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The Greek Dra(ch)ma: 5 Years of Austerity. The Three Economists' View and a Comment.

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ABSTRACT

In this paper, we summarize the opinion of three renowned economists, namely Paul De Grauwe, Paul Krugman and Joseph Stiglitz, on the Eurozone crisis as well as on the Greek case. All three expressed in one way or another their reservations about the single currency. On the one hand, De Grauwe and Stiglitz highlighted the design failures of the Eurozone, and on the other Krugman argued that the creation of the common currency was a terrible mistake. In support of their claims we provide evidence of the negative consequences of the austerity measures that were implemented by the troika on the Greek economy for a period covering 2010-2014. After five years of austerity, Greece among others experienced significant deflationary dynamics, deep recession, high unemployment rates that are among the highest in Europe, and an increase of the percentage of the people at risk of poverty or social exclusion. More specifically, GDP per capita growth shrank on average by 5.85 percent in the period 2010-2013 while the unemployment rate reached 25.5 percent in 2015. Even more remarkable is the fact that the youth unemployment rate reached 52.4 percent in 2014. Finally, 14 percent of the population cannot meet its medical needs due to the high cost of treatment.

Keywords: Eurozone crisis, Greece, Austerity measures, GREXIT

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The Greek Dra(ch)ma: 5 Years of Austerity. The Three Economists' View and a Comment

1. Introduction

After the global financial crisis of 2008-2009, which was characterized by many top economists (such as Behravesh, Rogoff and Roubini during the special economic forum CERAWeek in 2009 in Houston) as the worst since the Great Depression of 1939, the European Union (EU) sovereign debt crisis broke out. Eighteen years earlier, in 1992, the Treaty on the European Union was signed in Maastricht by the EU ministers of finance and foreign affairs. Under this agreement the idea of the single currency was introduced and the main principles of economic and monetary policy were established. Among others, one key element of the Treaty was that the member states should refrain from high levels of public deficits [The European Commission (EC), 1992]. However, from the early 2000s many EU countries that signed the Treaty of Maastricht failed to keep their deficit and debt at low levels (see Figures 1 and 2 below).

In Figures 1 and 2 below, we distinguish the Eurozone countries into five different groups depending on the geographical region to which they belong. The first group consists of the `Inner Six' countries (Belgium, France, Germany, Italy, Luxembourg and The Netherlands), the second group of the so-called `PIGS' (Greece, Ireland, Portugal and Spain), the third group of the Central European countries (Austria, Slovakia, Slovenia), the fourth group of the Baltic countries (Estonia, Latvia, Lithuania) plus Finland, and the fifth group of the Insular Europe (Cyprus and Malta). Figure 1 below shows that government deficits as a share of

GDP in the period 2000-2007 were among others quite high for France, Germany, Italy and The Netherlands (countries of the Inner Six group) and Portugal and Greece (countries of the PIGS group). Data for Greece's deficit are available from 2006 and onwards.

However, the OECD's economic outlook for Greece reported that the Greek government balance sheets were suffering from high levels of deficit even from the early 1980s. In addition, according to many views (although not scientifically proven), a debt-to-GDP ratio could be optimal if it is around 60 percent. But why is this ratio so important? Simply because the higher the ratio the more difficult it is for the country to repay its debts and hence the higher the probability it will be downgraded by the rating agencies such as Standard & Poor's, Moody's and Fitch. In Figure 2, data report that among the euro area countries only Belgium (though with a decreasing trend), Italy from the Inner Six group, and Greece and Portugal from the PIGS group, had a debt-to-GDP ratio higher than 60 percent.

Nevertheless, despite these disparities between the countries that followed the rules imposed by the Treaty of Maastricht and those that faced difficulties in doing so, the common currency seemed to function well (from 2002 to early 2008 when the financial crisis began). But the weaknesses and the problems for the single currency were to appear shortly after the global financial crisis of 2008-2009, which led to the well-known EU sovereign debt crisis for Greece, Ireland and Portugal.

In this paper, we summarize the opinion of three renowned economists on the Eurozone crisis as well as on the Greek case, namely Paul De Grauwe, Paul Krugman and Joseph Stiglitz, in an alphabetical order.

Table 1 below reports some of the notable phrases that all the three economists have used to support their hypotheses.

Krugman (2010) argues that the creation of the common currency was a terrible mistake, while according to Stiglitz (2015e), the euro is poorly designed, the European Central Bank (ECB) focuses single-mindedly on inflation and it is not provided with the adequate tools to address unemployment. These weaknesses in the designs of the euro and the ECB damage Europe's prospects, and the Greek ones even more. Troika used bad models and forecasts and the result of the macro-policies it demanded was a deep Greek depression without end, which will possibly lead to even greater economic, political and social chaos. The cost in human suffering has already been too high. Similar austerity programmes and structural reforms imposed by the International Monetary Fund (IMF) on the East Asian countries in the late 1990s had devastating effects. Greece then might end up as a depleted country, one that has sold all its assets and whose bright young people have emigrated. The Greek disaster (or tragedy) is a short story, just a few paragraphs (and five years) long, and it goes as follows.

The Boom

During the period 2000-2008 there was an influx of cheap loans and large amounts of capital that created the boom. The Greek government for many years borrowed and spent beyond the country's capabilities. For example, Goldman Sachs structured irresponsible deals that enabled the Greek government at the time of the Maastricht Treaty to skew the numbers of its debt. The booming economy experienced high inflation rates and increases in unit labour costs and this boom led to large

current account deficits. The nominal interest rate (set by ECB) was very low and, thus, when inflation rose the low real interest aggravated the boom.

The Bust

When the capital inflows (or 'the music' as Krugman puts it) stopped, Greece was faced with high costs and prices. Also, as a result of the financial crisis, debt to GDP ratios started to increase (Greece's debt was 117% of its GDP). When the boom turned into a bust, there was a massive outflow of liquidity when investors massively sold Greek government bonds pushing interest rates to unsustainably high levels. Due to a poorly designed euro, money during the crisis flew from the weak country's (that is Greece) banks to the strong, leading to divergence. The North unwillingly provided funds to Greece but under strict macroeconomic and fiscal conditions, even though almost none of the surprisingly large amount of money loaned to Greece has actually gone there. Instead, it has gone to pay off private sector creditors, including German and French banks.

Instantaneous austerity programmes were applied, ruthlessly cutting spending and raising taxes, leading to a deep recession which reduced government revenues, and as a result the austerity programmes were intensified. At this point, is worth mentioning that although Greece's large deficit was partially due to the financial crisis and the global recession which revealed the deep-rooted structural problems of the Greek economy, the rapid fiscal consolidation and tightening of the budget deficit deliberately threw Greece into a deep recession with long standing effects and catastrophic consequences.

There was a unilateral absorption of the crisis. That is, a drastic reduction in wages and in prices (an internal devaluation), which in turn produced a deeper recession. Consequently, deflationary dynamics developed, as imposed by the common monetary policy, which plunged not only Greece but also the euro area into a double-dip recession. Because of the incoming deflation, the debt burden in Greece worsened. This resound increase in debt levels, eventually led to unsustainable debt to GDP ratios.

Also, as deflation took its toll on growth and employment the Greek government attempted to discipline its debt with more drastic spending cuts and tax increases, which further increased the already high unemployment rate and led the bond markets to lose confidence and `push the situation to the brink'. Therefore, the macro-policies demanded by the troika were a built-in destabiliser, which led to unacceptable levels of unemployment and ever growing inequality.

Thus, due to a lack of monetary sovereignty, Greece did not have any power to break the cycle of deflation and inflate away part of its debt. The toxic combination of drastic fiscal retrenchment with a lack of any monetary policy tool (easy money or devaluation) resulted in the Greek disaster. As Krugman (2015b) highlights, the Greek governments' deficiency (i.e, irresponsible borrowing which reflects irresponsible lending) has been repeatedly paid by the Greek citizens at a high cost, and the most decisive issue now is to do everything possible to ‘end the bleeding’.

Most importantly, in order to avoid a Grexit, Greece needs deep debt restructuring (see also Lagarde's view on the matter in WSJ, 2015). That

is, a write-off of a significant portion of its debt, a deal that would lengthen the time over which loans have to be paid back, lowering of interest rates and exchanging part of the debt for GDP-linked bonds. The ECB should act as a lender of last resort and it must provide liquidity immediately. Further, the European Investment Bank should play a more active role in Greece by restoring the inflationary dynamics. Finally, more reasonable budget goals and structural reforms should be demanded by Europe (Stiglitz 2010, 2015b, c, d, f).

A Grexit from the euro could cause the absolute collapse of the Greek economy. That is, it could create financial chaos and have catastrophic consequences on its banking system. It might also undermine the credibility of the euro and impose threats on the global economy through contagion risks. An alternative way to exit from the crisis, might be moving towards a dual currency circulation.

However, the authors fear that the collective voice of these three renowned economists will be nothing more than a 'I am the voice of one crying in the wilderness'[1] where the wilderness (or the desert) is the Eurozone. In support of their claims, we provide evidence of the negative impacts of the austerity plans on the Greek economy for a period covering 2010-2014. Table 2 below presents a brief description of the disastrous consequences that the restrictive policies have had on the Greek economy and society in the previous five years.

