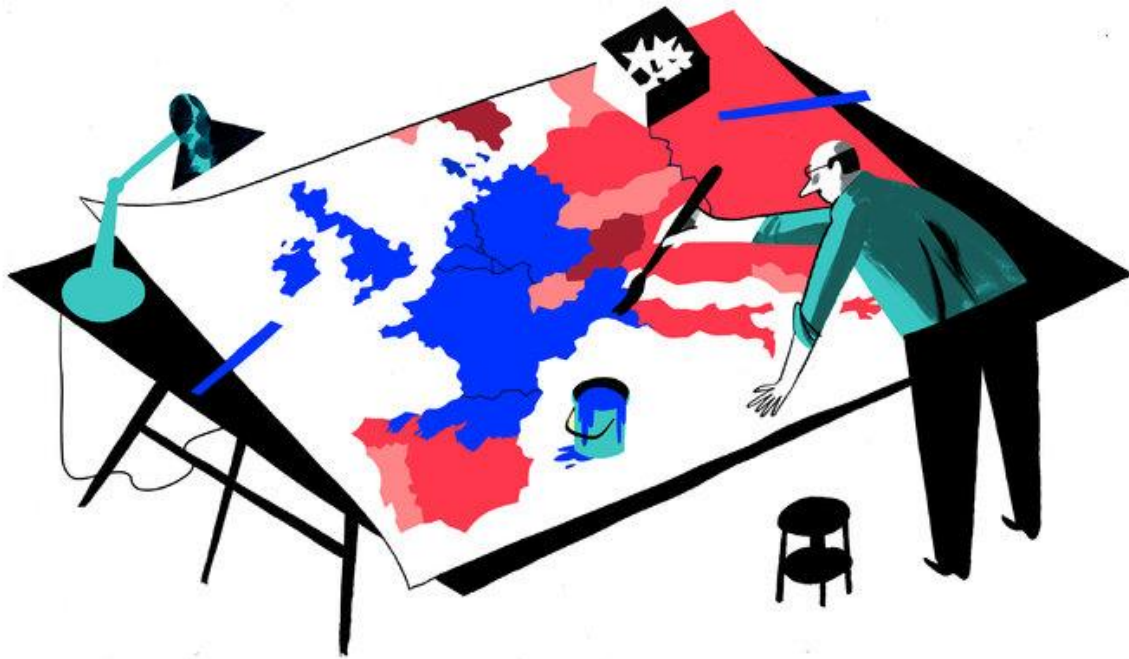


The Revenge of the Optimum Currency Area:

The Future of the Eurozone



Master Thesis

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SUMMARY

This thesis aims to show what impact the sovereign debt crisis has had on the European Union, in particular the European Monetary Union (EMU), and to what policy reforms that crisis has led. The recent policy reforms have been used to research the institutional setup of the Economic and Monetary Union. The policy reforms that have resulted from the sovereign debt crisis have been assessed against the background of three variables: the institutional design of the EMU, the degree in which the EMU is an Optimal Currency Area and the degree of policy convergence within the EMU. This thesis shows that the sovereign debt crisis revealed shortcomings in the institutional setup of the EMU. Furthermore, the crisis produced an asymmetric shock as defined by the Theory of Optimal Currency Areas. In fact, according to that theory, the EMU cannot be called an 'Optimal' Currency Area. Moreover, no sign of pre-crisis policy convergence has been found. Countries which adopted the Euro as their currency have not converged since the start of the third phase of the EMU. This thesis will show that the sovereign debt crisis has revealed flaws in the institutional design of the EMU, which created the need for urgent policy reforms.

PREFACE

This thesis has been written as a completion of my master education in International Public Management, Erasmus University Rotterdam. Yours truly has a bachelor degree in Political Science, obtained at the University of Amsterdam.

I am extremely grateful to my head supervisor dr. F.K.M. van Nispen for the academic, practical and moral support. Furthermore I would like to thank prof. dr. C.W.A.M. van Paridon for co-supervising.

A big thanks to my parents for their unconditional support.

Although it is time to move on, I will miss student life.

Yours faithfully,

Marcel Stroop.

“People only accept change in necessity and see necessity only in crisis”

Jean Monnet (1888-1979) - The unifying force behind the birth of the European Union

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1 INTRODUCTION

1.1 BACKGROUND

The recent sovereign debt crisis has caused yet another burst in the confidence of European citizens in the European project. By going into detail on the construction of the EMU, this thesis seeks answer to the question of how the sovereign debt crisis could have such a far-reaching impact on the lives of Europeans. This thesis will assess the impact and outcomes of the crisis with respect to the Euro.

I have chosen this subject because I believe there is still a long road ahead for the Euro to become the currency we would like it to be. A key aspect in this thesis is whether the member states are moving towards a sustainable Eurozone or the opposite. Two quotes by De Grauwe, an influential commentator, illustrate the current problems: "*Many of the problems of a monetary union arise from the fact that it is incomplete*", and: "*A monetary union should be embedded in a political union. Almost everybody will now agree with this*" (de Grauwe 2012: 119). These two quotes arguably illustrate the problem of the Eurozone; it is incomplete and is not embedded in a Political Union. This thesis aims to explain how the sovereign debt crisis has paved the way for policy reforms.

The introduction is structured by first discussing the problem statement, including an explanation of the crisis. This will be followed by a discussion on the scientific and social relevance. Subsequently the scope and the research method and question will be discussed and finally the structure of this thesis will be explained.

1.2 PROBLEM STATEMENT – THE CRISIS AND THE LOGIC OF A MONETARY UNION

A common currency: the Euro should have been the triumph of European integration. Although many economists have raised concerns about the construction of the Eurozone, the Euro became the official currency of eleven countries as of 1999 (2001 in Greece and physically in 2002). The advantage of a common currency is well known under economists. Krugman describes these as: "*reduced transaction costs, elimination of currency risk, greater transparency and possibly greater competition because prices are easier to compare*" (2012). The common idea was that these advantages should lead to an explosion in the intra-Eurozone

trade and result in high economic growth. The main disadvantage is the loss of monetary flexibility. In order to boost economic growth they cannot use a currency devaluation as a monetary tool. In general, a so called "Optimum Currency Area" (OCA) will be formed between participating countries/member states if the predicted benefits outweigh the predicted costs. This theory of OCA has been developed by Mundell (1961) and further build on by Kenen (1969). Research has shown that the Eurozone is not an OCA and influential authors doubt whether it will ever become one. Economists like Eichengreen (1992) and Krugman (1993) already stated in the early nineties that the EMU zone will not become a successful OCA and that eventually it will counteract economic growth in Europe.

However, anno 2015 the Euro is still the current currency for the Eurozone. While the Euro still exists, there are major problems which have been and are still to be overcome. European leaders are aware that measures need to be implemented to stabilize the Eurozone. The recent implementation of the "Treaty on Stability, Coordination and Governance in the European Monetary Union" is one of those measures. Although various policy reforms have been implemented, the Eurozone is still dealing with the heritage of the sovereign debt crisis.

From 2008 onwards the European economies have been experiencing a far reaching crisis. The Euro crisis has been characterized by three different crises: the banking crisis, a growth- and competitiveness crisis and the sovereign debt crisis (Shambaugh 2012: 159). The sovereign debt crisis will be focused on in this thesis. The policy reforms focused on improving the structural budget balances of EMU countries. Because of the combination between bank failures, weak growth, bank defaults and the necessary austerity measurements the Eurozone was pushed into a sovereign debt crisis (Shambaugh 2012: 160). The sovereign debt crisis caused significant financial problems, caused by several factors in the Euro countries. Different rescue operations had to be started and policies were changed within the Eurozone to combat deficiencies in national systems. In this thesis I will further elaborate on how these deficiencies could cause such a far-reaching sovereign debt crisis.

The focus in this thesis will be how the far-reaching sovereign debt crisis has created the need for the recent policy reforms. This will be done by approaching the need for policy reforms from three different angles. First of all, the nature of the EMU will be analyzed – the institutional setup. In the treaties regarding the EMU, four aspects appear to be of crucial importance: The Coordination of economic-policy making between member states (Economic

Coordination), the coordination of fiscal policies (Fiscal Coordination), the European Central Bank and the single currency: the Euro. Particularly the Fiscal Part was strengthened with the recent six-pack, two pack and fiscal compact. Using Historical Institutionalism's path dependency the thesis will investigate whether initial shortcomings opened up the path for the recent reforms. Second of all, by using OCA theory to explain the importance of the absence of asymmetric shocks within a Currency Union. According to OCA theory countries should only form a currency union if asymmetric shocks are absent. Therefore the existence or absence of asymmetric shocks shall be analyzed. Asymmetry within a currency union can create the need for policy change. Third of all, by analyzing the degree of policy convergence within the EMU. One of the main components of OCA theory is that there should be a common monetary policy. Using policy convergence theory this thesis will assess whether EMU countries are converging towards each other. Absence of policy convergence on itself can create the need for policy reforms on the central level.

1.2.1 Three different crises

The crisis as the trigger for policy change, is a central factor in this thesis. Therefore the three different phases of the recent crisis will be described shortly, to provide insight in the origins of this crisis. First the banking crisis will be discussed, followed by a discussion on how the banking crisis evolved into a global recession and finally on how this caused a sovereign debt crisis in the Eurozone.

1.2.2 Banking Crisis

The ECB published their first on the issue of financial imbalances already in 2005 (see ECB timeline). An early warning because of the increase of potential risky investments. In 2006 they released a statement explaining that investors underestimate the risks in the Eurozone: The long-term interest rate was too low and the risk-setting of investments was too high. This led to the release of a rapport about a potential unstable market, because of these risky investments, in 2007. In the United States potential problems raised up as well, tensions in the so called 'sub-prime' market for mortgages caused a shortage of liquidity on the market. Mortgages were rated to positive, as a result investors were cautious to supply more money. This led to a shortage on the market for interbank lending. The Federal Reserve System (FED) took action in correspondence with the ones taken in Europe. In 2012 the president of the FED: Bernanke gave a speech in which he analyzed the first stage of the economic crisis. They

also noted in 2006 that there was an *'exotic amount of non-standard mortgages'* (Bernanke 2012). Typical about these mortgages was that they were interest-payment only, the idea was that the housing prices would not become lower. A crisis occurs when an institution is not liquid enough to cover their liabilities, meaning that if the balance between long-term loans and short-term deposits become unbalanced, a bank can become illiquid (Bernanke 2012: 3). In 2007 this happened: housing prices fell as people could not afford their (to expensive) homes anymore. This led to the start of the banking crisis on the 7th of September in both Europe and the United States. In the US many small banks failed, causing intense pressures on the big financial institutions (Bernanke 2008). In Europe governments also had to intervene (Memo 13/679). Germany, France, the United Kingdom, Ireland, Denmark, the Netherlands and Belgium had to intervene to prevent their biggest banks to go bankrupt. These banks also had a big amount of investments in the banks that went bankrupt in the US. Across the US and in almost all countries of Europe the top ten financial institutions were under big pressure. This led to an important commitment of the G7 in October 2008: an agreement that every possible commitment would be delivered to re-stabilize the financial system (see ECB timeline). Meanwhile private trust in banks went down, leading to people withdrawing money from their bank accounts. In October 2008 the EMU countries therefore agreed additional measurements: Firstly, to guarantee consumer deposits for the amount of at least €50.000,-, secondly to guarantee interbank lending and thirdly recapitalization of financial institutions was necessary (Attinasi 2010: 12). Unfortunately the measurements taken in 2008 proved to be too late.

1.2.3 From banking crisis to a global recession

In November 2008 the G20 came together to discuss how a global recession could be prevented. They launched a declaration on strengthening financial markets and the world economy. They acknowledged that: *"major underlying factors to the current situation were, among others, inconsistent and insufficiently coordinated macroeconomic policies, inadequate structural reforms, which led to unsustainable global macroeconomic outcomes"* (G20 declaration 2008). By acknowledging these factors, they could present a plan to prevent this from happening again. Reforms were discussed and all countries committed full support in the upcoming years to solve this crisis. It proved to be too late. Consumer trust had fallen, investors were cautious and banks refused to lend money to each other (Feldman 2011). As a result housing prices declined further, business and consumers could not obtain loans and

governments started to have problems lending money. As a result the ECB started in 2009 with a purchase program for covered bonds, the intention was to purchase bonds covered by the ECB to stimulate the banks and investors to lend money towards each other (ECB Press Release 2009 - 090604_01). All these measurements did not prevent the European and US economies to fall into a far reaching recession. Bernanke has explained this quite sharply in the following quote: *“This is a really nice example of how financial crisis can spread in all different directions. So we had Lehman failing. That in turn, called the money market funds to experience a run, and that in turn, led to a shock in the commercial paper market. So everything is connected to everything and it’s really hard to try to keep the system stable”* (2012: 19). Although the world leaders prevented a total financial meltdown they could not prevent a recession in the US and Europe. Unemployment rose up in numbers we have only seen in the Great Depression, for example: unemployment in Spain went from 8% in March 2008 to 20% in March 2010 (see tables in empirical part).

Having shortly explained how this financial crisis could occur I will now move on to the implications for the European Monetary Union, how could the global recession turn into a sovereign debt crisis this big?

Country	Rating in 2007	Date of downgrade	Rating lowered to	Outlook
Ireland	AAA	30 March 2009	AA+	-
Greece	A	8 June 2009	AA	Negative
		14 January 2009	A-	Stable
Spain	AAA	17 December 2009	BBB+	Negative
		19 January 2009	AA+	Stable
Portugal	AA-	21 January 2009	A+	Stable

Figure 1: Long-Term foreign-currency sovereign rating downgrades in 2009 (Attinasi et al. 2010: 38)

1.2.4 Sovereign Debt Crisis

One of the basic principles of the Optimal Currency Area theory is that countries that join a Currency Area, lose the ability to use the interest rate or exchange rate as a policy instrument during times of recession. This automatically means that they lose the ability to give out bonds in a currency over which they have full control (Grauwe 2011: 40). To give an example (see Kopf 2011: 3-4): If a Euro country and a non-Euro country would find out that no longer anyone was willing to purchase their bonds. The non-Euro country would be faced with an increase in the interest rate and a depreciation of their national currency. The Euro-country however could be pushed into big problems. As the Euro has a fixed exchange rate within the currency

union, investors will invest their euro in another country within the currency union which has a stable monetary foresight. Meaning that the government can run out of cash.

By understanding this basic principle it is much easier to understand the sovereign debt crisis. The ECB already started a program for covered bonds in 2009 as was explained earlier. Mainly Greece needed more liquidity urgently. The measurements taken to recover the banking sector had high impact on the government debts (Attinasi 2010: 17). The Council imposed on the 16th of February 2010 that Greece rapidly needed to implement structural reforms, on the 3rd of March 2010 the Greek government responded by stating that they would implement a wide range of temporary- and structural measurements to reinforce their fiscal position (ECB Press Release 2010 – 100303). However this proved to be insufficient to withheld Greece from almost going bankrupt. This bankruptcy can be explained by the ‘flight to safety’ of investors (Attinasi ea. 2010: 35). The intensification of the crisis caused investors to ask for higher interest rate on government bonds from high-debt countries, next to this they began their flight to government bonds which were safe: Like Germany and the Netherlands (2010:36). The ratings of Ireland, Greece, Spain and Portugal dropped quickly as can be seen in figure 1, lowering trust of investors further. This created immediate problems in these countries.

On the 25th of March the Greek government turned to the Euro countries and the IMF to request financial support, on the 11th of April the Commission, IMF and the ECB agreed to provide support and started with the introduction of a recovery program (EC Press Release IP/10/446). In October 2010 the first agreement within the Council was reached about the reinforced Stability and Growth pact. After this events followed up quickly. Ireland asked for assistance, which was granted in November, 2010 (Consilium 2010- 117898). The IMF and Euro group closely monitored the situation of Greece and Ireland, only concluding that the programs are on track but big challenges are still ahead (ECB press release 2011 – 110211 & 110415). Meanwhile Portugal also applied for assistance. It proved that also national financial factors intensified the crisis in the ‘problem’ countries as the whole economic outlook was bad (Attinasi ea. 2010: 39).

The 21st of July can be marked as an important day in the sovereign debt crisis. It was now widely acknowledged by the Council that more commitment should be delivered to solve this crisis. In a joint statement of the Council and the Euro institutions they reaffirmed that

they would do whatever is needed to ensure the financial stability of the Euro: *“The recovery in the euro area is well on track and the euro is based on sound economic fundamentals. But the challenges at hand have shown the need for more far reaching measures”* (EC 2011 – 123978). The measurements outlined in this statement eventually led to the new Stability and Growth pact at the end of 2011.

However in 2012 the Greek crisis proved to be much more structural, Greece had to apply for a second financial support package (Consilium 2012 – 128075). Shortly afterwards Spain had to request financial support as well. This was granted in June 2012 to support the financial stability in the Eurozone (Consilium 2012 – 131309). Meanwhile review missions to Greece, Portugal, Ireland and Spain continued. For Portugal, Ireland and Spain the foresights improved. Greece however had to continuously be supported: The ECB had to guarantee the repayment of Greek bonds multiple times.

The fundamental problem which emerged during this years, was the low fiscal sustainability of (some) EMU countries. The fiscal sustainability of a country is: *“the ability of a government to service its debt obligations in the long term”* (Attinasi ea. 2010: 44). The countries experienced a negative spiral. The combination of high debt and a high deficit ultimately caused a high interest rate. These high interest rates in turn lower private demand, as lending money is expensive. The higher interest rate also leads to a higher expenditure on interest, leading to less money available to drive consumption. This spiral drove countries even further into the sovereign debt crisis. As less consumption, also means higher deficit and so on (see Attinasi, Leiner-Killinger & Slavik 2010: 44-46).

Shortly having explained the recent crisis I will now move on to the relevance of this thesis.

1.3 SCIENTIFIC RELEVANCE

The Eurozone is not an OCA, yet it still has a single currency. In fact it challenges the criteria which the founder of OCA theory: Robert Mundell, described. The sovereign debt crisis has shown that there are still problems which need to be solved. Previous researches have used Mundell’s theory to prove what needs to be done, to make the Eurozone a more sustainable currency area. The sovereign debt crisis has triggered policy change. First, this thesis will further clarify whether the fiscal coordination in the EMU had to be strengthened in the institutional design of the EMU. Secondly, it will contribute to the question how an OCA

actually works. The original criteria from the OCA were mainly theoretical. The Euro project is the first to test the OCA criteria. It will contribute to the question whether it is possible to convert an incomplete OCA towards a complete one. Thirdly, it will test the assumptions of the Policy Convergence Hypothesis. For the Eurozone this has been tested in 2006, but the crisis could have important implications on the outcome of this research. Mainly interesting is the effect of the sovereign debt crisis on the degree of policy convergence. It will further research whether the Policy Convergence hypothesis is relevant for International Political Economy, or that its assumptions are false.

Relevant to the IMP program is that I will research a possible solution to a complex problem in the Eurozone. Our program is aimed at being able to understand and clarify complex international situations. The case of the Eurozone is certainly one. This thesis will further develop theory on how to best describe the current situation of the Euro, clarifying the direction in which the Euro is moving. This thesis will further develop the classification of the Eurozone. It could be that it is truly a unique project as the literature describes it currently or it could be that the Euro should move towards the criteria of an OCA. Moreover it will contribute to the International Political Economy by researching ideas about the monetary dimension of the Political Economy. The Euro has clearly shown that the monetary dimension versus the political dimension is an important part to research when looking at the Euro.

