lowest percentage working in the primary sector (12.5%).

**Poverty**

The poverty limit, as calculated by the Greek Statistical Office for 2010 was 7.178 € per person and 15.073 € for a household with two adults and two dependent children under the age of 14 years. According to the Hellenic Statistical Authority in 2009, 20.1% of the population lived below the poverty line. This rate, according to Eurostat data, increased to 27% of the population in 2010 (around 2,9 million habitants).

**Business Sector**

Having examined Greek macroeconomic data, it is useful also to briefly research the country's business sector, as the business sector is closely related with the country's financial health and prospects. The variables that will be examined are business demographics, closures, and employment and job losses.

**Business Demographics**

The term business demographics refers to the segmentation of enterprises according to some specific characteristic, e.g. size measured by the number of employees, and the subsequent calculation of the segment's size. Table 7 presents Eurostat data about the numbers of Greek enterprises according to size, where size is measured by the number of employees.

Table 7

*Number of Enterprises by Size Class in Greece*

	2005	2006	2007	2008	2009*	2010*	2011*
<b>0-9</b>	796.520	799.854	801.723	782.763	756.244	719.952	695.733
<b>10-49</b>	21.246	25.250	24.604	24.406	23.780	22.832	22.075
<b>50-249</b>	2.519	3.496	2.947	2.982	2.965	2.893	2.894
<b>SMEs</b>	820.285	828.600	829.274	810.151	782.989	745.677	720.702
<b>250+</b>	468	429	478	515	556	563	577
<b>Total</b>	820.753	829.029	829.752	810.666	783.545	746.240	721.277

Source: Eurostat, 2012 \*(2009, 2010, 2011 Eurostat estimates)

The total number of enterprises in 2005 was 820.753, out of which 820.285 were SMEs. In 2011 the total number of enterprises was 721.277, out of which 720.702

were SMEs. The number of large enterprises increased from 468 in 2005, to 577 on 2011.

### Closures

From Table 7, if we subtract from each year the value of the previous year, we can calculate the increase or decrease in the number of firms. These are estimated as follows:

Table 8

#### *Business Closures in Greece*

	2006	2007	2008	2009*	2010*	2011*
<b>0-9</b>	3.334	1.869	-18.960	-26.519	-36.292	-24.219
<b>10-49</b>	4.004	-646	-198	-626	-948	-757
<b>50-249</b>	977	-549	35	-17	-72	1
<b>SMEs</b>	8.315	674	-19.123	-27.162	-37.312	-24.975
<b>250+</b>	-39	49	37	41	7	14
<b>Total</b>	8.276	723	-19.086	-27.121	-37.305	-24.963

Source: Eurostat, 2012 \*(2009, 2010, 2011 Eurostat estimates)

During 2006 and 2007 there was an increase in the number of firms in the economy. From 2009 up to 2011, there has been a large decrease in the total number of enterprises, mainly due to massive closure of micro firms. According to Eurostat estimates, the total number of SMEs that closed between 2008, 2009, 2010 and 2011 is 108.572. However, the number of large firms has increased from 2007 onwards.

### Job Losses

Business closures have also affected employment. The data presented on Table 9 originate from Eurostat and regard employment by size class in Greece for the period 2005-2011.

Table 9

#### *Employment by Size Class in Greece*

	2005	2006	2007	2008	2009*	2010*	2011*
<b>0-9</b>	1.401.535	1.500.792	1.515.228	1.519.819	1.500.075	1.447.218	1.410.339
<b>10-49</b>	392.811	446.709	459.983	462.716	457.256	438.792	423.499
<b>50-249</b>	242.704	304.802	281.041	281.860	277.996	264.427	256.885
<b>SMEs</b>	2.037.050	2.252.303	2.256.252	2.264.395	2.235.327	2.150.437	2.090.723
<b>250+</b>	455.304	337.117	380.594	383.779	379.192	362.055	349.399
<b>Total</b>	2.492.354	2589 420	2.636.846	2.648.174	2.614.518	2.512.492	2.440.121

Source: Eurostat, 2012 \*(2009, 2010, 2011 Eurostat estimates)

