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Greek Debt Crisis

“An Introduction to the Economic Effects of Austerity”

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Statistics

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ABSTRACT

We trace the reasons for the negative development of Greek government debt from 1980 to 2014 by studying the deficits of the Greek state under the same period. We also see the Greek debt under the different political regimes. We briefly describe the two bailout programs for Greece and finally we name the amount and Euro states that own the Greek loans. The negative effects of austerity are about 22% less GDP and total household and government consumption and monthly wages; finally, the unemployment rate grew 21%.

Keywords: Austerity, Consumption, Deficit, Greek Debt Crisis, GDP, Unemployment

JEL Classification: C22 E62 F33 H63 O40

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1. Introduction

No day passes that we do not read or hear news about the special economic crisis in Greece. On the Internet and TV, in newspapers and any kind of media, the economic crisis is one of the most popular subjects. Without any doubt Greek debt is in the center of the news.

New words are introduced such as ‘P.I.I.G.S’, ‘Grexit’, austerity, Troika, and others in our everyday lexicon.

Perhaps all these sound far away from Swedish everyday life. Debt crisis is something that happens in the east Mediterranean or south Europe.

However, the Greek crisis is affecting markets far from the streets of Athens. A little country as it is, Greece is affecting even the United States. On Wall Street, stocks perhaps can slip today over concern about Greece's debt crisis and in that way could spread to other European countries.

What about at the micro level, that is, the private sector? Yes! The Greek debt crisis negatively affects even the private sector. An example of how Swedish businesses are greatly affected by the Greek crisis is the *New Wave Group*, owner of famed Swedish glassmaker, *Orrefors* and *Kosta Boda*. Up to 2008 Greece comprised 50% of the European import for the New Wave Group’s production, and only the American export was bigger than the Greek export. But the Greek crisis meant that the export after 2009 fell to zero in Greece. This as we expected had a great effect on the Swedish firm.

But let’s put the crisis on an historical timeline. Things start to go wrong from the financial crisis of 2007–2008, also is known as the 2008 global financial crisis, 2008_GFC. This is considered by many economists to have been the worst financial crisis since the 1930s Great Depression. There are many reasons economists think this happened.

Most economists believe that it started in the United States as the home loans bubble burst.

The 2008_GFC downturn was the economic activity that led to the 2008–2012 global recession. At the same time the 2008_GFC contributed to the Eurozone crisis, also known as the ‘European Sovereign-Debt Crisis’.
This is a long debt crisis, ongoing since the end of 2009. A new word introduced, P.I.I.G.S (Portugal, Ireland, Italy, Greece, Spain), shows the handful of Eurozone members that were unable to repay, refinance their government debt, or bail out over-indebted banks under their national supervision (See Cyprus Bank-Cyprus Crises) without the assistance of third parties such as the European Central Bank (ECB) or International Monetary Fund (IMF).

The high government structural deficits and the high government debts made the four Eurozone states face a strong rise in interest rate spreads for government bonds, as a result of investor concern about future debt sustainability. The need for help and rescue from the lost situation became great for these states, especially for Greece.

The great need to be rescued for these Eurozone states increased the need and demands for bailout programs.

Now, the question—Why help Greece—has a simple answer: economists were afraid of a domino effect. If Greece was not helped, it could drag down the entire European Union, threatening the already-fragile economies of Portugal, Spain, and even Italy.

So, a group of bailout creditors was formed and ‘the sovereign bailout programs’ were constructed and delivered to each of the Euro states that needed help. The European Commission, the IMF, and the ECB, nicknamed the ‘Troika’, jointly represented the bailout creditors.

So a big bailout program for Greece was constructed, but *austerity* measures were prerequisite for the bailout program to be delivered. In 2010 a *memorandum* (MNHMONIO) was signed by the Eurozone countries and in Greece austerity measures were formed.

All this is now history. The Internet has all the information needed about Greece and the Greek government debt crisis. You can read in details even on Wikipedia.

What we are doing here, in this study, is introducing the effects that austerity policies had on Greek economic measurements. Because the subject is great, there are many effects that austerity policies had on the Greek people and society in general that we leave for future studies. Here by using the principle ‘Let Data Speak’ we are going to analyse the subject of the effects. In Chapter 2, we are going to trace Greek debt from 1980 until today. In Chapter 3 we study the effects of austerity. Finally, in Chapter 4 we summarise our findings.

1. The Debt

We know now that Greece recorded an all-time high government debt to GDP of 175% of the country's gross domestic product in 2013, while in 1980 debt was as low as 23% of GDP.

In this chapter we will try to trace Greek government debt from 1980 until 2014. We will start to see the basic Greek government revenue and government expenditure. Usually in government revenue we include all direct taxes (households, corporations), indirect taxes, and net social contributions; while in government expenditure we include all government consumption, investment, and transfer payments. In Table Nr 1 below we show the 2002 revenue and expenditure for Greece based on ESA 1995; in that way the reader can easily figure out the total revenue and expenditure.

Table Nr 1: Year´s 2002: Revenue and Expenditure of General (based on ESA 1995), Billion Euro.

I. REVENUE		II. EXPENDITURE	
1. Taxes on production and imports	20,2	1. Government consumption expenditure	28,7
2. Current taxes on income and wealth	13,4	2. Collective consumption	17,5
3. Social contributions	21,3	3. Social transfers in kind	11,2
4. Of which actual social contributions	18,1	4. Compensation of employees	17,3
5. Other current revenue, including sales	6,2	5. Intermediate consumption	10,2
6. Total current revenue	**61,1**	6. Social transfers other than in kind	24,2
7. Capital transfers received	**1,9**	7. Social transfers in kind via market produce	0
8. TOTAL REVENUE	**63**	8. Interest	8,6
		9. Subsidies	0,2
		10. Other current expenditure	1,6
		11. Total current expenditure	**62,1**
		12. Other expenditure	**8,4**
		13. **TOTAL EXPENDITURE**	**70,5**