The remainder of the paper is organized as follows. Section 2 reviews the three economists' view (namely De Grauwe, Krugman and Stiglitz)

[1] As it is written in the book of the words of Isaiah the prophet

on the European crisis and the Greek issue. Section 3 presents our comments, focusing our analysis on the impact that the austerity programs have had on the Greek economy and section 4 consists of our concluding remarks.

Figure 1. Government deficit as a share of gdp for Eurozone countries and Euro-average

1998-2015 (yearly rate of change)

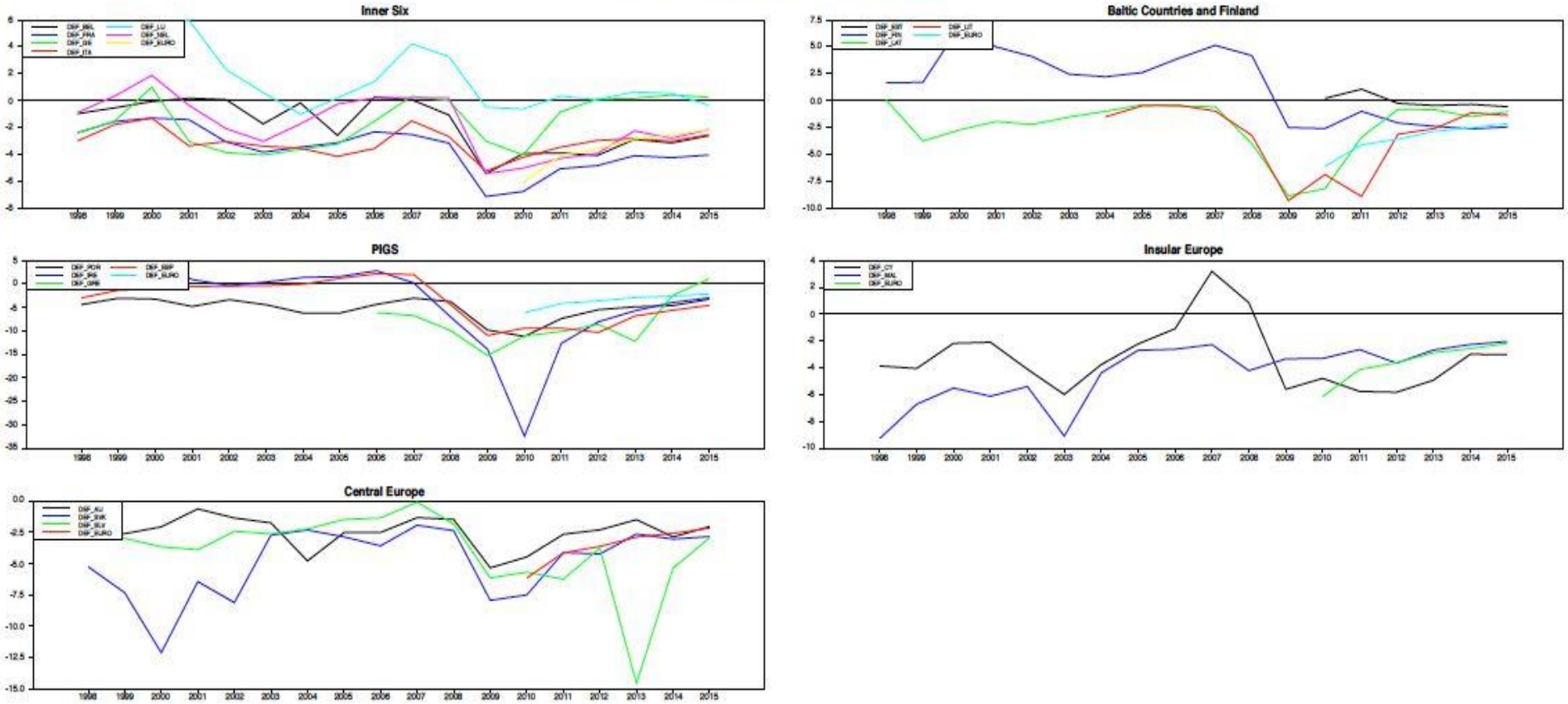


Figure 2. Government debt as a share of gdp for Eurozone countries and Euro-average

1998-2015 (yearly rate of change)

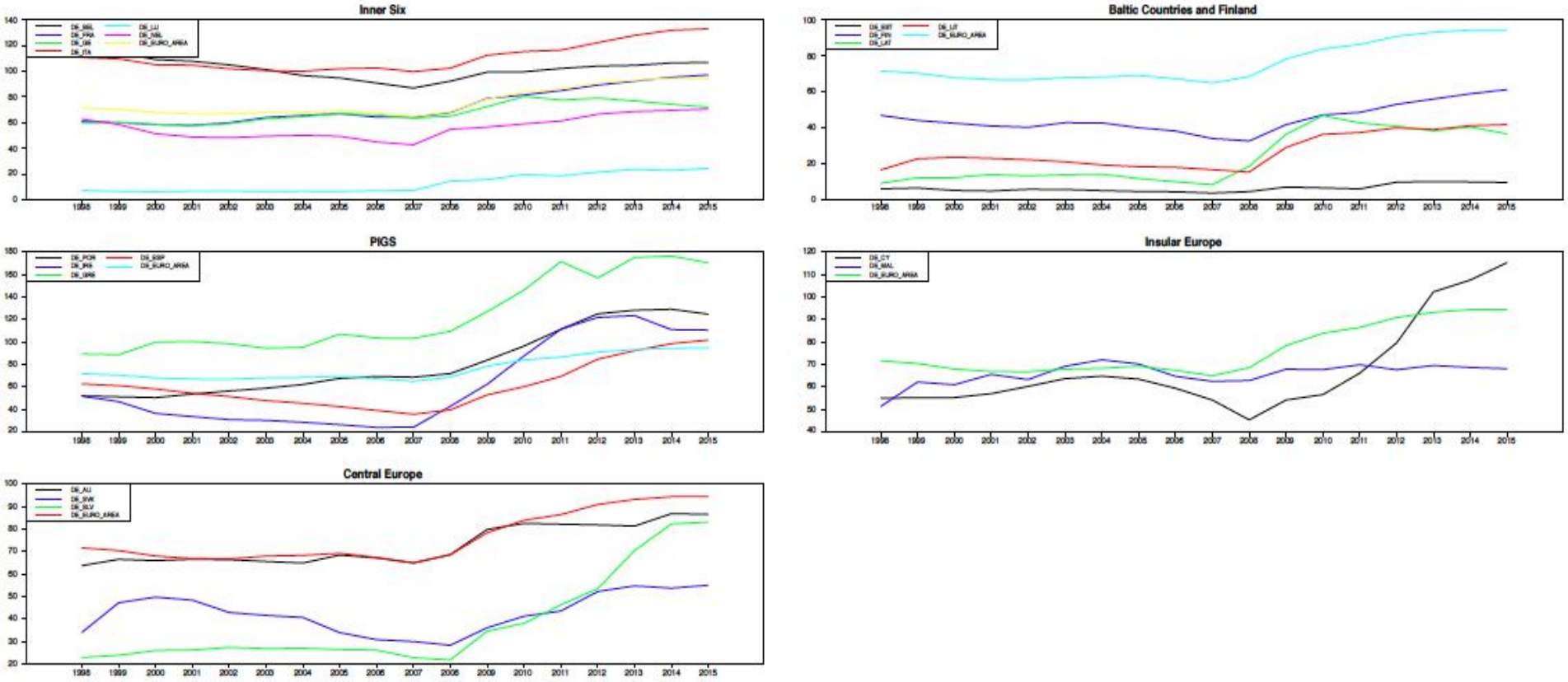


Table 1. Notable phrases spoken by the three economists

Paul De Grauwe	Paul Krugman	Joseph Stiglitz
1. For every foolish debtor there must be a foolish creditor	1. Greece did indeed run up too much debt (with a lot of help from irresponsible lenders)	1. The economics behind the program that the troika foisted on Greece five years ago has been abmysal
2. The existing stabilizers...were stripped away from the member-states.This left the member-states naked and fragile	2. What turned Greek debt troubles into catastrophe was Greece's inability to impose fiscal austerity, yes, but offset it with easy money	2. I can think of no depression, ever, that has been so deliberate and had such catastrophic consequences
3. European integration has taken the form of bureaucratic integration as a substitute for political integration	3. Greece's formula for disaster it involved the toxic combination of austerity with hard money	3. The Eurozone was never a very democratic project
4. The euro crisis is not over	4. The euro trapped Greece in an economic straitjacket	4. Greece the sacrificial lamb
	5. These supposed technocrats (the troika officials) are in fact fantasists who have disregarded everything we know about macroeconomics	5. Troika has a criminal responsibility for causing a major recession
	6. Europe's self-styled technocrats are like medieval doctors who insisted on bleeding their patients	6. Europe should at least adopt the principle of 'do no harm'
	7. Greeks have paid for their government's sins many times over. The important thing now is to do whatever it takes to end the bleeding.	