The total number of employees working in the private sector in 2005 was over 2.4 million, out of which 2 million worked in SMEs. In 2011 the total number of employees was 2.4 million, out of which again, 2 million worked in SMEs. In large enterprises, even though as seen in Table 8, their number has increased during the period 2005-2011, the number of employees occupied has decreased. Again, by subtracting from each year the value of the previous year, we can calculate the



increase or decrease in employment by business size class. These are estimated as follows:

Table 10

*Job Losses in Greece*

	2006	2007	2008	2009	2010	2011
<b>0-9</b>	99.257	14.436	4.591	-19.744	-52.857	-36.879
<b>10-49</b>	53.898	13.274	2.733	-5.460	-18.464	-15.293
<b>50-249</b>	62.098	-23.761	819	-3.864	-13.569	-7.542
<b>SMEs</b>	215.253	3.949	8.143	-29.068	-84.890	-59.714
<b>250+</b>	-118.187	43.477	3.185	-4.587	-17.137	-12.656
<b>Total</b>	97.066	47.426	11.328	-33.656	-102.026	-72.371

Source: Eurostat, 2012\*(2009, 2010, 2011 Eurostat estimates)

From 2009 onwards we can notice that there have been continuous job losses in all business size classes. Total job losses between 2009 and 2011 amount to 208.053 (33.656+102.026+72.371). The job losses in SMEs between 2009 and 2011 were 173.673, while in large enterprises they were 34.380.

Moreover, according to the 2011 Yearly Report on Greek Trade, by the National Confederation of Greek Trade, the closures expected for 2012 ranged between 50.000 and 60.000 and the job losses around 100.000. Regarding the job losses, the Employment Institute of the General Confederation of Greek Workers was more pessimistic. It expected around 500.000 job losses in 2012.

### Causes

In order to reveal some of the important causes behind the macroeconomic problems currently faced by the Greek economy, there is going to be a statistical examination of the following variables: government revenues, government expenditures, trade balance, industrial production and entrepreneurship.

The Greek data will be presented and compared with the average data for the other 26 European countries, namely: Belgium, Bulgaria, Czech Republic, Denmark, Germany, Estonia, Ireland, Spain, France, Italy, Cyprus, Latvia, Lithuania, Luxembourg, Hungary, Malta, Netherlands, Austria, Poland, Portugal, Romania, Slovenia, Slovakia, Finland, Sweden and the United Kingdom.

The data used regard a 14 year period (1998-2011) and they all come from Eurostat database. Missing values in the dataset were treated by using the average value for in-between missing values and the value of the previous or following year for the rest. Percentage of missing values was less than 2%, and most of them were met in the industrial production values (manufacturing, mining and quarrying and electricity, gas and water supply) that had to be added in order to calculate total production value for each country. Entrepreneurship data were gathered separately from a variety of sources.

### Government Expenditures

The government expenditures variable was measured by each country's total

general government expenditures as percentage of its GDP. Total general government expenditures refer to all the money spent by a country's government in social protection, health, general public services, education, defence, public order and safety, environmental protection, housing, culture etc. Table 11 presents the Greek government expenditures in nominal value and as percentage of the Greek GDP, along with the data on the EU26 government expenditures as % of GDP.

Table 11

*Greek and EU26 General Government Expenditures*

Year	Greek Government Expenditures in millions €	Greek Government Expenditures as % of GDP	EU-26 Government Expenditures as % of GDP
1998	54.070,9	44,3	44,9
1999	58.681,0	44,5	44,8
2000	64.473,6	46,7	43,4
2001	66.432,0	45,4	43,6
2002	70.614,0	45,1	44,1
2003	77.143,0	44,7	44,5
2004	84.333,0	45,5	43,8
2005	86.097,0	44,6	43,7
2006	94.407,0	45,3	43,2
2007	105.998,0	47,5	42,7
2008	117.993,0	50,6	44,3
2009	124.671,0	54,0	48,5
2010	114.289,0	51,4	48,3
2011	108.346,0	52,0	44,9

Source: Eurostat

From Table 11 we can observe that the Greek government expenditures in nominal value vary from 54 billion € on 1998 to 108 billion € in 2011. As percentage of GDP, the minimum value is observed in 1998 (44,3% of GDP), while the maximum one in 2009 (54%). The average value for the 14 year period is 47,3% of the GDP.