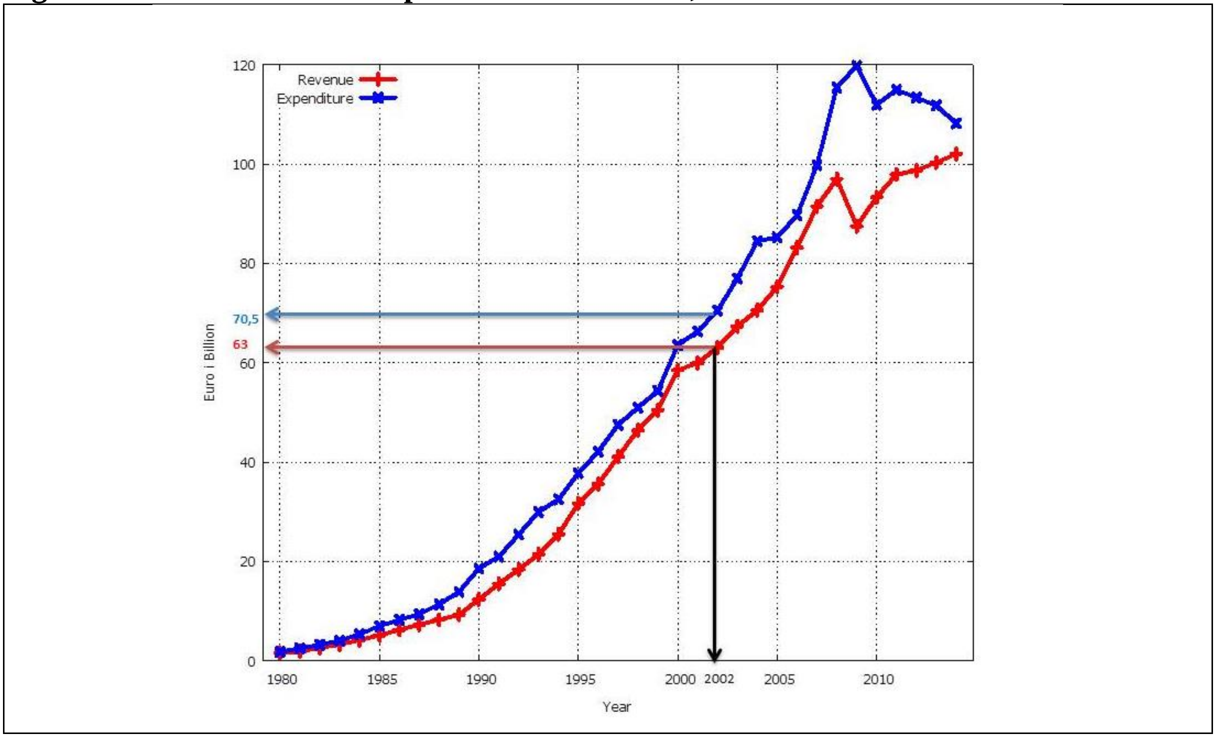
Data source: Eurostat

Moreover, in Figure Nr 1 below, we observe the historical data for the time period 1980–2014. Note also we point out the records for 2002 for easy reference.

The most noticeable information is that there is no one year that we observe surplus: it is only deficit, as expenditures are always greater than revenue. The year 2000 is also key because it marks the introduction of the Euro as the new common currency. We observe in Figure 1 that we have almost a constant parallel increase of both revenue and expenditure. Another important year is 2004 the year that the OS games returned to Greece, in Athens. It is also the year of change in government, after a decade of social democratic dominance (PASOK). The conservative party (ND) returns to power.

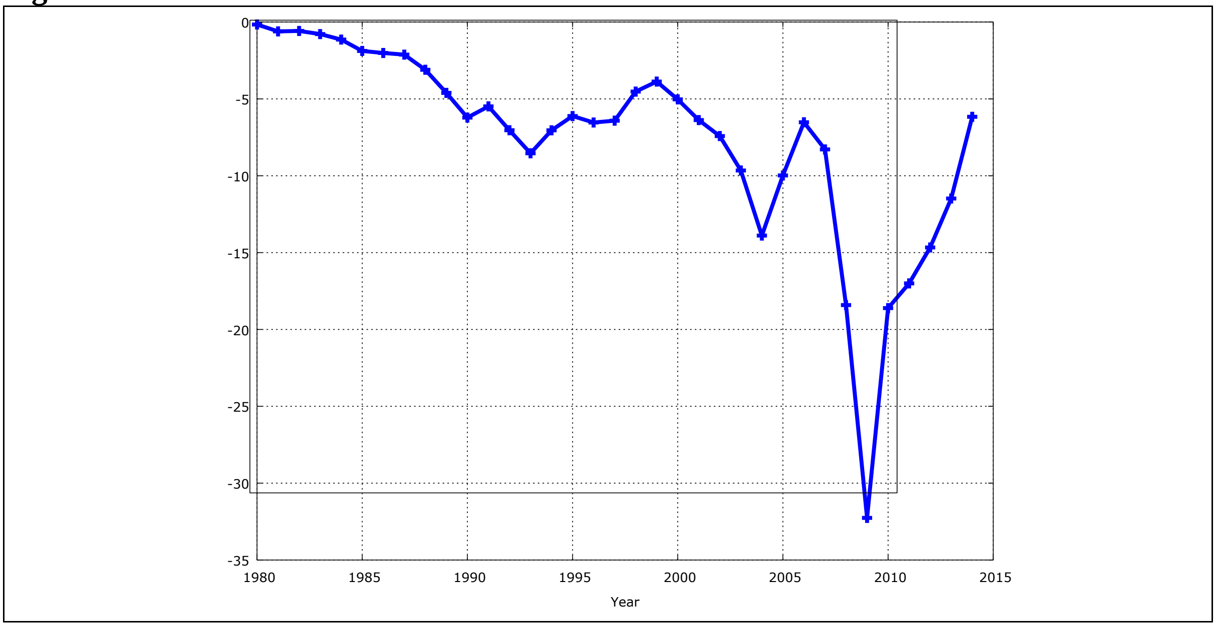
Figure Nr 2 shows the deficit in the same period 1980–2014. In Figure Nr 1 there was no obvious development, or better to say the increase of the deficit for Greece. In Figure Nr 2 the deficit starts to

