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**Austerity vs. Stimulus: The Case study of the European
Sovereign Debt Crisis**

Dissertation

Author:

Juraj Šuchta

Supervisor:

Giovanni Ferri

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1. Introduction

The European debt crisis has brought attention of many researchers. The debate whether the crisis should be overcome by austerity measures or stimulus has been widely discussed. It has gained even more attention amid economic slowdown coupled with dangerous fiscal positions in the Euro - zone. Have austerity measures proposed by International Monetary Fund and EU leadership improved long-term growth prospects for the European countries? Should these countries rethink their economic policy to escape stagnation? What is more efficient: austerity or stimulus?

No clear consensus has been reached about how to tackle the crisis. It is obvious, however, that the measures adopted so far have not yet proved to be a cure - all for financial market concerns about the debt sustainability. The forecasts on GDP growth for European countries have been revised down multiple times. We experienced that austerity measures can harm the economy significantly in the periods of recession. It is not clear whether this is due to the austerity measures, lack of confidence in the structural reforms or whether the debt limits are just too high and the market confidence is suffering.

The whole subject has many dimensions, which are relevant to find the best solution to the mentioned debate. These dimensions even influence each other. For this reason my thesis tries to cover all the aspects and focuses on the overall picture. Deep econometric analysis alone could not address appropriately this discussion about desirable policies and therefore I focus on a combination of narrative and quantitative approaches.

The purpose of this paper is not to argue which of the policies is more efficient in general. As an American economist, Jeffrey Frankel, puts it, it is equivalent to debate whether a driver should turn left or right. He says “It depends where the car is on the road. Sometimes left is appropriate, sometimes right” (Frankel, 2012). Therefore the issue is about analyzing, which policy response is the most efficient under the current economic environment. This is also the main question that my analysis addresses.

2. Background of the European Sovereign Debt crisis

As suggested in the introduction, it is essential to put the austerity/stimulus debate into a specific context, and here my discussion is framed within the European Sovereign debt crisis. Thus, it is necessary to build a background representing features, causes and important circumstances of the recent crisis, since the whole discussion either in favor or against austerity is not happening in a vacuum. Which factors led to the European Debt Crisis? And, was it unavoidable? Analyzing and answering these and some other questions will place the whole dialogue into a specific and appropriate background.

2.1. Flawed design of EMU

Is the Euro – Area an Optimal Currency Area?

When a few countries decide to form a currency union they need to give up their individual monetary adjustment tools. Provided the countries are similar, the common monetary policy is able to react more efficiently to the external shocks and will, as a result, affect all the countries in the same way. However, when member countries lack the possibility of exchange rate depreciation, which can influence output and unemployment, the negative developments in the trade account may harm their economies significantly.

An essential question is, thus, whether the monetary union makes countries more similar or whether they become more specialized on the other hand. One view says that since these countries will create an inter-dependent block which will become more and more integrated, the external shocks will be evenly distributed on all the countries. In this perspective, in Europe the trade between industrial countries is to a large extent intra-industry trade, where countries import and export similar categories of products. A contrast opinion, defended for example by Paul Krugman, points out that the production of various categories may be regionally concentrated in a monetary union because of the exploitation of increasing returns to scale and specialization, as it is in United States. Consequently, the countries become rather more different than more similar (De Grauwe, 2009).

This way, the external shock is mainly only country-specific and the monetary adjustment mechanism will be ineffective since there is a single monetary policy for all countries. This problem might be multiplied by other adjustment difficulties, such as institutional differences in labor markets, which continue to exist in a monetary block. As a result, divergence in wages may appear. Divergence will also be result of dissimilar fiscal policies, since any changes in spending or taxation policies in an individual country will create disturbances in the whole Euro – area. Also, different legal systems cause significant differences in how financial, housing and markets work (De Grauwe, 2009).

There are two ways to counter - act risks related of increased vulnerability to external asymmetric shocks. In order for the countries to adjust better to the shocks it is necessary to either achieve more flexibility of the markets or to enhance a political unification in a monetary union (De Grauwe, 2009). Therefore, apart from promoting free mobility of goods, services, labor and capital, coordinated national policies may also be a suitable tool in mitigating the negative impacts. However, the idea of delegating budget matters to the European level has always met with strong waves of opposition, especially in Germany (Bini Smaghi, 2013).

If there is no space to offset the external shocks, the country is forced to undertake “internal devaluation”, which can be understood as reducing real wages so that the affected country can become competitive again. However, this might have very devastating consequences, if the benefits of the regained competitiveness are offset by a serious deterioration in growth prospects and loss of human capital caused by large increase in unemployment, which have a large impact in the long – run.

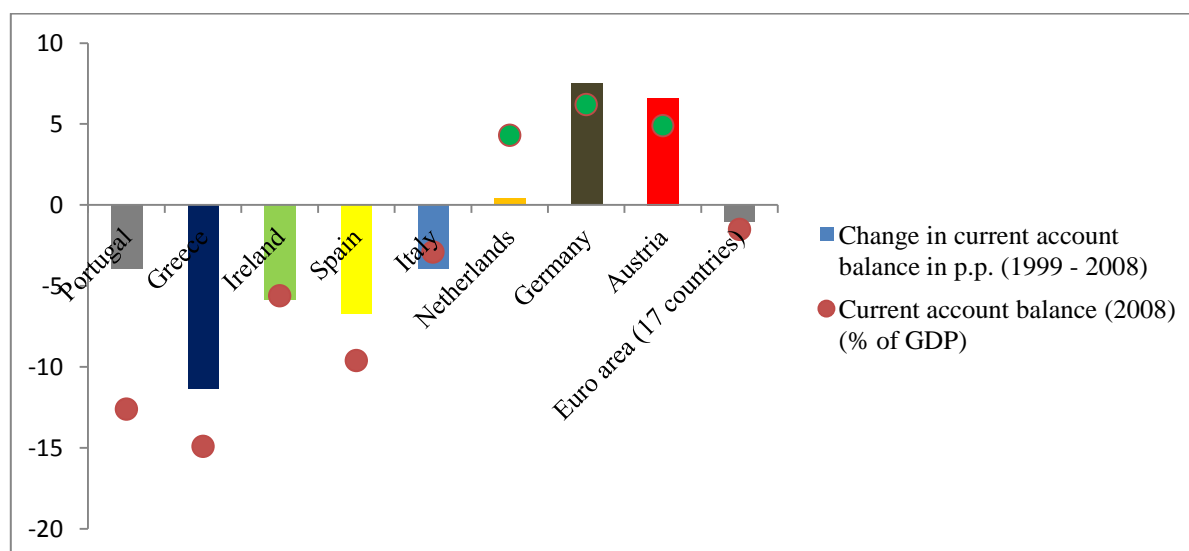
External balance of Euro – area countries

The adoption of Euro was expected to bring increases in the trade flows across member states by removing exchange rate risks and facilitating economic transactions due to the common currency. Here I show that the first decade of the Euro created large current account imbalances as a side-effect of enhanced increasing trade integration among Euro-zone countries. At the time of the introduction of Euro in 1999 current account deficits in countries such as Portugal and Greece were already significantly high. Subsequently, the imbalances widened, deteriorating the positions of Spain, Greece, Ireland and Portugal, while Germany and a few other Northern countries built large current account surpluses.

Specifically, Figure 1 shows the change in percentage points in external balance (Current account balance as % of GDP) from 1999 until 2008. Germany and Austria improved their positions by 7.5 and 6.6 percentage points respectively. On the other hand, the current account deficits in Southern countries, which were already large before entering the monetary union deteriorated even more (Greece by 11.3 p.p.; Italy by 3.9 p.p.; Spain by 6.7 p.p.; Portugal by 3.9 p.p. and Ireland by 5.8 p.p.). As a result the external debt in these countries grew excessively, exceeding 5% of GDP in all of them in 2008.

Interestingly, figure 1 shows that Euro-zone as a whole maintained current account balance close to zero during the whole decade, in year 2008 the balance slipped into highest deficit of only 1.5% of GDP. I will emphasize the importance of this remark later in this chapter.

Figure 1 : Change in current account balance 1999-2008 (in percentage points) and CAB in 2008



Source: Eurostat

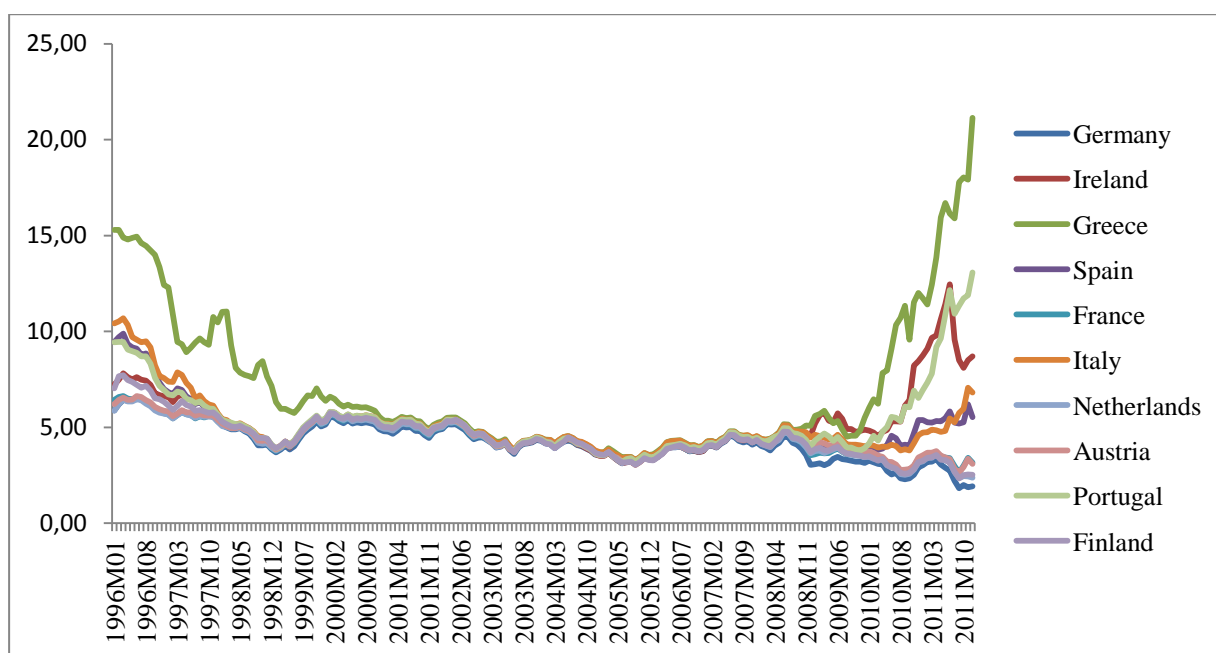
There are two main factors that created large current account imbalances (Chen et al, 2012):

- a) The introduction of the euro brought strong financial integration
- b) Over - Optimism and excessive real appreciation

Financial integration within the euro area ensured the convergence in the bond yields of all member countries. Long-term interest rates were narrowed down and remained in almost identically low values for all the countries until the beginning of the financial crisis in 2008.

This is illustrated in the figure 2. Following the accession into the monetary union interest rates quickly dropped in the southern countries, reducing financial constraints for both the public and the private sector. If countries in such situation use the advantage to increase investment, R&D and technology activities, there would be convergence. If, on the other hand, they just exploit the opportunity related to softer budget constraint and indulge in unproductive expenses, then there will be divergence. The latter is, in fact, what happened to the Euro-zone. Capital started to flow from richer countries to the poorer ones and foreign-financed real estate booms enhanced unsustainable growth of non-tradable sectors.