1.4 SOCIAL RELEVANCE

The recent financial and sovereign debt crisis has shaken the foundations of the Euro Zone. For a moment people thought that this would be the end of the Euro. For many years authors have warned for construction problems in the design of the Euro. The crisis has certainly opened the eyes of politicians and policy makers. The measurements taken to manage the short-term effects of the Euro crisis were successful, but the costs were high. According to Moravcsik the long-term challenge is big: "[...] *yet the long-term challenge remains: making European economies converge, that is, assuring that their domestic macroeconomic behaviors are sufficiently to one another to permit a single monetary policy at a reasonable cost*" (2012: 54). Furthermore Moravcsik identifies a euro-induced disequilibrium. Germany is the leading economy in the Eurozone and has grown fast. In order to catch up with Germany, the South-European governments had to integrate into the Euro system (2012: 60). Hereby they lost

their tool of currency devaluation, so the only remaining option to deficit countries is to cut internal costs (wages, public spending, and consumption). The German view of recovering from the Euro crisis is that: "*the future of the Euro rests on countries making tough reforms and cutting public spending*" (Moravcsik 2012: 63).

What intrigues me about the Euro and the OCA is that it seems totally irrational. Many economists are very pessimistic about the Euro as a sustainable project. But the recent crisis has also shown that countries are not willing to give up the Euro. Change therefore in the structure of the EMU zone had to be made. Combining economic rationality with political reality has always interested me. Therefore I believe it is a challenge to research policy change in the EMU-zone in the light of both political and economic theory.

Moving on to the research questions.

1.5 RESEARCH QUESTION

There is a wide consensus between (political) economists that construction mistakes have been made in the creation of the European Monetary Union (Krugman 2012, Eichengreen & Ghironi 2003). The economists argue this on the Theory of Optimal Currency Area. This theory is primarily economically and more aimed at identifying what an OCA is and if an area is an OCA. Regardless from the question if we have an OCA in Europe, it is important to first accept that the EMU is already there. Therefore I will not focus on the question if Europe is an OCA: this has been researched extensively already and would not contribute and find new facts. However I will apply OCA criteria to explain events before and after the crisis. Moreover this thesis will not be a sum up of all the shortcomings of the EMU in the light of OCA theory. This thesis will therefore focus on explanations which have led to new policies during the economic crisis.

1.5.1 Central Research Question

The central research question in this thesis is:

"How did the sovereign debt crisis trigger policy change towards reinforced economic governance in the European Monetary Union?"

I will use the six-pack and two-pack reform as the policy change, as these were the most important changes on monetary policy in the recent years. The reforms were enforced during 2011-2014. I will seek an answer using the following sub-questions.

1.5.2 Sub question 1 – Institutional design

To what extent did the crisis reveal shortcomings in the institutional design of the EMU?

In the first sub question I will research which shortcomings the crisis revealed in the institutional design of the EMU. This will give insight in the shortcomings of the original legislation. To answer this question I will use the framework on policy coordination from Linsenmann & Wessels (2002) which is combined with Historical Institutionalism. First of all by explaining how coordination within the EMU framework has been embodied institutionally. Second by analyzing the treaty changes and why new changes occurred.

1.5.3 Sub question 2 – Asymmetric shock

To what extent did the crisis produce an asymmetric shock according to OCA theory?

In the second sub question I will research whether the crisis produced an asymmetric shock, which should be absent in an OCA according to this theory. To answer this question I will use OCA-theory. With OCA-theory I am able to measure if and to what extent the crisis produced an asymmetric shock. According to OCA theory an asymmetric shock is a clear indication that countries do not form an OCA.

1.5.4 Sub question 3 – Policy convergence

To what extent have policies converged since the start of the EMU?

In the third sub question I will look to degree of policy convergence. Policy convergence theory gives a clear insight to what extent countries policies are the same. A low degree of policy convergence is an indicator that countries should not form a currency area. To answer this

question I will partly use the model developed by Linsenmann & Wessels again. In their framework they pay attention to how the institutional design can lead to different modes of policy coordination. Combining this model with the Theory of Policy Convergence, which claims that if countries are interdependent their policies will converge, I will research if policies were converging towards each other in the EU.

Having explained the research questions I will move on to the scope of this thesis.

1.6 SCOPE

The aim of this study is to provide an explanation from a political-economic view how the sovereign debt crisis has caused the big policy reforms after the crisis. Providing explanations from public administration theories linked with macro-economic theories, an answer is given to the question how the sovereign debt crisis was the trigger for policy change. By including both theories from political- and economic science this thesis aims to explain how economic- and political processes led to big reforms.

1.7 RESEARCH METHOD IN BRIEF

Using quantitative data combined with a country-survey several OCA-criteria and Policy Convergence theory will be tested. Using graphs, tables and figures a conclusion will be drawn. Furthermore the institutional setup of the EMU will be analyzed through desk-research. Combining desk-research with the quantitative data a conclusion has been drawn on the influence of the sovereign debt crisis on the policy change.

1.8 THE STRUCTURE OF THIS THESIS

Having introduced the subject of research I will move on to the structure of this thesis.

First of all starting with the theoretical framework. In the theoretical framework I will explain the main theories. The main principles of Linsenmann & Wessels theory on economic policy coordination in the EU, on the Optimal Currency Area theory and on the Policy Convergence Theory will be explained.

Then I will move on to the research design, in which I explain how I will operationalize these theories in line with my research questions. Also the method of research are evaluated and the countries included in the country survey.

In the next chapter I will present the treaty changes within the European and Monetary Union. Furthermore I will focus on explaining the need for these treaty changes, derived from a literature review.

Next, I will present my empirical findings. Using data from Eurostat I will analyze the performance of EU countries in the light of OCA and Policy Convergence theory.

Finally, a conclusion will be drawn based on the research done in this thesis. I will also present my social and academic recommendations.

2 THEORETICAL FRAMEWORK

Type: “European Monetary Union” in Google Scholar and it becomes quite clear that tons of articles by thousands of authors have been written about European Monetary Integration. Seeing the forest for the trees is therefore of vital importance, otherwise the theoretical framework will be blurred by a too narrow view. The discipline of researching monetary policy is still characterized: *“by a lack of agreement on the appropriate model suitable for analysis of monetary policy”* (Issing 2001: 7). Making it inevitable to combine multiple theories in order to form the best answers to my research question.

In this framework I will provide the theoretical background for the research done in this thesis. Firstly, I will provide a theoretical skeleton by using a framework of Linsenmann & Wessels on economic coordination within the EU. This model provides an explanation how the institutional setting can provide different policy outcomes. Secondly, the institutional setting of the EMU becomes clear by using the Optimal Currency Theory from Mundell. The Theory of Optimal Currency provides a key explanation when and how forming a single currency is beneficial for all countries involved. Thirdly, while Linsenmann & Wessels provide the explanation on how the institutional starting point (OCA theory) will lead to different policy outcomes, the theory of Policy Convergence provides the logic of how market forces will lead to a convergence in policy areas within an OCA. I will start by explaining the model of Linsenmann & Wessels to provide a theoretical skeleton, in which OCA theory can be understood, finishing with how policy convergence theory can provide a key explanation on how policies should converge within an OCA.

2.1 LINSENMANN & WESSELS MODEL ON ECONOMIC COORDINATION WITHIN THE EU

The adaption of the Economic and Monetary Union have led to numerous debates on the coordination of economic policy within the EU. The EU has undergone various institutional reforms since its creation, this has led to increased cooperation and integration between countries. Linsenmann and Wessels have created a model in which these changes can be understood, they note that: *“This development has been essentially one of a continuous introduction of new procedures on an European level, indication the vital importance of monetary, fiscal, economic and employment policies for the evolution of national welfare*

states, and on the other hand, it has largely contributed to an increase of the number of political actors participating in these coordination procedures” (2002: 3). Their thesis is that “the legal provisions on the policy fields concerned will lead to the creation, evolution and perhaps the transformation of new modes of governance” (2002:3). Their main argument is that the institutional base of the EMU will lead to the transformation of governance modes.

Savage (2005) gives an explanation about why an institutional base will lead to transformation. He describes the process of institutionalization as: “*Institutionalization refers to the ongoing movement towards supranational governance as a consequence of the growing embeddedness and expansion of EU rules that constrain and guide member state behavior*” (2005: 20). Meaning that the trend towards more supranational governance has led to the expansion of EU rule, which provides a new framework in which member states can behave. This process can also be explained by the idea of “Europeanization”. Europeanization refers to the influence and effect of EU formal rules, procedures, regulations and practices on the member states their political institutions and public policies (Savage 2005: 22). The influence on national policies will lead to informal policy networks, different organizations cultures and personal relationships (ibid). The definition of institutionalization and Europeanization supports the claim of Linsenmann & Wessels that new institutional developments will lead to new modes of governance, as they empower supranational institutions and change member states behavior.

In the model of Linsenmann & Wessel model a difference is made between policy making and policy coordination, see figure 2.

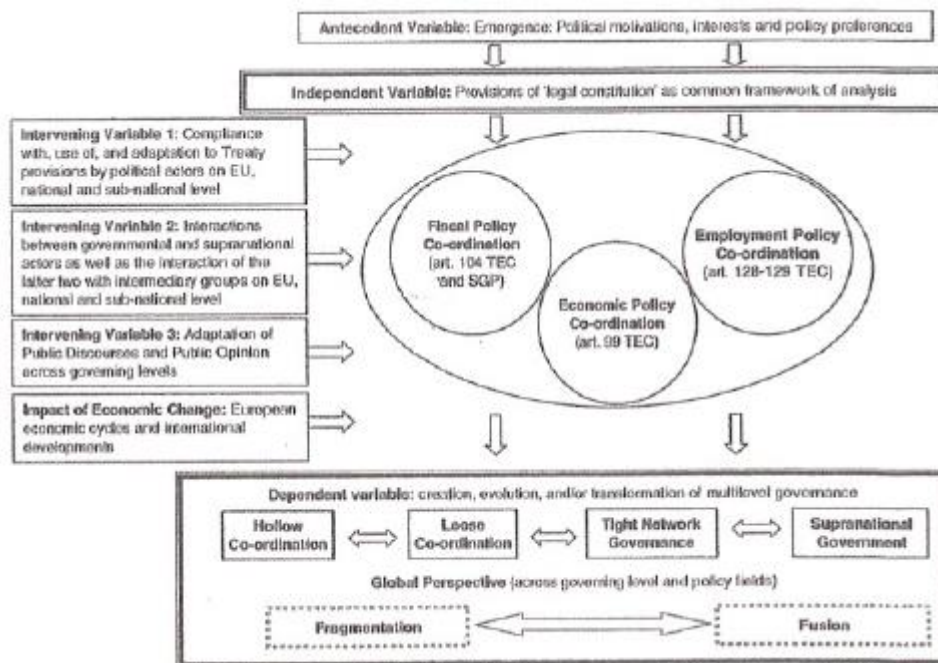


Figure 2: Policy making and policy coordination in Linsenmann & Wessels (2002: 21)

Explaining this model: according to Olsen there are two types of institutions (2000: 6). Formal-legal institutions and living institutions. Formal-Legal institutions provide a skeleton for the living institution (Linsenmann & Wessels 2002: 18). The formal-legal institutions provide the legal basis for the procedures and setup of institutions, and rules are formalized to change the behavior of the relevant actor to comply too the rules set. The formal rules set the start point for the living institution, which they define as: *“how policy co-ordination modes play out over time in real-life European Politics”* (Linsenmann & Wessels 2002: 18). To research economic governance a division between policy making (formal-legal institutions) and the policy coordination (living constitution) has to be made. Referring to the definition of Europeanization of Savage the same difference between legal- and living institutions can be discovered (2005: 22): the influence of EU formal rules level define how informal policy networks, different organization cultures and personal relationships are formed in member states.

The model of Linsenmann & Wessels makes a division between policy making and policy coordination. They argue that apart from Monetary Policy, other policy fields regarding the economic governance of the EU can be divided into hard, soft and open modes of governance. Monetary policy however, can be labelled as traditionally supranational policy-making, in which the European Central Bank (ECB) is the central actor (Linsenmann & Wessels 2002: 4). Monetary policy has laid down the provisions for the institutional setting of the EMU.

Townsend has defined monetary policy of the ECB in the EU as: *“In its task defining monetary policy in pursuit of its primary objective, the ECB adapts a medium term perspective. Its concern is with price stability in the Euro-area as a whole. The bank always looks at the price stability first and then looks to cyclical shocks”* (2007: 160). Furthermore Savage identifies that the primary guardian of the EMU Treaty is the ECB as the supranational actor (2005: 7-8). They support the claim of Linsenmann & Wessels that monetary policy within the EU is traditionally supranational. The ECB operates as the supranational actor and pursues the objective of price stability first. The need for this one supranational actor in the field of monetary policy making can be explained by collective advantages. Delegation to supranational actors becomes interesting if all actors involved can benefit from it (Stone Sweet & Sandholtz 1998: 5). Or as Savage defines *“The greater the level of trans border activity, the greater the need and demand for such rules to resolve conflict and ambiguity among the member states”* (Savage 2005: 20). The need for the ECB as a supranational actor, can be explained as the need for an actor which transcends national interests and can resolve conflict and ambiguity between member states. Having argued now that monetary policy making is traditionally supranational, I will focus on how policy making can be explained in this model.

2.1.1 Towards a supranational institution

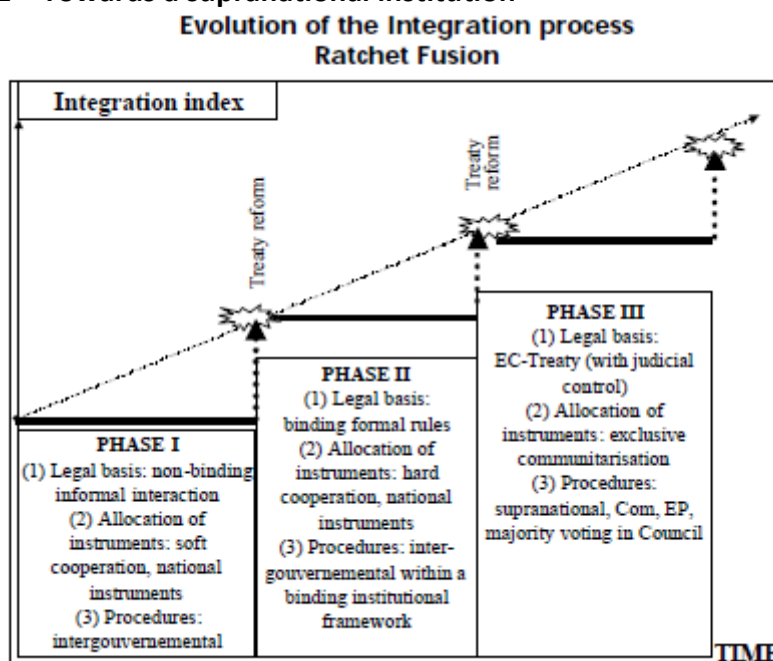


Figure 3: Evolution of the Integration process (Linsenmann & Wessels 2002: 20)

Figure 3 represents Linsenmann & Wessels view on the policy integration process within the EU. Within policy making they have found a three step integration scale: *“Member state governments start with some form of loose intergovernmental procedures and then move on to some kind of rationalized inter-governmentalism with limited roles of supranational institutions and unanimity voting in the Council. They finalize this process by establishing more efficient rules with a strong role for supranational bodies and qualified majority voting in the Council”* (2002: 20). It is important to note that they have created this model in order to explain the policy making process of fields with different policy coordination modes. As they argue, monetary policy can be labelled as traditional policy making.

I will first explain why this model is still relevant. It is applicable on monetary policy making as they have derived this model from various other authors, including Maurer & Wessels (2001). They use a historical institutionalist approach to policy making in the EU, on which I will elaborate later on.

Maurer & Wessels have analyzed the impact of the Maastricht treaty. They conclude that the road towards the Maastricht Treaty has been *“[...] marked by important, somewhat unintended and unpredictable circumstances”* (2001: 3). The treaty should be seen as a decision between member states, that has to be understood in the light of the uncharted path of European integration, Maastricht itself was the peak in the policy making process (2001: 4). However the question to be answered in this thesis focusses not on the initial treaty, but on how to explain the reform. The model of Linsenmann & Wessels becomes clearer when reading one of the conclusions of Maurer & Wessels: *“It is our view that relations between treaty reform and treaty implementation are not however, unidirectional. Treaty reforms do not emerge from nowhere, rather they represent reactions to prior developments and trends, reflecting both day-to-day machinery at all relevant levels of policy-making as well as the reaction of socio-political actors which do not or only rarely intervene during the implementation of a given set of treaties ”* (2001: 4).

The view that the relation between the legal framework of a treaty (legal institution) and the implementation of the treaty (living constitution) is not unidirectional is important. First of all it supports the claim by Olsen (2000) that formal legal framework provides the skeleton for how the treaty is implemented. Second, it supports the dependent variable in this thesis: a treaty reform is not only an independent variable (as showed in figure 2 – Linsenmann

& Wessels, but also a dependent variable because they are also affected by the nature of the institutional system (see Maurer & Wessels 2001: 3-5). Furthermore Maurer & Wessels conclude that: *“one could argue that treaty building has a significant effect on the subsequent day-to-day output of the EU and thus on the evolution of the system in general”* (2001: 4). Treaty reforms do not just emerge, they represent the day-to-day output and the evolution on the system, and vice-versa; treaty reforms also influence the evolution of the system in general.

2.1.2 Institutions do matter – Historic Institutionalism

Figure 3 and the explanation in previous paragraph are merged together in the theory of Historic Institutionalism¹. This theory is the starting point of Linsenmann & Wessels theory on the evolution of policy (Linsenmann & Wessel 2001: 20).

What is Historic Institutionalism? Pierson (1996: 126 & 131) and March & Olsen (1989: 5-6) have created the following conceptualization. First of all, it is historic, because it understands developments over time. Second, it is institutionalist, because it researches events in light of their institutional environment. The basic assumption of historic institutionalism is that: *“[...] institutions and behavior evolve through some form of efficient historical process. An efficient historical process is one that moves rapidly to an unique solution, conditional on current environmental conditions and is independent of the historical path”* (March & Olsen 1989: 5). This definition is still quite broad, Levi (1997) has developed a narrower view: *“Path dependence has to mean, if it is to mean anything, that once a country or region has started down a track, the costs of reversal are very high. There will be other choice points, but the entrenchments of certain institutional arrangements obstruct an easy reversal of the initial choice”* (1997: 28). Derived from these definitions Pierson (2000: 263) has come up with distinct features of path dependency in political economy: multiple equilibria (initial conditions produce a wide range of outcomes), contingency (small events can

¹ Historical Institutionalism is part of Neo-Institutionalism which consists out of three approaches: historical-, rational choice- and sociological institutionalism. Each try to explain the role that institutions play in the outcomes of social and political changes (Hall & Taylor 1996: 936). In this thesis historical institutionalism is used to explain outcomes. This approach seeks an explanation how formal institutions play out in real life, by focusing on the intended and unintended institutions play in the outcome in ‘real life’ it gives an explanation how institutions are a central factor to push historical developments. Historical institutionalism gives an answer how these paths are produced, including the concept of ‘critical change junctures’ it is particularly relevant to explain policy change in this thesis: as I try to explain why policy change was needed and the financial crisis can be seen as the critical juncture (see Hall & Taylor 1996: 938-942).

have large consequences), a critical role for timing and sequencing (when an event occurs is crucial) and inertia (positive feedback will lead to a single equilibrium). Two concepts are therefore crucial in historical institutionalism: initial conditions and an event which causes change.