Figure Nr 1: Revenue and Expenditure for Greece, 1980–2014



Data source: Eurostat

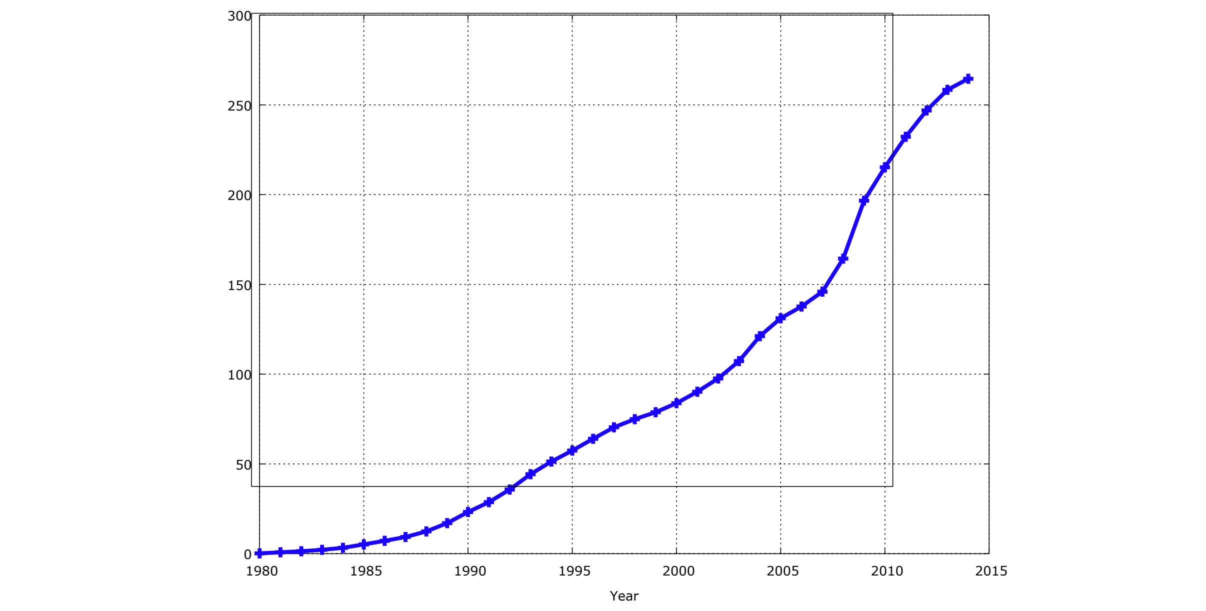
Figure Nr 2: Greek Deficit 1980–2014



Data source: Eurostat

behave not so normally, and we observe a constant increase between 1999 and 2002 with some big jumps in 2003 until 2009. Of course today we know that the deficit had been manipulatively changed based on Goldman-Sachs' *legal* help. There the true deficit was masked. Even in the time that we write we are not sure how *clean* the data we are using is, even if it is from the Eurostat.

Figure Nr 3: Accumulated Greek Deficit 1980–2014



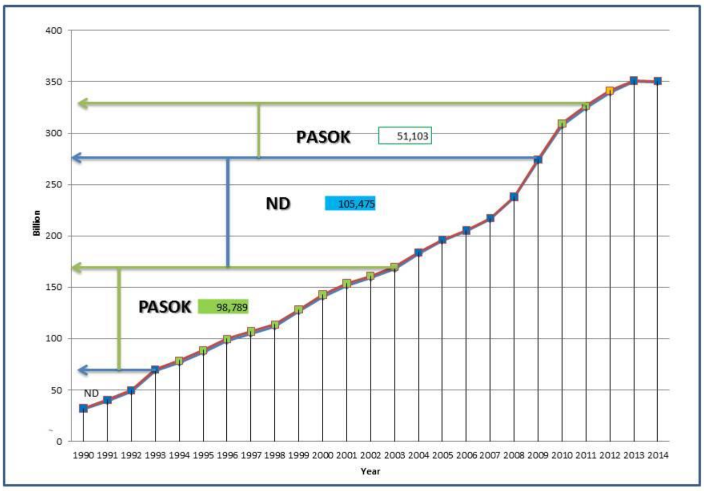
Data source: Eurostat

Anyway, 1999–2004 are the years of Goldman-Sachs. Whatever they did, the result is one big increasing amount between years 2007–2008 and another equally increasing amount between 2008–2009.Both these increased the already enormous deficit with an extra 30 billion Euro deficit!

To round all this we have Figure Nr 3 that shows the accumulated deficit. The figure shows the increasing of the Greek government debt just by the amounts of deficit accumulated to a debt of more than 260 billion Euro.

Finally, Figure Nr 4 shows the Greek government debt under different government periods. It is not difficult to see that both the Socialist and Conservative governments each accumulated their own part with about 160 billion Euro debt to the Greek state.

Figure Nr 4: Greek Debt and the Greek Political Parties



Data source: Eurostat

Table 2 below shows the different governments, with prime ministers and the time periods they were in the power. Why we give such notations to the politicians is because both parties that dominated the Greek political scene for 30 years are equally responsible for Greeks debt.