Figure 2 : Convergence of long-term (10Y maturity) government bond yields



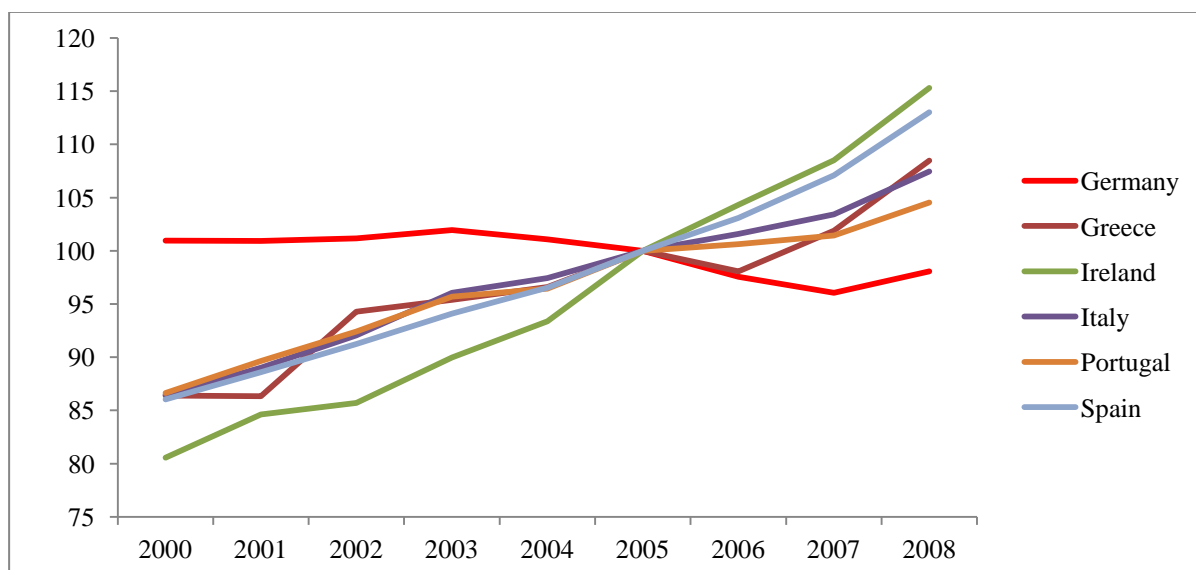
Source: OECD

Reorganization of the German firms played also an important role. Specifically, outsourcing of some parts of production to Central and Eastern European countries changed the structure of production chains in Europe. Following its increasing integration with the CEE countries, Germany strengthened its leading position of exporter. Low-wage companies from Slovakia, Czech Republic, Poland and Hungary became the main suppliers often replacing previous providers from Italy, Spain, etc. The position of the countries in the south did not deteriorate only vis-à-vis European Countries. Trade integration of China and other South - East Asian countries played an important role, too, since they have taken some of the export shares of the southern countries. The reason is that the Chinese growth

brought intensified demand for machinery and specialized goods, exported mainly by northern countries such as Germany. The rising competition of China in the global supply chain provided very limited benefits for the southern countries with overvalued currency. Similarly, rising oil prices affected countries in Europe asymmetrically, as the increased demand in oil producing countries benefited Germany and other countries more than those in the south of Europe (Chen, et al 2012).

The changes in nominal exchange rate are supposed to be the main mechanism to correct the external imbalances, however, since there is one currency for all Euro – area countries, this makes the adjustment process more complicated. Throughout the first decade of the common currency the rise in the real exchange rate of southern countries crowded out manufacturing and export activities. Rising asset prices managed to sustain a significant rise in the unit labor costs not matched by productivity increases, while Germany essentially suppressed the increases in wages with its labor market reforms as depicted on figure 3.

Figure 3 Evolution of unit labor costs (2005 index year=100)



Source: OECD

Which driver was responsible for this dynamics? The answer lies in the monetary system of the Euro – zone. Specifically, when countries such as Spain, Ireland, Portugal or Greece entered their boom periods, their inflation picked up, too. Consequently very low real interest rates translated into magnified expansion. This led to the mentioned divergence in unit labor costs across European countries. To

grasp the main point, the same monetary policy had vastly different effects on all the countries and exposed differences among euro-area countries. In other words, the single interest rate set by ECB exacerbated swings between booms in some countries and recessions in the other ones (De Grauwe, 2013).

As a result the competitiveness gaps between North and South enlarged and a two-speed Europe arose. The so called “core” (mainly northern countries) and “periphery” (mainly southern countries¹) struggling to compete with the former group. The northern Eurozone countries were growing due to the contribution of capital and productivity growth, while in south the output was boosted mainly by labor quantity, but the productivity stagnated (Boone et al, 2012).

Germany and some other northern countries benefited from the Euro more than their southern counterparts. While in the core countries “fixed” exchange rates favored their exporters, in countries on the periphery the common currency was too strong. For instance, Italy, before its accession to monetary union managed to deal successfully with problems associated with deterioration in competitive position by devaluing its exchange rate. This was no longer possible under the conditions in EMU.

Surveillance of fiscal positions in EU

In 1997 France and Germany agreed to create the „Growth and Stability Pact“. This mechanism, together with the Maastricht criteria, was supposed to ensure that the government budget deficit in euro - zone countries would not exceed 3% in terms of GDP. When Germany and France (beside other countries) violated the rules in 2001 and 2003 respectively, the European Commission proposed sanctions against these countries. However, after Ecofin, ministers of finance of the Eurozone countries, vetoed this proposal, incentives for governments to run responsible budgets faded away because no real enforcement of rules existed. Many countries started to accumulate large deficits during the expansion periods. To sum it up, the good times did not serve for the Euro – zone countries as a basis for important reforms.

The problem with the SGP was also, that it did not focus on the cyclically adjusted deficits. It is accumulated structural deficits that serve as a cushion in case

¹ Ireland is often added to this group, forming the acronym PIIGS (where each letter stands for the first letter of the countries: Portugal, Italy, Ireland, Greece and Spain)

some negative developments evolve. Cyclical revenue gains during upturns can offset the deficits during recessions. The EU leaders underestimated the importance of the fiscal policy which mitigates sharp swings in output and preferred to focus on vague rules. Apart from that, they followed a “one size fits all” approach. Also, there was no special attitude towards countries where the need to stabilise the debt was significant (Greece, Italy).

It was believed that the rules would guarantee that the deficits would remain within limits. The policymakers, however, failed to anticipate that the struggles in public finances may also come from deteriorations in the private sector, which later became a reality.

2.2. The crisis

The European Monetary union seemed to be a very successful project until an external asymmetric shock came from the US. In fact, the European sovereign debt crisis can be regarded as the second wave of the Great Crisis initiated in 2007-08 in the US.

Escalation of the European debt Crisis and its misdiagnosis

When the subprime crisis that started off in United States hit Europe in the form of dried liquidity, many governments found themselves in troubles. Capital inflows into the southern countries suddenly ceased and part of the losses from investments had to be socialized. Furthermore the tax revenues decreased because of lower GDP growth and states were forced to financially support industrial sectors and unemployed workers. Some countries, such as Ireland or Spain, were even obliged to intervene to save their banking sectors. The fall in GDP combined with excessive government expenditures caused increases in budget deficits and public debts continued to rise (Panico, 2010).

There has been a widespread opinion that the Sovereign Debt crisis emerged as a result of profligate governments. This can be true only for a few countries, such as Portugal or Greece, which ran large budget deficits over the whole decade. However, Spain and Ireland did not break the SGP until 2008 and these countries even ran budget surpluses for a couple of years, as it is apparent from Table 1. Their debt levels before the US sub-prime financial crisis were even lower than in Germany. In both countries the problems lied in excessive investments in construction sectors.

Debt stock rose after governments had to deal with unhealthy balance sheets in the banking sector. Therefore the real and root causes of the crisis do not lie only in irresponsible public sectors as some people would argue, but they are rather a consequence of the first wave of the crisis.

Table 1 : Government budget balance (% of GDP)

Country/Time	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Euro area (17 countries)	-1,5	-0,1	-1,9	-2,6	-3,1	-2,9	-2,5	-1,3	-0,7	-2,1
Belgium	-0,6	0,0	0,4	-0,1	-0,1	-0,1	-2,5	0,4	-0,1	-1,0
Germany	-1,6	1,1	-3,1	-3,8	-4,2	-3,8	-3,3	-1,6	0,2	-0,1
Ireland	2,6	4,7	0,9	-0,4	0,4	1,4	1,7	2,9	0,1	-7,4
Greece	-	-3,7	-4,5	-4,8	-5,6	-7,5	-5,2	-5,7	-6,5	-9,8
Spain	-1,2	-0,9	-0,5	-0,2	-0,3	-0,1	1,3	2,4	1,9	-4,5
France	-1,8	-1,5	-1,5	-3,1	-4,1	-3,6	-2,9	-2,3	-2,7	-3,3
Italy	-1,9	-0,8	-3,1	-3,1	-3,6	-3,5	-4,4	-3,4	-1,6	-2,7
Netherlands	0,4	2,0	-0,2	-2,1	-3,1	-1,7	-0,3	0,5	0,2	0,5
Austria	-2,3	-1,7	0,0	-0,7	-1,5	-4,4	-1,7	-1,5	-0,9	-0,9
Portugal	-3,1	-3,3	-4,8	-3,4	-3,7	-4,0	-6,5	-4,6	-3,1	-3,6
Finland	1,7	7,0	5,1	4,2	2,6	2,5	2,9	4,2	5,3	4,4

Source: Eurostat

The financial crisis discovered that the shock absorption capacity of various individual countries is much lower than the extent of the shock that came after 2008. The Euro – zone possessed no mechanisms to successfully avoid contagion and provide strong and sufficient support for most affected countries. It also revealed the adverse effects of the increasing integration of the monetary block and insufficient institutional design, which failed to cope with problems coming from external asymmetric shocks. These had a great impact on private sector as well, since banks in the euro – zone must borrow in foreign currency, which makes them extraordinarily vulnerable to the liquidity shocks (Blyth, 2013).

Not all the countries were affected in the same way. However, the debt overhang from previous years revealed fragilities and the neglect of structural reforms in some of them. It became known later, that countries which coped well with the globalization challenge for the past decade by investing in infrastructure, R&D, education and reforming their labor markets were not dragged deeply down by the external shock (Bini Smaghi, 2013).

In October 2009 the new government in Greece took over the office and revealed that budget deficit was actually higher than previously declared. This was a too harsh message for the financial markets and Greece was forced to seek

conditional help from the Troika.² Within a 1-2 years period, the interest rates on long-term government bonds skyrocketed for Greece, Ireland and Portugal (for reference see again graph 2). I

Investors started to perceive the risk associated with delicate fiscal positions but also low growth prospects that would further affect government budgets by lower tax revenues. The three countries were pushed to ask for bailout packages over 2010-2011, when the yields surpassed the critical values, which put a stop to their own financing. In 2011 the unfavorable conditions intensified further when large countries, Spain and Italy, were becoming unable to refinance their debts. This was an important threshold in the Debt crisis given the threat, that the liquidity problems were far exceeding the available resources in bailout funds.

The crisis that originated in the US from unpaid loans was soon translated back to the private sector. The financial turmoil made investors worry more about the safety of public finances. Debt sustainability became even more difficult and this led to more constrained financing for private businesses as well (Zoli, 2013). This also dampened private demand and further weakened growth, highlighting the dangerous link between private and public sectors.