The average value of government expenditures for the other 26 European economies for the 14-year period is 44,7%. Even though Greek government expenditures as % of GDP have risen after 2008, however the Greek average value is not far from the European average. The highest value of government expenditures as percentage of the GDP in the EU26 data was recorded in Sweden in 1998 (58,8%), while the lowest one in Ireland in 2000 (31,2%).

### **Government Revenues**

The government revenues variable was measured by each country's total general government revenues as percentage of its GDP. According to Eurostat, total general government revenues refer to all the money collected by a country's government from the following sources: market output, output for own final use, payments for the other non-market output, taxes on production and imports, other subsidies on production, receivable property income, current taxes on income, wealth, etc., social

contributions, other current transfers and capital transfers. Table 12 presents the Greek government revenues in money value and as percentage of GDP, along with the data on the EU26 government revenues as % of GDP.

Table 12

*Greek and EU26 General Government Revenues*

Year	Greek Government Revenues in millions €	Greek Government Revenues as % of GDP	EU-26 Government Revenues as % of GDP
1998	49.408,8	40,5	42,8
1999	54.594,3	41,4	42,9
2000	59.322,3	43,0	42,5
2001	59.930,0	40,9	42,0
2002	63.041,0	40,3	41,7
2003	67.290,0	39,0	41,9
2004	70.583,0	38,1	41,9
2005	75.219,0	39,0	42,3
2006	81.844,0	39,2	42,4
2007	90.914,0	40,7	42,7
2008	94.847,0	40,7	42,5
2009	88.602,0	38,3	42,3
2010	90.232,0	40,6	42,8
2011	88.383,0	42,4	42,9

Source: Eurostat

From the table we can observe that the Greek government revenues in nominal value vary from 49 billion € on 1998 to 94 billion € in 2008. As percentage of GDP, the minimum value is observed in 2004 (38,1% of GDP), while the maximum one in 2000 (43%).

The average value for the 14-year period in Greece is 40,3% of the GDP. The average value of government revenues for the other 26 European economies for the 14 years period is 42,3%. The highest value of government revenues as percentage of the GDP in the EU26 data was recorded in Sweden in 1998 (59,7%), while the lowest one in Lithuania in 2004 (31,7%).

**Trade Balance**

The external balance of goods and services or trade balance is the difference between exports and imports of goods and services. Exports of goods and services consist of transactions in goods and services (sales, barter, gifts or grants) from residents to non-residents. Imports of goods and services consist of transactions in goods and services (purchases, barter, gifts or grants) from non-residents to residents. Table 13 presents the Greek trade balance in nominal value and as percentage of GDP. Data on the EU26 trade balance as % of GDP are presented also.

Table 13

*Greek and EU26 Trade Balance*

Year	Greek Trade Balance in millions €	Greek Trade Balance as % of GDP	EU-26 Trade Balance as % of GDP
1998	-18.617,9 (e)	-15,3 (e)	-0,5
1999	-18.617,9 (e)	-14,1(e)	0,0
2000	-18.617,9	-13,5	0,0
2001	-19.270,9	-13,2	0,3
2002	-21.217,5	-13,5	0,9
2003	-21.140,5	-12,3	0,5
2004	-18.632,9	-10,1	0,1
2005	-17.934,1	-9,3	-0,3
2006	-23.865,9	-11,4	-1,0
2007	-31.554,4	-14,1	-0,9
2008	-33.781,0	-14,5	-1,1
2009	-26.487,7	-11,5	2,2
2010	-20.606,1	-9,3	2,6
2011	-16.871,4	-8,1	2,8

Source: Eurostat

From Table 13 we can observe that the Greek trade balance in nominal value varies from -33 billion € (minimum) in 2008 to 16 billion € (maximum) in 2011. As percentage of the Greek GDP, the trade balance varies from -8,1 % (minimum) in 2011 and 15,3 % (maximum-estimate) in 1998.