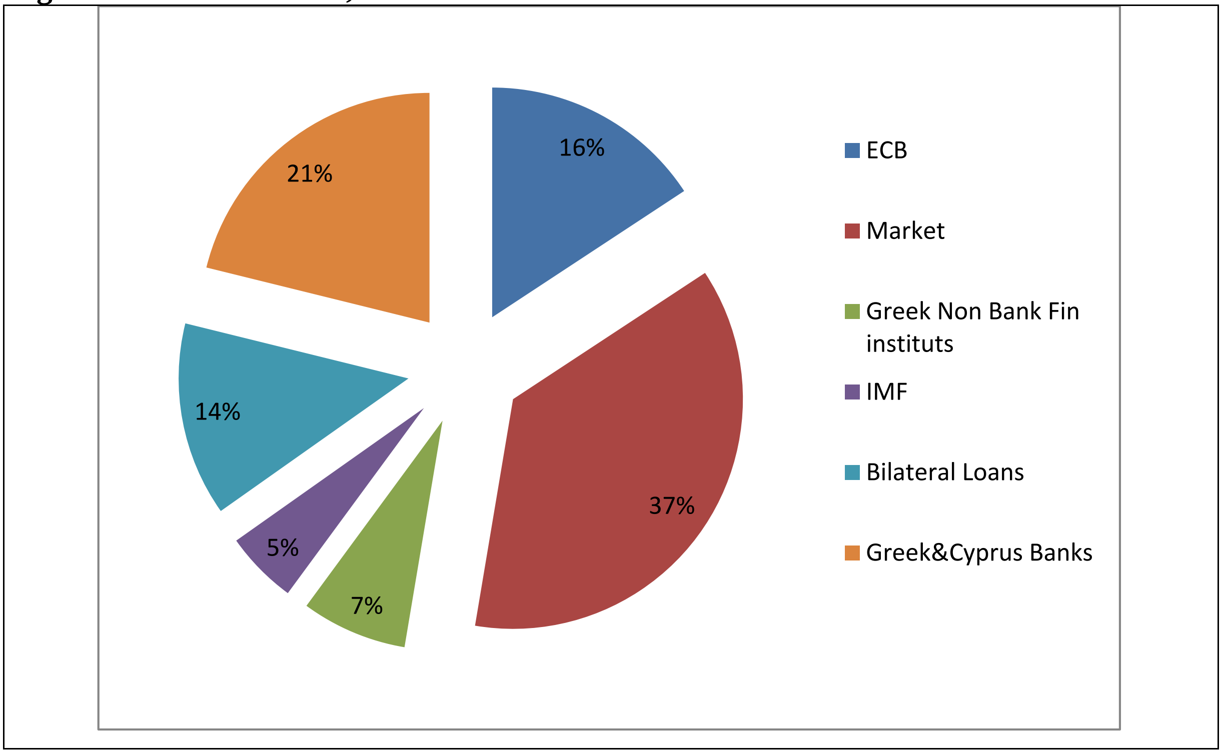
Table Nr 2: The Political Parties and Their Government Period (1990–2015)

Namn	Party	Period
Κωνσταντίνος Μητσοτάκης Konstandinos Mitsotakis	New Democracy	11 April 1990–12 October 1993
Ανδρέας Παπανδρέου Andreas Papandreou	PASOK	13 October 1993–21 January 1996
Κωνσταντίνος Σημίτης Konstandinos Simitis	PASOK	22 January 1996–9 March 2004
Κωνσταντίνος Α. Καραμανλής Konstandinos A Karamanlis	New Democracy	10 March 2004–5 October 2009
Γεώργιος Α. Παπανδρέου Georgios Papandreou	PASOK	6 October 2009–11 November 2011
Λουκάς Παπαδήμος Loukas Papadimos	Technocrat	11 November 2011–15 May 2012
Αντώνης Σαμαράς Antonis Samaras	New Democracy +PASOK	16 May 2012–25 January 2015
Αλέξης Τσίπρας Aleksis Tsipras	SYRIZA +ANEL	26 January 2015–

The high government structural deficits and the high government debts made the Greek state face a strong rise in interest rate spreads for government bonds, as a result of investor concerns about future debt sustainability. The need for help and rescue from the lost situation became great for Greece. Greece's great need to be rescued increased the need and demands for a bailout program. Since 2 May 2010, the Euro area member states, jointly with the IMF, have been providing financial support to Greece through an *Economic Adjustment Program*.The Eurogroup agreed to provide bilateral loans pooled by the European Commission (the so-called *Greek Loan Facility*, or GLF) for a total of €80 billion to be disbursed over the period May 2010 through June 2013. (This amount was eventually reduced by €2.7 billion, because Slovakia decided not to participate in the *Greek Loan Facility* agreement while Ireland and Portugal stepped down from the facility as they requested financial assistance themselves). Finally, the IMF provided an additional €30 billion under a stand-by arrangement (SBA).

Figure Nr 5 shows who *owned* the Greek debt at the end of 2011, while Table 3 shows the states and the amount they provided.

Figure Nr 5: Greek Debt, October 2011: 350 Billion Euro



Data source: Bloomberg, IMF

However, the first adjustment program was not enough, and on 14 March 2012, Euro area finance ministers approved financing of the *Second Economic Adjustment Program* (SEAP) for Greece.

Table Nr 3: Bilateral Loans

Euro States	Loans i Billion Euro
Germany	15,165
France	11,389
Italy	10,008
Spain	6,650
Nederland	3,194
Belgium	1,942
Austria	1,555
Portugal	1,102
Finland	1,004
Irland	0,347
Slovakia	0
Luxemburg	0,140
Cyprus	0,110
Malta	0,051
TOTAL Bilateral Loans	**52,900**

The Euro area states, jointly with the IMF, committed the undisbursed amounts of the first program (*Greek Loan Facility*) plus an additional €130 billion for the years 2012–2014. However, the second program would be financed by the EFSF, which had been fully operational since August 2010.

Table Nr 4: European Financial Stability Facility (EFSF) Loans

Euro States	**Loans i Billion Euro**
Germany	41,375
France	30,995
Italy	27,452
Spain	18,106
Nederland	8,694
Belgium	5,293
Austria	4,240
Portugal	1,564
Finland	2,756
Irland	1,039
Slovakia	1,511
Luxemburg	0,392