Responses to the crisis

The market pressures created considerable challenges for adequate policies. The policymakers across many countries in the world were confronted with the difficult task of choosing the right strategy to tackle the crisis.

It cannot be said, that the attitude on how to solve the debt overhang has been the same throughout the past few years. It was not only the lack of a clear consensus whether the crisis should be resolved with growth or fiscal retrenchment, but we even saw more periods when the conventional opinion changed many times. Corsetti (2012) divides the post – financial crisis period into three phases.

Phase 1 - after 2008 - calls for fiscal stimulus to prevent another Great Depression.

Phase 2 - after 2010 - the stance changed significantly after the debt levels rose to critical levels. The focus shifted to fiscal consolidation.

Phase 3 - after 2012 - after various events and papers pointing out continuous slowdown, austerity measures seem to have been enjoying less and less support amongst economists.

² Cooperation of ECB, IMF and EU, which together, provide financial support, has become known as “Troika”.

In the EU, political leaders first responded with fiscal stimulus in 2009. This consisted of recapitalization measures, guarantees and asset reliefs. Individual policy responses were rather different across the most affected countries: counter – cyclical in Spain, moderately counter - cyclical in Portugal and pro-cyclical in Ireland and Greece (Armingeon and Baccaro, 2011).

The tactic, however, changed markedly at the turn of the year 2009, when economic results deteriorated. The countries with the most delicate public finances declared ambitious consolidation plans, namely Greece, Ireland, Portugal, Italy and Spain. Later on, the provision of EU/IMF packages was agreed for Greece (May 2010), Ireland (2011) and Portugal (May 2011). In March 2012, all EU governments, with the exception of UK and the Czech republic signed the Fiscal treaty, agreeing not to let their structural deficits exceed 0,5% of GDP. Another two points consisted of reducing continuously the debt levels to 60% levels and maintaining the fiscal balance close to zero over the cycle. Furthermore, Greece, Ireland and Portugal, were asked to reduce substantially their government spending and undertake structural reforms that would enhance long-term growth in exchange for the bailout packages. It can be said that the Euro-zone as a whole chose a trajectory of austerity measures.

It is worth emphasizing that the actions agreed by EU leaders aiming to stabilize the situation were rarely convincing. For instance, problems with approving bailout packages for Greece intensified tensions on markets pushing the affected countries to pursue sudden and front - loaded reform measures.

There is also an important remark in the framework of the austerity/stimulus debate. Before the origin of the European Monetary Union, the advanced countries used to have counter – cyclical fiscal policy. Since the new millennium the gear shifted and the fiscal policy became pro – cyclical in the advanced countries. The government spending rose during the expansion period, while it started to decline since the onset of the US crisis. This kind of fiscal policy tends to be highly destabilizing because it intensifies overheating, inflation and asset bubbles during the episodes of strong growth and later magnifies the increase in unemployment rate and losses in output (Frankel, 2012).

With regards to monetary policy, first initiatives from the European Central Bank to solve the crisis appeared in 2009 when a program called Covered Bond Purchase Program (CBPP1) was launched in the midst of spreading financial crisis and worsening liquidity. CBPP simply meant that the ECB was purchasing bonds on

the primary and secondary markets to provide the necessary liquidity. This led to substitution of uncovered bonds with covered ones, making them safer. In May 2010, a temporary measure called Securities Market Program (SMP) was launched to ensure enough liquidity on malfunctioning markets with sterilized operations.

The view of Jean – Claude Trichet was very specific. The ECB approach depended very much on his opinion rooted in moralism, since he claimed that Greek government had been too profligate and now has to pay for its mistakes (Krugman, 2013a). Later on, the ECB under governor Draghi, has had more robust monetary policy compared to the previous regime. Despite that, legal limitations imposed by the European treaty to act quickly and convincingly prevented the complete stabilization.

Nevertheless, when the long – term government yields approached unsustainable levels, the ECB decided to intervene and buy out the government bonds, mainly in the framework of the SMP program. Monetary policy also included liquidity injections to the financial system worth of 489 billion € to more than 500 banks (program LTRO³) in December 2011 (ECB, 2012). There was another round of LTRO with the same purpose in February 2012.

Even more convincing action was Draghi's speech in London, the 26th of July in 2012, when he declared: *„we'll do whatever it takes to save the Euro and believe me it will be enough“*. The outright monetary transactions (OMT) program announced a month later strengthened his rhetoric. This was basically a promise of the ECB to start buying out the short-term government bonds of the countries which would turn to stability funds to get conditional financial support. As a result of this, “verbal” monetary policy has been one of the most effective responses that calmed the markets.

On the 14th of December Finance ministers of EU member states agreed on creating the “Banking union” to unify banking supervision and to break the dangerous link between public and private debts (see ECB, 2012).

A self – inflicted crisis

The idea mentioned in the previous part raises an important point. When the first cracks in the Greek debt emerged, had EU - leaders said they would stand behind

³ Long term financing operations

Greece, the sovereign debt crisis would never materialize, or at least definitely not to the extent we have seen. This role was, as mentioned, eventually assumed by the ECB.

The explanation is that a country's sovereign debt is excessive – and may lead to a default – only if a high public debt/GDP ratio is coupled with a current account deficit. Otherwise it would be hard to explain why Japan (table 2), with debt level exceeding 230% of GDP, is not facing danger of sovereign default. In fact, Japan has maintained current account surpluses over many years and its debt is mostly internal. More intuitively, if a country has a current account surplus its public debt is mostly owned by residents, and the government can always stabilize the debt/GDP ratio by taxing its residents.

Table 2 : Debt to GDP levels

Country/Year	1999	2007	2011
Germany	61	65	83
Portugal	50	68	106
Ireland	48	25	109
Italy	114	104	121
Greece	103	105	166
Spain	62	36	67
Japan	134	188	233

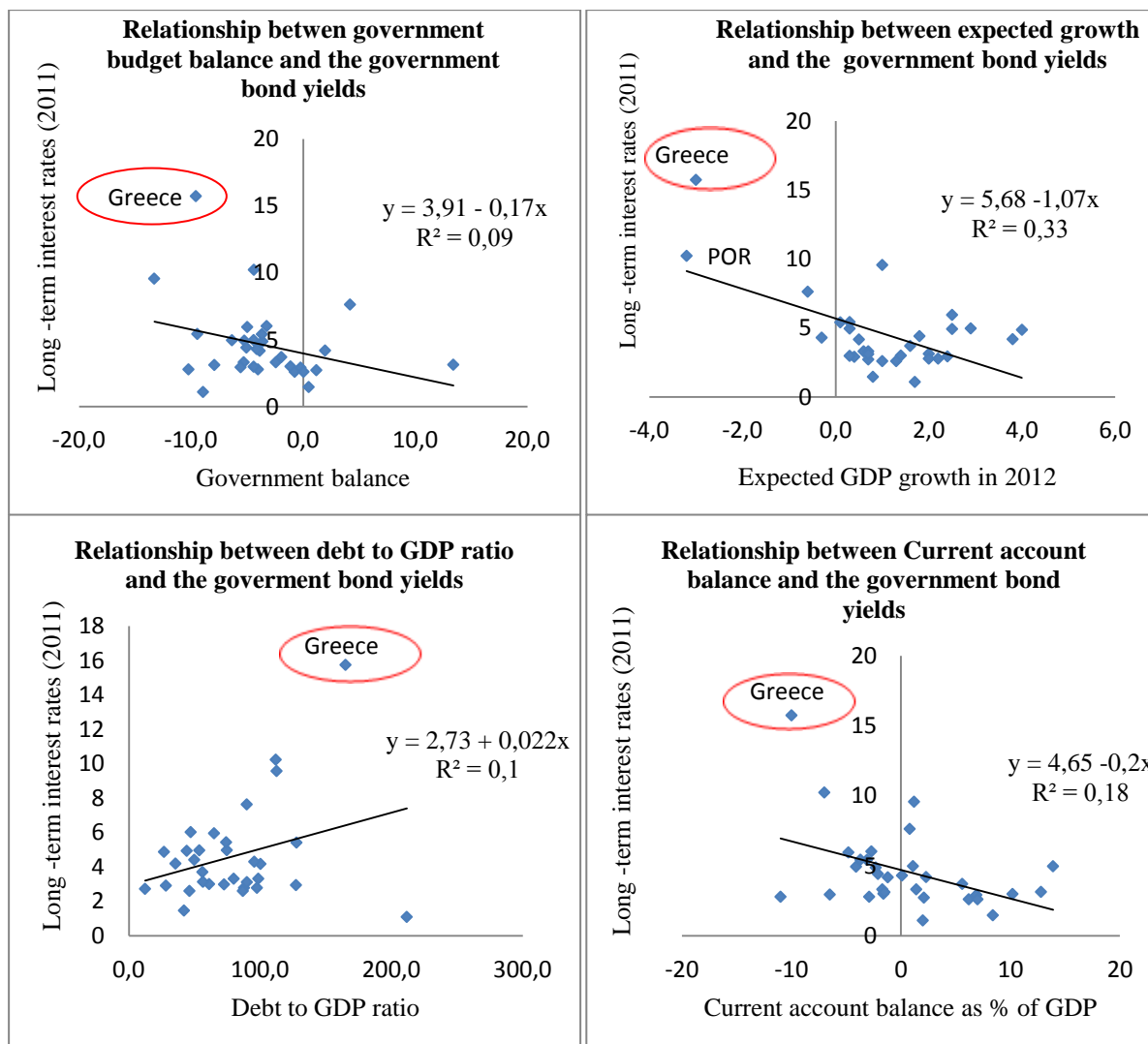
Source: World Economic Outlook Database

As previously mentioned the Euro-zone as a whole has maintained a zero current account balance. Thus, the problems would not have escalated were the Euro-zone member countries considered part of united strong union and was there a strong will to alleviate the financial turmoil. Taking this into account, what makes the Euro-zone unstable is the distinction between Euro surplus and Euro deficit countries. Countries like Japan or United States have their debts denominated in their own currency and therefore have better positions for individual stimulus to offset the shortfalls in demand.

The following set of 4 regression scatter plots partly illustrates this point. While there is some relationship between both the size of public debt and the value of the long – term borrowing costs for government, this causal nexus is weaker than the one between current account balance as % of GDP and long term yields. Even more striking is the fact that the markets seem to care the most about the growth prospects.

The link between expected GDP growth rate in 2012 (based on OECD projections in 2011) and the long – term interest rate is statistically significant at the 1% confidence level.⁴

Figure 4 : What determines the yields on government bonds?



Source: OECD, own calculations

This fact also has relevance for the risk perception by financial markets. Not only did they have to assume the default risk, but also the risk associated with the exchange – rate (the threat the public debt will be paid back in a different currency than the Euro) (Nordvig, 2012). The inability of European countries to deal with the shocks created fear for investors, which pushed these countries into the bad

⁴ Relationship between current account balance and the government bond yields is significant at 5% confidence level. Causal nexus between gov. deficit and the yields is not significant even on 10 % confidence level. For more detailed results see appendix.

equilibrium. Its features are excessively high financing cost, budget deficits and deflationary pressures and eventually banking crisis (De Grauwe, 2011).

Looking back at the previous set of graphs, it can be seen that Greece, the country that triggered the contagion in Europe, is an extreme outlier in all 4 cases. While there is no doubt that the deterioration in the fiscal position and the loss of competitiveness was very intense, I argue, that large part of a sudden increase in yields can be attributed to the self - fulfilling fear on the market.