Table 2. Impact of austerity policies on the Greek economy

Macroeconomic Indicators
1. Over a period of four years Greek society's wealth was reduced by 20%
2. There was a sharp drop of inflation rates during the period 2010-2015, which put pressure on unemployment rates
3. Consumers' confidence in Greece after 2010 fell sharply, which had a significantly negative impact on private consumption
4. The harmonized unemployment rate amounted in 2015 to 25.5% (more than doubled since 2010) Youth unemployment rate reached 52.4% in 2014
5. After the launch of the first EAP the Greek long-term interest rate (used as a convergence criterion for the EMU) diverged from that of the euro area significantly.
6. The Athens stock market exchange (ASE) is constantly shrinking from 2008
7. After the adoption of the austerity plans credit flow levels reached negative values
8. Foreign direct investment lost almost 60% of its initial value in 2010
9. The credit default swap (CDS) spread (at basis points) is still at high levels
10. Three rating agencies negatively assessed the creditworthiness of the Greek bonds
11. The % of persons whose medical needs were not met (due to the high cost of treatment) almost doubled the period 2010-2014
12. The % of the people that face the risk of poverty and social exclusion increased from around 28 percent in 2010 to 36 percent in 2014
13. Since 2011 Greek society has been faced with an increasing number of total suicides
14. The birth rates drop in the period 2010-2014

Notes: For details see Figure 1 and Figure 3-24 below.

2. The Three Economists' View

2.1 Paul De Grauwe (on the Eurozone crisis)

Debtors and Creditors

De Grauwe (2016) based his arguments on three fundamental axes. The first supported the idea that the Eurozone crisis contributed towards unsustainable government debts that are to cause further trouble the euro area (see Figure 2 above). Second, the problematic (and hence possibly inefficient) fiscal policies remain at the centre of the continuously soft economic expansion of the Eurozone. Third, despite

the Institutions' efforts to reform, these reforms were not sufficient to address and solve the design failures of the Eurozone.

De Grauwe focused on how the Economic and Monetary Union (EMU) is governed. In particular, he distinguishes the Eurozone into two parts, namely the countries that belong geographically to the North of Europe (e.g., France, Germany, The Netherlands and Austria) and those belonging to the South of Europe (e.g., Greece, Portugal and Spain).

He points out that the Southern European countries and Ireland have accumulated current account deficits in the past (see Figure 1 in De Grauwe, 2016). As a result, they have become the debtors, and have been hit by sudden liquidity stops and have then been forced to beg the Northern countries (that is, the creditors who have built up current account surpluses) for financial support (see Figure 1 above). The direct effect of that was the dominant impact of the creditor countries on the debtor ones and on the Eurozone in general. Austerity is the mechanism through which the loans that the reckless creditor nations have extended to the South in the past will be repaid in the future.

However, De Grauwe (2016) is a proponent of the `symmetric' view that `for every foolish debtor (a nation who took on too much debt) there must be a foolish creditor (a nation that extended too much credit)'. Therefore, he argues that not only the debtor nations, but the creditor nations as well, should share the cost of this adjustment. De Grauwe also supports the view that what happens in the case of banks facing the risk of losing part of their loan capital as a consequence of the potential

bankruptcy of a borrower, could apply in the case of the countries-creditors, too.

Relative unit labour costs

As explained above, the North unwillingly provided funds to the South, but under strict macroeconomic and fiscal conditions. This meant that the debtor countries were obliged to cut spending and to increase taxes. Austerity was the key point for the creditor countries in order to express their solidarity to the debtor ones.

Therefore, that symmetric process, meaning the sharing of responsibilities between debtor and creditor countries, never took place. On the contrary, De Grauwe (2016) stated that debtor countries were indebted to repay in full their loans to the countries-creditors. This asymmetric view led to a series of cutting measures, such as drastic reductions in wages and in prices on the part of debtor countries, which in turn produced deeper recessions. As a result of this `internal devaluation' the relative unit labour costs (the unit labour cost of a country over the average unit labour cost in the rest of the Eurozone) of the debtor countries (that is, of Ireland, Spain, Greece, and to a lesser extend of Portugal and Italy) decreased dramatically (see Figure 2 in De Grauwe, 2016). In addition, De Grauwe highlighted the fact that these internal devaluations were very costly in terms of lost output and employment. Consequently, this unilateral absorption of the crisis by the debtor countries developed some deflationary dynamics, which plunged the euro area into a double-dip recession.

Debt ratios

As a result of the 2008 banking crisis, the government debt to GDP ratios of the debtor countries started to increase. According to De Grauwe (2016), the austerity induced recession, making things even worse, since both the GDP and the government revenues decreased (the latter decline led to higher budget deficits and debts) and, in turn, debt to GDP ratios increased even more. In fact, the more intense the austerity measures were, the more resounding was the increase in debt levels, eventually leading to unsustainable debt ratios (see Figure 4 in his article, 2015). Thus, all these sacrifices from the Southern countries were partially blamed for making things worse. Furthermore, De Grauwe provides empirical cross-section evidence for the negative impact of austerity (introduced by the IMF as the variable of the fiscal impulse) on the cumulative growth during 2009-2012 (see Figure 5, in De Grauwe, 2016).

Finally, in a simulation study assuming that nominal growth will be equal to the nominal interest rate, and that primary surpluses will be created, De Grauwe (2016, Table 1) found that even under these favourable macroeconomic conditions it will take a long time (many decades in fact) for the indebted nations to halve their debt levels and to achieve sustainability.

Design Failures of the Eurozone

The third argument that De Grauwe's paper is based on is the design failures of the Eurozone and the inadequate attempts to resolve them.

Single interest rate

The existence of a common interest rate (fixed by the ECB) among the euro area members imposed pressure on the countries in recession, in contrast to the growing ones where the interest rate was too low. As pointed out by De Grauwe (2016), the single interest rate that the ECB imposed on all member countries was too low for Spain, Ireland and Greece, whose economies were starting to boom. When inflation also rose in these booming countries the low interest rate aggravated the boom. Those divergent dynamics led to discrepancies in inflation, relative unit labour costs and current accounts (De Grauwe, 2016). The booming economies of the South experienced higher levels of inflation rates and increases in unit labour costs, which in turn led to large current account deficits. On the other side, Northern countries, which financed the booms in the Southern countries by credit, accumulated current account surpluses.

Lender of last resort

De Grauwe (2016) argued that the elimination of the lender of last resort backing of the member state countries triggered self-fulfilling liquidity crises. These crises (which emerged when booms turned into busts) were caused by a massive outflow of liquidity when investors lost confidence in Greece, Portugal and Spain, and massively sold the government bonds of these countries, pushing interest rates to unsustainably high levels. Then, these crises turned into solvency crises. De Grauwe says: `The governments of the problem countries were forced into instantaneous austerity programmes, by cutting spending and raising taxes. These programmes led to deep recessions, which in turn reduced government revenues even further, forcing these countries

to intensify the austerity programmes'. Eventually, this led to a deflationary spiral that made the fiscal crisis more intense.

De Grauwe (2016) defends the theory which implies that despite the fact that fundamentals cannot be ignored there is a special role for the central bank, which has to provide liquidity in times of market panic. The role of national stabiliser was undertaken finally by the ECB after its decision to launch of the Outright Monetary Transactions (OMT) on the 6th of September, 2012. With this political move, the ECB became lender of last resort for banks as well as for sovereigns. The beneficial effect of the decision can be seen from Figure 5 in De Grauwe (2016), where spreads declined drastically after the announcement of the OMT.

Policy Implications

De Grauwe argues that although the ECB is the `ultimate guarantor of the sovereign debt in the Eurozone' and in this sense has evolved into a central bank such as the Federal Reserve, there is no primacy of the governments of each of the member states over the central bank. De Grauwe (2016) suggests the formation of a Eurozone government that will have control over the ECB and will be supported by a European Parliament.

De Grauwe also points out that the EC and the ECB have seen a significant increase in their power since the sovereign debt crisis in the Eurozone, without a concomitant increase in their accountability (e.g., the EC can now force countries to raise taxes and reduce spending, without, however, having to bear the political cost of these decisions). De Grauwe highlights the fact that both the EC and ECB affect millions of

people's welfare with their decisions. Nevertheless, these people are unable to express their disagreement with such decisions via democratic means such as elections. De Grauwe (2016) concludes by suggesting that the Eurozone should direct its efforts towards a fiscal and political union where a Eurozone government supported by a European Parliament will be dominant over the central bank in times of crisis.

2.2 Paul Krugman (on the Greek issue)

Numerous times during the EU sovereign debt crisis the Nobel laureate economist Paul Krugman expressed his opinion regarding the failure to tackle the Greek crisis issue by the Institutions. In this paper, we will summarize four of the articles that Krugman wrote in his column in The New York Times.

From Problems and Troubles to a Catastrophe

Even from 2010, when the first signs of the Greek catastrophe that would follow in the coming years unfolded, Krugman stated that Greece was approaching the zero point. According to Krugman (2010), Greece (`a faraway country with an economy roughly the size of greater Miami') is paying the price for past fiscal irrationality. Yet, this view is only one side of the coin, and is by no means the whole story (Krugman, 2015a).

Indeed, Greece (that is, its various Governments) for many years borrowed and spent in excess of the country's capabilities. Although the Greek government was spending beyond its means in the late 2000s,

since then it has repeatedly cut public spending and has raised taxes. However, although a restriction of the primary deficit should have occurred by now, the national account statistics have not improved (see Figure 5 below in Section 3).