The Economic and Monetary Union was based on the idea that a common currency would produce mutual advantages. Because of these mutual advantages the EU-countries decided to create an institutional base to facilitate the common currency. This institutional base was given form through different treaties (e.g. Maastricht, Nice etc.). I have already given answer to the question why institutions are formed. What is missing is the basic assumption why the EMU was formed: what is the theory behind a common currency which produces common benefits for countries?

This thesis researches if the sovereign debt crisis has caused the policy change – therefore an explanation has to be sought by looking first at the institutional setting of the EMU. The model of Linsenmann & Wessels has provided a starting point for the analysis of the policy change as it explains how the institutional setting matters for the outcomes produced. Now I will dive into the idea of the Optimal Currency Area. To explain OCA theory I will first dive into the theoretical foundations and then continue with the practical implementation to demonstrate what an Optimal Currency Area is.

2.2 THE THEORY OF OPTIMUM CURRENCY AREA

2.2.1 The Theoretical View on the Optimal Currency Area

Robert Mundell, founder of OCA theory, presented his argument in a time which was marked by fixed exchange rates. The system of fixed exchange rates was seen as a barrier preventing *"trade from fulfilling a natural role in the adjustment process"* (Mundel 1961: 657). Mundel constructed an alternative to a system of flexible exchange rates by using the idea for an OCA to illustrate functions of currencies which had been inadequately treated in the literature. His purpose was not to show that an OCA could actually function, but to show the theoretical and practical challenges (1961: 659).

First of all, Mundel illustrates the difference between a system with one single currency and one in which countries have different currencies, but with one central bank (1961: 658). He takes a model of two countries which have full employment and a balance-of-payments

equilibrium. A shift in demand increases demand in country A. The assumption is that wages and prices cannot be reduced in the short run without causing unemployment and that the central bank acts to prevent inflation (1961: 658). In the situation in which the countries have their own currencies; the shift in demand will cause unemployment in country B and inflation in country A. As the central bank operates to prevent inflation in A, because of the increased demand, they will tighten the credit supply. Therefore country B has to adjust. This cannot be realized in "*terms of trade, as B cannot lower and A will not raise prices*" (1961: 658). Therefore B has to decrease output and employment. In this situation country A has become the surplus country, with their policy to prevent inflation they impose a major influence in the world economy.

What if the situation was different, where country A and B would have a common currency and governments would pursue a full-employment policy. The shift in demand creates unemployment in region B and inflation in region A. To correct the unemployment in B, the central bank has to increase the money supply, which causes inflation in region A. Therefore as Mundell argues: "*The principal way in which the monetary policy is effective in correcting full employment in the deficit region is by raising prices in the surplus region*" (1961: 659). Mundell concludes that in scenario one, employment is determined by the willingness of the surplus country to inflate. In scenario two by the willingness of central authorities to allow unemployment in deficit regions (1961: 659). This brings us to the key of Mundell's argument about Optimum Currency Area's: "*A currency area of either type cannot prevent both unemployment and inflation amongst its members*" (1961: 659). Mundell's argument therefore rests on the fact that in an OCA targeting inflation will increase unemployment and targeting unemployment will increase inflation in either surplus or deficit countries.

Second, Mundell demonstrates how a system with national currencies and flexible exchange rates would work. If demand shifts from country A to B; a depreciation or appreciation of a country's currency could correct this imbalance (1961: 659). This would prevent inflation from rising in country B and prevent unemployment in country A, as an appreciation or depreciation will restore the balance in international trade again.

Mundel applies this to the 'real world'. Hereby he uses the theory of international trade from Ricardo: "*[...] developed on the Ricardian assumption that factors of production are mobile internally but immobile internationally*" (1961: 661). Therefore in a system where

factor mobility is high internally and low internationally a system of flexible exchange rates would work best. However, Mundell argued that currencies are an expression of national sovereignty and that factor mobility in Europe is lacking (1961: 661). He also argued that countries are more easily willing to accept variations in the rate of exchange than in money wage rate or price levels (1961: 663). Therefore he seemed to view an OCA merely theoretical.

Although Mundel identified problems constructing an OCA area, other authors contributed. Kinnon (1963) identified what the "Optimum" in an OCA means and emphasized the importance of factor mobility. According to Kinnon the Optimum can best be described as: "*[...] to describe a single currency area within which monetary-fiscal policy and flexible external exchange rates can be used to give the best resolution of three (sometimes conflicting) objectives: the maintenance of full employment; the maintenance of balanced international payments; the maintenance of a stable internal average price level*" (1963: 717). This definition of optimum is only relevant when applied to a monetary world system with flexible exchange rates. Furthermore, Keanon made another important contribution; he introduced the idea of factor mobility. While determining the optimum extent of a currency area, the geographic factor-mobility has to be kept in mind (1963: 725). Therefore in an OCA the degree of internal factor mobility should be high. Without a high degree of factor mobility the necessary transactions to stabilize each of the three conditions of an Optimum cannot be reached. Practically this results in an OCA with neighboring countries which have the same economic cycle and where the industry is highly interdependent (McKinnon 2001: 3).

2.2.2 The European Union and the Optimal Currency Area

Various views exist about how the European sovereign debt crisis challenged the foundations of the EMU (Dario Togati 2011: 91-92). For example the French view is that the absence of a political union led to the problems, the German view that the fiscal indiscipline of the Southern countries was the problem and the general view of economists is that a lack of flexibility & competition on the labor and product markets of the EU caused the crisis. For all these three explanations OCA theory gives an answer. I will therefore now move on to the main concepts of the Optimal Currency Theory and how these should be applied to the European Monetary Union.

As already argued from the institutionalist perspective countries form supranational institutions if mutual benefits exist. The same can be argued for the creation of the EMU,

selfishness was not the solution as mutual advantages could outweigh countries own preferences (Dario Togati 2011: 94). The idea that the creation of a Currency Union could become Optimal within the EMU was based on various assumptions. The idea was that price transparency and reduced transaction costs could make the Euro a serious challenger of the Dollar (Della Posta 2011: 75). There was big confidence that one supranational institution could create net benefits. As Townsend notes this needed promotion of convergence of economic performance, resulting in the same (low-) inflation rates per country and similar levels of output per capita (2007: 13). According to OCA theory a currency area however needs to fulfill some criteria in order to be called optimum.

Moving on to the main concepts of OCA-theory. As de Grauwe points out: The Theory of OCA is silent about the priority to converge inflation rates, interest rates, budget deficits or levels of government debt before forming an OCA (1996: 2): "*[..] This theory stresses the need for real wage flexibility, mobility of labor, and fiscal integration as preconditions for a successful monetary union*". Mundell and Kinnon do talk about the danger for asymmetric shocks.

In this thesis I will therefore use four concepts to create a theoretical foundation to research the EMU-zone using OCA theory. These four concept are at the heart of OCA theory, all classic OCA-theorists have included these macro-economic concepts to form an opinion on the degree in which countries form an Optimal Currency Area.

2.2.2.1 Similarity of shocks and policy responses

Similarities of economics shocks is the fundament of OCA theory. The core can be found in this statement by Mundell: "*In a currency area comprising different countries with national currencies the pace of employment in deficit countries is set by the willingness of surplus countries to inflate. But in a currency area comprising many regions and a single currency, the pace of inflation is set by the willingness of central authorities to allow unemployment in deficit regions*" (1961: 659). Mundell describes solutions for countries in a currency area which have a different economic cycle then others. The outcome of having different economic cycles is that either surplus countries have to allow inflation, or either central authorities should allow higher unemployment numbers in deficit countries resulting in lower inflation. This results again in instability, as different regions within one currency area have different paces of

inflation and unemployment. Friedman has explained these two phenomena using the Philips-curve (1968: 8). I will now explain these two phenomena using the Philips-Curve.

First of all explaining the statement of Mundell that the pace of employment in deficit countries is set by the willingness of surplus countries to raise inflation. Friedman explains this as: "*[...] there is a stable negative relation between the levels of unemployment and the rate of wages - high levels of unemployment being accompanied by falling wages, low levels of unemployment by rising wages*" (1968: 8). Therefore the level of employment in deficit countries is determined by surplus countries. If a deficit country experiences high levels of unemployment, inflation will be low according to a typical Philips Curve (see figure 4). On the other hand when unemployment is low, inflation will be high. Meaning that in surplus countries which typically have low unemployment there is a higher amount of price change. This can improve the situation of the country in the world economy as products become relatively cheaper in deficit countries, compared to surplus countries. In a conjectural shock this would work: eventually deficit countries would gain their advantage again and surplus countries would lose their advantage. The problem Mundell identifies is more structural. In a structural economic inequality, deficit countries will not be able to keep up with surplus countries. As deficit countries do not have the ability to devalue their currency, their economic recovery is dependent on the willingness of the surplus countries. If surplus countries would allow their wages to increase, they would lose their comparative advantage and thus deficit countries are able to compete again with them. But as Townsend notes: "*Forming a monetary union and then giving compensation to economically backward countries for the effects of domestically generated inflation would be particularly unwise*" (2007: 38). Mundell's theory supports this statement, he states that the pace of inflation can be set by a central authority, but either way it will create unemployment in either region A or B (Mundell 1961: 659). As it is unlikely that surplus countries would want to lose their comparative advantage, it is of importance that countries within an OCA experience similar business cycles. If not, the situation as described above will become reality and can cause problems to the stability of the currency area. Overall the idea remains that all countries should benefit from the comparative advantages, adjusting your own competitive position for another country within the Union would be a-rational (Dario Togati 2011: 93).

Second, explaining the statement that central authorities should allow higher unemployment in deficit countries which results in lower inflation. This can also be explained

using Friedman’s interpretation of the Phillips curve (1968: 10). The Philips curve shows the relationship between inflation and unemployment. Philips found that when unemployment was high, wages increased slowly (and thus inflation); when unemployment was low, wages increased rapidly (thus high inflation) (see Hoover 2015). The target of a central authority can be either low inflation or low unemployment. Using the Phillips curve the conclusion can be drawn that having both low inflation and low unemployment is not possible. Therefore if a central authority allows higher unemployment in deficit countries; the result will be that inflation is low. Meaning an imbalance within the currency area as unemployment is low in surplus countries while inflation is high.

Therefore within a currency area an imbalance in economic shocks will result in imbalances within the Currency Area itself. A central authority has the choice of two policy targets: either full employment or either price stability. With an imbalance within the Currency Area these targets are not realistic. Similarity in economic shocks are therefore an important indicator for countries when they are in a Currency Area.

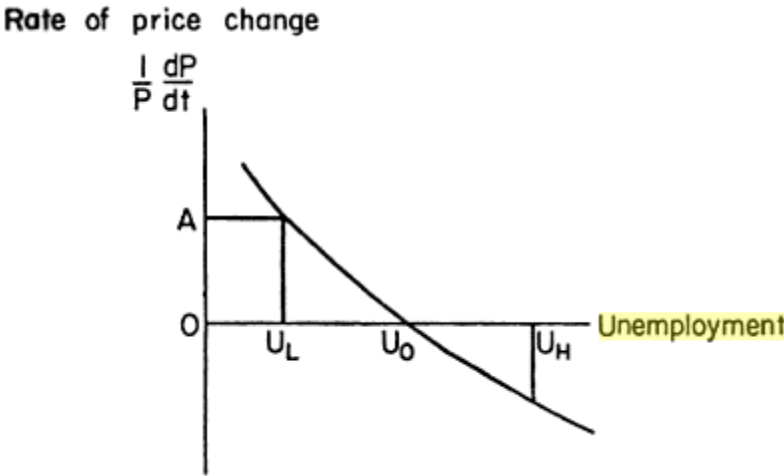


Figure 4: Simple Phillips Curve (Source: Hoover: Library of Economics and Liberty)²

2.2.2.2 Factor Mobility

Mundel identifies factor mobility as an essential condition for an OCA (1961: 661). Factor mobility consists out of two concepts: One is capital mobility and one is labor mobility (Grauwe 2012: 23). Capital mobility being the ability to transfer capital between industries. Labor

² U_L means low unemployment, U₀ is zero inflation; optimum (un)employment, U_H means high unemployment and (possible) deflation. In the Phillips curve optimum employment is therefore reached when inflation is close-to-zero.

mobility being geographic mobility of workers between regions. According to Mundell the equalization of factors within a currency area means that capital and labor are perfectly mobile (Mundell 1957: 324). Mundell focus is mainly on the geographic factor. McKinnon identifies that: "*His discussion of optimum currency areas in large measure is aimed towards having high geographic mobility within each single currency area and using flexible external exchange rates to make up for the lack of factor mobility among areas*" (1963: 724). In OCA theory factor mobility is therefore defined in terms of labor mobility between regions within an OCA. Kenen further develops this argument as he argues that an OCA works best with internal factor mobility and external immobility (1969: 48). The external immobility is then solved by a regime of floating exchange rates outside of the OCA, while fixed exchange rates are a prerequisite for factor mobility within an OCA.

One of the 'late' contributors to OCA theory: Eichengreen made a practical application to the concept of Factor Mobility: "*Insofar as localized concentration of unemployment remain, the free mobility of labor from high- to low unemployment region can eliminate the problem*" (1991: 1). This statement is based on the hypothesis that economies experience the same shocks and that there is no substantial difference in price levels. A high degree of factor mobility is therefore important to solve employment problems, not price problems according to Eichengreen (1991: 9). Even if there is a high degree of factor mobility this could not automatically mean that this is the solution to employment problems. One big problem with measuring factor mobility is identified: "*The problem with evidence is that relatively low levels of labor mobility within Europe may reflect a lesser incentive to move rather than a lower level of intrinsic mobility*" (Eichengreen 1991: 10). Eichengreen means by this that even if all factors preventing labor mobility are removed (legal restrictions), other factors could influence labor mobility (for instance cultural differences).

Moving back to Mundell, before his OCA theory he already identified that capital is highly mobile and labor highly immobile (1957: 221). Even if all conditions for labor mobility are satisfied it remains problematic to easily move labor (for example migration policies). For an OCA to succeed eventually labor mobility should become higher: I have already identified that unemployment in one region and full employment in another region is unstable for a currency area, therefore the movement of labor should eventually exist within an OCA. McKinnon further developed this. Labor mobility is likely to be low in the short run, but in the

longer run it should increase because migration and other barriers should have been taken down (Townsend 2007: 38-39).

2.2.2.3 Similarity in monetary system

To explain fiscal integration the quote of Mundell about surplus and deficit countries is very relevant. When countries within a currency area are facing a deficit they could either be helped by surplus countries who are allowing inflation, or by a central authority that allows unemployment to rise (Mundell 1961: 659). But there is another mechanism to help deficit countries, which is fiscal integration. Fiscal integration means an advanced degree of integration between countries. Kenen has elaborated more on fiscal integration: "*It is a chief function of fiscal policy, using both sides of the budget, to offset or compensate for regional differences, whether in earned income or in unemployment rates*" (1969: 47). He notes that it is key to use both sides of the budget, meaning that large-scale transfer payments should be built in into the budgetary system. Through these transfer payments deficit countries can fill up their balance-of-payments or their internal deficit.

Overall the question is whether a currency area should include countries which are in different fiscal positions. The possibility that surplus countries are willing to integrate fiscally to help deficit countries is also low. By integrating fiscally and moving capital to deficit countries the chances that the benefits of an OCA outweigh the costs decline rapidly. Mundell and Kenen argue that when countries have different budgetary positions they should not form a currency with fixed exchange rates (1961: 664 & 1969: 48). Therefore similarity in budgetary deficits should exist either ex-ante or within a short time frame ex-post between the countries forming an OCA. If countries have different structural budgetary positions it would be irrational for surplus countries; as they will have to keep moving capital structurally. Both from economic and political viewpoint this is not feasible.

Key is therefore that countries are more or less in the same fiscal positions – an automatic absorbing mechanism to help deficit countries should only be needed temporarily, if such a mechanism is needed structurally for a country then the Currency Area cannot be called Optimal (Della Posta 2011: 77)

2.2.2.4 Price stability

Ideally in an OCA prices are stable among the different countries (McKinnon 1963: 717). Price stability increases the stability within an OCA as this reflects certain structural developments

within a member state (Fleming 1971: 472-473). These structural developments reflect the output of national policies as economic policies, social policies and labor market policies. The emphasis on price stability is important because it: *“encourages the use of money as a medium of exchange and a store of value which increases specialization and exchange and thus real income”* (Grubel 1970: 320-321). Price stability within a Currency Union is therefore important because it increases the internal stability of the Euro because it is a trustable medium of exchange with the same value in all member states. And it is important for the external stability as it reflects the credibility of the value of the Euro. Moreover as Fleming (1971: 473) notes: *“when inflation rates between countries are low and similar over time, terms of trade will also remain fairly stable. This will foster more equilibrated current account transactions and trade, reducing the need for nominal exchange rate adjustments”*. Price stability is a key component of a currency union, as it enhances trust internally and externally, leading to a balance in trade and a reduced need to adjust the nominal exchange rate.

2.3 POLICY CONVERGENCE THEORY

OCA theory is primarily a macro-economic theory which provides explanations from an economical perspective. By integration this macro-economic theory with a theory from the field of comparative public policy: the policy convergence theory, the rationality behind policy change can be further developed.

The “convergence” means that the theory describes how countries become, instead of being on a similar policy level (Bennet 1991: 219). Policy convergence is a relatively new theory. Founded in the late eighties it describes how globalization will drive countries to become more similar; through policy convergence. One of the first definitions has been formulated by Kerr: *“the tendency of societies to grow more alike, to develop similarities in structures, processes and performances”* (1983: 3). In his book he describes how industrial countries tend to become more similar over time. In highly developed countries as in Western-Europe countries are becoming more and more similar when it comes to economic structures, processes and most important performance. As with OCA theory many authors have contributed to the development of convergence theory. One of the sub-theories in this field is the policy convergence hypothesis. Policy convergence hypothesis claims that in advanced industrial countries structures and processes tend to convergence because of policy convergence

(Bennet 1991: 215). Meaning that in a globalizing world, in which more countries are becoming advanced, a tendency should be seen towards similar policies. Bennet explains this as: *"The general convergence argument suggests that, as societies adopt a progressively more industrial infrastructure, certain determinate processes are set in motion which tend over time to shape social structures, political processes and public policies in the same could."* (1991: 216). Bennet makes some important claims in this quote. First of all he claims that convergence theory is only applicable on societies who adopt a more industrial infrastructure. The EMU-countries fit in this description, as one of the EU's targets is to improve economic performance. Secondly convergence theory is deterministic, meaning that it claims that countries which are becoming more industrial will eventually convergence. All countries are converging towards the same end point. This end point is not described by convergence theory, only analyzed. Thirdly this convergence takes place in all structures: socially, politically and in public policy. Convergence theory can be applicable on all dimensions of society. The hypothesis of convergence theory is based therefore on the idea that economic development makes countries with contrasting political and cultural traditions more alike (Willensky 1991: 27). Furthermore the common idea was that the third stage of the EMU would accelerate policy convergence between the EMU countries (Bearce 2009: 583).