There is a clarification of this phenomenon. In stand – alone countries like the UK, the central bank can be forced to intervene and provide necessary liquidity in case of credit crunch. However, if problems arise in countries within a monetary union, for instance in Spain, the Spanish government does not control the monetary authority, the ECB. Investors are aware of that and test governments when the public finances worsen. Hence, the financial markets exert much stronger pressure on countries that form part of the currency unions, giving them less room for adjustment (De Grauwe, 2011).

3. Debt sustainability and fiscal consolidations

There is a little doubt that the world economy had been overleveraged before the US – subprime mortgage crisis erupted in 2008. Throughout the last decades both the public and private debts were significantly accumulating. With the increasing needs to finance aging populations, expensive healthcare, unemployment benefits, etc., it is hard to disagree that some kind of fiscal adjustment will be desired. Policymakers have been postponing important reforms, such as pension schemes, for long time. However, the governments can get under serious troubles when financial markets start to perceive the risks associated with unsustainable public finances.

3.1. Fiscal consolidations

Choosing fiscal contraction as a policy response there was a hope that it will trigger again the confidence and the economic growth will come back. But what are the dangers associated with rapid deleveraging and are there any?

The main idea is that the state is not a company. If an individual consumer or company carries over a large debt that cannot be repaid with current or future income, decreasing the liabilities seems like the right option and can boost growth subsequently. But what happens if all economic agents do the same? The explanation is that one's debt is someone else's income. Now, if all agents in the economy start to cut down their spending, the whole economy suffers and aggregate demand falls. Thus, in general, what can be true for an individual, does not have to hold for the whole economy.

The shortage of demand can discourage firms from investment and hiring people. This effect will be multiplied by the decreased government spending and output will necessarily fall, leading to reduced tax revenues. Both deficits and debt to GDP ratio may, therefore, actually rise when the fiscal tightening is being undertaken. The austerity efforts aimed at improving fiscal positions can paradoxically lead to even higher deficits and debt.

In other words, this mechanism maintains or even enlarges the output gap, which, if negative, the supply exceeds demand and builds deflationary pressures. Under these circumstances the austerity measures may be self - defeating. If the gap

is positive, the economy is overheating and inflationary pressures arise. In this case fiscal consolidation can be an adequate policy response.

In general, fiscal consolidation may be spending or tax based. Both policies have significant impact on output. The extent to which the total output responds to changes in government expenditure or revenues is called fiscal multiplier. Fiscal cuts reduce aggregate demand and increase unemployment. Higher taxes will also reduce consumer spending, since increasing the tax rate will absorb more disposable income and will result in reduced consumption. For example if fiscal multiplier is 2, then every additional 1€ that the government spends will increase output by 2€. Equivalently, if increased tax revenue worth 1€ results in 2€ fall of GDP, the multiplier is also 2. Intuitively, the larger the multiplier, the more devastating effects austerity measures may have. The scale, on which this happens, however, depends on many circumstances and methods of how the fiscal policy is conducted and with which other policies is accompanied.

Can austerity be expansionary?

Alesina and Ardagna (2009) undertook research on fiscal retrenchments in a set of OECD countries and found out that spending - based consolidations tend to show better results than those focused on tax – hikes. They claim that consolidations concentrated on the spending side may even be expansionary under some circumstances, namely when they are combined with pro - growth measures such as structural reform in labour markets or other reforms that are politically difficult to pass.

This analysis is also in line with other research papers, for instance Perotti (2011). The logic basically consists in the fact, that spending-based adjustment will result in long-term or even permanent budget consolidations and this will translate into increased confidence and lower interest rates. Austerity will further create more space for business activity and the private investment in form of the capital accumulation will make up for the reduced consumption. In other words, the government spending crowds out private investment and, therefore, austerity will lead to better use of resources, because private sector resources will be freed and will fuel growth.

On the other hand, the authors say, following the tax – based fiscal consolidations the capital stock will fall down. The evidence also shows harmful

effects on economic growth. Another research, by Padovano and Galli (2001), explains that a 10 – percent rise in marginal tax rates decreases the annual growth rate by 0.23 percentage points. Even stronger results were obtained by Engen and Skinner (1996) or Lee and Gordon (2005). Christina and David Romer (2010) support this phenomenon, obtaining the results of 3% reduction in GDP per exogenous tax increase of 1% of GDP.

Another similar and simple interpretation about fiscal adjustment is as follows: The measures that eliminate uncertainty are the most effective ones, while those that raise it, are likely to be counterproductive (Corsetti, 2012). Corsetti further shows the importance of both the sensitivity of the markets to changes in risk premia and also the anticipated length of recessions. If the recession is not expected to last for longer than one year, the fall in output will be only moderate and deficits will be reduced. The picture, however, changes when the expected duration of recessions is longer. The case for expansionary austerity may make sense for the countries where spreads are high, because fiscal consolidation may initiate a return to confidence. However, he adds that the line between expansionary and recessionary consolidation tends to be very thin.

Many economists argue that the fact that the states accumulated large debts will affect private consumption. The theory explains that forward looking agents will anticipate that higher budget deficit will have to be offset by higher taxes in the future. This is the so called “Ricardian equivalence”. Therefore, they will decrease their consumption now, while increasing savings to be able to pay for the future tax rates. As a result the customers will internalize the constraints related with government budget and it does not matter whether the state will finance its spending with tax increases or by issuing debt. This way government will not achieve to stimulate demand with the fiscal stimulus (Seater, 1993). However, it may also become true that the current consumption and investment will be more affected by the current income and current profits rather than those generated in the future. In this case, the multiplier effect will be again higher (Eggertsson and Krugman, 2012).

Cottarelli (2012) is another researcher who comes to the conclusion that fiscal tightening can be the source of the renowned growth, but he introduces an important concept. Similarly as other advocates of expansionary austerity, he shows that after the government cuts are implemented, the borrowing costs decline. However, the study emphasizes that this also happens as a consequence of a short – term faster

GDP growth. Tightened fiscal policy slows growth and some of the positive gains related to better fiscal positions are lost because of the lower growth. Cotarelli finds a nonlinear relationship between growth and sovereign bond spreads. Subsequently, if the fiscal contraction is too intense and causes falls in output, interest rates can rise after the consolidation. This leads to the paradox mentioned in the beginning of this chapter, when austerity further deteriorates fiscal situation.

The negative or uncertain consequences of fiscal cuts are also analyzed by Blanchard (2011). There is no agreement on how financial markets perceive fiscal consolidations scenarios. Indeed, it turns out that investors are rather schizophrenic on fiscal tightening and growth. They react positively to news of fiscal consolidation, but the responses are negative, when the fiscal retrenchment leads to lower growth.

The empirical evidence shows, that the expenditure based adjustments are not very likely. In the analysis by Broadbent and Daly (2010) only 11 out of 44 cases of fiscal consolidations cases were accomplished by spending cuts. These consolidations were followed by lower bond yield and rises in equity prices, which fuelled growth rates in next 3 – 5 years after the consolidations.

The IMF revisited the papers in favour of fiscal consolidation and concluded that both tax and spending based adjustments are recessionary in the short – run (see Guajardo et al., 2011). They calculated that tax – based consolidation worth of 1% GDP are associated with 0.6% reduction in output after two years, while the spending – based consolidations lower the output by 0.3%. The IMF has also recently reassessed their estimates of fiscal multipliers during the recession, finding out they fall between 0.9 and 1.7 rather than 0.5 as previously thought (Blanchard and Leigh, 2013).

The role of the world economy and spillover effects from fiscal policy

Fiscal consolidation efforts are more likely to be successful if the whole economy is in a good shape and, in particular, if the trade partners are experiencing boom periods. Specifically lower demand in country A due to an asymmetric shock can be counter-balanced by increased demand from partner country B. According to Auerbach and Gorodnichenko (2012a) the fiscal multiplier is much higher in deep economic slowdowns than in normal periods. Similar results were obtained by Holland and Portes (2012), showing the different effect of fiscal consolidations in times of recession and in normal times. Even Alesina and Perroti (1995), the

advocates of austerity measures, admit that it is less likely that the fiscal consolidation will be successful when the economy is in recession.

In the same vein, the spillover effects from fiscal policy in other countries are also particularly important. As already suggested, if country A is in recession, country B can stimulate demand in the negatively affected country. This can be effectively achieved by the fiscal stimulus from the partner country. Auerbach and Gorodnichenko (2012b) point out that these fiscal linkages become more pronounced during recessions. Apart from that, this also implies that coordination of national fiscal policies may be in some circumstances desired.

Austerity that hampers growth may be even intensified by the “hysteresis effect”. If the number of the long-term unemployed rises, then the loss in human capital may be translated into long-term problems (Aghion et al 2012). This represents a large threat for youth unemployment. As a result young people, without proper skills and background, will be incapable of finding jobs for decades. Social unrests, higher criminality, rising inequalities, lost output and resources associated with unemployment which increase the volume of unemployment benefits may consequently follow.

The effect of monetary policy

The role of monetary policy and its interactions with fiscal policy are very important, too. First, the flexibility in the exchange rate may magnify positive impact of the adjustments. If countries can devalue the exchange rates to boost exports the adverse effects of consolidation are likely to be less harmful. This also implies that countries that are relatively more open will be able to more successfully tighten public finances. This is supported by Beetsma and Giuliodori (2009) who found out that the negative output response is weaker during fiscal retrenchment for open than for closed economies.

The adverse impact of the fiscal retrenchment can be also offset by lowering the interest rates. However, the less room to slash the borrowing costs, the more dangerous the austerity is. When there is zero bound on the interest rates, the multiplier can become larger than 3 (Christiano et al, 2009). This logic is also consistent with other papers, namely with Almunia et al (2010).

It has been also found out that the tax – based fiscal consolidations are often complemented by contractionary monetary policy (presumably to offset inflation

expectations), while the spending based ones are mostly combined with monetary expansions. This might partly explain why the fiscal consolidation on spending side may be more often associated with positive results. The implication is that, when there is no space for monetary policy response, the difference between multipliers in spending and tax based adjustments is less significant.

3.2. Debt Sustainability

Yet, when the debts rise to unsustainable levels, they may also harm growth and investment. Long-run budget deficits are not sustainable and multiple years of unsound fiscal policy do not give much space for the choice of countercyclical responses. In the end, at least in the case of some countries, the European debt crisis does points out the dangers associated with years of profligacy in some cases.

There has been also a lot of research dedicated to the relationship between the size of public sector and productivity growth. The view of some researchers is that the large state is associated with wastefulness and inefficiencies. Bergh and Henrekson (2011) have shown that there is a negative relationship between the size of government and economic growth, while Madrick (2009) does not find such evidence. Auci et al (2013) looked at the impact of the size of public sector on productivity gains observing 15 European countries and were unable to find convincing proof that reducing big government brings productivity gains for the economy.

The picture is different when the debt is taken into consideration. High debt levels damage the economy through elevated taxation rates in future, inflation and increased long term interest rates. These are further intensified in case of banking or currency crisis. Some authors also pointed out, that excessive levels of public debt discourage accumulation of capital and subsequently weaken growth. Kumar and Woo (2010) report an inverse relationship between the size of government liabilities and output growth. Specifically, 10 percent increase in public debt reduces GDP per capita growth by 0,2 percentage points (0,15 in advanced countries). Reduced investment and slower growth in capital per worker contribute the most to the slowdown. Thus, there are good reasons to get the government debts on sustainable medium term trajectory and maintain sound fiscal policy.