Greece's public debt in 2008 was 113 percent of GDP (see: Figure 4 in Section 3 and Ali et al., 2010). At this point, it is worth mentioning that Greece is one of the Eurozone countries and these high level government debts were part of the deflationary dynamics that were imposed by the common monetary policy. In any case, the Greek debt was at unprecedented levels, yet other countries have previously confronted similar financial difficulties without entering a crisis. To illustrate this, we will refer to Krugman's (2010) example. In 1946, the post World War II United States, similarly to other countries, was faced with high levels of government debt (equal to 121 percent of GDP; see Ali et al., 2010). In the next decade, the ratio of US debt to GDP fell to 62 percent, which was the result of both economic growth (GDP increased more than 70 percent in the period from 1946 to 1956, see Maddison-Project, 2013) and inflation. Nevertheless, this seems to be a utopian scenario for the Greek economy. With negative GDP growth rates in the period 2008-2013 (see Figure 3 below, data provided by the World Bank) and participation in a hard currency (euro) that allowed limited space and freedom for progressive and bold monetary policies, the future of the Greek economy was at stake.

In Greece, the influx of cheap loans and large amounts of capital into the country, as well as it being a member of the Eurozone, boosted inflation. When the capital inflows (‘the music’ as Krugman puts it) stopped,

Greece was faced with high costs and prices which were significantly greater than those of the big European economies. Since prices had to come down, Krugman (back in 2010) predicted—correctly so—that because of the incoming deflation the debt burden in Greece would worsen (see Figures 4 and 8 in Section 3 below) unlike the US one, which was partly inflated.

He also predicted—again correctly—that as deflation took its toll on growth and employment (as pointed out by Krugman, even a G7 country with its own currency like Japan can be trapped in a deflationary vortex) the Greek government would attempt to discipline its debt (indeed today Greek debt is up only 6 percent since 2009, partly because it received some debt relief in 2012) with drastic spending cuts and tax increases, which would further increase the already high unemployment rate (see Figures 12-14 below) and would lead the bond markets to lose confidence (see Figures 6 and 15 below) and `push the situation to the brink' (today the Greek debt is over 170 percent of GDP- and still rising- because GDP is down by more than 20 percent; thus austerity probably shrinks the economy faster than it reduces debt). Krugman (2010) argued that with German support (which unfortunately did not materialise) the European countries should have guaranteed Greek debt in exchange for an obligation to undertake harsh fiscal measures. However, in 2015, one member of the troika, the IMF, reached the conclusion unilaterally that Greece's debt cannot be repaid. Krugman (2015c) points out that it was Greece's inability, thanks to the euro, to offset fiscal austerity with easy money that turned its debt troubles into a catastrophe. In Krugman's words: ‘It was the toxic combination of austerity (drastic fiscal retrenchment) with hard money that resulted in

the Greek disaster'. That is, Greece did not have the choice of devaluation or any other monetary policy tool to support its failing economy.

Back in 2010, Krugman also argued that a possible Grexit from the euro would have catastrophic consequences on its banking system. According to him, the creation of the common currency was a `terrible mistake', since Europe did not fulfil the criteria for a prosperous common currency nor the appropriate fiscal and banking union in order to prevent or to confront crises such as the recent one (see Krugman 2015a). Krugman further highlighted the fact that two of the many risks of a Grexit are 'financial chaos and of business hobbled both by banking troubles and by uncertainty over the legal status of debt'. Accordingly, since abandoning the single currency could cause the absolute collapse of the economy, the Greek government (which is now begging for a standstill on further austerity) has succumbed to creditors' claims for strict austerity plans and structural reforms. In Greece, which did not have the option of a currency devaluation that would have made its exports more competitive and would have broken the cycle of deflation as, for example, in Canada in the 1990s[2], the failed austerity brought depression and the collapse of the Greek economy. So, now, in the words of Krugman, 'we know that even harsher austerity is a dead-end'.

According to Krugman (2015a), the fact that the leftist coalition under Syriza in Greece has acceded to the troika's (the institutions representing creditor interests) ultimatum represents the 'final abandonment of any

[2] In the words of Krugman (2015b): 'The truth is that Europe's self-styled technocrats are like medieval doctors who insisted on bleeding their patients --- and when their treatment made the patients sicker, demanded even more bleeding.'

pretence of Greek independence'. Krugman says that 'the troika officials, these supposed technocrats, are In fact fantasists who have disregarded everything we know about macroeconomics'[3].

Although many analysts used to claim that the adoption of the euro was an irrevocable move, Krugman (2015b) wonders whether a Grexit might work, as in the case of Iceland, where the devaluation of 2008-2009 proved to be extremely successful, or the case of Argentina, which abandoned its one-peso-one-dollar policy in the period 2001-2002. After all, even in the event that Greece receives generous debt relief, leaving the euro might be the only means of escape from the economic depression the country has faced for five years now. Krugman (2015b) concludes his analysis by saying that the Greek governments' deficiency (i.e., irresponsible borrowing which reflects irresponsible lending) has been repeatedly paid for by the Greek citizens at a high cost, and that the most decisive issue now is to do everything possible to 'end the bleeding'.

2.3 Joseph E. Stiglitz (on the Greek issue)

The Austerity Programme

With the outbreak of the Greek crisis, Stiglitz (2010), in an article in The Guardian, castigated the role of the developed countries in Europe towards the Greek issue. In particular, while Greece was criticized severely for falsifying the figures of the national statistics, this did not

[3] Canada in the 1990s, by combining fiscal austerity, drastically reduced interest rates (to encourage private spending) and a currency devaluation programme (to promote exports), managed not only to slash its debt but to maintain growth and reduce unemployment as well.

happen for other countries of Europe when they exceeded the upper limit of deficit as a percentage of GDP established by the Treaty of Maastricht. According to Stiglitz (2010), the Treaty of Maastricht had already been converted into a two-speed Treaty, one for the strong European countries and one for the weak ones. Although the financial crisis (of 2007-2008) brought to the surface the structural weaknesses of the Greek economy, the large deficit of Greece was partially due to that financial crisis (Greece, like many other countries, was not responsible for causing this global crisis, yet the economy felt the impacts very severely).

After almost five years of austerity experiments on Greece, he revisited the issue with six more articles in high volume/traffic newspapers and blogs. According to Stiglitz (2015a), the Eurozone appears not to be a very democratic project, and the true nature of the ongoing debt dispute is not about money or debates around robust economic policies but about power (see also De Grauwe, 2015). The program that the troika foisted on Greece for the past five years has been characterized by Stiglitz as abysmal.

Moreover, Stiglitz (2015a, 2015c) alludes to the fact that the implementation of the austerity program, the EAP economic adjustment programme (Greece had the most significant and rapid fiscal consolidation among the advanced European economies, ruthlessly cutting back on expenditure and raising new revenues) 'deliberately' led to a depression that had long standing effects and 'catastrophic consequences' (see Figure 3 for growth and Figures 12-14 for unemployment rates), and it is already deeper and more prolonged than

the Great Depression in the US. Finally, Stiglitz (2015c) points out that without any of these reforms, Greece grew at a faster rate than the EU beginning in the mid-1990s until the global crisis (4 percent vs 2 percent).

Criticisms

According to Stiglitz (2015e), weaknesses in the design of the euro and the design of the ECB, which is not provided with adequate tools to address unemployment, damage Europe's prospects. It appears that the countries that decided not to be part of the common currency, such as Sweden, seem to be in better condition than those that joined the Eurozone. For example, countries like Greece, Portugal and Spain cannot change economic policies, no matter how harmful they become. Stiglitz argues that the euro is `poorly designed as in a crisis money flows (for the case of Greece see Figures 7, 9 and 17 below) from the weak country's bank to the strong, leading to divergence' (for the case of Greece see Figure 15 below, while for the divergence problem in the Eurozone check, among others, Karanasos et al., 2015 and Morana, 2015). Stiglitz (2015d) alludes to the fact that GDP today is lower by 17 percent than the level that it would have been had the soft pattern of European economic growth continued its course.

Greece and other Eurozone member countries have turned over their monetary sovereignty to the ECB, which focuses single-mindedly on inflation. As a result, unemployment rose, and insufficient attention was paid to financial stability (Stiglitz, 2015a; see also De Grauwe, 2016). It seems that Greece's destiny is not in her own hands.

According to Stiglitz (2015a), the troika used bad forecasts and models. The troika's demands (e.g., that Greece should achieve a primary budget surplus, excluding interest payments, of 3.5 percent of GDP by 2018) have been condemned by economists around the world. Among them is Stiglitz, who argues that such demands will lead to unsustainable levels of debt and a deeper downturn. In his words (2015f), the macro-policies demanded by the troika and its incoherent programme will lead to a deeper Greek depression without end, unacceptable levels of unemployment and ever growing inequality. It is a built-in destabiliser. The high unemployment rate will drive down wages and lower Greeks' standard of living even more, possibly leading to even greater economic, social and political chaos (for the case of Greece see Figure 20 below). Actually, the first two have already arrived, and the third one is around the corner.