The idea behind the Policy Convergence theory is clear, now I will move on how this convergence is achieved (see Bennet 1991: 587): *"Simply defined, policy convergence implies that the units under study are becoming more similar in terms of the use of their policy instruments (monetary and fiscal) and in terms of primary economic outcomes (growth, employment and inflation)"*. First of all the similarity in policy instruments. The theory of Linsenmann & Wessels covers this part of the theory, as it researches how policy outcomes are shaped within the EU. The economic outcomes of the policy are already partially covered by OCA theory, as it covers the similarity in economic outcomes. The part policy convergence theory adds to these theories is the extent to which economic fluctuations are converging. These fluctuations are typically measured by using different concepts. Christodoulakis (2009) operationalized three of these concepts in the light of the EMU-zone. He researched the policy convergence hypothesis in the light of one critical assumption policy makers had for the EMU-zone: *"One of the most critical assumptions for the successful implementation of EMU was that economic fluctuations would converge"* (2009: 86). The convergence criteria were already

laid down in the Maastricht treaty, the common idea was that the implementation of the EMU would make the economies converge. These convergence criteria in the light of the policy convergence hypothesis can be divided in three different concepts (see Bennet 1991, Garret & Lange 1991, Bearce 2009, and Weber & Beck 2005): convergence in business cycles, convergence in inflation and the speed in which countries are catching up with the most advanced ones. I will shortly explain these three concepts.

2.3.1 Convergence in Business Cycles

The idea is that countries participating in a globalizing economy will converge in business cycles; economic shocks will occur on the same level and timeframe (Drezner 2001: 56-60). The synchronization of business cycles can be explained through neoliberal theory. Neoliberal theory argues that in an international economy states have to: "*cope with the externalities of the internationalization of production*" (Drezner 2001: 60). This leads to the need for some state control over the economy to cope with globalization. This will lead to policy convergence as cooperation between nation states is needed to cope with this internationalization. This is exactly what neoliberal theory argues: convergence in the business cycles is more likely to occur when the internationalization is regional or a 'supranational' entity forces it (2001: 61). Coordination between states will thus lead to synchronization. The EMU can be seen as the coordinating entity. Critical to EMU was what response countries had to shocks when it comes to time and intensity (Christodoulakis 2009: 88-89). Ideally these shocks occur on the same time with the same intensity. But logically shocks will not occur on the same time and thus policy has to be made by the central authority to prevent this from happening again. According to the theory if the different cycles could not be 'fixed' eventually this can lead to disintegration instead of convergence (Bayoumi and Eichengreen 1992).

2.3.2 Convergence in Inflation

One of the main elements of ECB's policy was the convergence of inflation rates between the EU countries. One of the assumptions of this theory is that countries will become more similar when it comes to the price level (Weber & Beck 2005: 1). Inflation rates converge because of the increased economic interdependence between countries (Christodoulakis 2009: 91). Because the ECB promotes the convergence of inflation rates, the increased interdependence means that member countries lose the ability to pursue their own independent macro-economic strategy (Garret & Lange 1991: 543). Inflation rate is one of the basic economic

outcomes, as it was a critical assumption for the creation of the EMU that economies would converge it is a key element of the policy convergence theory.

2.3.3 Catching up speed

The speed of catching-up is a relatively new concept to this theory. I have included it in my theoretical framework because it is a key element to determine whether the EMU is moving towards a more 'optimal' Optimal Currency Area. Christodoulakis explains this concepts as: "[...] *the speed at which lagging-behind members of a group are catching up with the most advanced ones*" (2009: 92). The speed in which countries are catching up with the more advanced ones is key to the policy convergence hypothesis.

The foundation of the catch-up claim can be found in neo-liberal theory. As Martin states: "*Conventional neoliberal growth theory predicts that a reduction of barriers to trade associated with economic integration will lead to a steep increase in allocative efficiency and hence income per capital. Growth will accelerate to a new equilibrium*" (2001: 58). According to neoliberal theory growth will thus lead to a new equilibrium. Martin notes that neoliberal theory cannot explain this equilibrium in the long-run. Neoliberal theory merely shows how the dynamics between economies work (Khor 2001: 58). It does claim however that countries lagging behind tend to produce faster economic growth than already advanced countries, so a certain level of catching up should be visible. This was also the key-idea behind the creation of the Euro: policy convergence would speed up because of the creation of the Euro (Bearce 2009: 587).

2.4 SUMMARIZING THE THEORETICAL FRAMEWORK

In this theoretical framework I have presented three different theories which fit together perfectly. By using the framework of Linsenmann & Wessels I have showed how policy making and outcomes can be understood in the light of the EMU by using historical institutionalism. Historic institutionalism's key concept is the path dependency of institutions. The start point is key on how the institution will develop. This starting point can be explained by OCA theory, as it provides a macro-economic explanation for the foundations of the EMU. Last I have presented policy convergence theory which can give an additional explanation for the need for policy change from the political-economic view.

3 RESEARCH DESIGN

In my research I will explain why the sovereign debt crisis had effect on this policy change. Therefore it will be an explanatory research design. Answering this 'why' question includes developing causal relationships which can explain the phenomenon of policy change. I will test this using the theories presented in my theoretical framework. The observations which I will do in my research will be used to test my theories, which means conducting a deductive research. The function of this research design is to present a set of variables which are operationalized in a way to ensure I can give the best possible answer to my research question.

Kellstedt & Whitten (2008) have summarized the fundamental research design of Political Science Research. To develop scientific knowledge from a causal theory the following steps have to be taken: First operationalize the casual theory, second form hypothesis, third the empirical test, fourth the evaluation of the hypothesis, fifth the evaluation of the causal theory and last the formulation of (new) scientific knowledge.

To answer my main- and sub questions I will operationalize the theoretical framework with a set of variables. I will explain how I will operationalize them and how to measure them. Starting with the dependent variable. Kellstedt & Whitten define this as a variable which depends on independent variables for the causal explanation (2008: 8).

3.1 DEPENDENT VARIABLES

The phenomenon which I will research in this thesis are the new rules within the EMU implemented between 2011 and 2013. These new rules are embedded in the Six Pack (2011), Two Pack (2013), in these packs the important changes to the rules and how they are enforced are brought. They were again reinforced by the Treaty on Stability, Coordination and Governance. The dependent variable in this thesis is therefore the reinforced framework on economic governance within the European Union between 2011-2013. The reinforced framework is the policy change triggered by the sovereign debt crisis as stated in the central research question. The policy change is a direct result of the sovereign debt crisis, the need for this policy change is the theme to research in this thesis. Therefore the policy change itself is my dependent variable, to which an explanation will be sought using three independent

variables. Researching how the need for this new treaty can be explained is the central research theme.

The new treaty has reinforced several pillars as explained earlier. I will use the three most important changes as indicators for the reinforced for my dependent variable (see (Memo-13-318) :

3.1.1.1 Indicator 1 - The stronger focus on debt and deficit

The reinforced framework has put more emphasis on the 3% of GDP rule for deficits and the 60% of GDP for debt rule. The new rules have made these two rules operational. (MEMO-13-318). For the deficit ratio it means that countries should have to improve their structural balance by at least 0.5% of the GDP per year, and even more for countries who have a debt-ratio of more than 60%.

3.1.1.2 Indicator 2 - Better prevention mechanisms

The reinforced framework provides different mechanisms for prevention of a new crisis. Member states have to send their three year budgetary plans. Next to this an early warning system has been implemented to discover possible imbalances on time. Moreover if member states do not meet the criteria of debt and deficit, they are bound to the excessive debt program as explained earlier. This program includes heavier sanctions.

3.1.1.3 Indicator 3 - Reinforced coordination on monetary policy.

The reinforced framework provides a stepped up surveillance for all countries. Countries who are in an Excessive Debt Procedure are subject to extra surveillance. If financial difficulties persist they can obtain additional financial funds in exchange for strict macro-economic surveillance.

The question why these measurements where needed will be answered using three independent variables, which flow from my theoretical framework.

3.2 INDEPENDENT VARIABLES

I will use three independent variables to test whether these have a causal relationship on the dependent variable.

First of all the Institutional Design of the EMU: operationalized using two indicators.

3.2.1 Institutional Design of the EMU

3.2.1.1 Indicator 1 - Shortcomings original treaties during economic crisis

Path dependency theory claims that institutional change should always be seen in the light of previous choices. By researching the shortcomings of the original treaties a possible explanation can be given on the need for the reform during the sovereign debt crisis. Linsenmann & Wessels assumption is that the legal base of an institution determines how an institution will 'play-out' in real-life. I will research how the previous treaties did not prevent the sovereign debt crisis to be this far reaching. Meaning that I will look towards the events happened which the treaties could have prevented, but happened because the treaty did not provide a legal framework for it to happen.

Doing so I will analyze if and how first the banking crisis, then the global recession which resulted in the sovereign debt crisis exposed the inability of the European Commission, European Central Bank and the European Council to take actions to correct the countries who were affected by the crisis.

3.2.1.2 Indicator 2 - Coordination degree of the old- and new treaties.

The second indicator for the institutional design of the EMU is the degree of coordination of monetary policies within the EMU. Based on the various treaties can be evaluated to what extend the central coordination of monetary policies have been strengthened by the new treaties compared to the old ones.

3.2.2 Optimal Currency Area

For the explanation if an asymmetric shock caused the need for policy change I will use four main indicators derived from OCA theory. These indicators are used to measure both directly if an asymmetric shock occurred and indirectly if the Currency Area was strong enough to absorb the shock in order to be an Optimum Currency Area.

3.2.2.1 Indicator 1 - Similarity of economic cycles

The most important concept in OCA theory is the existence of synchronized business cycles. The absence of synchronized business cycles will mean that forming a Currency Area is not rational. Furthermore the absence of synchronized business cycles can explain the existence of an asymmetric shock. I will measure business cycles by comparing if the GDP growth was

similar between countries. This will be done by using the index numbers and the standard deviation, with the standard deviation an asymmetric shock can best be seen.

3.2.2.2 Indicator 2 - Labor Flexibility

Another important concept in OCA is the existence of labor flexibility. Although labor flexibility was not in the scope of the treaty change, it is still an important concept within OCA-literature. If countries cannot adjust their macroeconomic shock by adjusting their fiscal position, labor flexibility can be the solution. Ideally researching labor flexibility is done by measuring the mobility between high- and low performing countries, but there is no data available on this subject. Without the existence of labor-mobility between low-and high performing regions/countries, an OCA cannot exist. Measuring labor flexibility can also be done by comparing the wages over time and comparing these with the economic growth. If economic growth is stagnating, then wages should also stagnate. If not, a country will no longer be competitive with other countries within the OCA, and will experience bigger economic problems. I will therefore compare GDP and real wage development in order to research wage flexibility.

3.2.2.3 Indicator 3 - Fiscal similarity

Third of all the degree in which EMU countries are following the same fiscal path. The fiscal path is an indicator for measuring whether countries are following the same monetary system. If countries are not in the same fiscal path this can mean that an OCA is more vulnerable to an asymmetric shock. This will be measured by comparing the surplus-or-deficit between the EMU-countries over time.

3.2.2.4 Indicator 4 - Inflation

Fourth of all the degree in which the inflation rates between EMU-countries are the same. The EU-countries have agreed upon a new way to measure inflation within the Euro countries. This is done by using the HICP – Harmonized Indices of Consumer Prices (Issing ea. 2001: 51). This indicator takes into account the differences in national definition of inflation and is used to compare inflation between the EMU countries. I will therefore use the HICP over time to measure the inflation rates between EMU-countries.

The common way to measure these four indicators is to divide the rates into two timeframes. Pre-crisis and post-crisis. I will use the pre-crisis timeframe as the time from the implementation of the EMU (1999). I will use the start of the crisis with the banking crisis as

the starting point of the crisis. This means that I will have the timeframes 1999-2007 and 2008-2013 (on which the latest data is available).

Third the theory of Policy Convergence. This will be operationalized using two indicators:

3.2.3 Policy convergence

The indicators flow from policy convergence theory. By measuring the variance an evaluation can be made to what extent policies have converged towards and in the sovereign debt crisis.

3.2.3.1 Indicator 1 - Catching up speed

Most important concept in the Policy Convergence Theory is the speed in which countries are catching up. By measuring the GDP per capita a conclusion can be drawn if the least performing countries are converging towards the best performing. Real GDP per capita is the best indicator for the catch-up speed as it is adjusted for the different price levels in countries.

3.2.3.2 Indicator 2 - Convergence in inflation

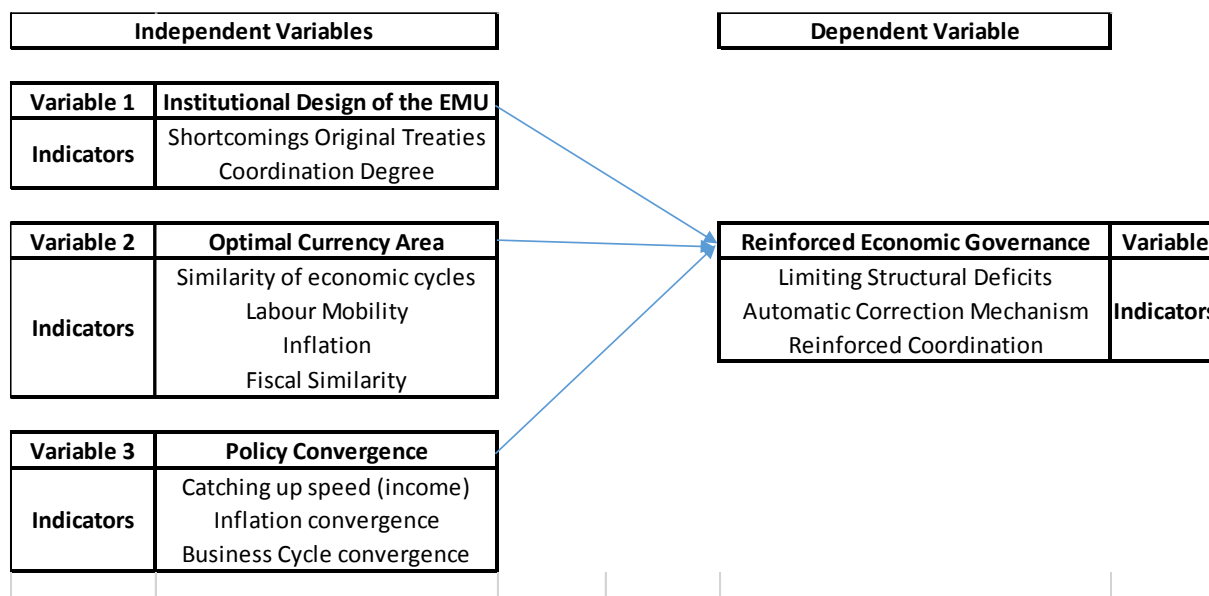
Second important concept is the extent to which inflation has converged towards each other. I will again use the HICP indicator, and measure the variance between countries to see whether inflation rates have converged. By measuring the differences in inflation I can form a clear view whether convergence has taken place in inflation.

3.2.3.3 Indicator 3 - Convergence in business cycles

Third important concept is the extent to which business cycles are converging towards each other. By measuring if business cycles are converging towards each other I can conclude whether business cycles tend to be more in balance pre-crisis.

As this is the policy convergence thesis, which argues that countries policies will converge, I will analyze only the pre-crisis timeframe. I want to research whether the lack of policy convergence has caused the EMU treaties to be reinforced. This reinforcement was already taking place during the crisis, therefore the lack of policy convergence pre-crisis can give a possible answer.

3.3 FLOWCHART OF INDEPENDENT AND DEPENDENT VARIABLES



3.4 CODEBOOK

Variable	Indicator	Operationalization
Institutional Design of the EMU	Shortcoming original treaties	Evaluating which institutional gaps were revealed by the crisis using a literature review of the events during the crisis.
	Coordination degree	Clarifying the different treaty changes by reviewing if coordination has strengthened with the treaty change.
Optimal Currency Area	Similarity economic cycle	Measured comparing the GDP growth per year from 1999-2013 of Euro and Non-Euro countries and by using the standard deviation to see whether an asymmetric shock occurred.
	Labor flexibility	Measured comparing the Wage growth compared to GDP growth per year from 1999-2013 of Euro and Non-Euro countries.
	Fiscal similarity	Measured comparing the government surplus/deficit and the government debt/gdp ratio per year from 1999-2013 of Euro and Non-Euro countries.
	Inflation	Measured comparing the inflation rate (HICP) from

		1999-2013 of Euro and Non-Euro countries.
Policy Convergence	Catch up speed	Measured comparing the Real GDP per capita from 1999-2013 of Euro and non-Euro countries, including the standard deviation and the difference between highest- and lowest performing country.
	Inflation convergence	Measured comparing the standard deviation in inflation (HICP) from 1999-2013 of Euro and Non-Euro countries.
	Business Cycle convergence	Measured comparing the standard deviation in GDP growth from 1999-2013 of Euro and non-Euro countries.

3.5 WORKING HYPOTHESIS

The hypothesis are formulated as a causal relationship between X (independent variable) and Y (dependent variable).

3.5.1 H0 – Hypothesis

H0: The sovereign debt crisis did not trigger policy change towards a more optimal currency area in the European Union.

My null-hypothesis is that the sovereign debt crisis cannot be held responsible for the policy change within the European Union. Meaning that no asymmetric shock occurred, no shortcomings in previous treaties were noticed during the crisis and that there was no lack of policy convergence.

3.5.2 H1 - Hypothesis

H1: The crisis revealed flaws in the institutional design of the EMU causing the need for policy change.

My first hypothesis is that the institutional design of the EMU was not sufficient in order to respond to the events which occurred during the crisis.

3.5.3 H2 - Hypothesis

H2a Pre-crisis an asymmetry in the economic system of the EMU already existed.

According to OCA criteria can be measured whether an asymmetry before the crisis already existed. This can provide further explanation for the depth of the crisis and the need for immediate policy change.

H2b: The crisis produced an asymmetric shock in the EMU which created the need for policy change.

The crisis produced an asymmetric shock which caused an unbalance in the monetary union, causing the need for immediate monetary policy reform.

3.5.4 H3 - Hypothesis

H3: The lack of policy convergence in the EMU created the need for policy change.

The lack of pre-crisis policy convergence has contributed to the need for policy change. Additional institutional arrangements can speed up the policy convergence process in the EMU.

3.6 COUNTRY SELECTION

The European Union has expanded significantly since the Maastricht Treaty. Since 2004 it went from 15 to 28 countries. The Eurozone started with 12 out of 15 EU countries: Belgium, Germany, Finland, France, Greece, Ireland, Italy, Luxembourg, Netherlands, Austria, Portugal and Spain. Three countries choose to remain using their own currency: United Kingdom, Denmark and Sweden. All new countries in the EU are obliged to introduce the Euro. In 2007 Slovenia was the first, after that Malta (2008), Cyprus (2008), Slovakia (2009), Estonia (2011), Latvia (2014) and Lithuania (2015) followed. Hungary, Poland, Czech Republic, Bulgaria, Romania and Croatia have yet to introduce the Euro.

In my thesis I will focus on the pre-crisis and post-crisis events. Therefore it is important to use data already from the moment the third phase of the EMU-treaties came into force (1999). As the new Euro countries joined during or after the crisis, it is difficult to compare their data pre- and post-crisis, as they were still catching up to the EMU requirements in order to join. This will not give a reliable view on the data. Therefore I have chosen to exclude all new Euro member states and focus on the member states who entered the third stage of the EMU in 1999. Which are the 'original' 15 euro countries: see figure 5 for an overview. This will give the most complete view, as forming conclusions about countries who have only recently

joined the Eurozone would not give a reliable view. See the table in the appendix for a table of all the Euro countries.