Reinhart and Rogoff's (2011) high-ranking research shows that there is a debt limit where GDP growth significantly slows down. They claimed that the debt to GDP

ratio of 90% GDP is the critical value when it happens. However, it was recently discovered that the authors committed various methodology and coding errors. (Herndon et al, 2013). Plus, it is important that, they showed the correlation between the slowing GDP growth and rising debt. Accordingly, it cannot be implicitly stated from the analysis, whether the increase in debt causes weaker growth or whether it is the other way round. It is more plausible that high debts and slow growth influence each other and magnify the effects.

Checherita and Rother (2012) conduct a similar hypothesis and find out that 90 – 100% Debt to GDP ratio seems to be the level where the GDP per capita growth slows down. This paper also deals with the possibility of the reverse causation by various methods.

Egert (2013) ran an econometric analysis using the Reinhart/Rogoff data and observed that the relationship is very sensitive to the modelling variants. His conclusion is that there is not any magic tipping point, when the growth rate decreases substantially.

The literature dedicated to this topic still needs to be undertaken more deeply. The research should also focus on transmission mechanism through which public debt reduces growth. The relationship also varies widely across countries and therefore the pooled statistics approach may not be appropriate (Panizza and Presbitero, 2013).

Excessive debts also provide reduced possibilities how to cope with periods of weak growth. Ghosh et al (2011) calculate the fiscal space for various countries and find out that at debt levels of around 90% - 100% of GDP the possibility for fiscal manoeuvre is none or limited. Nickel and Tudyka (2013) also analyzed how effective fiscal stimuli can be amid different debt levels. It turns out, that with the debt level above 90% of GDP the impact of stimulus is much less effective.

How to get rid of the accumulated debt stock?

Economic theories imply that a rise in debt ratio is caused by either one of the following or both: (IZA, 2012)

- a) Real interest rates being higher than the real growth of GDP
- b) Accumulated primary budget deficits

This also suggests that the debt stock can be reduced either by accumulating budget surpluses or by increasing the output (since the debt is normally measured relative to

output size). Cherif and Hasanof (2012) found out that debt reduction and fiscal consolidation historically occurred mostly by improving growth. They also show that a sudden austerity (via tax hikes or spending cuts) may be self – defeating during weak economic conditions.

From the long – term perspective, excessive indebtedness poses a large risk for sustainable output growth. However, elevated debt levels need to be eliminated continuously. If the debt exceeds the threshold levels for a few years, the long - term growth is not necessarily put in danger (Scott, 2010). In the end, it takes decades until the amount of debt is reduced considerably. Historical evidence shows that only a fraction of countries managed to decrease their debt levels to the pre – crisis status (Baldacci et al, 2010). Nonetheless, if the excessive liabilities remain present for decades, the long – term growth is likely to decrease. Therefore a balanced strategy of both growth and adjustment policies should be implemented instead of focusing only on the debt reduction.

4. Austerity measures in the context of the European Debt Crisis

Amid worsening economic conditions the EU leaders agreed to change the fiscal stance and quickly shifted to austerity plans. Influenced by economic research about expansionary fiscal consolidations coming from Italian school (mainly Alesina and Perroti) and terrified by the unfavourable consequences of large public debt of Greece, policymakers turned their backs to counter – cyclical policy and most government decided to reduce their spending significantly.

The whole issue has been taken as a morality play coupled with a matter of psychology. The problems were not regarded as malfunctions in the economy. It was rather believed that since many governments have been behaving irresponsibly, they must now purify themselves from the sins they have made (Krugman, 2013a).

The final outcome is that after more than 2 years the Eurozone is struggling to come out of the recession, unemployment is soaring and the fiscal positions of the countries that needed the most urgent cure, have further deteriorated.

4.1. Evaluation of the post – crisis economic results

Since the origins of austerity stance in Europe, the main aim was to stabilize the large debts. Looking at the Eurostat statistics, one can see that the debt levels in EU countries have decreased only in 4 countries out of 27. The countries with the highest debt increases are those that implemented the strictest austerity measures. Ireland, Greece, Spain and Portugal increased their debt levels by more than 20 percentage points between the years 2010 – 2012.

Has or has not been there austerity?

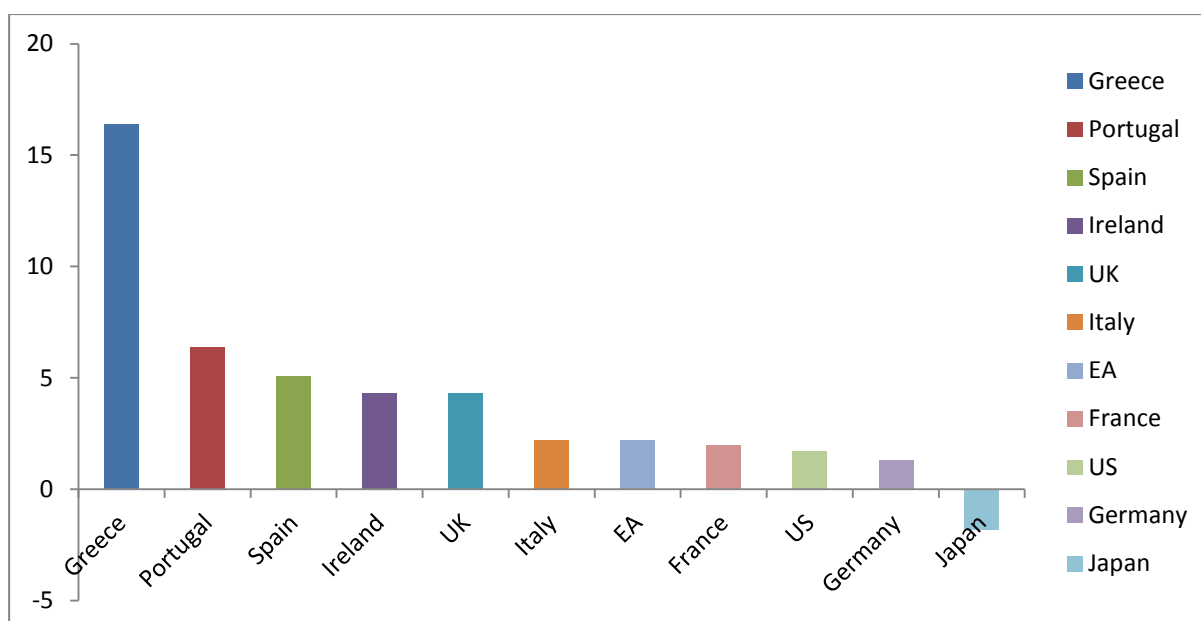
Many authors (see for instance Herber, 2013) argue that European countries did not implement sufficient fiscal consolidation measures. Alternatively, they claim, that the adjustment was done only by increasing tax rates. In the next figure I show the fiscal consolidation intensity measured as cyclically adjusted public deficits⁵. Specifically I

⁵ Cyclically adjusted deficit excludes short – term fluctuations and thus may provide a better picture about government finances. I added non – European countries for comparison.

calculated the change between years 2009 – 2012 to grasp the changes in fiscal stance.

It is clear that Greece engaged in the largest austerity measures, followed by other peripheral countries. The figure also proves that the Euro – Area as whole did choose fiscal consolidation strategy despite the fact that the region did not recover from the recession. Plus, according to OECD, more than 60% of consolidation measures concentrated on the spending side (OECD, 2012).

Figure 5 : Change in cyclically adjusted government balance (in percentage points) 2009 - 2012



Source: IMF Fiscal Monitor 2013, own calculations

Analyzing particularly the first bailout program of the most affected country, Greece, it turns out that the plan consisted in spending cuts of 7% of GDP and 4% of tax increases over four years : in the first year 1.9% of GDP spending cuts and 0.5% of GDP on the revenue side. Similar composition of the bailout package applies to the case of Ireland (see EC, 2010A and EC, 2010 B) In conclusion, both programs were heavily front – loaded and focused mainly on the spending side.

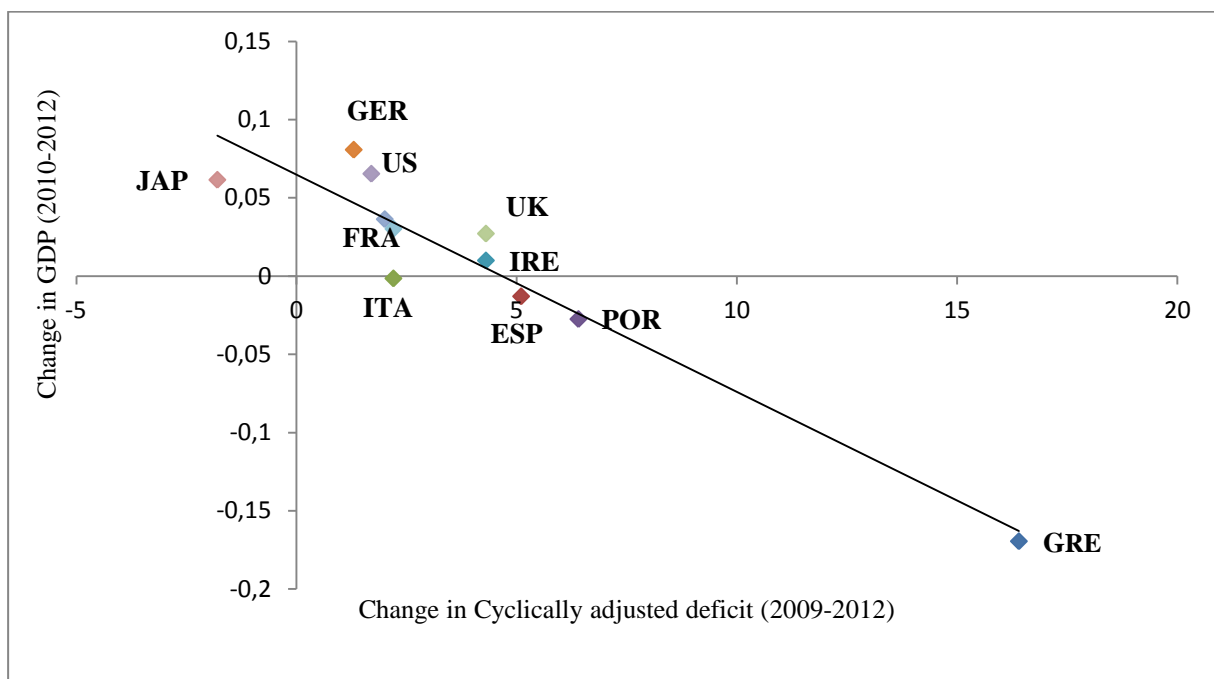
The positive aspect of the taken measures is the fact, that some countries are now near to achieving the primary budget balance (for evidence see Hokapohja, 2013), meaning that without excessive interest rate payments, government could be running budget surplus. Namely, Portugal and Greece and are close to zero primary balance, while Italy is already in primary surplus. This would give more scope for

potential stimulus without further indebting, if ECB was willing to refinance the countries mostly affected by the crisis.

Consequences of austerity

There is a strong link between depth of the adjustment process and the GDP growth during the fiscal consolidation period (I use percentage change of GDP for 2010-2012). The relationship is also valid for non – European countries. Germany and the US engaging in the smallest fiscal consolidation measures achieved the highest growth rate over the past two years, while “peripheral” countries with the strongest cuts have experienced falls in GDP or very low growth.

Figure 6 : Austerity measures and GDP growth



Source: Eurostat, IMF, own calculations

The development on the labour markets did not bring positive results, either. The unemployment rate in the Euro – area rose to its record level of 11.4% in 2012 after a 1.3 percentage point increase in the past two years. The highest increases over this period were recorded in Greece (11 p. p), Spain (4.9 p. p) Portugal (3.9 p. p) and Italy (2.3 p. p) after their unemployment rates were already notably high a few years before as a result of the financial crisis from 2008. This is very dangerous for the future long – term growth prospects in the southern countries, but also for the stability of the whole region. Presence of high unemployment rate for longer period of

time discourages workers to search for jobs and they afterwards lose skills which may consequently cause large losses in human capital.