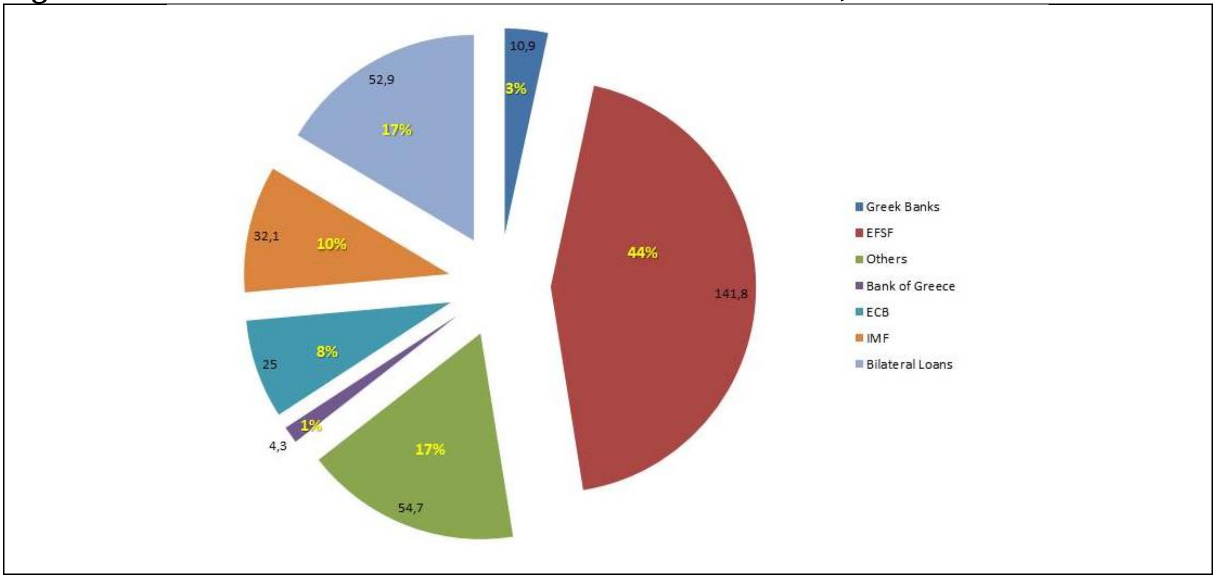
Cyprus	0,303
Malta	0,139
TOTAL Bilateral Loans	**144,595**

In total, the second program foresaw financial assistance of €164.5 billion until the end of 2014. Of this amount, the Euro area commitment amounts to €144.7 billion to be provided via the EFSF, while the IMF contributes €19.8 billion.

Table Nr 4 shows the Euro states and their loan part for the SEAP for Greece.

Finally, Figure 6 shows who *owned* the Greek debt at the end of 2014

Figure Nr 6: Greek Debts—in the End of the Year 2014—321,7 Billion Euro



The interesting thing with Figures 5 and 6 is that the ownership of Greek loans has been moved from the market, banks, and financial institutions (229 billion Euro) in 2011, to the Euro state members (195 billion Euro) in 2014. This explains all the current negotiations between the new Greek government and the Euro group.

However, these two big bailout programs for Greece were constructed under restrictions. These restrictions are austerity measures and were prerequisite for bailout programs to be delivered.

The austerity policies for reducing Greek budget deficits were a way for Greek governments to show their creditors, European partners, and Greek politicians alike to call their creditors, fiscal discipline, and bringing revenues closer to expenditures.

However, austerity policies, by jointly cutting government spending and increasing taxes, have different economic and social effects such as increasing unemployment. In the next chapter we will try to study these effects that austerity imposes on the Greek economy.

2. Austerity Effects

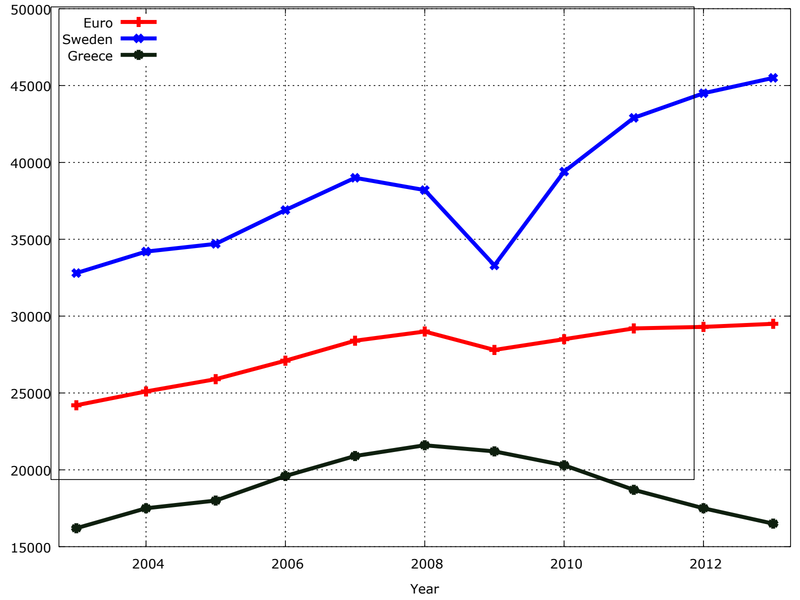
There are many areas of the economy that we could study, but here in our introduction we will study the effects on GDP, compensation of employees, unemployment rate, final consumption expenditure of households and government, minimum wages, and finally tourist overnight accommodations.

Let´s start the austerity effects by looking the GDP per capita.

GDP

As we know GDP (gross domestic product) is an indicator of a nation´s economic situation. It reflects the total value of all goods and services produced, less the value of goods and services used for intermediate consumption in their production. Expressing GDP in PPS (purchasing power standards) eliminates differences in price levels between countries, and calculations on a per head basis allow for the comparison of economies significantly different in absolute size.

Figure Nr 7: GDP Per Capita for 2003–2013 for Greece, Sweden, and the Euro Area



Source of Data: Eurostat

So let's see what happened in the Greek economy. After 2009 we have a decline in Greek GDP per capita from more than 21000 in 2009 to 16,500—that is, almost 22% less GDP in a four-year period—while in the Euro area the GDP per capita was increasing. What we observe is that from the other side the Swedish GDP per capita from 33000 in 2009 became to 45000 in 2013, which shows the robustness of Sweden after the 2008 crisis.

Any way, the negative austerity effects are not in doubt. The Greek GDP is 22% less.