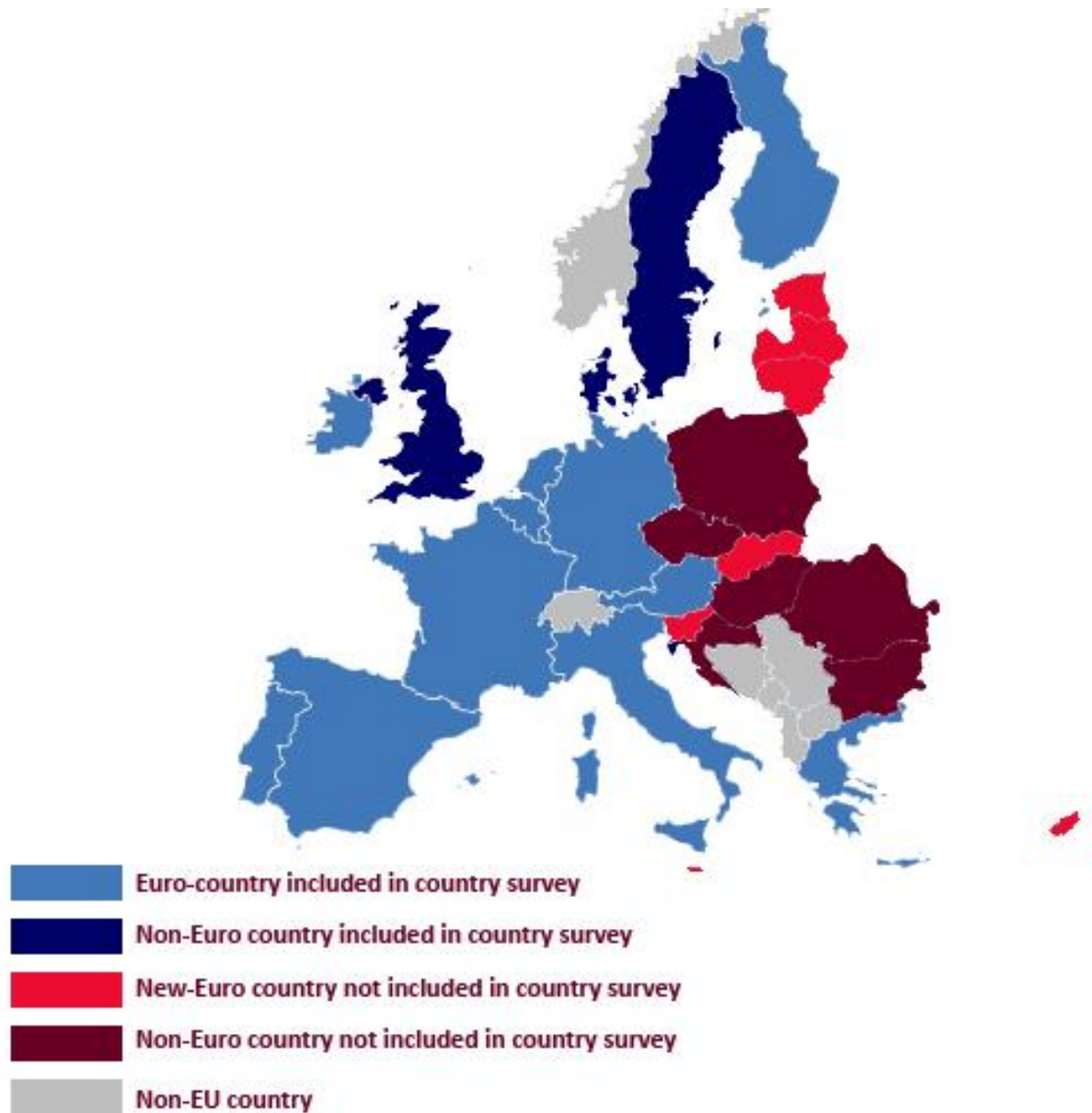


Figure 5: Country Survey Overview (see for full table appendix 10.2)

3.7 METHODS OF INQUIRY

3.7.1 Method of Data Collection

In this thesis the focus will be on quantitative data. To answer the questions two types of data are used.

First I will conduct desk research to explore existing literature. By using existing literature I am able to find a direction which leads to an answer. Moreover I will be able to use

the data already presented in existing literature. An extensive literature research will thus be conducted. Important existing data comes from influential authors (e.g. Olsen, Grauwe, Linsenmann & Wessels, Putnam, Mundel) and from paper series of the important institutions (e.g. ECB, IMF, EC)

Second will use statistical databanks to conduct a country survey (see figure 5). First of all I will use the European Databank: EUROSTAT, which provides reliable data of EU and EMU countries. Second I will use the statistical databank of the ECB. The ECB provides consolidated data about important economic indicators. Third I will use the statistics of the World Bank and OECD for further additional data and a double check with the data provided by the EU themselves.

3.7.2 Methods of Data Processing

For sub question 1: Institutional design EMU. I will focus on using a literature review to answer this question. The economic shortcomings of previous treaties will already be researched in the next sub questions, this sub question is focused on answering why and what choices have been made in the previous sub questions which can reveal potential shortcomings. Desk research will therefore be the method of data processing for this sub question.

For sub question 2: OCA. I will use time-analysis series from the moment the first treaty was signed to the last treaty on the EMU was signed until 2013. First of all I will use tables and graphs to form a general image about the different indicators. Second I will analyze the tables using the variance between the countries to form a conclusion.

For sub question 3: Policy Convergence. I will use time series analysis from the moment the first treaty was signed until the moment the last treaty was signed until 2013. I will use tables and graphs first to form a general image about the different indicators. Second I will measure the variance within the indicators and present these in a graph. By this can clearly be seen if the variance became bigger or smaller over time.

I will draw my main conclusions based on quantitative data for sub questions 2 and 3. I will draw my main conclusions based on qualitative desk research for sub question 1.

3.8 VALIDITY AND RELIABILITY

While exploring the existence of a causal explanation it is important to note the concepts of validity and reliability.

A causal explanation is reliable when the research done is consistent and can be repeated (Kellstedt & Whitten 2008: 106). As I will use quantitative data from reliable institutions I do not see a problem in reliability. As for the qualitative part with Historical Institutionalism I will have to make sure to include all components of that theory in my analysis. However there are two possible problems regarding validity in my research. For the qualitative part much authors have their own view and are biased because they look at the crisis from their own perspective. The starting point of researching the crisis should always be data, the data is measured by methods which are commonly agreed. Explaining this data I will need to make sure to include a wide range of perspectives, in order to draw conclusions from the data. Second there are some problems with the data. The data for Portugal, Spain and Greece are marked as provisional by Eurostat, as they are researching whether the provided data is not manipulated by the national governments of these countries. This is a possible threat to the reliability of my conclusions. However in a statement Eurostat has already pointed out that the data is more likely to be 'too positive' than 'to negative' (EU Observer 2009).

A causal explanation is valid when the operationalized variables measure what need to be measured. As I have developed an operationalization of the concepts which are common in political economy to measure concepts I do not see a problem with validity of my research. The most important thing to keep in mind during this research is construct validity: I need to make sure to include all elements of the theory.

3.9 MOVING ON TO THE EMPIRICAL PART

Having identified my variables and methods of research, the next chapters will present the results found. I will start with the history of the European Monetary Union; the reforms and the institutional shortcomings. Then I will present my findings on the Optimal Currency Area indicators. Finishing with the results of policy convergence.

4 THE ECONOMIC AND MONETARY UNION

4.1 HISTORY

In 1957 the first actions towards monetary and financial cooperation were taken. With the creation of the European Economic Community countries agreed to cooperate in the future regarding monetary and financial policies. In 1970 the Werner Plan was the first serious attempt towards more monetary cooperation, but it failed because of the huge monetary instability during this decade (Issing ea. 2001: 278). The European Single Act in 1986 was a big step forward, as the member states agreed it was time to enter the next stage of European integration. Eventually the Delors report in 1989 led to the Treaty of Maastricht. The base of the European and Monetary Union. The Stability and Growth pact was the heart, as it facilitates and maintains the principles of the EMU.

4.2 THE STABILITY AND GROWTH PACT

The Stability and Growth Pact is a framework of rules which ensures the coordination of national fiscal policies within the European Union. The initial goal was to safeguard public finances of the EU-member states (Buti e.a. 1998: 88). The original intention was to reach this goal with two measurements: fiscal discipline and flexibility. Fiscal discipline to make sure the credibility of a possible Monetary Union and flexibility to be able to deal with country-specific situations (1998: 89).

The Stability and Growth Pact is not a single legislation or treaty. The pact is continuously evolving. The first legal basis can be found in the Treaty on the Functioning of the European Union and the last change has been made by implementing the Fiscal Compact in 2013. The first version of the Pact was amended in 1997.

I will present an overview of the most important measurements taken in the SGP.

4.2.1 Legal Basis of the Stability and Growth Pact in the Maastricht Treaty

The legal basis can be found in article 121 and 126 of the Treaty on the Functioning of the European Union (Treaty on the Functioning of the European Union 1957, (TFEU)). This treaty is also known as the Maastricht Treaty, as it was signed in Maastricht, February 7, 1992 (Treaty of Maastricht). The Maastricht Treaty laid down the foundations of the European Union we

know today. Furthermore it was the legal basis of the single European currency we know today, the Euro.

Article 121 is the legal base of the implementation of multilateral surveillance. This was mainly to ensure the coordination of economic policies (TFEU art. 121.3): "*In order to ensure closer coordination of economic policies and sustained convergence of the economic performances of the Member States, the Council shall, on the basis of reports submitted by the Commission, monitor economic developments in each of the Member States and in the Union as well as the consistency of economic policies with the broad guidelines referred to in paragraph 2, and regularly carry out an overall assessment*". Monitoring economic developments by the European Commission should enable more economic coordination from the EU.

Article 126 of the Treaty laid down the elements to safeguard discipline. The goal is to ensure Member States shall do anything to avoid excessive government debts. The first references to enforcement measurements can be found in art. 126 sub 11 (TFEU): "*As long as a Member State fails to comply with a decision taken in accordance with paragraph 9, the Council may decide to apply or, as the case may be, intensify one or more of the following measures:[..Measurements...]*". Member states should comply with the rules set by the EU member states.

The rules which are set by article 126 can be found in Protocol 12 of the Treaty (TFEU). These rules were also often discussed during the sovereign crisis, as these are the convergence criteria to possibly join the Eurozone. The criteria are laid out in Article 1, stating that government deficit should not exceed 3% of the GDP and that government debt to GDP should not exceed more than 60%. This protocol was the guideline for EU member states, if countries could not comply with these rules discipline measurements (as laid down in article 126) could be enforced.

4.2.2 The Original Version - The creation of the Stability and Growth Pact - 1997

The Maastricht Treaty laid down the foundations for the SGP in 1992. Legislation to operationalize the corrective and preventive arm of the SGP, was made between 1995 and 1997. Council regulation 1466/97(EC) and 1467/97(EC) laid down the rules for the upcoming Eurozone countries. These two regulations formalized the Stability and Growth Pact.

Regulation 1466/97(EC) further implemented the Multilateral Surveillance. Each participating member was obliged to send an annual report to the Commission to report progress made on the stability program. The points presented in the report should at least present four indicators (1466/97(EC) art.3.2): Firstly, the progress made on the budgetary position; secondly, the main assumptions about expected economic development; thirdly, a description of budgetary and economic measurements taken to achieve the objectives of the program and fourthly, an analysis of what effect the expected economic development has on budgetary and debt position. This regulation became an important check whether EMU-countries were converging. If countries failed to comply with the rules set, this preventive mechanism could warn the Commission and EU countries that measurements had to be taken.

Measurements to be taken are laid down in Regulation 1467/97(EC): the corrective mechanism. This regulation had the goal to: *"This Regulation sets out the provisions to speed up and clarify the excessive deficit procedure, having as its objective to deter excessive general government deficits and, if they occur, to further their prompt correction"* (art.1.1). If any member state did not deliver results as promised, the Council could decide to 'prompt correction'. A member state which failed to comply with the convergence criteria could be obliged to pay a deposit of 0.5% of the GDP (Art.12). If the excessive deficit has not been corrected within two years the EU countries could decide to turn the deposit into a fine. Meaning that if a member state did not follow agreements it could have significant budgetary consequences for the member state.

4.3 REFORM 1 - THE CREATION OF MORE FLEXIBILITY - 2005

In 2005 EU countries agreed to reform the SGP-pact. One of the main reasons was the lack of flexibility in the old Pact. In a 2005 speech the Commission chairman Barosso notes that significant progress has been made to correct excessive debt by countries (Barosso 2005). He states that the improvement of debt and deficit was largely cyclical. In times where unexpected events happen behind control of governments more flexibility is needed (Barosso 2005). The most important change made in 2005 is therefore flexibility.

4.3.1 Preventive arm

The preventive arm was reformed by Regulation 1055/2005(EC). The reforms in the preventive arm were aimed at providing more flexibility to countries. In the original regulation

the objective to reduce deficit was defined as a budgetary position "*close to balance or surplus*" (1466/97(EC) art. 3.1). The new regulation enables countries to propose a specific objective because of country-specific circumstances (1055/2005(EC) art. 2). Defined as "differentiated medium-term objectives" (MTO), it introduces country-specific MTO's. The safety ratio of 3% budget deficit is maintained, but with more flexibility. If countries can prove that because of certain economic characteristics or events, they cannot maintain a budget deficit below 3%, exceptions can be made by the EMU members. More emphasis has been placed on debt-to-gdp ratio and the potential growth of countries to answer countries questions for more flexibility (Gonzalez-Paremo 2005). The improved flexibility meant that restoring fiscal balance in a country could be temporarily postponed if economic outlook of a country was bad.

4.3.2 Corrective arm

The corrective arm was reformed by Regulation 1175/2005(EC). In this regulation the rule that a deficit above 3% is not necessarily excessive is formalized. Article 5 in the original treaty has been replaced by: "*In the case of an unusual event outside the control of the Member State concerned which has a major impact on the financial position of the general government or in periods of severe economic downturn for the euro area or the Union as a whole, Member States may be allowed temporarily to depart from the adjustment path towards the medium-term budgetary objective referred to in the third subparagraph, provided that this does not endanger fiscal sustainability in the medium term*". This opens the road to different fiscal paths of EU countries. As the parameters are not set for all EU countries anymore, but specifically determined per member state convergence programs and sanctions can differ. Moreover the deadline to correct the excessive deficit was changed. The term exceptional and temporary was also given a new definition (Barosso 2005): "*The new Pact has made the definition of a severe economic downturn less stringent. Now, any negative growth rate, or even a period of positive but very low growth compared with the trend, can be considered exceptional*". The definition of an economic downturn was therefore expanded to a situation in which also other factors were important. This increased the acknowledgement that a wider range of fiscal outcomes are now possible.

Looking at figure 6: Fiscal developments under the SGP, some conclusions about the need for more flexibility can be drawn (Morris e.a. 2006: 16). Almost no country had

succeeded in creating a budget surplus, most countries still had a budget deficit and the general government debt in the Euro area was still above the 60% as laid down in the Maastricht treaty. The need for this treaty can therefore easily be explained, by the fact that most countries fail the SGP criteria test. Morris e.a. already drew the conclusion in 2006 that if the rules would become more flexible, more emphasis on correct implementation should also be drawn (2006: 25). Furthermore they concluded that: *“As far as the intention of the SGP reform to “enrich the framework with a stronger emphasis on the economic rationale” is concerned, there is so far only limited evidence of increased attention being played to macro-fiscal linkages, such as divergence caused by external imbalances, demand pressures and losses in competitiveness (Morris e.a. 2006: 31)”*. This implies that already in 2006 possible dangers coming from external sources were seen as a possible threat towards the stability of the reformed pact.

Table 3 Fiscal developments under the Stability and Growth Pact							
(as a % of GDP)							
	1998	1999	2000	2001	2002	2003	2004
General government budget balance							
Belgium	-0.8	-0.5	0.1	0.4	0.0	0.1	0.0
Germany	-2.2	-1.5	-1.1	-2.8	-3.7	-4.0	-3.7
Greece	-4.3	-3.4	-4.0	-5.4	-4.9	-5.8	-6.9
Spain	-3.0	-1.1	-0.9	-0.5	-0.3	0.0	-0.1
France	-2.6	-1.7	-1.5	-1.6	-3.2	-4.2	-3.7
Ireland	2.4	2.5	4.4	0.8	-0.6	0.2	1.5
Italy	-2.8	-1.7	-1.9	-3.1	-2.9	-3.4	-3.4
Luxembourg	3.2	3.3	5.9	5.9	2.0	0.2	-1.1
Netherlands	-0.7	0.6	1.5	-0.2	-2.0	-3.1	-1.9
Austria	-2.3	-2.2	-1.8	0.0	-0.5	-1.5	-1.1
Portugal	-3.0	-2.7	-3.2	-4.3	-2.9	-2.9	-3.2
Finland	1.7	1.7	7.0	5.1	4.1	2.5	2.3
Euro area	-2.2	-1.3	-1.0	-1.8	-2.5	-3.0	-2.8
Cyclically adjusted budget balance							
Belgium	-0.4	-0.6	-0.9	0.0	-0.2	0.4	0.0
Germany	-1.7	-1.1	-1.7	-3.3	-3.7	-3.4	-3.4
Greece	-3.4	-2.6	-3.5	-5.4	-5.0	-6.2	-7.7
Spain	-2.6	-1.4	-1.9	-1.4	-0.8	-0.2	0.0
France	-2.5	-2.1	-2.6	-2.6	-3.8	-4.1	-3.6
Ireland	1.8	1.0	2.4	-0.7	-1.8	-0.5	1.4
Italy	-2.4	-1.6	-2.8	-4.1	-3.4	-3.4	-3.3
Luxembourg	4.0	2.9	4.1	5.2	1.7	0.9	-0.5
Netherlands	-1.5	-0.8	-0.3	-1.3	-1.9	-2.1	-0.9
Austria	-2.4	-2.7	-2.8	-0.3	-0.3	-1.0	-0.8
Portugal	-3.4	-3.5	-4.5	-5.5	-3.5	-2.5	-2.7
Finland	0.4	0.6	5.3	4.8	4.3	3.0	2.5
Euro area	-2.0	-1.5	-1.9	-2.6	-2.8	-2.8	-2.6
General government debt							
Euro area	73.0	71.7	69.2	68.3	68.1	69.3	69.8

Source: European Commission, AMECO database. Data exclude receipts from the sale of Universal Mobile Telecommunications System (UMTS) licenses.
Note: The figures presented in the table are those currently available under the ESA 95 accounting framework. They therefore include all the statistical revisions that have taken place since 1998 in the euro area countries (in particular, in Greece and Portugal).

Figure 6: Fiscal Developments under the SGP (from Morris ea. 2006)

4.4 REFORM 2 – THE CRISIS REFORMS

Moving on to present all reforms implemented in the recent years. Quite a few changes have been made.

The European semester was the starting point of the program of the European Commission to achieve goals towards a more sustainable European Union.

The Six pack and Two Pact directly reinforce the old Stability and Growth Pact. These two reforms are therefore the most important changes.

Additionally the Fiscal Compact is an agreement between the European Union member states to further reinforce fiscal coordination within the EU. I will shortly discuss the Fiscal Compact³

A paragraph about the Medium-Term Budgetary Objectives is also included, as the way this objective is calculated is very important to understand how countries are performing and how their country specific targets are set. I will start with the European Semester and continue to discuss the other reforms.