Unemployment rates in Spain and Greece now reach striking 25%, while youth unemployment figures are at double of these values. Furthermore, the number of long – term unemployed also increased the most in the periphery countries, with striking levels, especially in Greece and Spain where they exceed 10%.

Table 3: Unemployment indicators in selected countries

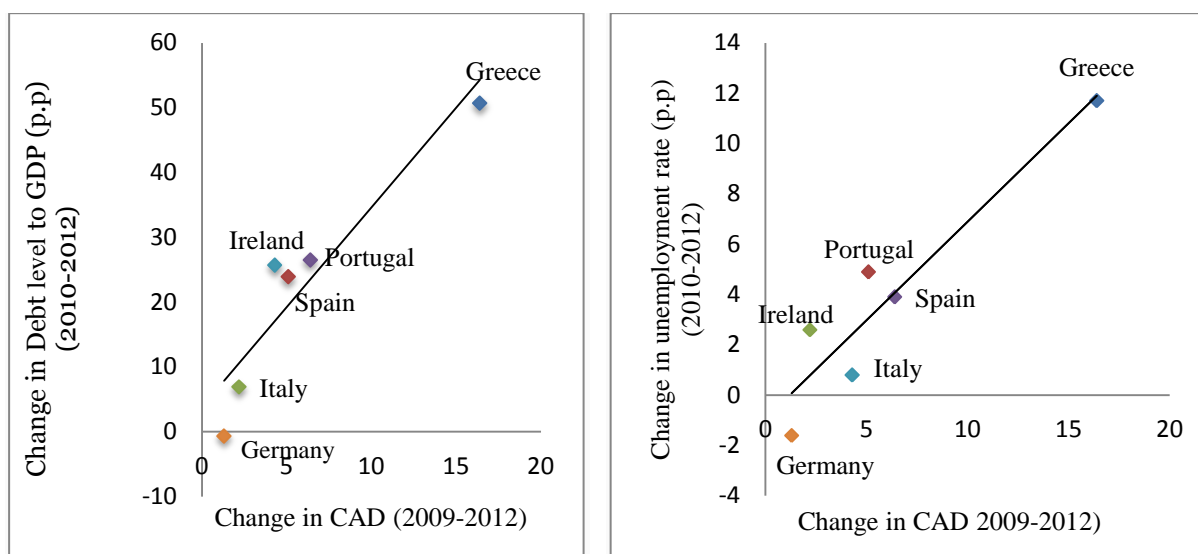
Country / Unemployment indicators (2012)	Unemployment rate (%)	Youth unemployment rate (%) - under 25 years	Long - term unemployment rate (%)
Greece	24.3	55.3	14.4
Spain	25	53.2	11.1
Italy	10.7	35.3	5.7
Portugal	15.9	37.7	7.7
Ireland	14.7	30.4	9.1
Germany	5.5	8.1	2.5
Austria	4.9	8.7	1.1
Netherlands	5.3	9.5	1.8

Source: Eurostat

In the next two scatter plots the relationship between the intensity of fiscal consolidation and the change in both debt levels and unemployment rates is illustrated. While it is not possible to show the causal effects with statistical significance because of a small dataset, the link between austerity and unfavourable economic results is again remarkable.⁶

⁶ Note: The change in the Greek public debt is calculated excluding debt restructuring. I used the debt level forecasted for 2012, which does not assume the write – off (European Commission, 2011).

Figure 7 : Austerity and its impact on debt and unemployment



Source: Eurostat, own calculations

It is also worth noting that IMF analysed the recent fiscal responses in Unites States, Europe and Japan and concluded that withdrawing the fiscal stimulus too quickly when the economy is weak can be problematic. Focusing on front – loaded adjustment which is based mainly on the spending side causes that the recession lasts longer, GDP to debt ration reduction is delayed and may further deteriorate the market sentiment (IMF, 2012).

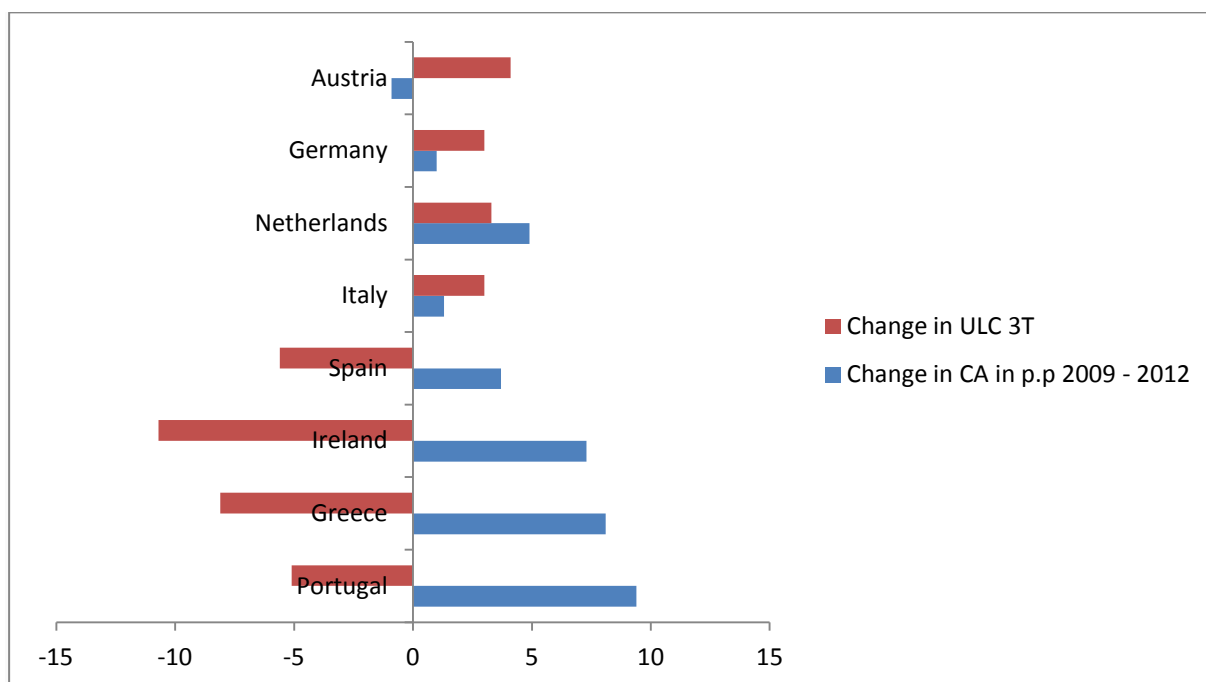
Adjustments in external imbalances

In the first chapter I emphasized that the European Debt Crisis emerged as a result of balance of payment crisis. Had Europe not been hit by an asymmetric shock the external imbalances would have probably widened further. Hence, it is worth analyzing what happened to exports in PIIGS countries and whether the first rounds of austerity measures brought some rebalancing within the European region.

Figure 8 reveals that most countries in the periphery achieved remarkable adjustments in external imbalances (blue bars). Ireland registered the largest change of 10.7 p.p. followed by Greece, Portugal and Spain, all decreasing their current account imbalance by more than 5 p.p. Only in Italy the adjustment process did not occur, however, its deficit was not as excessive as in the other countries. Yet, the changes in PIIGS countries were not matched by the mirror alterations in the core Eurozone countries. Netherlands and Germany accumulated even larger surplus over the past 3 years, although they were already at high levels before the crisis.

The picture is different for nominal unit labor costs developments, where the rebalancing was much more symmetric. In Germany, Netherlands and Austria the labor costs increased, while a significant decrease was apparent in the peripheral countries. However, also in the case of unit labor costs adjustment the changes can be attributed more to the EZ peripheral countries.

Figure 8 : Change in Unit labor costs (3 - year % change) / Change in CA balance as % of GDP (2009 – 2012) (percentage points)



Source: Eurostat

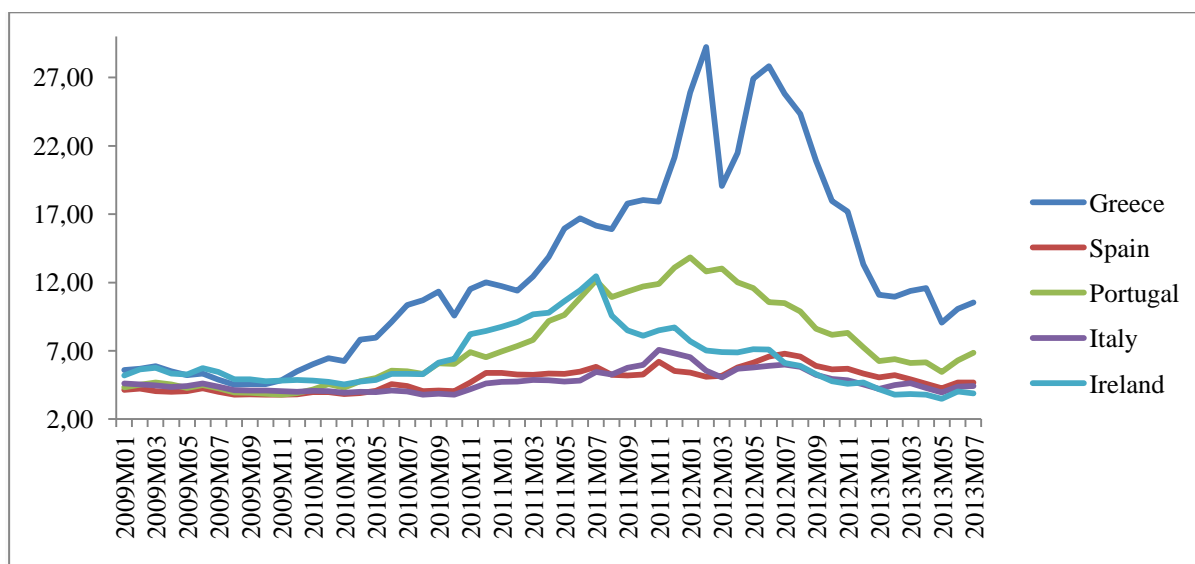
Government bond markets

The European debt crisis intensified when the borrowing costs for the governments became unsustainable. The debt stock in the Euro - zone is currently so high that even very slight movements in the government bond yields can create panic in the financial markets. The austerity measures were implemented for the very same reason – to calm the markets.

The following graph shows evolution of the 10 year sovereign bond yields since 2009. While the yields did indeed decline, as already mentioned, this change can be attributed almost completely to the unconventional monetary policies of the ECB. It is interesting to see that the graph appears to be relatively symmetric along the period from the first Greek bailout in 2010 up until now.

The monetary policy managed to get the yield to the levels from around two years ago with very few changes. The spreads of PIIGS started to decline with the announcement of non – standard actions throughout the year 2012. Thus, the developments in the government bond yields seem to depend extremely on the actions which manage to ensure the stability.

Figure 9 : Long – term (10Y maturity) government bond yields since 2009



Source: Eurostat

4.2. Beyond the main statistics

Many policymakers and experts misdiagnosed the root causes of the crisis that spread to Europe and, in particular, did not take into account the specific environment of recent economic condition surrounding European and also other advanced countries. While there is some evidence about the positive effects of fiscal consolidation from the past, the successful results are hardly applicable to the current situation in Europe.