In comparison with the 26 other European economies, the Greek average value of the trade balance for the 14-year period was -12,2%, while the 26 European countries value is positive (0,4%). The highest positive trade balance value as percentage of GDP was recorded in Luxembourg in 2007 (32,3%), while the lowest one in Bulgaria in 2008 (-20,5%)<sup>1</sup>.

### **Industrial Production**

Industrial production value is calculated as the sum of the values generated by 3 industrial production sectors:

1. Manufacturing
2. Mining and quarrying
3. Electricity, gas and water supply

These 3 sectors are also used by Eurostat for the calculation of the Index of Industrial Production. The Index of Industrial Production shows the output and activity of the industry sector by measuring changes in the volume of output on a monthly and yearly basis. Industrial production is compiled as a “fixed base year Laspeyres type volume-index”. The base year is 2005. Table 14 shows the Greek index of industrial production for the period 2000 to 2011.

From Table 14 we observe that from 2008 onwards the Index presents a continuous decrease, amounting in 2011 to only 77.9% of the volume of industrial production of 2005.

<sup>1</sup> Note that the crisis in Greece broke out in 2009, one year after the negative trade balance reached the last decade's maximum.

Table 14

*Greek Index of Industrial Production*

Year	Index of Industrial Production with 2005 as base year (2005=100)
2000	103,4
2001	100,2
2002	100,5
2003	101
2004	101,7
2005	100
2006	100,8
2007	103,2
2008	99
2009	89,7
2010	84,4
2011	77,9

Source: Greek Statistical Agency

In order to make comparisons with other European countries relatively to the production value, we can use the value of industrial production as percentage of GDP. As in the Eurostat database there were many breaks in the data series, the total production value was calculated by adding the production value of the three sectors mentioned earlier. Missing values in the series were estimated by using the average value for in-between missing values and the value of the previous or following year for the rest, however missing values existed only for three countries: Greece, Ireland and Malta. Table 15 presents the Greek industrial production value in nominal value and as a percentage of GDP, as well as the average industrial production value as a percentage of the EU26 GDP.

Table 15

*Greek and EU26 Production Value*

Year	Greek Industrial Production Value in millions €	Greek Industrial Production Value as % of GDP	EU-26 Industrial Production Value as % of GDP
1998	45.150,3	37,0	64,6
1999	45.150,3	34,2	62,5
2000	45.150,3	32,7	66,2
2001	45.150,3	30,8	65,0
2002	45.150,3	28,8	63,2
2003	45.150,3	26,2	62,6
2004	50.010,9	27,0	63,6
2005	52.248,5	27,1	63,3
2006	59.537,4	28,5	65,6
2007	63.598,1	28,5	65,3
2008	59.955,3	25,7	65,0
2009	56.312,6	24,4	57,1
2010	56.312,6	25,3	61,2
2011	56.312,6	27,0	64,5