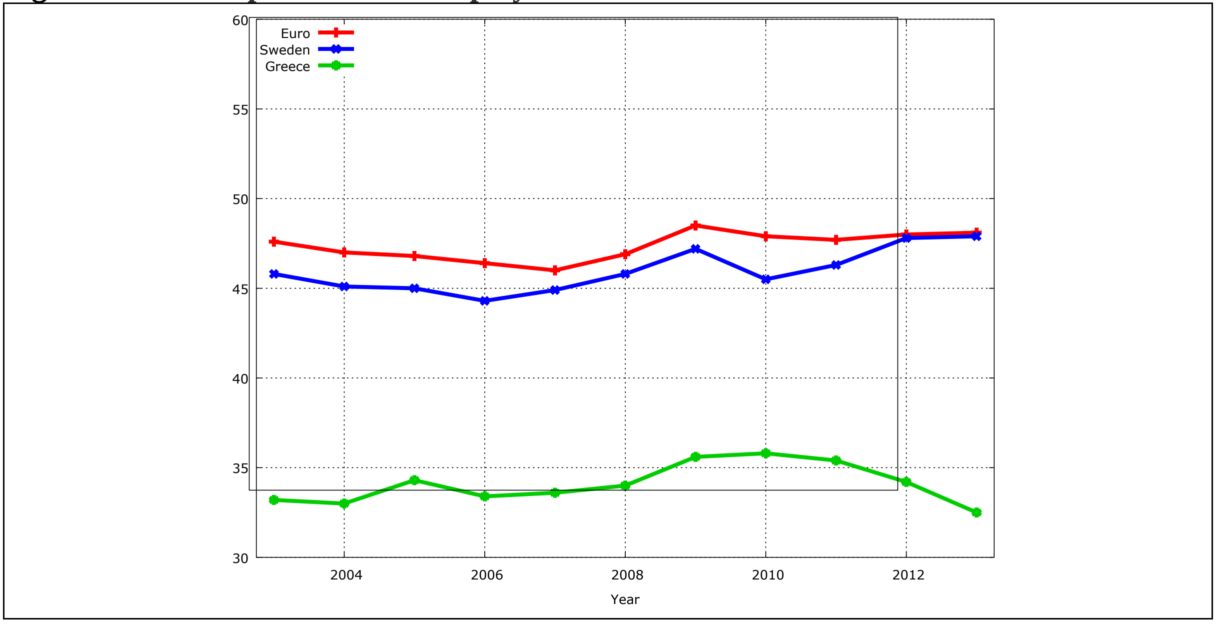
Compensation of Employees

Another area where we expect negative austerity effects is the compensation of employees; after all, one piece of austerity is to cut government spending and obviously the compensation of employees is part of those cuts. Note that compensation of employees is defined as the total remuneration, in cash or in kind, payable by an employer to an employee in return for work done by the latter. In particular, it also includes social contributions paid by the employer.

As Figure 8 shows, the compensation of employees is i % of GDP following the GDP effect. Because is standardised i percent of GDP we did not expect the magnitude of almost 5%.

We see that the same time is constant in the Euro area and increasing in the last four years for Sweden.

Figure Nr 8: Compensation of Employees i Percent of GDP

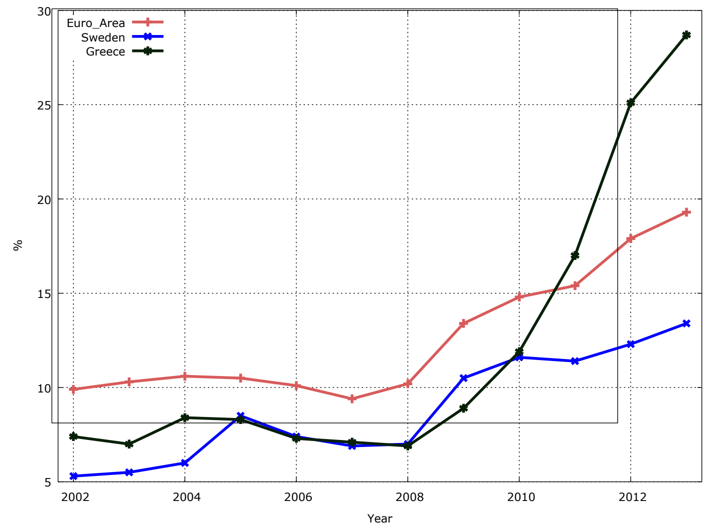


Source of Data: Eurostat

Unemployment

While we saw that the negative effects of austerity were big for GDP and the compensation of employees, we observe catastrophic effects on unemployment in Greece.

Figure Nr 9: Unemployment Rates of the Population Aged 25–64



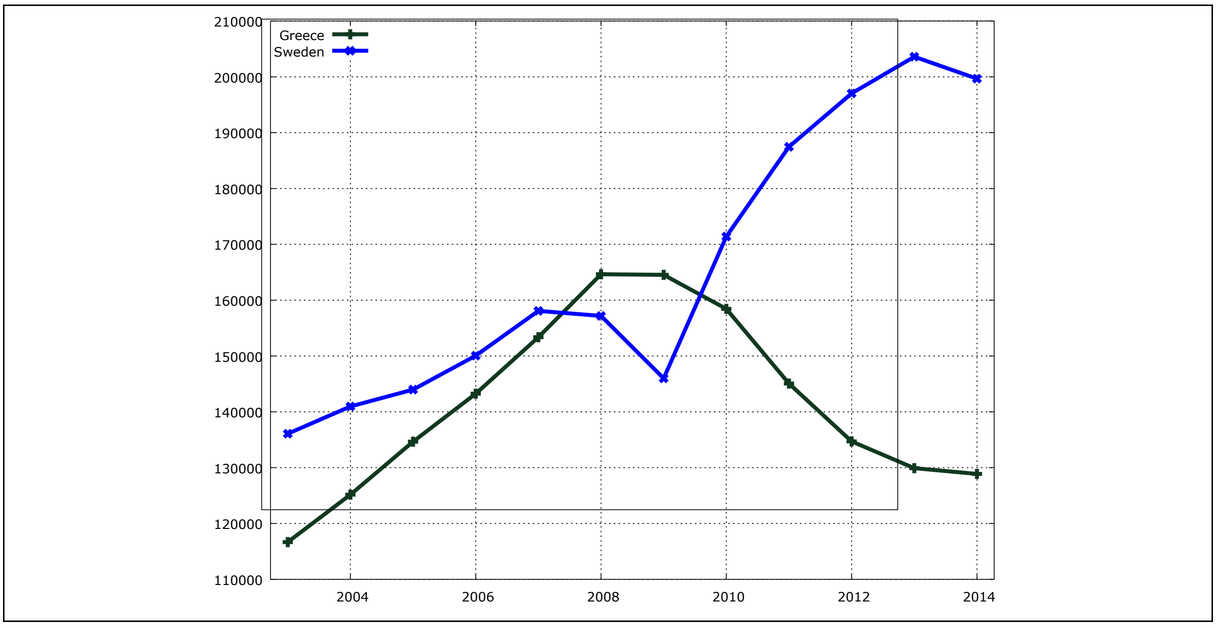
Source of Data: Eurostat

Figure Nr 9 shows these negative effects. The OS games in Athens 2004 followed a good four years of working time for Greece; the low unemployment numbers are as good as the Swedish unemployment rates. However, the unemployment rates increased explosively under the austerity policies period. The unemployment rate in Greece grew from 7% in 2008 to more than 28% in 2014. Even if we expect in short time increasing employment under austerity policies, here the numbers are too big. Note that in Greece, the unemployment rate measures the number of people actively looking for a job as a percentage of the labour force.