4.4.1 2010 - European Semester

In 2010 the European Semester started to create a more sustainable economic policy framework for European countries annually (Rompuy 2012: 6). It is part of the Europe 2020 program to meet five targets within the EU: an employment rate of 75%, 3% of EU's GDP invested in Research & Development, more renewable energy and stricter greenhouse gas emissions, more education and less poverty (Europe 2020 targets). The European Semester was created to *“undertake a detailed analysis of EU Member States' plans of budgetary, macroeconomic and structural reforms and provides them with recommendations for the next 12-18 months”* (European Commission 2015). Its goal is therefore to strengthen economic governance within the EU. The European Semester is aimed to reinforce annual growth by giving specific advice to countries annually in an early timeframe.

³ The Fiscal Compact is not applicable on all countries, as it is not yet transposed into EU law. Therefore it is not in scope of this thesis. However I will shortly explain the agreements, as these are important changes in the future.

The European Semester also marked the start of the policy reforms within the European Monetary Union. Starting with the Six Pack, then two pack and finishing with the Fiscal Compact I will give an overview on the policy changes.

4.4.2 2011 - The six pack

In 2011, the next reform of the SGP was proposed after the rigid economic crisis. As already predicted in 2005, internal and external imbalances caused the EU to renew and reform the original SGP. The first of the new reforms was the implementation of the so-called “Six Pack reform”. This was the biggest and most comprehensive reform of the SGP.

The Six Pack was approved in December, 2011. It consisted out of five regulations and one directive. Five regulations which had to be directly implemented in national law, proof of the importance of this Pack. Six Pack reinforced the corrective and preventive arm of the SGP. It related to Fiscal Policy as well as Microeconomic imbalances.

Below an explanation of the regulations and directive which were reformed in the six-pack.

First of all Regulation (EU) No 1175/2011 amending Council Regulation (EC) No 1466/97 on the strengthening of the surveillance of budgetary positions and the surveillance and coordination of economic policies. The aim of this regulation is the “[...] *to conduct multilateral surveillance as an integral part of the European semester for policy coordination [...]*” (article 2-a.1). According to article 2 this is to be done by implementing broad guidelines of the economic policies by EU member states to ensure they match the principles of good economic governance in the Union. Each country has a differentiated medium-term objective for its budgetary position. As drawn in article 3 each member has to submit to the Council and to the Commission information necessary to conduct the multilateral performance on a regular interval.

Second Regulation (EU) No 1177/2011 amending Council Regulation (EC) No 1467/97 on speeding up and clarifying the implementation of the excessive deficit procedure. This regulation amended the original regulation in order to speed up the excessive deficit procedure for an EU member state. The most important amendment can be found in article 3, in which a maximum deadline of six months from a member state is demanded after the excessive deficit procedure came in effect.

Third Regulation (EU) No 1173/2011 on the effective enforcement of budgetary surveillance in the euro area. This regulation laid out sanctions in the preventive and corrective part of the SGP. Article 4 describes the sanctions imposed in the preventive part: *“If the Council adopts a decision establishing that a Member State failed to take action [...], require the Member State in question to lodge with the Commission an interest-bearing deposit amounting 0.2% of its GDP in the preceding year”*. This significantly improves the power of Commission to enforce preventive measurements to Member States. The same applies to the implemented corrective measurements, laid down in article 5 and 6. The Council can impose a non-interest-bearing deposit (article 5) or even impose fines (article 6) to the country.

Fourth Directive (EU) No 2011/85 on requirements of budgetary frameworks of the Member States. A directive because member states are free to choose how to implement the new legislation, as long as they fulfill the requirements of the legislation. The directive is divided into several chapters with different goals. The most important ones are that member states should introduce a public accounting system (art.3), should ensure that: *“[...] fiscal planning is based on realistic macroeconomic and budgetary forecasts”* (art.4) and introduced medium-term budgetary frameworks for the creation of a national fiscal planning scheme (art.6).

These directives and regulation focus on the improvement of fiscal policy among the EU member states. They further enabled the Council to monitor fiscal developments of a member state and moreover to react with preventive and corrective measurements. The following two regulations focused more on the improvement of microeconomic imbalances.

Fifth Regulation (EU) No 1176/2011 on the prevention and correction of microeconomic imbalances. This regulation has been introduced to set out rules to detect macroeconomic balances. As stated in article 3: *“An alert mechanism shall be established to facilitate the early identification and the monitoring of imbalances”*. Through this alert mechanism the Commission will create a scoreboard to facilitate early detection of imbalances within the Union (article 4). In practice meaning that Member States have to submit data on a wide variance of indicators to the Commission. If an imbalance is suspected the Commission can oblige the member state to take preventive action (article 5). If an imbalance is detected

the Member State has to send a corrective action plan in order to solve this imbalance (article 6). But only after the Council has agreed to open an excessive imbalance procedure (article 7).

Sixth Regulation (EU) No 1174/2011 on enforcement measures to correct excessive macroeconomic imbalances in the euro area. This regulation laid down sanctions for EMU member states for the correction of macroeconomic imbalances. If a member state did not follow up the corrective measurements as laid down in article 1176/2011, the Council could decide to impose an annual fine or an interest-bearing-deposit to the Commission (article 3).

4.4.3 2013 - The two pack

The Two Pack originated in November, 2011, and was enforced in May, 2013. As stated in Memo/13/457 there was a clear need for stronger mechanisms in the Euro area. Especially strengthening budgetary surveillance was high on the agenda. The Two Pack further increased transparency, strengthened coordination and introduced the recognition of special needs of member states under financial pressure. The two pack consists of two regulations and applies to all member states who have adapted the Euro.

First of all Regulation (EU) 473/2013 on common provisions for monitoring and assessing draft budgetary plans and ensuring the correction of excessive deficit of the Member States in the euro area. This regulation was created to ensure that national budgetary policies are consistent with the guidelines as laid down in the SGP. According to article 4 Member States have to submit their annual fiscal plan not later than the end of April each year, according to article 3 this plan has to be consistent with the framework of the SGP. And as can be found in article 6, member states have to submit their annual budgetary plan not later than October each year. If the Council decides that a member state's plan is not in compliance with the SGP, it can carry out an excessive deficit procedure.

Second Regulation (EU) 472/2013 on the strengthening of economic and budgetary surveillance of Member States in the euro area experiencing or threatened with serious difficulties with respect to their financial stability. This regulation is specifically aimed on member states under financial pressure. As explained in article 3 a member state subject to enhanced surveillance *“shall, after consulting, and in cooperation with, the Commission, acting in liaison with the ECB, the ESAs, the ESRB and,*

where appropriate, the IMF, adopt measures aimed at addressing the sources or potential sources of difficulties” (art 3.1). This regulation ensures that countries under financial pressure are under surveillance as long as a minimum of 75% of the financial assistance received has not been repaid (article 14).

The Two Pack has mainly been created to further monitor all Euro member states to avoid (or solve) future problems and to help member states who are in serious financial problems.

4.4.4 2013 - Fiscal Compact

Along the six-pack and two-pack, another set of measurements was ratified during the crisis. The Treaty on Stability, Coordination and Governance (TSCG) is also known as the ‘fiscal compact’ and is an intergovernmental agreement. It has not been transposed into EU law, but it is binding for Euro-countries. The fiscal compact runs parallel with the six-pack & two-pack. For Euro countries it is stricter than the six-pack. As laid down in article 3 of the TSCG: *“budgetary position of the general government of a Contracting party shall be balanced or in surplus”*. Article 4 and 5 obliges countries to rapidly converge towards their MTO, or if a country is subject to an EDP it will be placed in an even more binding program than according to the Six-pack reform. The reason the Fiscal Compact is not within the scope of this thesis is the long implementation scheme. Countries have five years to implement the Treaty and it will also take five years in order for the EU to incorporate the treaty in its legal framework (article 16).

4.4.5 Medium-Term Budgetary Objective (MTO) and measuring the Budget Balance

As has become clear, since the first version of the SGP there were some important changes. Especially the country specific medium-term objectives have been adjusted and sharpened in every change. The MTO’s should ensure the stability of the SGP. Next to these MTO’s the 3% GDP and 60% debt ratio are key to measuring a country’s performance. In this paragraph I will shortly explain how the MTO’s are determined and how the GDP/Debt to set the MTO’s are measured. The specifications on the implementation of the ‘Six Pack’ reform are laid down in a Code of Conduct on the Implementation of the SGP (last revised in 2012). The EU methodology for measuring budget balances are laid down in a publication of the European Commission by Mourre, Astarita and Princen (2014), which further clarifies the MTO’s. This is

extremely relevant to the empirical data presented in this thesis as the methods to measure certain macroeconomic indicators have changed significantly over the years.

The Medium-Term Budgetary Objectives are an important part of the preventive arm of the SGP. As defined in article 1.1: *“The MTO is defined in cyclically adjusted terms, net of one-off and other temporary measures”*. Three components should be taken into account for any country: a debt-ratio of maximum 60% of the GDP, depended on the long-term growth perspective, a debt-reduction effort if maximum exceeds 60% and age-related government expenditure in the future should be taken into account (for example: future pension liabilities). The following formula is used (art 1.1):

$$\text{MTO} = \max(\text{MTOild}, \text{MTOmb}, \text{MTOeuro1erm2}).$$

MTOmb & EMTOeuro1erm2 = the minimum benchmark as agreed in the Pact, and if a Member State participates in the European Exchange Rate Mechanism Pact 2 the MTO should not be lower than -1% of GDP.

MTOild = the budgetary balance plus future aging costs plus their debt reduction effort.

Based on this formula a country can be given a MTO of for example 1% of GDP. Meaning that they should improve their budgetary position with 1% of the GDP for the next three years. Failing to comply with their MTO's or if their debt level has grown too high can push a country in to the (now stricter) Excessive Debt Procedure.

The European Commission has their own method to measure the budget balance for the business cycles in order to set a MTO. This method has been changed frequently since the first SGP. It is important however to note that the revision of this method has only had limited effect on the published budgetary balances (Mourre e.a. 2014: 21-26). The EC calls this the: *“cyclically- adjusted budget balance” methodology* (2014: 5). This method (CAB) consists of two elements. First of all the Cyclically-adjusted budget balance, second of all the way the structural balance is computed. This is used by most international organizations to measure a countries budgetary position. It is also the main method for fiscal surveillance in the EMU.

$\text{CAB} = \text{B/Y} - \text{CC}$. B/Y is the budget balance to GDP ratio. CC stands for the cyclical component: measured by the cyclical position of the economy (output gap) and the link between budget and economic cycle (2014: 7). The budget balance is therefore corrected by

a countries position in the economic cycle, or in other words: *“The cyclically-adjusted budget balance (CAB) corresponds to the deficit/surplus-to-GDP ratio that would prevail if the economy was running at potential”* (2014: 9).

Second of all the structural balance. The structural balance is the Cyclically Adjusted Balance minus one-offs and temporary measures (2014: 7). The definition of one-offs and temporary measures can be found in article 1.1 and footnote 3 of the Code of Conduct: *“One-off and temporary measures are measures having a transitory budgetary effect that does not lead to a sustained change in the intertemporal budgetary position”* [...] *“Examples of one-off and temporary measures are the sales of non-financial assets; receipts of auctions of publicly owned licenses; short-term emergency costs emerging from natural disasters; tax amnesties; revenues resulting from the transfers of pension obligations and assets”*. Therefore the structural balance leaves out events or transactions that do not lead to a change in the sustainability of their budgetary position. Thus it is used to measure budgetary positions within the EMU (also used in this thesis).

4.4.6 The relationship between the changes in the second reform

The sovereign debt crisis triggered the debate whether the rules of the SGP were strict and efficient enough. Along the new European Semester the European Commission published their first communication on reforming the SGP in 2010 (See COM: 522,523,524,525,525,526 – the communication from the Six Pack reform). Measurements which were seen as necessary which should be implemented immediately. Meanwhile the discussion was ongoing on ever stricter reforms, as the crisis proved to be a real catastrophe. This led to the Two-Pack and Fiscal Compact reform. The Two-Pack reform can be seen as an addition to the Six-Pack reform. The Fiscal Compact is an extra commitment of governments to further strengthen their budgetary positions. All reforms in the second reform should therefore be seen in the light of the sovereign debt crisis: fast action was needed and necessary, new rules were enforced rapidly. The latest reform in the series: the fiscal compact will be food for discussion in the upcoming years, as countries will implement the measurements in their national legal framework.

4.5 THE ECONOMIC AND MONETARY UNION: CONCLUDING REMARKS

In this chapter the institutional design and changes of the EMU have been discussed. The EMU design of the EMU has changed significantly in the recent years. In the next chapter I will move on to the factors which contributed to the sovereign debt crisis from an institutional point of view.

5 FACTORS CONTRIBUTING TO THE SOVEREIGN DEBT CRISIS

Having explained the various policy reforms I will now move on to the main factors which have caused the sovereign debt crisis to be this far reaching. The focus lies on the institutional shortcomings of the original treaties. The shortcomings in the original treaties can improve our understanding of the recent changes, as described in chapter 4.

After having done an extensive review of the crisis, I have identified five gaps in the SGP which have contributed to the sovereign debt crisis. By identifying the gaps a conclusion can be drawn to what extent the new treaties can prevent a new sovereign debt crisis.

5.1.1 Stability and Growth Pact not binding

Starting off with the enforcement of the Stability and Growth Pact. The original pact was not binding when it came to public debts and financing of public debt (IMF 2012: 10, Kopf 2011: 42, Grauwe 2010: 3, Grauwe 2011: 42,45 & EC 2014). As the crisis emerged no appropriate policy pressure could be imposed on deficit countries. Member states could still obtain easy credit from their core country banks to fund their deficits (IMF 2012: 11). The lack of influence and enforcement measurements of the governments and ECB could not prevent this from happening (Grauwe 2010: 2). If a member state would higher their deficit and therefore higher their public debt in order to finance this deficit, the member state countries could not take direct measurements. Simply said: there was no mechanism in the original SGP to immediately correct a country.

5.1.2 Focus on deficits and not on public debt

The monitoring surveillance mechanism in the EMU focused on annual budget deficit, not on the level of government debt (Grauwe 2011: 45, Kopf 2011: 42, IMF 2012: 20 & EC 2014). The surveillance mechanism within the EMU put the emphasis on the annual budgetary deficits, meaning that if a country ran a surplus or a small deficit for years; the EMU countries would have said: 'well done'. The crisis revealed that even though countries were indeed in a good fiscal position when focusing on their budgetary position, they could still have had a high level of original debt. The crisis led to countries having to lend big amounts of money in order to pay for their (temporary-) deficit. But as their level of government debt was already high, investors did not trust the creditworthy of the government anymore (IMF 2012: 20, Grauwe

2011: 41). Referring back to the fiscal sustainability of countries, the focus on deficits and not debt led to an intensification of the heterogeneity of budget balances (Attinasi 2010: 52).

5.1.3 A centralized monetary policy and decentralized economic policy coordination

Referring back to the model of Linsenmann & Wessels. They laid down a framework which explained that monetary policy was traditionally centralized and economic policies had different modes of coordination. This can be identified as one of the problems which occurred during the crisis. Grauwe explains this as: *“The crisis has exposed a structural problem of the Eurozone that has been analyzed by many economists in the past. This is the imbalance between full centralization of monetary policy and the maintenance of almost all economic policy instruments (budgetary policies, wage policies, etc.) at the national level.”* (2010: 3 & further explained in Grauwe 2011: 45). The problem is that if you centralize the exchange rates, interest rates and inflation rates, you should also centralize a variety of other economic policy instruments. If you centralize only a part of the total economic policy, countries can still follow different paths, which in a crisis will lead to the problems exposed in this crisis. Or as Kopf (2011: 41) explains, policy makers in countries like Ireland, Greece, Spain and Portugal adopted a short-term perspective, which led to a spending spree during economic good times they would still meet the EMU criteria, but on a national level they would let wages rise, they would let public debt rise, in order to stimulate growth. The lack of governance coordination from a central authority has therefore contributed to the problems in some EMU countries (IMF 2012:20).

5.1.4 Slow decision-making process

A common frustration within the European Union is the decision making process. Tough decisions take years to take, and are constantly postponed (Grauwe 2011: 42). Grauwe defines this as the ‘failure of collective action’. The reason that the crisis could be so significant and last so long was the lack of political decision making. Restoring fiscal sustainability by refinancing countries, according to an even stricter SGP, had to be started much earlier (Rother & Valenta 2010: 56). Even the European Commission acknowledged this: *“too often, institutional weaknesses meant that tough decisions, on worrying macroeconomic developments were postponed”* (EC 2014 & supported by Rother & Valenta 2010: 60). The lack therefore of institutional basis to take actions fast has further worsened this crisis. Or as the

IMF would say: *“The European Central Bank could play a larger role to keep monetary conditions uniform throughout the Currency Union”* (Jaumotte, IMF 2011: 42).

5.1.5 Absence of a transfer mechanism

Last but not least an effective transfer mechanism to repair imbalances within the currency union was missing. The failure of collective action also led to the failure of directly intervening with budgetary transfers. The absence of a supranational transfer mechanism caused the Greek, Irish, Spanish and Portuguese governments to apply later than they should for assistance (Grauwe 2011: 41). An effective crisis-fighting tool did not exist at all during the crisis (Jaumotte, IMF 2011: 42). Looking back to OCA-theory, one of the fundamentals of an OCA is that fiscal transfers from surplus to deficit countries can solve imbalances. Although the ECB already knew in 2005 that there was a possibility for imbalances, it took the European governments until 2010 to intervene with some kind of emergency transfer mechanism (when it was already too late). The scale of state-involvement needed was big, and the absence of a finance mechanism led to even larger deficits (Rother & Valenta 2010: 56).

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6 THE OPTIMAL CURRENCY AREA AND THE EURO: THE EVIDENCE

Moving on towards the empirical evidence flowing from the Optimal Currency Area Theory and the Theory of Policy Convergence. I will first dive in to the variables flowing from the theory of Optimal Currency Area, then moving on to the Policy Convergence Theory. The following variables will be discussed in the OCA analysis: the economic cycles of the Eurozone, the labor market flexibility, the fiscal flexibility between the Eurozone countries and finally the inflation rates. Continuing with the Policy Convergence Theory I will first discuss the speed in which countries are catching up, then the convergence in inflation and I will finish with an analysis of business cycle convergence.

As explained the foundations of EMU were based upon the ideas of the Optimal Currency Area. By testing this theory in the more complex real world conclusions can be drawn about the effects of a theory. Or as Willet states: *“The danger of excessive belief in particular models. Models help us see some things more clearly and can blind us to other considerations”* (Willet 2011: 193).

6.1 ECONOMIC CYCLES

In this part I will analyze the economic cycles of the Eurozone countries. Figure 7 and 8 represent a summary of the research done. In figure 7 the asymmetry of shocks is represented by using the standard deviation of the growth rates from 1991-2013. Figure 8 represents the growth rate of the Eurozone versus the growth rate of the non-Eurozone countries.