Source: Eurostat

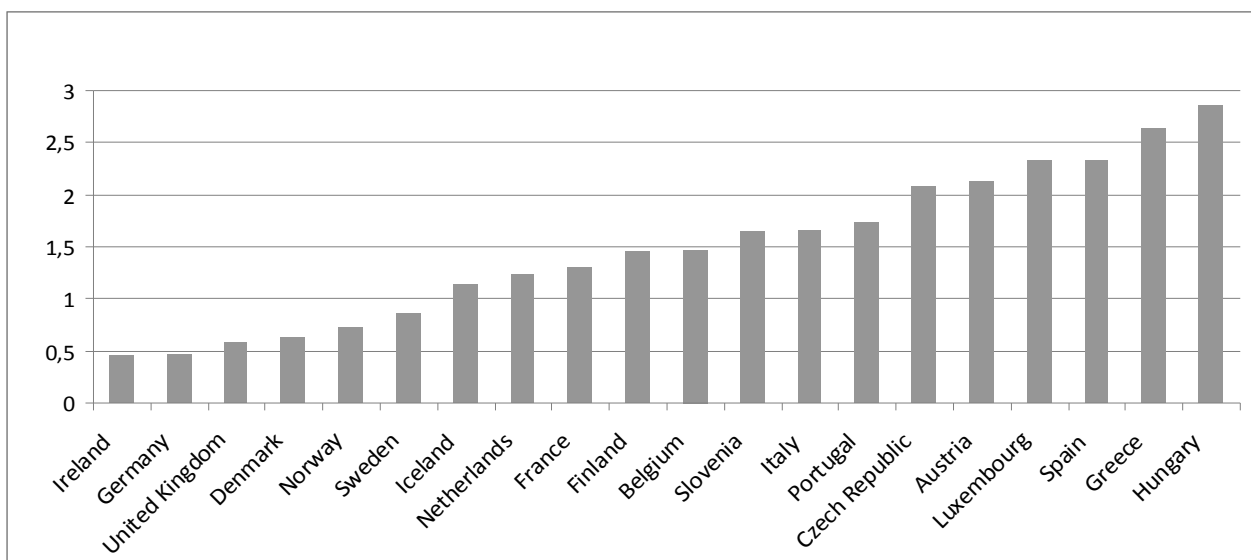
From Table 15 we can observe that Greek industrial production value ranges from 45 billion € (minimum) € to 63 billion € (maximum). The 14 year period Greek average industrial production value was 28,8% of GDP, while the average EU26 value was 63,6%. The largest value of industrial production as percentage of GDP was recorded in Czech Republic on 2011 (120%), while the smallest one in Cyprus in 2011 (24%).

### ***Entrepreneurship***

The shrinking GDP, the negative trade balance and the low industrial production value have also to be examined along with the barriers met by Greek enterprises during the startup and operation phases. Moreover, most of the business closures mentioned earlier are a result of the barriers met by Greek enterprises. Following there is going to be a reference on some researches made on the topic.

In a research carried out by the World Bank on 2008, about the ease of starting a business, Greece was in the last position among 58 countries. On the same research for 2011, it was in the 101th position from 183 countries. This research evaluated the ease of starting a business based on the following aspects: Starting a Business, Dealing with Construction Permits, Getting Electricity, Registering Property, Getting Credit, Protecting Investors, Paying Taxes, and Trading across Borders, Enforcing Contracts and Resolving Insolvency.

The OECD (2011) has carried out research on a relative topic, that of administrative burdens on start-ups. Administrative burdens on startups measure a country's regulatory environment. They are calculated by using three main indicators: state control, barriers to entrepreneurship and barriers to trade and investment. Figure 1 pictures an analysis of the results for 20 European economies for the year 2008.



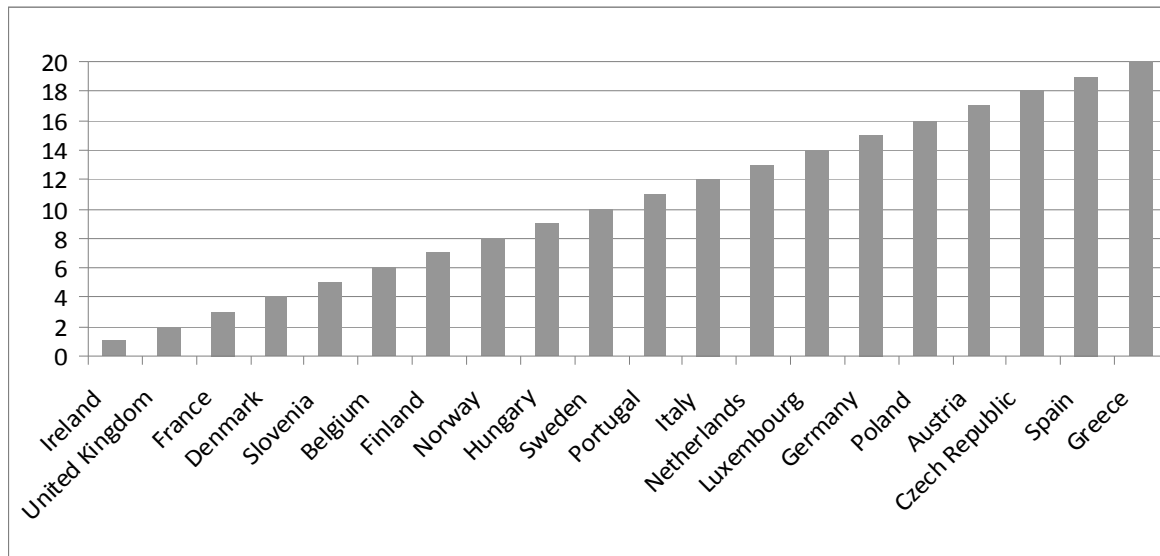
Source: OECD, 2011 (\*Data for Greece and Ireland refer to 2003).