Furthermore, Stiglitz (2010) argues that although Greece is among the poorest of the European family, if Europe had developed a more efficient solidarity and stabilisation framework, then budget deficits in the periphery of Europe might have been smaller and hence easier to manage. For example, in the USA there is a sense of social cohesiveness and so when one part of the country has difficulties, federal spending can be diverted to help those parts that are in need. Unlike the US structural framework, the EU before and even after the introduction of the common currency, did not have an overall support mechanism, either financial or structural, to protect its economies when they face financial constraints.

In addition, Europe did not adopt the principle of ‘do no harm’. As mentioned by Stiglitz (2010; in his article in the Guardian) the ECB announced that it would not accept Greek bonds as collateral and assigned the task of the evaluation of the credit-worthiness of Greek bonds to the rating agencies (see Figures 23 and 24 below). Additionally, announcements made by the EU leaders exacerbated Greece's problem. A large part of Greece's deficit is the result of the global recession, which revealed the deep-rooted structural problems of the Greek economy. However, European leaders' statements have sent the interest rates Greece has to pay soaring, making it even more difficult for Greece to tame its deficits (Stiglitz, 2010).

Furthermore, Stiglitz claims that Greece needs debt restructuring. It is an oxymoron that the defeated Germany after World War II, that received unconditional aid from US with the Marshall Plan, which constituted in real terms the largest financial assistance and debt reduction in world history, now refuses even to discuss such a scenario in the case of Greece (Stiglitz, 2015d). Although some of Greece's debt was restructured, it was too little and not done well. When the crisis began, Greece's debt was about 117 percent of its GDP (see Figure 4 below). Today, after restructuring, after a program allegedly designed to increase the sustainability of debt, it stands at 177 percent, (Stiglitz, 2015c).

Stiglitz (2015c) brings up the point that Greece's bailout was not a bailout of the country but of the Western banks, who did not do adequate due diligence. In full agreement with De Grauwe's (2016) arguments, he noted that the lenders ‘bear even more responsibility for

the current mess than the borrowers'. For example, it is remarkable that almost none of the surprisingly large amount of money loaned to Greece has actually gone there. According to Stiglitz (2015a, c; see also some recent figures published by IMF) 90 percent of it has gone to pay off private sector creditors, including German and French banks. As another example, Goldman Sachs structured irresponsible deals that enabled the Greek government at the time of the Maastricht Treaty to skew the numbers of its debt.

Stiglitz points out that similar austerity programs and structural reforms imposed by the IMF on the East Asian countries in the late 1990s had devastating effects. In particular, he stated that 'both before and after the crisis in East Asia, and those in Africa and in Latin America (most recently, in Argentina), these programs failed, turning downturns into recessions, recessions into depressions', Stiglitz 2015f. A prominent example is the case of Indonesia, which surrendered its economic sovereignty, where in 1998 the IMF ruined the country's banking system (see Stiglitz, 2015f).

Negative consequences of the programme

In the last five years, the Greeks have managed to transform a large primary deficit into a surplus. This was a great achievement. However, the rapid tightening of the budget deficit threw Greece into a deep recession, and the cost in human suffering has been extremely high. According to Stiglitz's experience, there has been no other intentional recession that resulted in such destructive results. There is a 25 percent decline in the country's GDP, and Greece's rate of unemployment has reached its peak of 25 percent, with youth unemployment rate

exceeding 50 percent (see also the analysis in Section 3 and Figures 12-14 below).

Moreover, as pointed out by Stiglitz, these types of policies (e.g., tax hikes and pension cuts) have done so much to increase inequality in many advanced countries. Despite the fact that the IMF has warned of the dangers that the high taxation might impose, in Greece the troika insisted on imposing high taxes even at low income levels. A mistaken tax policy can help destroy an economy. Although the requirement is intended to reduce tax evasion, in the case of Greece it will destroy small business (Stiglitz, 2015f).

The aforementioned major negative consequences are some of many of the austerity programmes. Most importantly, Stiglitz mentions that 'special interests in the rest of Europe and some within Greece itself have taken advantage of the troika to push their own interests at the expense of ordinary Greek citizens and the country's overall economy' (Stiglitz, 2015f). Stiglitz highlighted the fact that as a result, Greece might end up as a depleted country, one that has sold off all of its assets and whose bright young people have emigrated.

What has to be done?

The solution of the 'Greek problem' according to Stiglitz might lie in the following points. Stiglitz (2010) claims that Europe should re-examine the short-run budgetary targets (meaning more reasonable primary budget surplus targets that is the imbalance between government revenues and expenditure) it sets for Greece in terms of the structural deficit. In particular, more reasonable budget goals, such as a `primary

surplus' of 1 percent, and reasonable structural reforms should be demanded by Europe. No country can sustain levels of primary surpluses as high as 3.5 percent for a long period of time without deepening the recession and causing social and political unrest.

Stiglitz (2015b, c, f) indicates that Greece needs deep debt restructuring, that is, a write-off of a significant portion of Greece's debt (estimated to be worth close to $300 billion in bailouts), or at least a deal that would lengthen the time over which loans have to be paid back. Even the current managing director of the IMF, Christine Lagarde, is calling for deep debt restructuring.

An alternative scenario of debt restructuring, proposed by Stiglitz (2015c, d), is either lowering interest rates or exchanging part of the debt for GDP-linked bonds, which would pay more in case Greece recovered. Such an exchange lines up the incentives of debtors and creditors, unlike the current system, where Germany benefits from the weaknesses in Greece (see also De Grauwe, 2016).

Furthermore, the European Investment Bank should undertake countercyclical investments in the country and offset the deflationary impacts of the austerity programmes (e.g., the budget cuts). In general, it should play a more active role in Greece by restoring the inflationary dynamics. The provision of such support might lower interest rates, and help the country achieve budgetary balance (Stiglitz, 2010).

Stiglitz (2015c) also suggests that the ECB should act as a lender of last resort and he argues that it must provide liquidity immediately (see also

De Grauwe, 2016). That is, it should offer the stimulus money that two successive Greek governments have been requesting.

GREXIT

In an interview for TIME magazine, Stiglitz (2015b) called attention to the fact that there is no way to predict the long-run consequences of Greece abandoning the euro. A GREXIT might undermine the credibility of the euro and impose threats on the global economy through contagion risks. If the Greek economy recovers after abandoning the euro, this may trigger intense anti-euro politics. If, on the other hand, the Greek economy collapses outside the euro, then there will be a failed state on the edge of Europe, and that is when the geopolitics will become very ugly, Stiglitz (2015b).

In an economy which is globalized to such an extent it is difficult to know all the linkages, and thus safe predictions related to the connections between events and institutions are most probably impossible. For example, many countries of Eastern Europe are still heavily dependent on Greek banks, and in the case of the bad scenario, that is, those banks collapsing, the EU will face the risk of a financial turmoil that could easily be transmitted to the rest of the world economy (Stiglitz, 2015d).

Parallel Currency (and the similarities with Argentina)

Stiglitz (2015e) points out that an alternative way to exit the crisis might be moving towards a dual currency circulation, using both the euro and a ‘Greek euro’, a currency that would be tradable only within the country's own banking system.

Argentina (Campos et al., 2012 and Campos et al., 2015) and others have shown how this can be done. In particular, the government would recapitalise the banks using the newly issued currency, extend the capital controls, limit withdrawals from banks and promote money transfers within the banking system from one party to another (Stiglitz, 2015d). Despite the fact that every country is different, there are some astonishing resemblances between the Argentina and Greece. Both countries were being choked by austerity as well as experiencing rising unemployment, poverty, and immense suffering under the IMF programs (Stiglitz, 2015d).

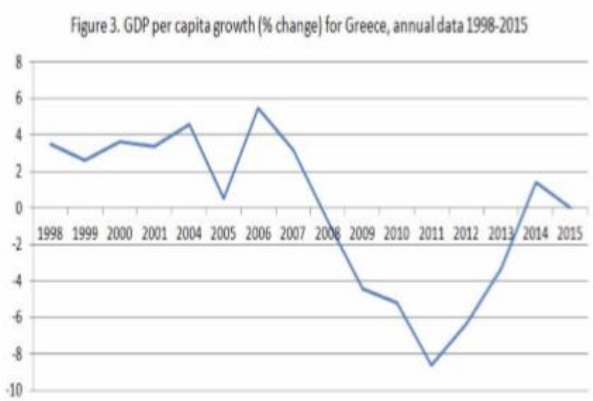
3. A Comment: The Greek Economy after Five Years of Austerity

The outbreak of the crisis in 2008 found the Greek economy already crumbling. Figure 3 below shows the steep decline of GDP per capita growth in 2008 (-0.65 percent) after a period (1998-2007) with a benign macroeconomic environment, with an average growth rate of +3.38 percent. For example, the GDP of North Greece and Aegean Islands was similar to that of Croatia and Cameroon in 2008 (namely 60,600 and 23,300 million euros respectively) while in 2012 it was similar to that of Slovenia and Equatorial Guinea (around 47,500 and 18,100 million euros respectively). It is noteworthy that in 2008 the gross general government debt (see Figure 4 below) reached its highest level (112.9 percent of GDP) since the restoration of democracy in 1974.