What do these graphs actually tell us? Figure 7 is particularly interesting, as it shows the standard deviation of the growth rates of all Eurozone countries. By bearing in mind the single most important principle of OCA theory: the absence of asymmetric shocks / the idea that countries form a currency union when their economies have similar cycles, this (small) graph is the most important one of this thesis. In 1991 the EU countries signed the Maastricht treaty where they committed themselves to create a single currency. This was done in the year in which a big asymmetric shock occurred. Meaning that ex-ante the future Euro countries did not have synchronized business cycles. From 1991-1999 the countries had the time to converge towards the convergence criteria as laid down in the SGP. Although the shock was less big then in 1991, a quick look unveils that the asymmetric shock did not become

smaller. 1999-2006 marks an interesting period. The shock seems to become smaller, especially the years 2004-2008 show an interesting period of stabilization. It is not a surprise that many articles written around 2006 point out that researchers were wrong and that the Euro looked like it was going to be a huge success (see European Commission, ECB and OECD research papers). Although 2008 is the year in which the crisis started, the effects on GDP growth were not yet visible between countries, 2008 was clearly the year which marked the banking- and financial market crisis. The years 2009-2012 clearly indicate the asymmetric shock that occurred during the crisis. The worst year of the sovereign debt crisis 2011, is also the year in which the worst asymmetric shock occurred. Figure 8 does not show the asymmetric shock, but shows the performance of the Eurozone countries versus the non-Eurozone countries. It is difficult to draw a conclusion about the Euro vs Non-Euro countries, as they are only three countries (United Kingdom, Sweden and Denmark), and because they are all geographically situated in the North of Europe. It is however interesting that Sweden and the United Kingdom performed significantly better than the Eurozone countries and that Denmark followed almost the same pattern as the Eurozone countries. From OCA theory perspective the expectation is that the Eurozone should perform better because of the mutual benefits. Another indicator that there is asymmetry within the currency union.

In 2011 ECB director Lorenzo did an interesting statement: *“Although the economic literature prior to the introduction of the euro emphasized the importance of symmetric shocks, the cross-country variation in growth and inflation in recent years has been driven by differences in the impact and diffusion of a common shock, namely the financial crisis”* (Lorenzo 2011: ECB speech). He indicates that the cross-country variation between the EMU-countries in growth have been driven by a ‘common shock’. Figure 7 and 8 tell us otherwise. The shock is visible from 2009 when economic growth started to decline. This is exactly the year in which the asymmetry of shocks began to be visible. Although all Eurozone economies indeed showed a decline in 2009, as can be seen in figure 8, some already showed signs of recovery, in 2010 the mean of growth within the Eurozone was 2,1% (2009 = -4,5%). While others were still in the economic shock. For 2009 the ECB director could indeed say that a common shock took place, but already in 2010 it proved that the shock became asymmetric.

Excluding the countries which needed assistance gives an interesting result. As can be seen in figure 7. The level of asymmetry is almost the same from 1991-2007. But when Spain,

Ireland, Portugal and Greece are excluded there is no sign of an asymmetric shock. The asymmetry even declines during the crisis years. This means that when excluding the bail-out countries no evidence of an asymmetric shock can be found.

The evidence supports the claim, that if money & monetary policy is fully centralized and at the same time the rest of economic policy instruments is in control of national governments, it will lead to a variety in country specific outcomes (Grauwe 2013: 6, Mongelli & Vega 2006: 9, Begg 2008: 3, Willet e.a. 2010: 868). The Central Bank was originally created to cope with the inherent instability of capitalism, the ECB sole purpose is to maintain price stability. Internal policy adjustments are therefore just as important, as macro-economic policy and monetary policy are something completely different (Grauwe & Schnabl 2005: 538 & Wihlborg e.a. 2010: 52). . This opens up the road for a variety on country specific outcomes. This is an important explanation for the big shock which occurred during the crisis. I will further explain this in the next figures.

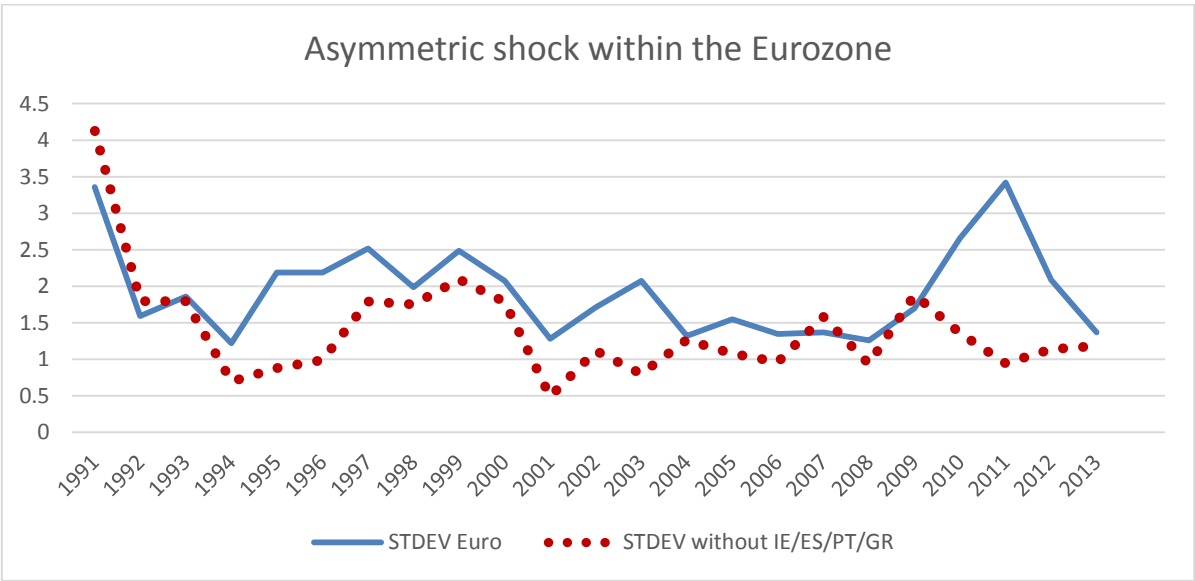


Figure 7: Asymmetric-shock standard deviation of Eurozone countries including and excluding the bail-out countries(source: Eurostat + own research) (see appendix 10.3)

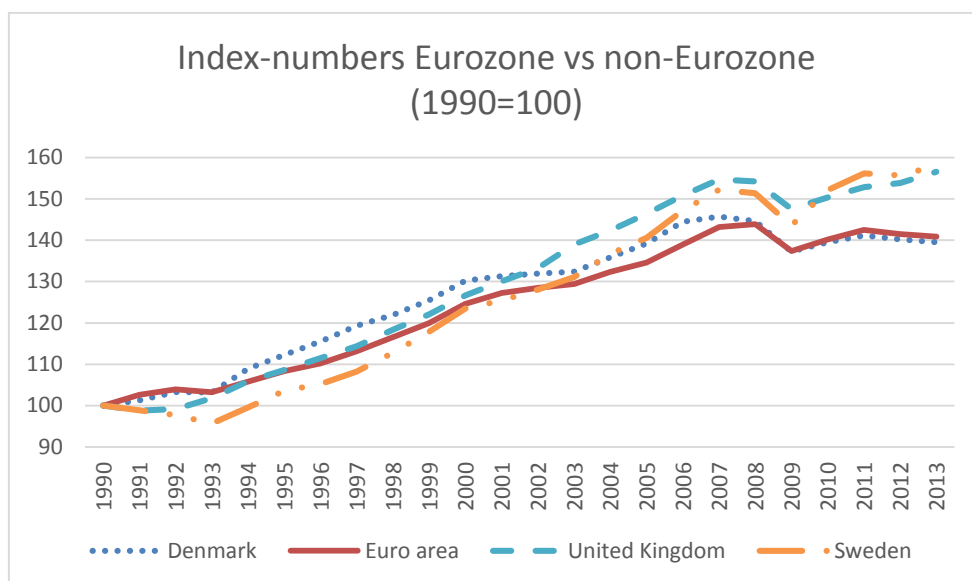


Figure 8: Index numbers of economic growth Eurozone vs non-Eurozone (1990=100) (source: Eurostat + own research) (see appendix 10.4)

6.2 WAGE FLEXIBILITY

Continuing with labor market flexibility, operationalized using wage flexibility. Referring back to OCA theory you would expect that wages are flexible if compared with GDP growth or decline, and that wages would converge towards each other (meaning less difference in real wages).

Figure 9 shows an interesting movement. Some of the least performing countries during the crisis, show high wage growth rates. Greece had to catch up, as their real wage average in 1999 was only €18.617, - compared to Germany which was €33.856, - (see appendix for tables). But Ireland's real wage already was higher than Germany with €37.248, - in 1999. Figure 10 gives more clarification about the flexibility of wages in a country. The real wages in Greece dropped with more than 20% during the crisis, whereas the GDP dropped with more than 35%. A big drop which you would expect in an OCA, although a gap of almost 15% still remains to be filled up with improved productivity or further measurements (Mongelli & Vega 2006: 14). However, Ireland's GDP fell with more than 6%, while their wages still went up with 1.5%. An interesting movement, which gives meaning to the idea that countries could coordinate their own economic policies (Grauwe 2013: 6). Looking at figures 10 and 11, it becomes even clearer that most countries GDP fell, while their wages maintained to go up during the crisis. To some extent Greece is an exception, which can be explained by the intense austerity measurements imposed on them. The other countries show that wages cannot be

adjusted easily vis-à-vis to economic growth; in other words: *“there is an asymmetry in the conjunction of responsibilities for economic policies and accountability for them. National policy-makers are held to account for negative outcomes such as higher unemployment over which they have limited direct scope for policy action”* (Begg 2008: 2).

The different outcomes in wage development can be explained by three points. First of all, the initial differences in level of development do matter (stated by ECB director Lorenzo in 2011, supported by Attinasi 2010: 52). The highest performing countries in the pre-crisis years were also the countries hit the hardest during the crisis years. No stable internal mechanism had been built in these countries to adjust to economic shocks as they were still in the developing phase. This gives also an explanation to the second point: economic shocks hurt one country more than the other (Mongelli & Vega 2006: 17, Grauwe 2013: 7, Begg 2008: 15). Countries that are already in a weaker position tend to have more problems adjusting themselves to the new situation, therefore a sudden shock in wages can occur. And as a follow up to this point: national economic and financial structures clearly do matter (Willet 2000: 2 & 7). Too less emphasis has been placed on how the macroeconomic framework would play out in the different countries, as their own economic frameworks were not ready for the ‘hard’ macro-economic policies introduced by the ECB (Mongelli & Vega 2005: 25-27). For example looking at pre-crisis Germany. While their GDP was growing, their wages were barely lifted. This so-called non-inflationary wage-policy is an expression of fiscal policy, making the German economy more sustainable for future shocks as their competitive position is reinforced (Grauwe & Schabl 2005: 538).

Wages are therefore not as flexible as would be expected. During the pre-crisis years GDP was growing, and during the crisis itself the wages kept on growing. Furthermore the initial convergence in wages has been partly made undone by the crisis.

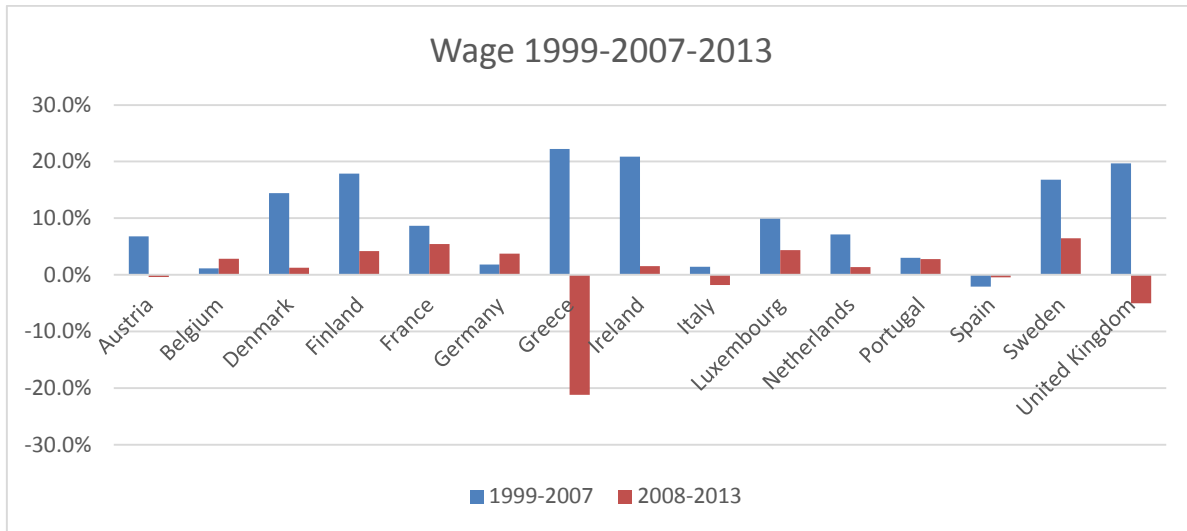


Figure 9: Wage from 1999-2007, 2007-2013 (source Eurostat+ own research) (see appendix 10.5)

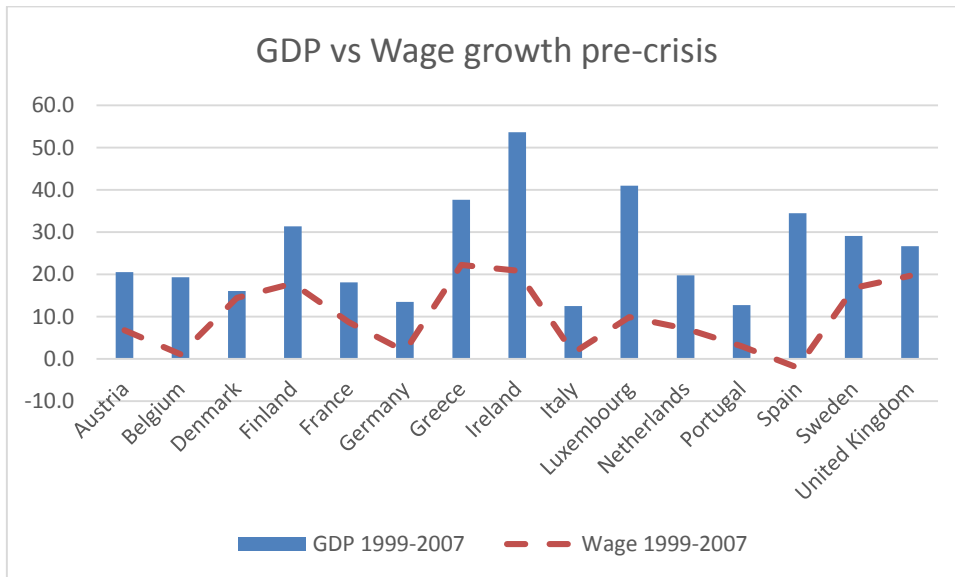


Figure 10: GDP growth vs Wage growth 2008-2013 (source: Eurostat & own research) (see appendix 10.5)

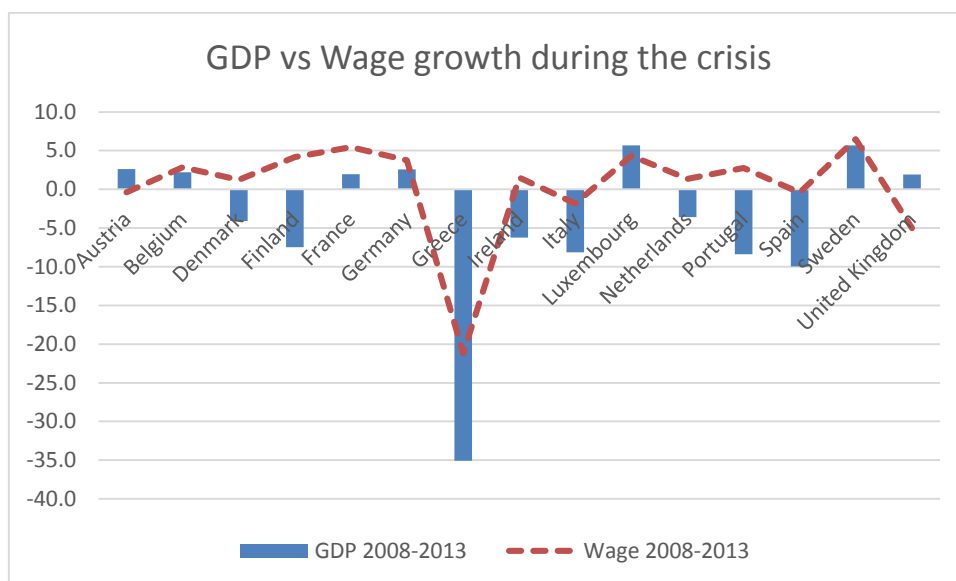


Figure 11: GDP growth vs Wage growth 2008-2013 (source: Eurostat & own research) (see appendix 10.5)

6.3 FISCAL SIMILARITY

Continuing with the important measurement of the fiscal position of countries. These should be in line with each other, otherwise imbalances can occur within the currency union.

Starting with the government debt as percentage of their GDP. As the (old & new) SGP indicates this should be no more than 60% at the moment of introduction of the EMU and countries should do everything to prevent it from going higher than 60%. The pre-crisis results are quite surprising. In graph 12 the countries which have a debt/gdp ratio of over 60% are marked. 7 out of 15 countries are above the 60% line, of which 6 are Eurozone countries⁴. Instead of less countries with a bad ratio, even more countries have a bad gdp/debt ratio in the year before the crisis: 2007. Only Ireland, Spain, Luxembourg, the Netherlands and Finland are the Euro countries which met the SGP criteria. The GDP/debt ratio proved important and can be a game changer for countries during the crisis (Mongelli & Vega 2006: 14).

Looking at the crisis years the results are bad. Only Finland and Luxembourg maintained a healthy ratio. Having a closer look to the countries which needed extra support: Greece, Spain, Portugal and Ireland. The available data of 2011-2013 show very bad fiscal positions. The year in which Ireland and Portugal needed extra assistance is clearly visible: 2010/2011 are the years in which the debt became bigger than their own GDP, meaning they

⁴ Note that for Greece no data is available as they are currently being revalued (the old data reveals that their ratio is far beyond 60%).

are virtually illiquid to investors (Grauwe 2013: 7). It also clearly shows the significant crisis in Spain: from a debt ratio of 40% to 92% in 5 years. Other countries also show a bad ratio, but could maintain the ratio loss to a minimum. Germany's ratio fell with 10%, the Netherlands fell with almost 15% and Austria lost 13%. Compared to other countries within the Eurozone a small loss, but it clearly indicates the big problems which occurred during the crisis. Before moving onto the explanation of these tables I will quickly analyze the government deficits and surpluses.

To analyze the government deficit the same was done as with the gdp/debt ratio. These show worse results than expected (*see de Grauwe 2011 - the emphasis on deficit and not debt*). Most countries showed surplus or a small deficit during the pre-crisis years. The crisis years show the depth of the economic crisis: Ireland, Spain, Greece, and Portugal show a very high deficit, while Belgium, France, Italy and the Netherlands are also hurt by the crisis. As can be seen in figure 14 the standard deviation between Euro countries increased rapidly from 2009-2012. The asymmetry in budget deficits became bigger instead of smaller. Another expectation of a currency area would be that in the long run countries would run a surplus. It is shocking that almost no Eurozone member shows a budget surplus in the pre-crisis years, and therefore it is not surprising that the deficits went up this high during the crisis. Take for example the Netherlands, which are always seen as a high performer in the Eurozone: only 2006-2008 show a very small surplus, the other years show a deficit. As a 'high performer' a surprising outcome.