*Figure 1.* Administrative Burdens on Start-Ups (2008) (from 0 to 6 the more restricting).

Greece, along with Hungary, was evaluated to be the countries with the most



administrative burdens on startups, scoring 2.6 and 2.8 respectively. The countries with the least administrative burdens to start ups were Ireland (0.4), Germany (0.49), the UK (0.55) and Denmark (0.6). The OECD has also used World Bank 2010 data, in order to measure the ease of starting a business (Figure 2).



Source: OECD, 2011

Figure 2. Starting a Business 2010 (Ranking of 20 countries from least to more restricting).

Using the World Bank data, Greece is the European country, among the other 20, where it is the most difficult to start a business, followed by Spain and the Czech Republic. The country where it is the easiest to start a business is Ireland, followed by the UK and France.

In order to examine which are the exact barriers met by firms that operate in the Greek economy, a reference will be made to a recent study on the topic. According to a study about business barriers made by the Centre for Studies and Research of the Athens Chamber of Industry and Commerce, in a sample of 1.104 firms in 2011, the results were the following (Tables 16 and 17):

Table 16

*Very Important Barriers Met by Greek Enterprises*

Barrier	% of Respondents
Continuous changes and instability in the tax employment and insurance status	80%
Market psychology	78%
Height of tax rates and other fees that make up the cost of running a business	62%
Bureaucracy in dealing with the state	57%
Inability to control black markets and shadow economy	57%
Inability to fight tax evasion	55%
Corruption in transactions between businesses and state	52%
Reduction in purchasing power of workers and pensioners due to the lowering of salaries and pensions	51%
Difficulty in accessing the banking system for financing	49%
Height of social security contributions	41%

Large public sector	45%
Difficulty of accessing local national and European funding programs	37%

Source: Athens Chamber of Industry and Commerce

Table 17

*Moderately Important Barriers Met by Greek Enterprises*

Barrier	% of Respondents
Wage costs	43%
Rent	33%
Delayed privatization and opening of the professions	26%
Demonstrations and marches	25%

Source: Athens Chamber of Industry and Commerce

The results of this research are very enlightening. Business owners in Greece agree that the most important barriers they face are tax rates, employment and insurance status, market psychology and state bureaucracy. Three out four barriers originate directly from the government while the other one, market psychology, can be tackled by government action e.g. investments.

Another research on the same topic was carried out by the World Economic Forum in 2010. From a list of 15 factors, respondents were asked to select the five most problematic for doing business in their country, and to rank them between 1 (most problematic) and 5. The results were as follows:

Table 18

*Problematic Factors for Doing Business in Greece*

Factors	% of Respondents
Inefficient government bureaucracy	27.2%
Corruption	14%
Restrictive labor regulations	12%
Policy instability	11.5%
Tax regulations	11.1%
Access to financing	9.9%
Inadequate supply of infrastructure	3.9%
Tax rates	3.7%
Poor work ethic in national labor force	2.3%
Government instability/coups	2.3%
Inadequately educated workforce	1.4%
Inflation	0.6%
Crime and theft	0.1%
Poor public health	0.1%
Foreign currency regulations	0%

From Table 18 again we notice that most barriers are related with the state. The most problematic factor is government bureaucracy (27.2%), followed by corruption (14%) restrictive labor regulations (12%), policy instability (11.5%) and tax regulations (11.1%). Access to financing was also considered a problematic factor for businesses.