Final Consumption Expenditure

Another area where we expect austerity to have negative effects is private consumption expenditure, and Figure 10 shows this exactly for 2003–2014. Private consumption expenditure consists of expenditure incurred for the direct satisfaction of individual or collective needs by private households or non-profit institutions serving households (religious societies, sports and other clubs, political parties, etc.).

Figure Nr 10: Final Consumption Expenditure of Households at Current Prices, Million Euro



Source of Data: Eurostat

The figure shows very clearly the difference between the healthy Swedish economy and the Greek economy under austerity treatment.

Both consumed in 2008 about 160000 million Euros and 2014; the Swedish increased to 200000, while the Greek declined to 130000 million Euro.

Here is perhaps the beginning of the snowball effect. Less consumption makes much less production, and then unemployment. The snowball effect is getting bigger if we calculate the effect of the consumption expenditure by general government that Figure Nr 11 shows.

Figure Nr 11 shows the final consumption expenditure by general government: that includes the value of goods and services purchased or produced by general government and directly supplied to private households for consumption purposes.

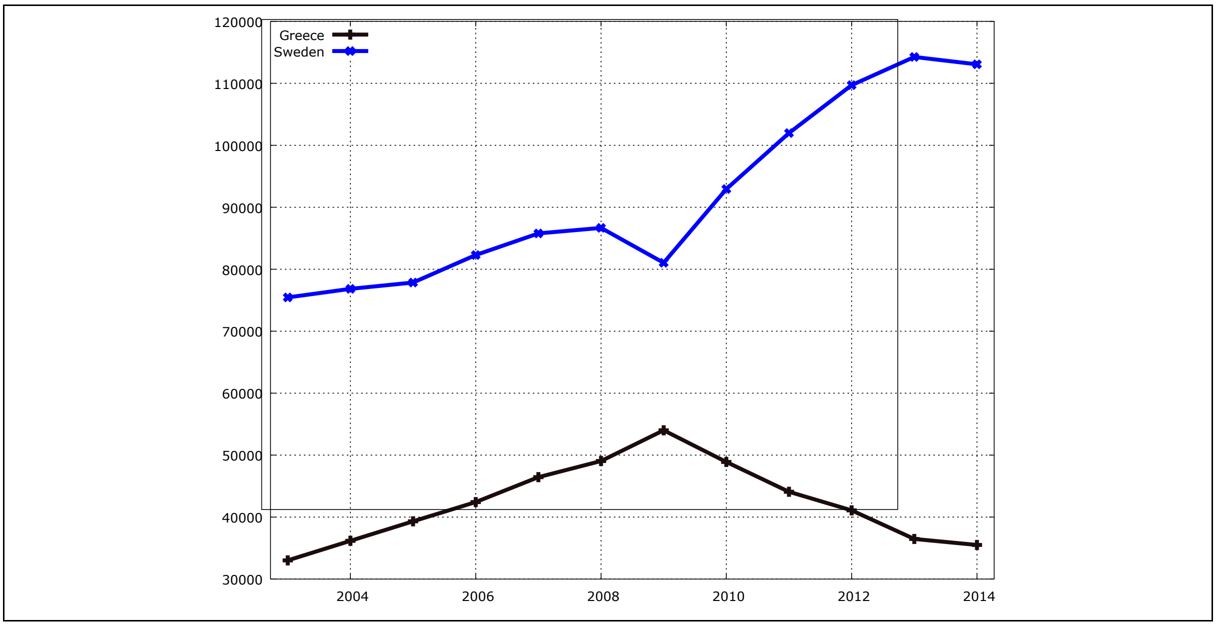
We see that the Swedish Government consumption is around the 80000 million Euro from 2003 to 2008, with trends increasing to over 110000 in 2014. From the other side the Greek government increased from 32000 in 2003 to 55000 in 2009, then fell back to the 35000 level in 2014

That is, austerity´s negative effects for Greece consumption is in the class of 50000 million Euro. The total negative effect on consumption, from the austerity policies in Greece between 2010 and 2014, is 23%.

Even about the same amount is the decrease of the GDP per capita in Greece, which Figure Nr 1 shows, and we are reminded that it is 22%. That result gives a sign that consumption is a good index economic growth.

The next series that we will study is minimum wage, and this was one of the restrictions that the Troika had imposed on the Greek economy.

Figure Nr 11: Final Consumption Expenditure of the Government, at Current Prices Million Euro