Large output gap, inability for the monetary policy to offset the fiscal contraction and weak growth in both Euro - zone and the world economy made the short – run effects of the fiscal tightening increasingly damaging.

Output Gap

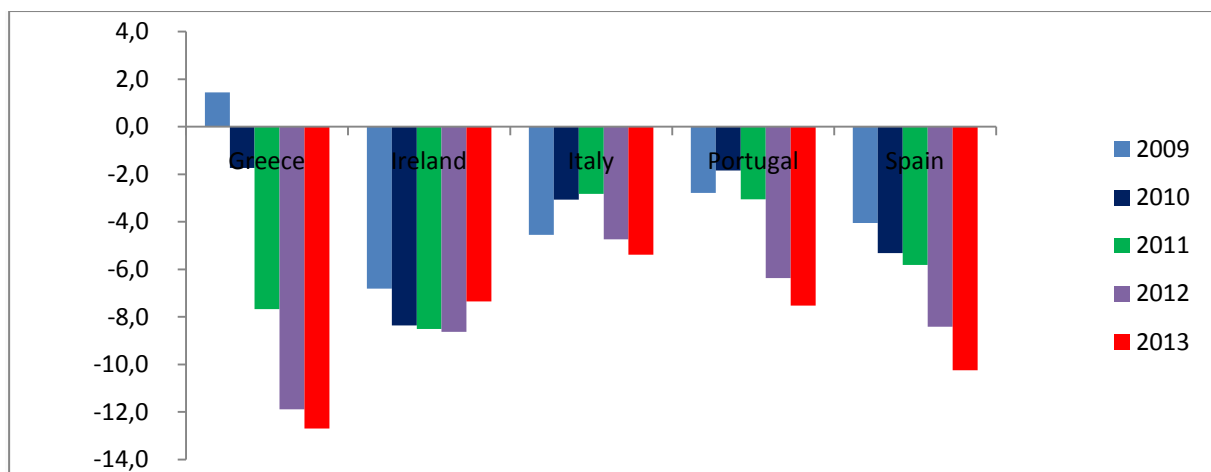
There is a large consensus that the world economy is now not in its full potential. In fact, the output gap is currently substantially large. As already shown, what this means is that the economy is not using fully all the resources and hence

there is more room for fiscal expansion. Nevertheless, it also implies that the chosen spending cuts resulted in large losses in investment and human potential, which will be difficult to recover.

From the analysis of Brodbent and Daly (2010) it can be derived that during past expansionary fiscal adjustments, only in 2 cases out of 28 the output gap was slightly over 2% of GDP, when the adjustment was achieved mainly by tax increases. In case of the expenditure - based consolidations, the picture is slightly different. In 4 out of 11 cases, the output gap was higher than 2%, of GDP but as per tax-based adjustment in none of the cases the gap exceeded 5% of GDP (Baker, 2010).

The following table shows the output gaps in the peripheral countries in Europe. The output gap was growing in all presented countries and for the year 2013 the output gap is going to exceed 5% of GDP, which shows large space for fiscal policy. This suggests that the fiscal multiplier is also getting bigger making the fiscal consolidation more harmful.

Figure 10 : Output gaps in PIIGS countries (% of GDP)



Source: OECD

It is interesting to see that despite the large output gap the inflation has remained relatively constant. According to Krugman (2013b), this happens due to sticky wages that simply do not get under a certain value in recessions. Davies (2012) observes that around two – thirds of the economic slowdown relative to its potential is due to supply – side aspects. According to him this implies that in the short – term potential expansionary fiscal policy is likely to result in rising output and not in increased inflation, which is a cause of concern for many experts.

Open economy and balanced current account as a way to escape the recession

The mentioned successful cases of fiscal consolidations happened in Netherlands in 1983 and 1996, Finland in 1996, Sweden in 1994 and Norway in 2004-2006. The trade/GDP ratio in these countries was in all examples higher than 30% GDP (Baker, 2010). From the PIIGS countries, OECD statistics show that only Portugal and Ireland have trade openness indicator over 30%, with the latter one significantly over 30%.

As a result, only Ireland managed to quickly achieve current account surplus, grasping the benefits of its open economy for quicker recovery. This is important, because in countries that are relatively open and where growth relies mostly on external demand, the tax hikes and spending cuts do not affect domestic output so adversely.

Moreover, measuring the recovery in Euro – zone countries, it is apparent that open economies fared much better than the closed ones when it comes to dealing with the external shock. Current account surplus seems to be a good indicator, as well. Table 4 shows that the countries which maintained current account surpluses when the crisis hit in 2008, managed to get back (or exceed) to pre – crisis GDP levels level after 2 years. On the other hand, the recovery has been rather troublesome for those suffering from current account deficit.

Table 4 Current account balance (as % of GDP) and the GDP growth 2008-2010

Country	Current account balance as % of GDP (2008)	GDP difference 2008-2010
Austria	4.9	0.0%
Germany	6.2	0.6%
Ireland	-5.6	-7.7%
Spain	-9.6	-1.4%
Greece	-14.9	-1.4%
Italy	-6.7	-1.2%
Portugal	-12.6	-1.3%
Netherlands	4.3	2.1%
Denmark	2.9	7.1%
Finland	2.6	13.1%

Source: Eurostat

The recent rebalancing in external positions brought positive results to some extent, but it also proved to be destructive on the other hand. The adjustment in the

current account imbalances was partly achieved by decreasing the domestic demand. The internal devaluations pushed countries into deep recession, caused excessive losses in output and employment and human capital, too. In the southern countries, unlike in Ireland, strong fall in domestic demand was not compensated enough by the rise in exports because of their relative isolation towards world trade. Falling output also impacted public finances, as the tax revenues declined.

This shows an important remark on the European level. I mentioned that the Euro – zone as a whole rejected the approach of continued use of fiscal stabilizers, but the chosen alternative of tightening did not manage to prevent the whole area from slipping into recession. What stands out in this context is that while fiscal multipliers in many specific European countries are not likely to be substantially large because of high individual trade ratios, the multiplier for Euro – area is expected (since the EU as region is much less open) to be relatively big. This is the reason why the austerity measures on the European level are notably dangerous.

Since the Euro – zone as a whole can be considered a large closed country its growth prospect thus rely mostly on domestic demand. Therefore, without any kind of pro – growth policies addressing the slashed demand it will be very difficult for the European countries to cope with unfavourable conditions.

Symmetric or asymmetric policies and adjustment?

Due to the large intra-trade value within the Euro – zone, the danger related to maintaining large imbalances within the region is clear. I also argued that northern euro countries built large external surpluses and became more competitive at the expense of their southern counterparts. The countries like Germany, Netherlands and Austria could not accumulate these surpluses without increased demand from peripheral countries.

Thus, the blame is not only to be put on the debtor countries, that borrowed extensively but also on the creditors, which lent too much. For this reason it is necessary for the adjustment to occur symmetrically. I have shown, however, that the internal devaluation in the southern countries was not matched by the mirror revaluation in the northern countries. The overall rebalancing is being borne much more by the deficit countries, consequently causing the deflationary spiral and recessions.

A similar concept applies to the fiscal policy equilibrium within the region. If government spending is being slashed in the whole integrated trade block, the adjustment process is much more painful for the countries consolidating the most intensively. Without any offsetting power, the recession and increases in unemployment are likely to follow.

The fiscal consolidation policies therefore should happen in the countries that do now have space for fiscal stimulus and countries, while those enjoying low borrowing costs should counter – balance the weak demand by expansionary fiscal policies. With all the countries slashing government spending, European policymakers are putting the whole region under large threat of long stagnation.

DeLong and Summers (2012) modeled the output response to fiscal consolidation under certain circumstances. Gauging Western Europe's marginal tax-and transfer share at 0,4 and expected long run growth rate at 2%, even if the fiscal multipliers were only $\frac{1}{2}$ and the long-term negative impact on growth was as low as $\frac{1}{10}$, the short-run spending cuts would harm long-run fiscal position, unless the borrowing costs are higher than 5%. Therefore, with most countries in Western Europe enjoying lower borrowing costs, there is sizeable space for compensating the austerity in the periphery.

However, the synchronized fiscal adjustment had depressed the European economy. The spillover effects magnified the damaging effects and resulted in weak or no growth in Eurozone. Moreover, the recent Fiscal treaty that put a limit on deficits does not allow for fiscal retrenchments in the insolvent countries to be offset by increased demand from more liquid countries.

Determinants of the spreads on government bond yields

In the second chapter I pointed out the possibility that under some conditions markets are rather short – sighted and are more sensible to short-term developments in the market. Beside my analysis in the first chapter, a recent IMF study comes to a surprising conclusion that the markets are now focusing on the short term growth rather than consolidation efforts. This happens because of the aversion towards sustained financial turmoil. The implication is that tight fiscal policies may increase spreads if the consolidation leads to decline in growth (IMF, 2012b).

Likewise, Romer (2012) analyzed Spanish government bonds and found out that the bad news about growth are as important to the markets as the bad news associated with weak fiscal position.

Godl and Kleinart (2013) undertook an event study of how the financial markets react to various categories of news. According to the results, the financial markets strongly react to bad news associated with negative growth or budget deficit above 3%. However, the authors could not find the evidence that markets respond positively to the announced austerity measures.

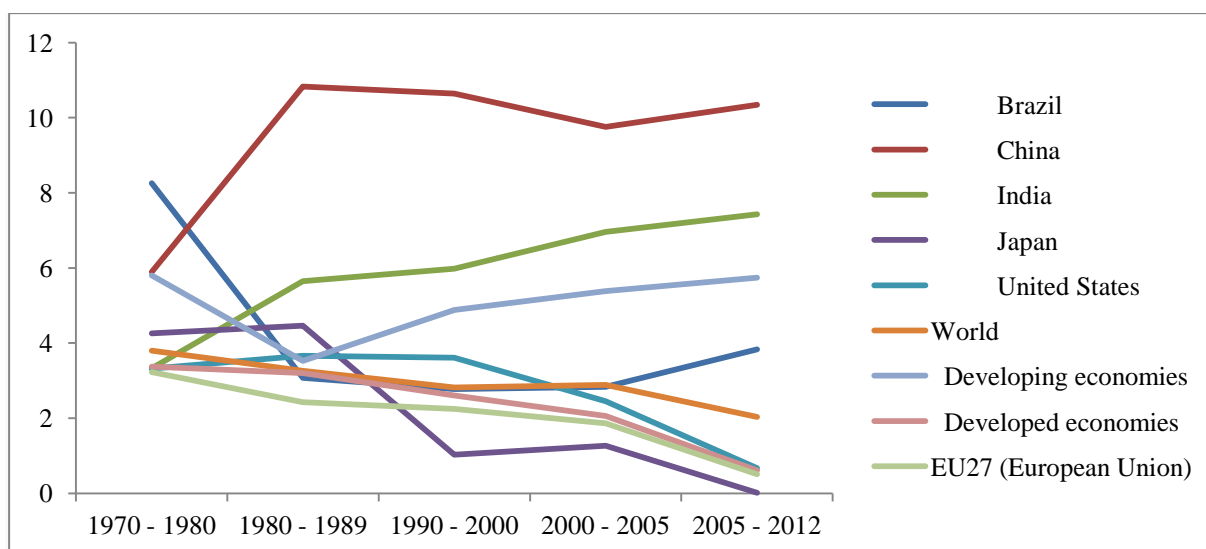
In summary, the financial markets were not asking for front – loaded fiscal adjustment policies. They were rather demanding some kind of security, which were eventually provided by the actions from the ECB.