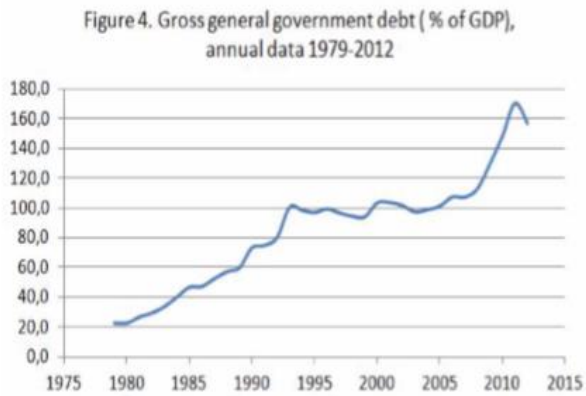
After the condemnation of Greece by the EC because of misrepresentation of its national statistical data, the newly elected

socialist government was forced to revise the estimations regarding the level of general government deficit (notably Eurostat reports data related to government deficit for Greece after 2011 see Figure 5 below) from 5 to 7.7 percent for 2008 and from 3.7 (the figure predicted by the previous government some months earlier) to 12.5 percent for the year 2009. Already since October 2009, the 10-year government bond yields started to rise (see Figure 6 below). From Figure 5, we can notice that when the Greek Prime Minister (PM) George Papandreou called on his EU partners and the IMF to provide financial assistance (23rd April 2010), the long term government bond yields reached levels around 8 percent and after that the rates followed a rising pattern. The economic cavalry of Greece had just begun.

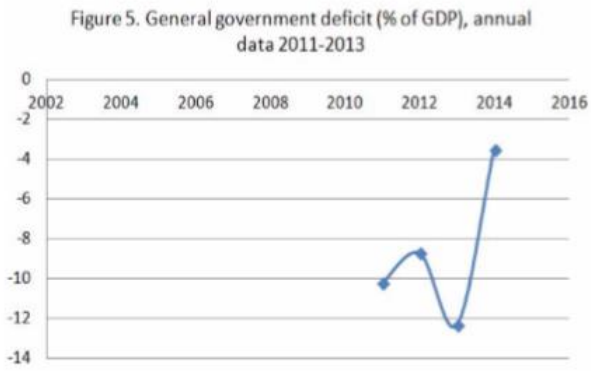
For five years (2010-2015), Greece implemented endless austerity measures that had disastrous effects (see Krugman and Stiglitz above) on its economy. In this section, we will try to present the consequences that the five years of restrictive policies had on the Greek economy and on society in general.



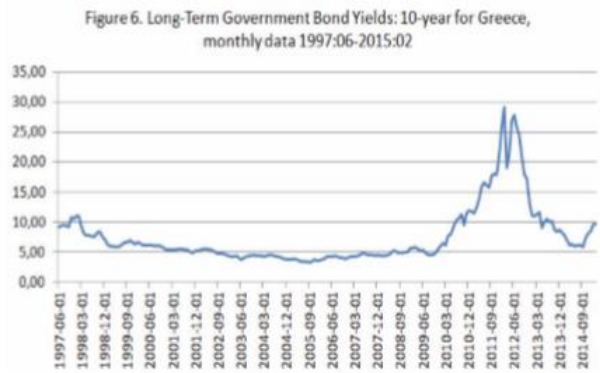
Source: World Bank



Source: Ali et al. (2010)



Source: Eurostat



Source: OECD

3.1 Macroeconomic indicators

Gross domestic product

After the announcement of the referral to the support mechanism by the ex Greek PM George Papandreou and the implementation of strict fiscal measures by the subsequent governments, the macroeconomic indicators of the Greek economy do not seem to have improved. In particular, GDP per capita growth (see Figure 3 above) shrank on average by 5.85 percent in the period 2010-2013 and from 21,900 US dollars in 2010 to around 18,100 in 2013 (at constant 2005 prices, see

World Bank, 2015). In 2014, the Greek economy displayed some signs of improvement (the GDP per capita increased from 18,100 in 2013 to 18,400 US dollars in 2014), though at significantly lower levels than that of the pre-crisis period. Similarly, the country's GDP fell from 299.6 billion US dollars in 2010 to 238.5 billion US dollars in 2014 (World Bank, 2015). Hence, over a period of four years Greek society's wealth was reduced by 20 percent. Stiglitz (2015a) cannot recall any other depression that resulted in such a devastating impact as in Greece's.

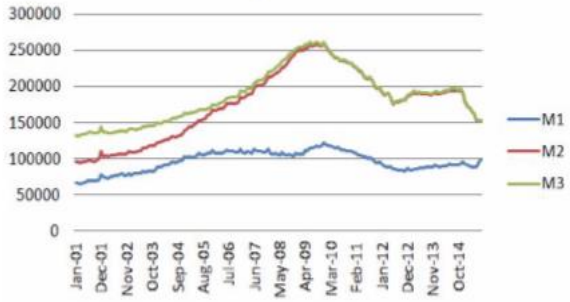
Monetary aggregates (M1, M2 and M3) and inflation rates

Monetary aggregates are very important tools for the ECB. By adjusting them, the central bank can control inflation. Too much money in an economy could lead to higher inflation and vice versa. Hence, central banks often use this macroeconomic tool to promote economic expansion and increase GDP growth at the cost of a simultaneous increase in the inflation rates. But a problem that arises very often is which one of the three measurements (M1, M2, and M3) is the most appropriate for the central banks in order to affect key indicators of the economy. Mishkin (2009) argued that we do not know exactly which of the money supply indicators is the most accurate. Hence, if M1, M2 and M3 follow a parallel performance, then we could use one of the three, in order to develop the appropriate economic policies and predictions for the future. Figure 7 reports the monetary aggregates (M1, M2 and M3) for Greece from 2001 to 2015. The data show a downward trend, especially for M2 and M3 aggregates [and hence a decrease in deposits (M2), which in turn caused a lack of liquidity in the Greek economy and

recapitalization issues for the Greek banks] after 2010 and the launch of the economic adjustment program (EAP) imposed by the troika.

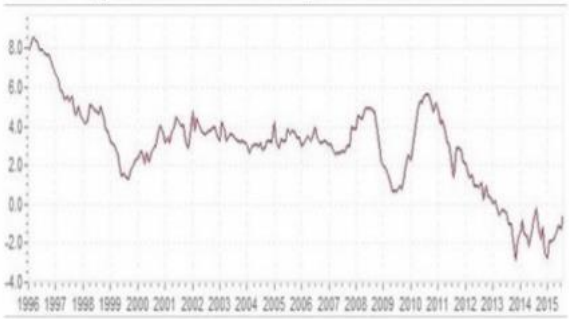
Since the level of inflation is directly affected my monetary aggregates, the Greek economy faced a decreasing trend of inflation rates after 2010 and negative ones from 2013 onwards. This sharp drop of inflation rates during the period 2010-2015 might be due to three reasons: first, because of a reduction in money supply (in Greece a reduction of money supply took place, see Figure 7), second, due to lower credit (see Figure 9 below) and third, because of reduced consumer spending (after 2010 private consumption fell, see Figure 10 below). In the last three years, deflation put pressure on unemployment rates, transforming a recession into a depression (see Krugman 2015a).

Figure 7. Monetary aggregates (M1,M2 and M3), monthly data 2001-2015



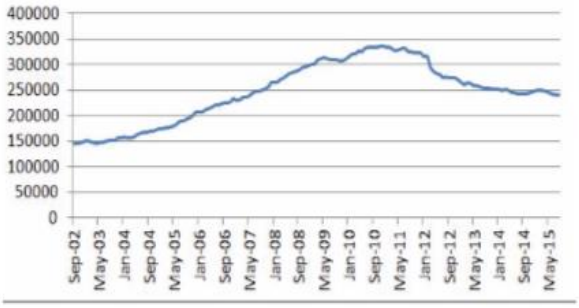
Source: Bank of Greece

Figure 8. Inflation rates for Greece, annual data 1996-2015



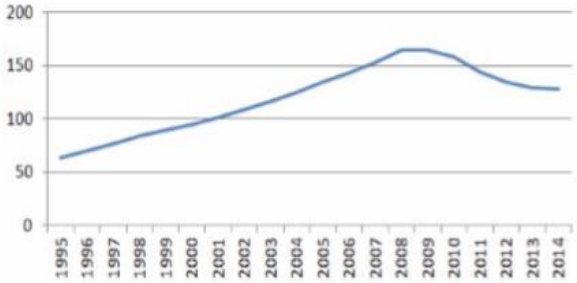
Source: Inflation.eu

Figure 9. Credit to domestic public and private sectors by domestic Monetary Financial Institutions (million euros), monthly data 2002-2015



Source: Bank of Greece

Figure 10. Private Final Consumption Expenditure in Greece (billion euros), annual data 1995-2014

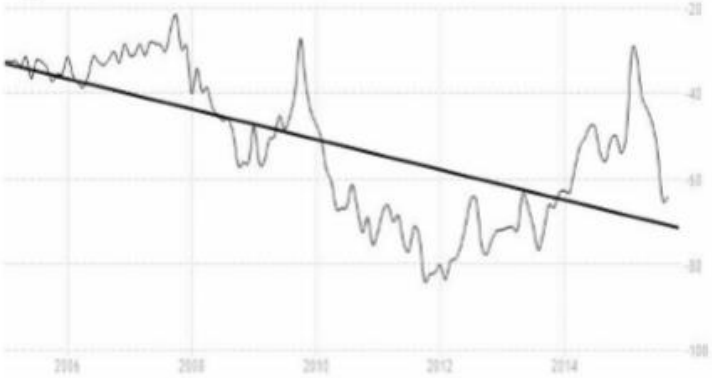


Source: OECD

Consumer confidence index

Figure 11 below reports the level of the trust that consumers have towards the Greek economy (European Commission, 2015). The importance of this statistic lies in the fact that consumers are more willing to spend money since they feel more certain about their financial and career prospects. The trend (dashed line) shows that the consumers' confidence in Greece after 2010 fell sharply, which had a significantly negative impact on private consumption (see Figure 10 above).