## Results and Discussion

Greece, even though a large economy due to the size of its GDP in relation to population size, is currently faced with large macroeconomic problems. These problems in particular are a shrinking GDP, continuous budget deficits, high national debt, high unemployment, poverty for a large part of the population and large numbers of business closures and job losses.

Looking at some of the important causes behind these macroeconomic problems, it can be concluded that:

- Government expenditures are above the EU average, and the difference for the 14 year period under examination was 2,6% of GDP;
- Government revenues are below the EU average, and the difference for the 14 year period under examination was 2% of GDP;
- The trade balance is constantly negative and there is a large difference from the EU average (difference of -12,6% of GDP);
- The industrial production value is shrinking and is significantly lower than the European average (difference of -34,8% of GDP)/

Business barriers are very high both in starting as well as in operating a business. However, the policies that have been proposed by the troika and have been applied in Greece so far, have increased tax rates, changed more than once the employment and insurance status, “froze” market psychology, due to public and private sector wage cuts and did almost nothing to lessen bureaucracy. It also striking that wage cost is not considered an important barrier by business owners. Many businesses have cut wages and fired personnel, in an attempt to minimise costs and escape closure, but this is due to the fact that businesses themselves cannot change any of the important barriers they face.

Following there are going to be some policy recommendations.

## Policy Recommendations

On the basis of the macroeconomic problems that were examined and of the causes identified, the following policy recommendations are proposed:

There is a need to bring the GDP once again in positive course. According to Keynesian economic theory this will happen only if government expenses increase and tax rates decrease, so as increase the money supply in the market. This will bring about increased business investment, which will create new enterprises, new job openings, increase domestic production and trade. The funding of this policy can come either from low interest European loans, or from interest free increase in the money supply of the national currency.

There is a need for the government finally to balance its budget, by cutting unnecessary expenditures and increasing its revenues. The expenditures made should be carefully examined from bottom up, so as to increase their effectiveness.

There is a need to renegotiate the country’s external debt, for two main reasons: the first one being the fact that this debt simply cannot be repaid according to the country’s GDP, and the second being the fact that its large increase from 2009



onwards is mainly due to the large interests paid for the borrowed funds.

There is a need to create a completely new framework for business start up and operation. The current framework is suffocating for the market and for the economy is general.

There is a need to increase the production value of the primary sector of the economy.

There is an urgent need to strengthen domestic industrial production. This can be achieved in two ways: firstly by creating a hospitable environment for business investments and secondly by proceeding in joint ventures with foreign industrial firms. These firms should be attracted with free allocation, low tax rates and low cost electricity, gas and water supply.

Finally there is a need to balance the country's imports and exports, and make the balance positive if possible.

The design and application of these policies can strengthen the country's economy and allow it to grow through time.

*\* Dataset available upon request.*

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# СТРУКТУРНЫЕ ПРОБЛЕМЫ ГРЕЧЕСКОЙ ЭКОНОМИКИ И ПОЛИТИЧЕСКИЕ РЕКОМЕНДАЦИИ

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**Аннотация.** Целью данной статьи является исследование структурных проблем греческой экономики и представление рекомендации. Греция, в настоящее время, сталкивается с большими макроэкономическими проблемами, такими как сокращение ВВП, дефицита бюджета, существенное накопление государственного долга, высокий уровень безработицы, бедности, а бизнес-сектор сталкивается с закрытием и потерей рабочих мест. Многие зарубежные и отечественные экономисты и политики утверждают, что эти проблемы были созданы, в основном, за счет низких государственных доходов и высоких правительственных расходов. На основе данного утверждения, они предлагают и применяют набор политик, которые направлены именно на указанные факторы: снижение государственных расходов, например, через сокращение государственных служащих и минимизацию расходов на здравоохранение, а также увеличение государственных доходов, например, путем создания новых налогов. Это исследование оценивает эффект воздействия предыдущих факторов на экономику на основе статистических сравнений с другими европейскими странами государствами. Кроме того, сравнения использованы для того, чтобы оценить эффект, который другие факторы могут оказать на экономику, в частности: торговый баланс, промышленное производство и предпринимательство.

**Ключевые слова:** Греция; экономика; кризис; долг; политика.