Source of Data: Eurostat

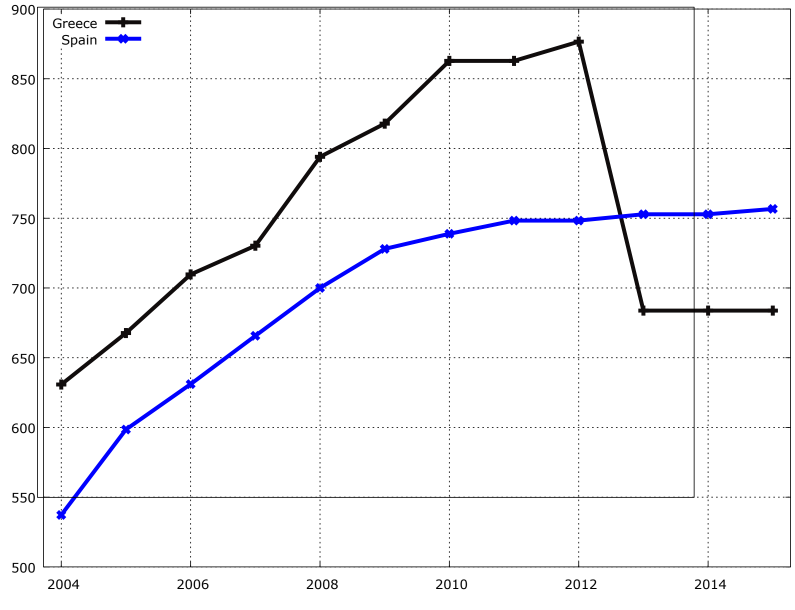
Minimum Wages: EUR/Month

Minimum wage statistics published by Eurostat refer to monthly national minimum wages. In some countries the basic national minimum wage is not fixed at a monthly rate but at an hourly or weekly rate. For these countries the hourly or weekly rates are converted into monthly rates. The national minimum wage is enforced by law, often after consultation with social partners or directly by a national intersectional agreement (this is the case in Belgium and Greece). The national minimum wage usually applies to all employees, or at least to a large majority of employees in the country. Minimum wages are gross amounts, that is, before deduction of income tax and social security contributions. Such deductions vary from country to country.

Figure Nr 12 shown here compares the Greek and Spanish minimum wages because Eurostat did not have data for Sweden. What we see here is the wage austerity restrictions of the second program by the EFSF to Greece: a 23,2% cut of the month wages.

To summarise, the last four years of the austerity negative effects on the Greek economy and special on the Greek households is a catastrophic 23% decrease in wealth.

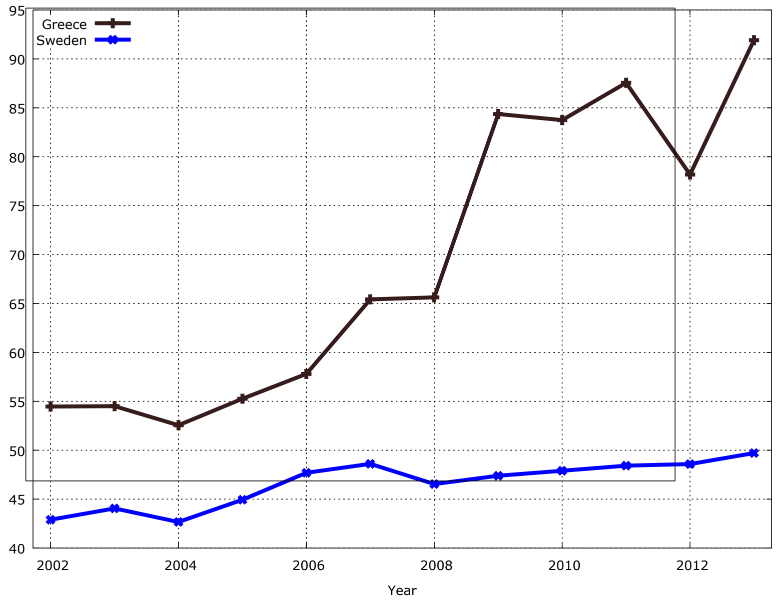
Figure Nr 12: Minimum Wage, EUR/Month



Source of Data: Eurostat

Here we give a small picture of the negative effects in these four years. However, because the crisis is not over we have a subject with a big future. Note that all these are a part of the surfacing of the problems, the effects that the austority policies inpose on a small economy as the Greek economy. The areas of production, industry, trade service, agriculture, environment, education, health, and general populations and social conditions each is an area of its own study and is future work to be done.

Figure Nr 13: Total Nights Spent at Tourist Accommodation Establishments



Source of Data: Eurostat

However, because we do not like only the negative effects, Figure Nr 13 shows the positive effect on the tourism.

Total Nights Spent Per Year at Tourist Accommodation Establishments

Figure Nr 13 shows total resident and non-resident nights spent. The data series are defined as each night a guest/tourist (resident or non-resident) actually spends (sleeps or stays) or is registered in a tourist accommodation establishment.

The amount is in millions nights per year. We observe that for Sweden there is a very slow increase the amount from 42,9 million in 2002 to 49,7 in 2013.

At the same time we see an increase of the overnights in Greece from 54,5 in 2003 to 91,9.

However, we cannot give credit for that to the austerity policies because the big change happened between 2008 and 2009, with 20 million overnights extra!

We think that the second program by the EFSF helped increase the overnights from 78,2 to 91,9. However, we think a great part of this 17% increase in the number of total overnights can be traced to the indirect effect of austerity policies.

3. CONCLUSIONS

In this paper we have traced the course of Greek debt and studied the effect of austerity policies in seven economic measurements.

By studying the deficit in the period 1980–2014, we observe how the deficit for Greece increased under this period. We observed a constant increase between 1999 to 2002. Then we observed some high jumps in series from 2003 to 2009. Moreover, we know that the deficit has been manipulatively changed based on Goldman-Sachs *legal* help. The deficit was downgrades masked.

During all these years of deficit, Greece accumulated the enormous debt that today is about 175% of its GDP.

In the second part of this paper we saw five negative effects of the austerity policy for the years 2010–2014 and two positive. We saw that GDP per capita decreased by 22%, while the positive from the austerity policy was that the compensation of employees i % of GDP, even following the GDP effect, decreased only by 5%.

The negative effect on the unemployment rate was almost the same magnitude as GDP. Now we observe a 21% increase in the unemployment rate.

The austerity policy had a little greater negative effect both on private consumption expenditure and expected government consumption: 23%.

Finally, we observed the 23,2% cut of monthly wages in 2012. The last measurement that we studied was the number of overnights which has an increasing trend under austerity, but needs a broader investigation to calculate the exact positive effect.

To conclude with a few words: year to year the Greek state has accumulated an enormous deficit, and the four-year austerity policy has made the Greek people 23% *less wealthy*.

Sources of Data

1. Eurostat: http://ec.europa.eu/eurostat
2. European Commission: Financial assistance to Greece: http://ec.europa.eu/economy_finance/assistance_eu_ms/greek_loan_facility/index_en.htm
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