Figure 11. Consumer Confidence Index for Greece, annual data 2006-2015



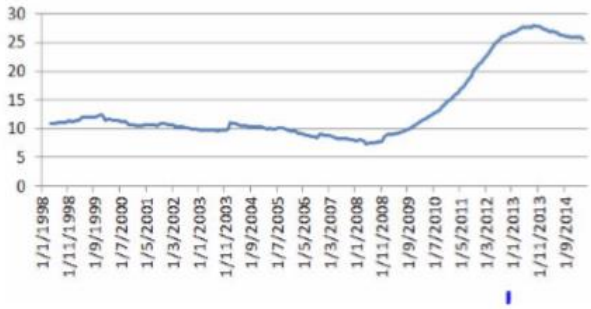
Source: European Commission

Unemployment rates

The effects of the crisis were even more severe for unemployment rates. The harmonised unemployment rate as a percentage of the civilian labour force (see Figure 12 below), increased after 2010 and amounted to 25.5 percent in 2015, more than doubling after 2010, according to Eurostat projections. Hence, despite the measures that the Greek government adopted after the proposals of the troika under the first and second EAP, Greece shows the highest unemployment rates in the EU, according to Eurostat.

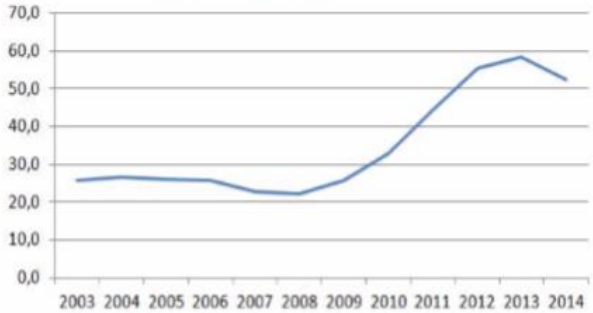
Even more remarkable is the youth unemployment rate (the group of unemployed persons aged between 15 and 24) for Greece (see Figure 13 below), reaching 52.4 percent in 2014 and reflecting how difficult it is for the young people to find a job. However, many young people are studying full-time and are therefore neither working nor looking for a job, and so they are not included in the workforce, which is used as the denominator for calculating the unemployment rate. For this reason, youth unemployment ratios are estimated as well the share of unemployed for the whole population. In particular, the youth unemployment ratio for the ages between 15 and 24 rose from 9.9 percent in 2010 to 14.7 percent in 2014 and for the ages from 25 to 29 years old the unemployment ratio rose from 16.7 percent in 2010 to 34.9 percent in 2014 (see Figure 14 below). The latter show how difficult it is for the young people, the most active population, to find a job in Greece.

Figure 12. Harmonised unemployment rate for Greece (as a percentage of the civilian labour force), monthly data 1998-2015



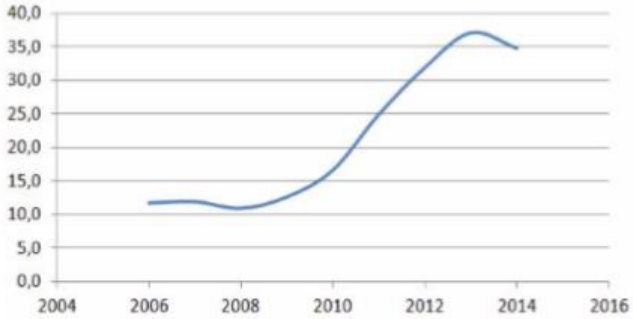
Source: Eurostat

Figure 13. Youth unemployment rate for Greece (15 to 24 years old), annual data 2003-2014



Source: Eurostat

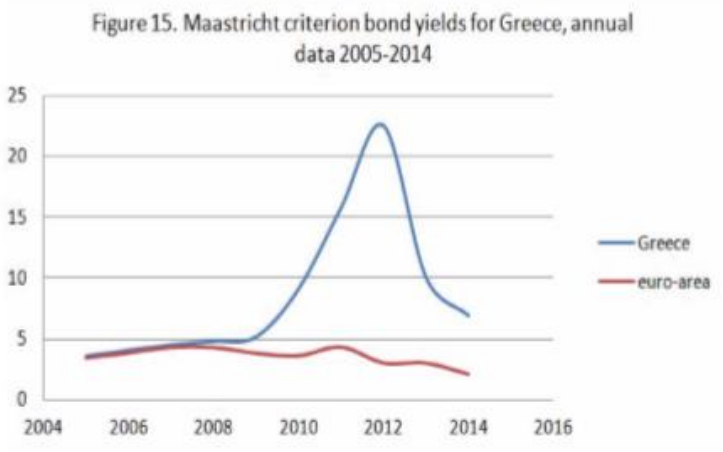
Figure 14. Youth unemployment ratio for Greece (25 to 29 years old), annual data 2006-2014



Source: Eurostat

Maastricht criterion interest rates

Interestingly, despite the fiscal consolidation of the previous years (2010-2014) the Greek economy seems to have diverged even more from the EMU countries. Maastricht criterion bond yields are long-term interest rates, used as a convergence criterion for the EMU, based on the Treaty of Maastricht (Eurostat, 2015). Figure 15 below clearly shows that after the launch of the first EAP for Greece in 2010, the Greek long-term interest rate diverged significantly from that of the euro area.

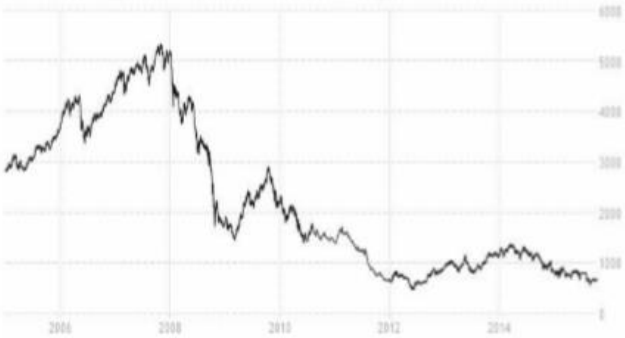


Athens stock exchange (ASE), private sector credit flow and foreign direct investment (FDI)

Stock markets can very often be used as a barometer of future business and consumer confidence. In particular, positive stock market returns can be interpreted as an indicator of the development of business investment as well as a trace of greater consumer expenditure in the future. In Figure 16 below, the Athens stock market exchange (ASE) is constantly shrinking from 2008 (the outbreak of the financial crisis) and onwards (during the 1st, 2nd and 3rd EAP of Greece). The fall of the ASE reflects the economic instability and insecurity that was dominant after five years of austerity. In addition, Figure 17 reports the level of private sector credit flow as a share of GDP from 1995 to 2014. Since the financial crisis of 2008, when the credit flow started decreasing, and especially after the adoption of the austerity plans by the Greek government, credit flow levels reached negative values. This suggested that during the period 2010-2014 businesses operated in a very tight liquidity environment since credit institutions were extremely unwilling to fund them. Similarly, according to the Bank of Greece (2015), foreign

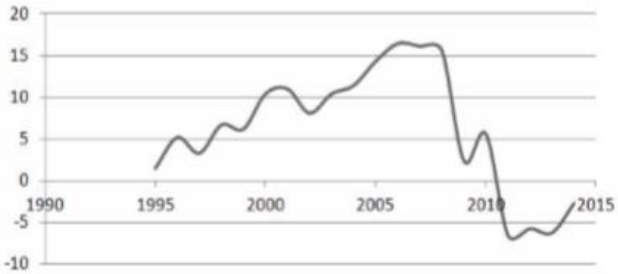
direct investment (in millions of euros) continuously diminished after 2010 and the launch of the austerity plans imposed by the troika, by losing almost 60% of its initial value in 2010 (see Figure 18 below).