Weak conditions of both world and European economy

In addition, as mentioned, higher growth of the trade partners increases chances for successful consolidations. The world economy is now very weak. The successful cases of austerity happened when the world economy was in strong expansion cycles.

The following figure shows the growth rates over the past four decades. Both world and Europe as a whole have experienced record low levels of output growth, which have been only around 2% since the break – up of the financial crisis in 2008.

Figure 11: The GDP real growth rates (1970 – 2012)



Source: UNCTAD Statistics

It is noticeable that only some developing countries are experiencing stronger growth rates. However, the trade partners of Euro – zone peripheral countries lie mostly within Europe. For instance, the share of exports of Italy and Spain to China accounts only for 3% and 1.6% respectively of their exports. The recovery is therefore very difficult, unless these countries can quickly reorganize their trade policies. Apart from that, the exports to the third countries can hardly boost, since the exchange rate is largely overvalued for the southern countries. Regarding the EU intra - trade and the devaluation is not even possible vis-à-vis Euro – zone states.

Also the previous economic literature gives different results for expansionary consolidations if world economic growth is taken into account. Taylor (2013) replicated data from the mentioned Alesina and Ardagna paper and concluded that it was only in the boom periods that the GDP responded positively to fiscal contraction. In recessions the coefficient is non – significant and mostly negative.

Zero bound interest rates

Taking into account two most cited examples of successful consolidations, Ireland (1987 – 1989) and Denmark (1983 - 1987), in both cases the recovery was enabled by lowering the interest rates. Consequently foreign direct investment picked up and helped to boost growth. Thus, in the previous cases of successful expansionary consolidations, the countries had more space for offsetting the fiscal tightening.

Today`s interest rates, which are very close to zero do not give space for further monetary stimulus. Besides, any actions of the ECB that encourage the firms to borrow more are rather unsuccessful since businesses are afraid of unfortunate growth prospects.

When the borrowing rates are low, the value of investment tends to be high. But when fiscal cuts that cut demand affect negatively the expected future return to capital, not even low interest rates can bring in attractive investments. This is the reason why most research claims that investment will follow economic growth rather than the opposite.

The situation is different with the government investment, where the decisions depend on the public institutions. Yet, since the public investment has been declining while the public consumption has been increasing over past decades, no efficient substitute for private investments exists. (Collignon, 2013).

Largest debt levels in the history

I have shown the damaging effects of austerity on the European countries. However, advanced economies currently have to cope with the largest debt levels in the history. They do not create adequate environment for rapidly improved growth in the near future and nothing predicts that European countries could start growing at faster rates than they did in the last decades.

I have analyzed the current conditions in the world markets showing that under the current setting fiscal consolidation may bring more evil than good. Though, it should be pointed out that the high debt levels are not only the result of the last decade. They have been rising since the 70's and the private debts are also on its record stage. European governments have built strong safety nets, while lagging behind some other advanced industrial countries. To become competitive again, the trends will need to be reversed to some extent.

It was not only IMF and EU leaders, but also the large debt overhang that has obliged many European countries to undergo austerity programs. Furthermore current methodologies that measure growth do not register the future liabilities of governments. There is no magic tipping point when the debt level is already at its critical level, but some fiscal adjustment will have to take place in medium or long-term. Thus, the vulnerable and also other advanced countries in Europe and everywhere else will have to start with structural reforms at some point. It will be necessary to pace efficiently the medium – plan regarding the reforms in healthcare, pension systems, benefit programs to get back to sustainable growing paths.

5. Conclusion

The financial crisis in 2008 came as a large shock and it would be inappropriate to put all the blame on the economists for not being able to anticipate it. However, five years from the onset of the financial turmoil, the situation is far from stabilized. As a result budget deficits and debt dynamics are not improving and many countries were dragged into deeper recessions. As a result, Europe, in particular, needs a convincing strategy in terms of how to tackle the current problems.

First, it is clear that the root causes of today's economic slowdown do not lie in the government profligacy. Austerity alone will not solve all the problems, especially

now in the times when many advanced countries are experiencing very low growth rates and even Asian countries are slowing down. The fiscal stimulus was withdrawn too quickly and European countries found themselves without tools to mitigate the asymmetric shock that came unexpectedly. Instead they were forced to implement front – loaded fiscal consolidations, which cost them millions of unemployed, billions of lost output and many investments that were not undertaken.

With the whole euro-zone slashing government spending and without any space for monetary policy, no other offsetting power is available. The deleveraging process undertaken by all economic agents creates negative externalities and due to this effect some coordination is needed. I have shown that the main difficulties came rather from the insufficient institutional design of the European monetary Union and the current account imbalances. Yet, it is clear that not all the countries within the EU can turn to current account surplus, which calls for some symmetry in the readjustment process within the region. Fiscally strong countries with current account surplus have space to use active fiscal policy. This is both in their interest and in the interest of their southern counterparts that do not have such option. There is a substantial output gap and the renowned demand must come from somewhere. Eurozone as a whole is to some extent a closed economy where countries trade with each other. And, since the inflation is not a big threat at the moment, some pro growth – policies which could stimulate the demand are desired.

On the other hand, although there is no clear – cut evidence about the dangers associated with large debts, claiming that the overall debt level does not matter would be foolish. Both the private and public debts are simply too high. Postponing fiscal reforms for decades is not an option. Greece, Spain, Italy and Portugal all desperately need reforms in labor markets, public sectors, etc. However, a proper care should be made when planning their implementation and therefore a reasonable pace needs to be chosen. For this reason, more focus should be put on back – loaded fiscal consolidation based on structural reforms. There is a need for gradual pacing that takes into account the strength of demand. The reforms that do not harm the economy now, but that bring large benefits in the long - term are the policies that will convince the financial markets and will create confidence.

The euro – zone countries have made painful steps that brought positive results for some rebalancing in the region. It turns out that the external debt might be at least as important as the public debt for sustainable fiscal positions. In this aspect,

the spending cuts undertaken in the periphery were important and wanted. However, the countries in the periphery are now being threatened by the possibility that sudden increases in the unemployment will translate into long – term problems. Apart from that, the austerity effort is soon going to hit boundaries connected with political and social difficulties.

With countries, such as Greece and Portugal and Italy, being close to achieving primary surplus, the ECB can play a stronger role. The unconventional policies taken so far have been fairly successful, but more is needed to provide ground for southern countries to implement reforms which are difficult to pass. The design of the EMU makes fiscal sustainability much more difficult for the countries without own currency. They are forced into the bad equilibrium and hence the ECB should step in and correct these market failures.

Financial markets should also be provided with convincing measures from governments, that need to specify when and how the reforms will be made and who will pay for them. Further vague, “one size fits all” rules are not likely to improve market sentiment. Flexible and individual approach that can react to developments in economic conditions, but prevents moral hazard, is required.

In conclusion, the proposed policies should be balanced and be in favor of well paced long – term structural reforms, while they should avoid senseless cuts in sectors with high fiscal multiplier that further dampen the weak economy. Otherwise, the current measures will only prolong the recession and the recovery will not likely to arrive.

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Data Appendix

Table A. 1: OECD countries summary Statistics of Key Variables used in figure 4

Country	Current account balance as % of GDP (2011)	Gov. bond yields - 10year (2011)	Gov. budget balance (2011)	Debt to GDP ratio (2011)
Australia	-2,3	4,9	-3,6	26,8
Austria	1,4	3,3	-2,4	79,9
Belgium	-1,2	4,2	-3,9	100,3
Canada	-11,0	2,8	-4,0	87,8
Czech Republic	-2,7	3,7	-3,3	47,1
Denmark	5,6	2,7	-2,0	56,1
Finland	-1,6	3,0	-1,1	61,2
France	-1,7	3,3	-5,3	98,6
Germany	6,2	2,6	-0,8	86,9
Greece	-10,0	15,8	-9,6	165,1
Hungary	0,8	7,6	4,2	89,8
Iceland	-6,5	3,0	-5,6	127,3
Ireland	1,2	9,6	-13,3	112,6
Israel	1,1	5,0	-4,4	74,6
Italy	-3,1	5,4	-3,7	127,7
Japan	2,0	1,1	-8,9	211,7
Korea	2,3	4,2	2,0	35,5
Luxembourg	6,9	2,9	-0,2	28,2
Netherlands	10,2	3,0	-4,4	72,5
New Zealand	-4,1	4,9	-5,3	44,1
Norway	12,8	3,1	13,4	56,5
Poland	-4,8	6,0	-5,0	64,9
Portugal	-7,0	10,2	-4,4	111,9
Slovak Republic	-2,1	4,4	-5,1	49,8
Slovenia	13,9	5,0	-6,4	53,7
Spain	-3,7	5,4	-9,4	74,1
Sweden	7,0	2,6	0,0	46,2
Switzerland	8,4	1,5	0,5	42,0
United Kingdom	-1,5	3,1	-7,9	90,0
United States	-2,9	2,8	-10,2	97,6
Euro area (15)	0,1	4,3	-4,1	95,6

Source: OECD

Table A. 2: Regression results used in figure 4

Model 1: OLS, using observations 1-31

Dependent variable: Yields

Independent variable: Current account balance as % of GDP (2011)

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
Const	4.6529	0.482751	9.6383	<0.00001	***
CA	-0.20072	0.0802234	-2.5020	0.01824	**

Mean dependent var	4.564194	S.D. dependent var	2.906099
Sum squared resid	208.3806	S.E. of regression	2.680585
R-squared	0.177539	Adjusted R-squared	0.149178
F(1, 29)	6.260037	P-value(F)	0.018241
Log-likelihood	-73.52047	Akaike criterion	151.0409
Schwarz criterion	153.9089	Hannan-Quinn	151.9758

Model 2: OLS, using observations 1-31

Dependent variable: Yields

Independent variable: expected GDP growth in 2012 (2011 forecast)

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
Const	5.68469	0.524489	10.8385	<0.00001	***
expected_GDP_g th_2012	-1.07208	0.282125	-3.8000	0.00069	***

Mean dependent var	4.564194	S.D. dependent var	2.906099
Sum squared resid	169.1406	S.E. of regression	2.415044
R-squared	0.332416	Adjusted R-squared	0.309396
F(1, 29)	14.44023	P-value(F)	0.000687
Log-likelihood	-70.28662	Akaike criterion	144.5732
Schwarz criterion	147.4412	Hannan-Quinn	145.5081

Model 3: OLS, using observations 1-31
 Dependent variable: Yields
 Independent variable: Debt as % of GDP (2011)

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
Const	2.73926	1.15018	2.3816	0.02402	**
Debt_to_GDP	0.0224833	0.0127347	1.7655	0.08801	*

Mean dependent var	4.564194	S.D. dependent var	2.906099
Sum squared resid	228.7728	S.E. of regression	2.808686
R-squared	0.097053	Adjusted R-squared	0.065917
F(1, 29)	3.117060	P-value(F)	0.088005
Log-likelihood	-74.96760	Akaike criterion	153.9352
Schwarz criterion	156.8032	Hannan-Quinn	154.8701

Model 4: OLS, using observations 1-31
 Dependent variable: yields
 Independent variable: Government balance as % of GDP (2011)

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
Const	3.91447	0.638513	6.1306	<0.00001	***
DEF	-0.176289	0.105329	-1.6737	0.10494	

Mean dependent var	4.564194	S.D. dependent var	2.906099
Sum squared resid	231.0444	S.E. of regression	2.822596
R-squared	0.088087	Adjusted R-squared	0.056642
F(1, 29)	2.801280	P-value(F)	0.104943
Log-likelihood	-75.12075	Akaike criterion	154.2415
Schwarz criterion	157.1095	Hannan-Quinn	155.1764