Figure 16. Greek stock market (ASE), daily data 2005-2015



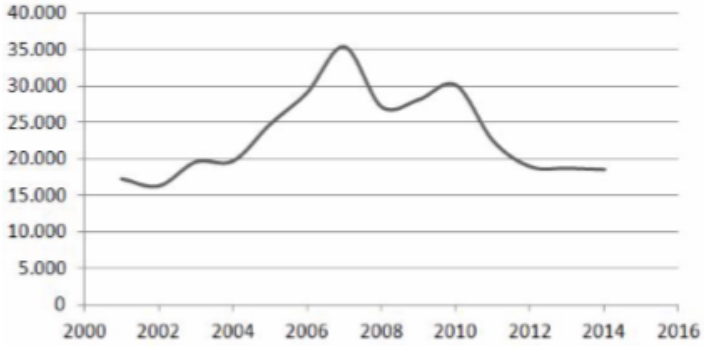
Source: Athens stock exchange (ASE)

Figure 17. Private sector credit flow, consolidated - % GDP for Greece, annual data 1995-2014



Source: Eurostat

Figure 18. Foreign direct investment in Greece (volume) million euros, annual data 2001-2014

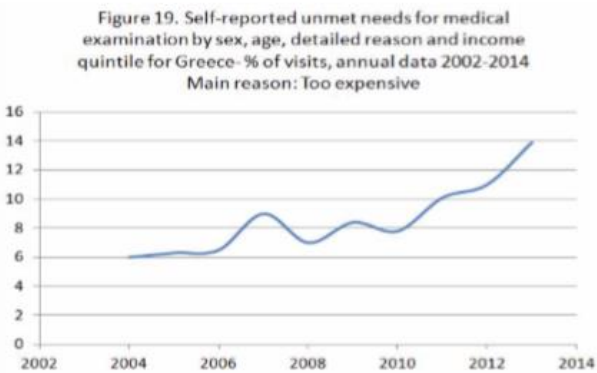


Source: Bank of Greece

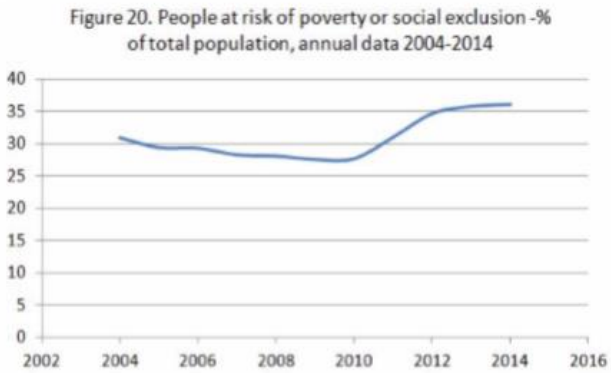
Healthcare access, poverty risks, suicides and birth rates

Figure 19 below reports the self-reported unmet needs for medical examinations (including all ages and both men and women, as a share of total visits). The reason that these needs were not met was that the healthcare service was too expensive for them. It is clear that the restrictive policies that were employed in Greece after 2010 did not leave the health sector unaffected. The percentage of the persons

whose medical needs were not met due to the high cost of treatment increased from 8 percent in 2010 to 14 percent in 2014. Hence, the citizens' access to health services was limited further during the period 2010-2014. Ever more remarkable is the increase in the rate of the people at risk of poverty or social exclusion (as a share of the total population). From Figure 20, the percentage of the people that face the risk of poverty and social exclusion increased from around 28 percent in 2010 to 36 percent in 2014, demonstrating the serious social consequences of the austerity program. As far as the number of suicides is concerned, Branas et al. (2015) argued that since the beginning of the austerity measures in 2011 Greek society has been faced with an increasing number of total suicides, marking the negative (unintended) impacts that these policies might have had on the mental health of the people. Similarly, birth rates (the average annual number of births during a year per 1,000 persons in the population at midyear, see CIA World Factbook, 2015) started diminishing even from 2004, though this drop became even steeper after the financial crisis of 2008 and in the period 2010-2014, the period of the Greek sovereign debt crisis.

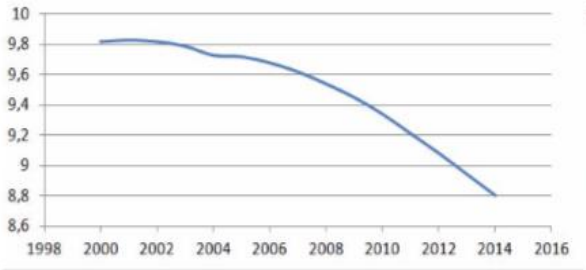


Source: Eurostat



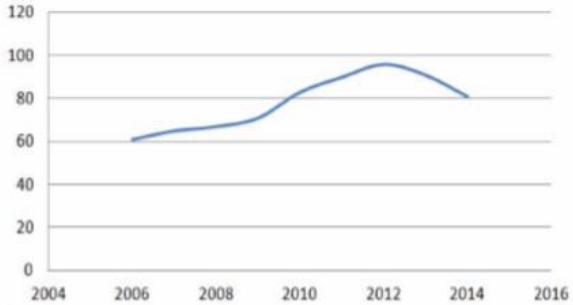
Source: Eurostat

Figure 21. Birth rate (births/1,000 population) for Greece, annual data 2000-2014



Source: CIA World Factbook

Figure 22. Global competitiveness index for Greece, annual data 2006-2014

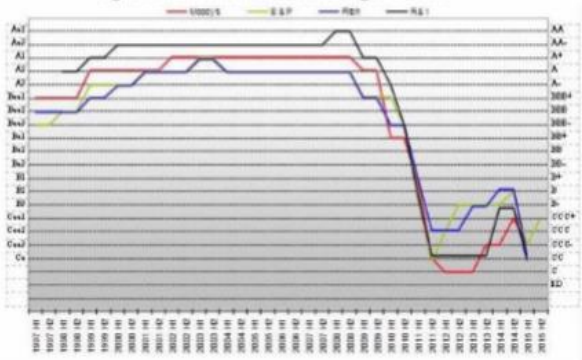


Source: World Economic Forum

Figure 23. Credit default swap spread, basis points for Greece

Source: Markit

Figure 24. Evolution of credit rating of Greece



Source: PDMA

4. Conclusions

In this Section we further discuss and summarize our results. Since the Greek economy's integration in the EAP in 2010, much has been written and said about the necessity and efficiency of these programs. Among them are the three economists Paul De Grauwe, Paul Krugman and Joseph Stiglitz.

De Grauwe argued first that the euro area crisis contributed towards unsustainable government debts, second that the ill-designed fiscal policies remain at the centre of the continuously weakened economic expansion of the zone, and third that despite the Institutions' efforts for reforms these were not sufficient to address and solve the design failures of the Eurozone. All the parties are responsible for the imbalances that existed between the euro area countries, `for every foolish debtor there must be a foolish creditor' (De Grauwe, 2016).

Krugman, with a series of articles, illustrates the incomplete tackling of the Greek crisis by the Institutions and that the creation of the euro was a `terrible mistake' (see Krugman 2015a). He points out that with negative GDP growth rates in the period 2008-2013 and participation in a hard currency (euro) that allowed limited space and freedom for progressive and bold monetary policies, the future of the Greek economy is at stake. Krugman (2010) argues that with German support (which unfortunately did not materialise) the European countries should have guaranteed Greek debt in exchange for an obligation to undertake harsh fiscal measures. According to Krugman (2015a), the fact that the leftist coalition under Syriza in Greece has acceded to the troika's (the institutions representing creditor interests) ultimatum represents the `final abandonment of any pretence of Greek independence'. He says that `the troika officials, these supposed technocrats, are in fact fantasists who have disregarded everything we know about macroeconomics'. Krugman (2015b) wonders whether a Grexit might work, as in the case of Argentina, which abandoned its one-peso-one-dollar policy in the period 2001-2002.

Stiglitz (2010) argues that although Greece is among the poorest of the European family, if Europe had developed a more efficient solidarity and stabilisation framework, then budget deficits in the periphery of Europe might have been smaller and hence easier to manage. In addition, Europe did not adopt the principle of do 'no harm'. For example, announcements made by the EU leaders exacerbated Greece's problem. Stiglitz (2015c) brings up the point that Greece's bailout was not a bailout of the country but of the Western banks, who did not do adequate due diligence. In full agreement with De Grauwe's (2016) arguments, Stiglitz notes that the lenders 'bear even more responsibility for the current mess than the borrowers'. Moreover, despite the fact that the IMF has warned of the dangers that the high taxation might impose, yet in Greece the troika insisted on imposing high taxes even at low income levels. Stiglitz (2015f) points out that although the requirement is intended to reduce tax evasion, in the case of Greece it will destroy small business. Finally, Stiglitz (2015e) points out that an alternative way to exit the crisis might be moving towards a dual currency circulation. Argentina and other cases have shown how this can be done. Despite the fact that every country is different there are, some astonishing resemblances between the two countries. Both were being choked by austerity as well as experiencing rising unemployment, poverty, and immense suffering, under the IMF programs (Stiglitz, 2015d).

In support of their claims, we provide some socioeconomic indicators that show the deterioration of the Greek economy and the difficulties faced by society during the five years of austerity measures. At the same time, since much has been written about the problem of

competitiveness of the Greek Economy, the latest ranking lists reveal that little has been achieved in this field (see Figure 22 above). In particular, after five years of restrictive policies, the position of the Greek economy in the global rankings does not seem to have improved dramatically. In addition, the credit default swap (CDS) spread at basis points is still at high levels (see Figure 23 above), just above the dam of two thousand basis points, suggesting that the risk of a credit event is too high, which is the cost of insuring against a Greek default. Verifying the lack of competitiveness and the high risk of bankruptcy of the Greek economy the Big Three rating agencies (namely, Standard & Poor's, Moody's and Fitch and the Rating and Investment Information Inc.), negatively assessed the creditworthiness of the bonds issued by the Greek government (see Figure 24 above) in the period covering 2009-2015.

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