How can these figures be put into perspective? It is clear that the fiscal positions of the Euro countries were bad before the crisis and even became worse during the crisis. Grauwe made a striking comment on the fiscal positions: “[...] *for every foolish debtor there must be a foolish creditor*” (Grauwe 2013: 7). By this he means that not only the debtor countries can be held accountable for their enormous debts. Someone had to buy their bonds and invested in them. Moreover countries had to give out bonds in a currency they had no full control over (2013: 8). This is logical in a currency area, but by raising the level of debt on and on, a sort of self-fulfilling liquidity crisis could become reality in some countries. Or as de Grauwe explains: “*they had to scramble for cash and were forced into austerity programs*” (2013: 8). This debt crisis basically split the Eurozone into two. On the other hand there are the debtor countries who should reduce spending, on the other hand there are the creditor countries who should

increase spending (Mongelli & Vega 2006: 17). Looking closer at the countries, the debtor countries are mainly in the South + Ireland, the creditor countries are all situated in the North. To solve this debt issue an interesting trade-off exists: on the one hand the European Commission is aiming at convergence of countries towards the highest performing, on the other hand convergence is not possible if the highest performing countries do not increase spending towards the debtor countries (Rossi & Dafflon 2012: 4-5). As one of the high performers, Germany stated that countries had to deal with their own internal problems (2012: 7). And as a 'lender of last resort' was not introduced at the European level, countries can easily be pushed in to a default (Grauwe 2013: 4). As explained earlier 2012 was an important game changer: the ECB was actively supporting the bond market of debtor countries, thus becoming some sort of lender of last resort. Unfortunately it is too early now to conclude if this policy works when it comes to the difference between creditor/debtor countries.

One important aspect of the GDP/Debt ratio should not be overlooked. The public debt versus deficit ratio is the most important problem (Rossi & Dafflon 2012: 7). Or as Leijonhufvud states: "*the crisis is a balance sheet recession*" (2009: 245). The focus of the European Commission and Council was on restoring excessive deficits, not excessive debts. Because of the focus on deficits a solvency crisis could become reality. Ireland had an initial healthy starting point, but because of the support to their financial sector their debt increased. Greece was already facing structural problems. Spain was also relatively healthy, but their huge real estate bubble caused immense deficits. And Portugal was already facing low growth rates for years, caused by the same structural problems as Greece (see Willet & Srisorn 2011: 2). The core and periphery of the EMU has already been discussed, but the inability of countries to use their interest rate and exchange rate to stimulate their economy has led to this increased asymmetry between EMU countries (Christodoulakis 2009: 93).

One thing became clear. Derived from these tables, the 'early euro experience' researches coming from the European Commission proved to be wrong. Mongelli (2008), Begg (2008), Willet (2010) concluded that reforms are being implemented in a slow-pace and that this has improved fiscal sustainability, the odds were high that the lowest performing countries would catch up; the crisis proved that these conclusions were too preliminary.

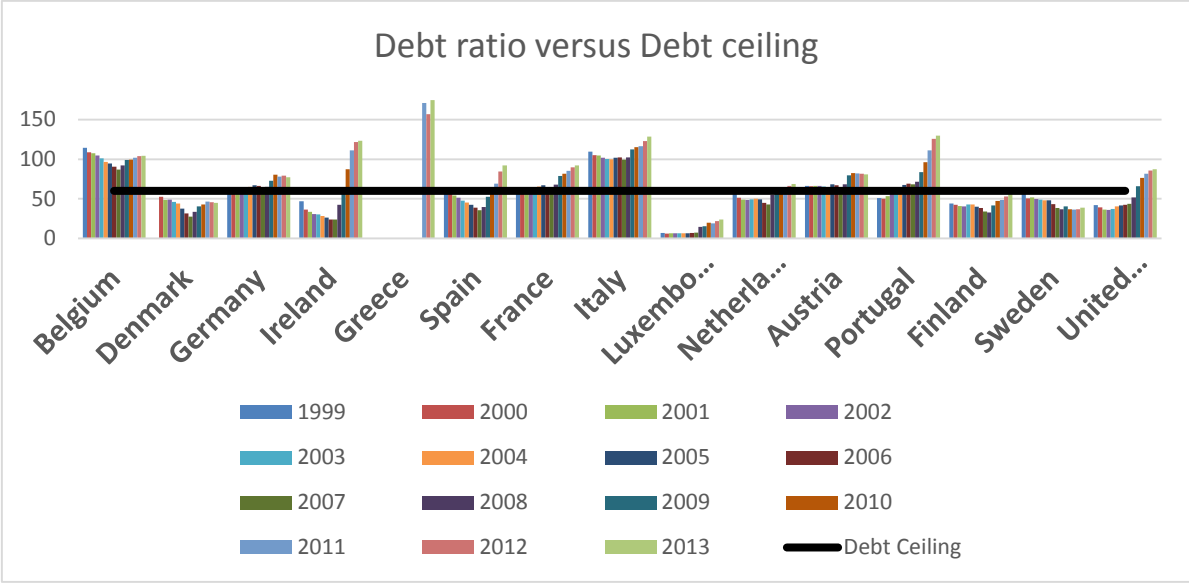


Figure 12: Debt Ratio versus Debt Ceiling (source: Eurostat & own research) (see appendix 12)

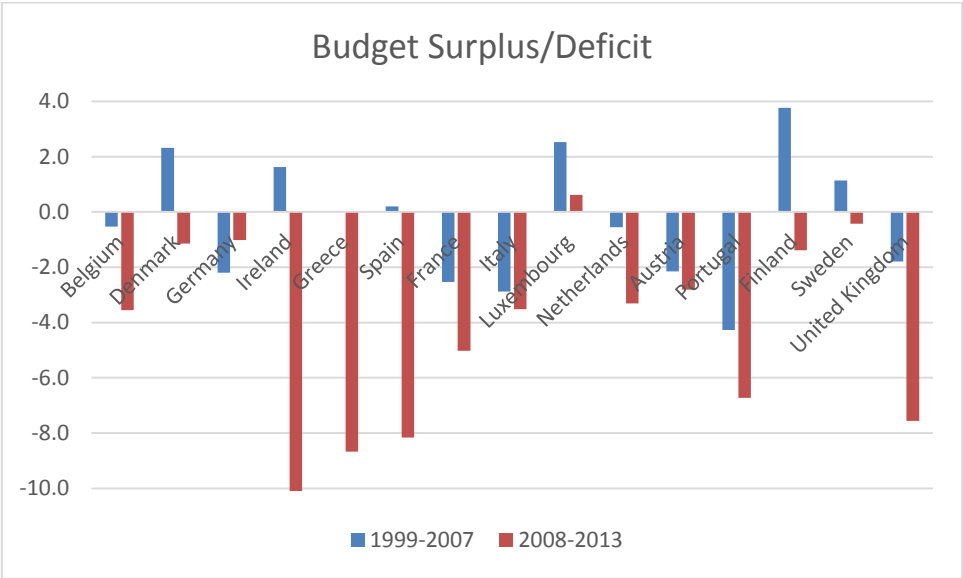


Figure 13: Budget surplus/deficit (source: Eurostat & own research) (see appendix 10.7)

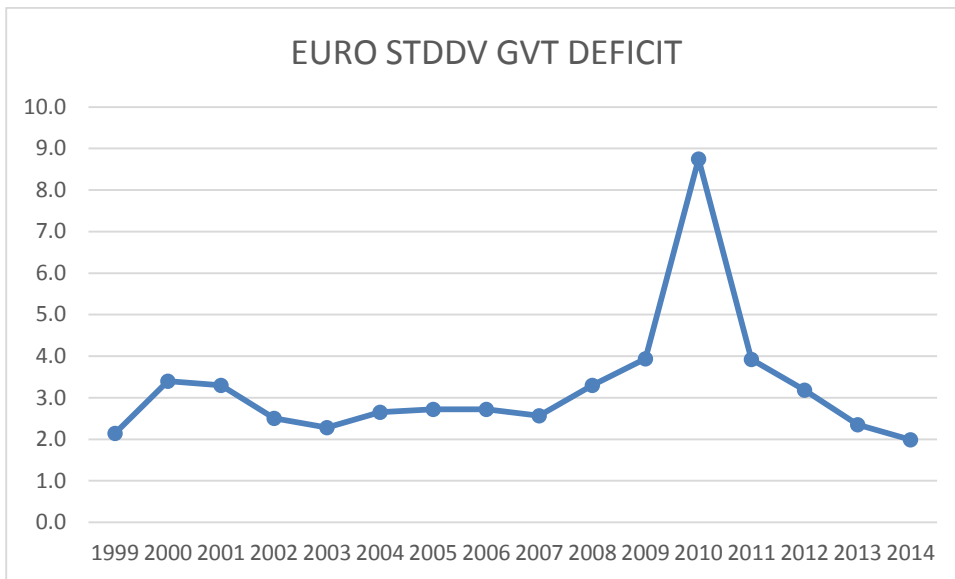


Figure 14:: Eurozone standard deviation budget deficit (Source: Eurostat + own research) (see appendix 10.8)

6.4 INFLATION

Continuing with the inflation. The European Central Bank has one sole purpose: maintaining price stability. Say ECB and an economist will say: price stability. The medium-term price stability index in the Eurozone has been set on 2%. The results are this time less shocking, as can be seen in figure 15. The emphasis on inflation has helped and the Eurozone maintained around the average of 2% during the pre- and crisis years. The mean has even been reduced by the crisis, meaning that the ECB fulfilled its job to achieve a stable inflation rate.

Although inflation is stable, it still has some implications on the Eurozone. The ECB maintains a single interest rate for the Eurozone to prevent inflation or deflation. This interest rate has proved to be too low for booming countries and too high for struggling countries (Grauwe 2013: 6). For example, looking at pre-crisis Ireland, Spain, Greece, Luxembourg and Portugal; all were experiencing high growth rates. With the interest rate set too low for them, money was 'too cheap' and pushed inflation upwards in these countries. Although inflation stabilized, the volatility of the European economies did not become lower. The result of a monetary policy in control of the ECB and other economic policy instruments in control of national governments (Mongelli 2007: 29 & 46).

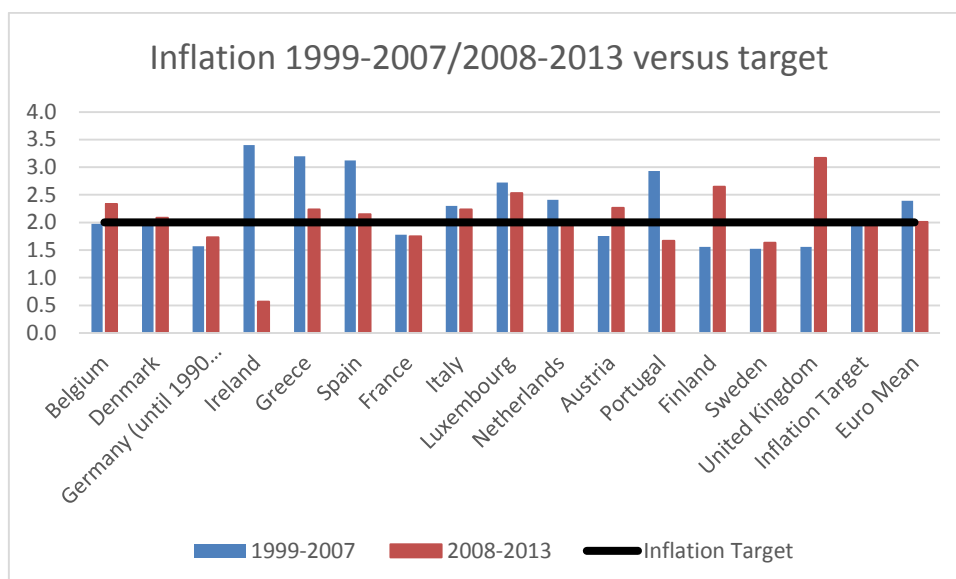


Figure 15: Inflation Eurozone (source: Eurostat + own research) (see appendix 10.9)

6.5 THE OPTIMAL CURRENCY AREA: CONCLUDING REMARKS

This chapter has shown that the Eurozone does not meet most of the important OCA criteria. There is a big economic asymmetry within the European Union. Wages are not as flexible as the expectation and countries do not follow the same fiscal path. However countries do have similar inflation rates. Which can be explained by the influence of the ECB, as they try to maintain price stability. In the next chapter I will present the results on the policy convergence theory.

7 THE RESULTS OF POLICY CONVERGENCE IN THE EUROZONE

This chapter evaluates the degree of policy convergence in the Eurozone. Three indicators are used: the catch-up speed, the convergence in inflation and the convergence in business cycles.

7.1 CATCH UP SPEED

The catch-up speed is represented in two graphs. One is the standard deviation in the GDP per capita (corrected for inflation). The other one is the difference in percentage between the highest and lowest performing country. Convergence with the best performing country in the EMU is the goal.

Using the standard deviation the expectation is that the line would move downwards. Instead in 2013 compared to 1999, the line is moving upwards, meaning that instead of income convergence the incomes have diverged. An interesting conclusion, as the expectation would be that in modern countries incomes should converge ex-post. The same pattern can be seen in the relative difference between the highest and lowest performers, the GDP/capita of Portugal remains about 25% of the GDP/capita of Luxembourg. The line is moving downwards instead of the expected upwards here as well. The pattern does not differ when looking pre-crisis. Pre-crisis the standard deviation in income difference went up from €13.500, - to €15.500, the expected income convergence therefore did not take place. Table 18 represents an important expectation: in a Currency Union the variation in income between other countries remains stable, and the variation within the Union should become smaller. Looking at figure 19: the line of non-Euro countries is stacked against the Euro-countries. The surprising outcome is that the line is not moving downwards, but upwards. A clear indicator that there is no catch-up within the Eurozone.

Time to put the catch-up speed in perspective. Starting with a statement from Bearce: *“While this convergence hypothesis came under strong attack in the late 1990s, EMU represents the most favorable empirical domain to support the theoretical proposition of economic policy convergence. At least among ‘euro optimists,’ it stands as a conventional wisdom that economic policy convergence has continued, even accelerated, among the EMU countries since the third stage was launched in 1999.”* (2009: 583). Forming conclusions on policy convergence remains difficult. Economic outcomes are easily measured, but the policy

instruments producing these outcomes (partly) vary from country to country. From an economic perspective it is clear that the expected convergence did not take place. The EMU itself has not caused any convergence, as Martin explains the suggestions is otherwise: *“Monetary union suggests there is underlying convergence”* (Martin 2001: 58). So how can the absence of convergence be explained? Christodoulakis states that divergence can occur within the EMU because of inconsistency and incoherence in the Stability and Growth Pact (2009: 97). His thesis became reality during the sovereign debt crisis. Convergence within the EU is a difficult concept: economic barriers, fiscal barriers, social barriers and geographic barriers make the Eurozone highly complex (Martin 2001: 76). Therefore the idea that convergence would take place by just creating a currency area becomes irrational. This claim is also supported by Zimmerman, who concludes that the EMU has a set of institutional limitations, leading to an ambiguous governance structure (2010: 245). The empirical evidence suggest that convergence within the EMU is indeed a difficult concept, as the opposite happened: divergence.

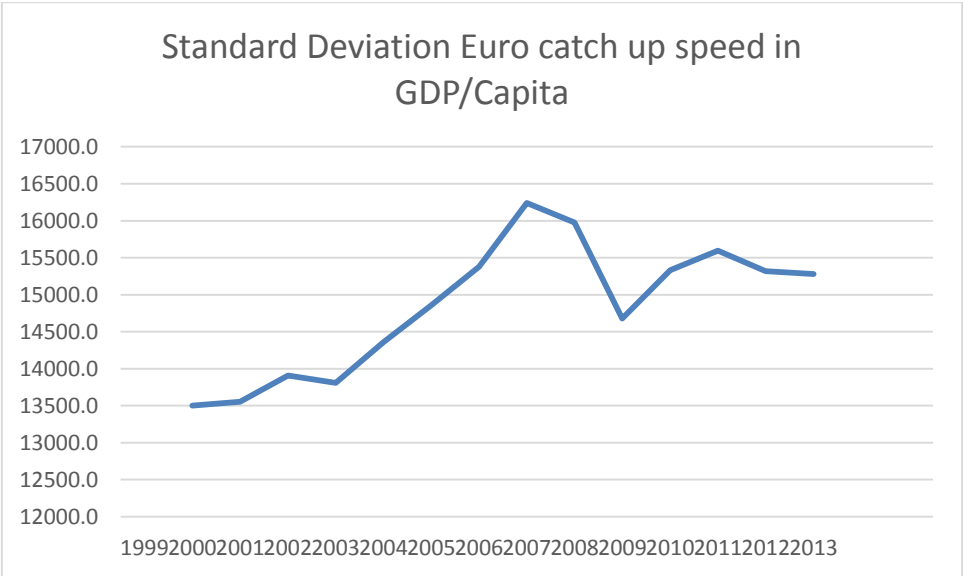


Figure 16: Catch up speed in GDP/Capita using standard deviation (source: Eurostat + own research) (see appendix 10.10)

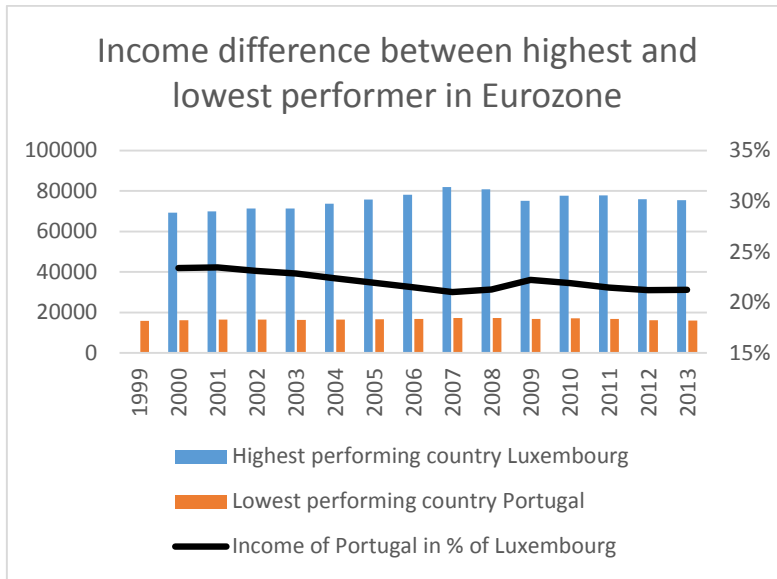


Figure 17: Income difference between highest and lowest performer in Eurozone (source: Eurostat + own research) (see appendix 10.11)

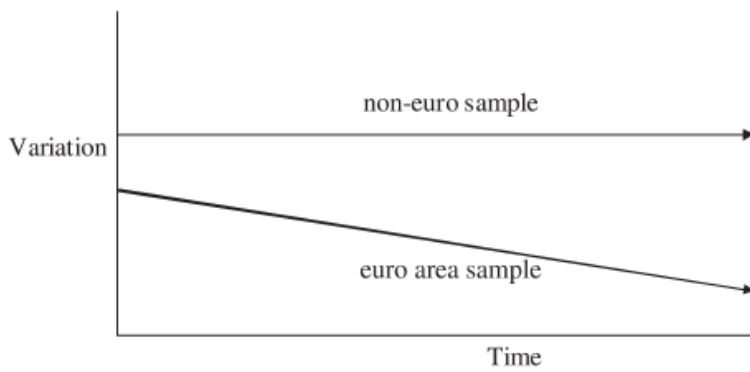


Figure 18: Expected variation within the EU (Bearce 2009: 588)

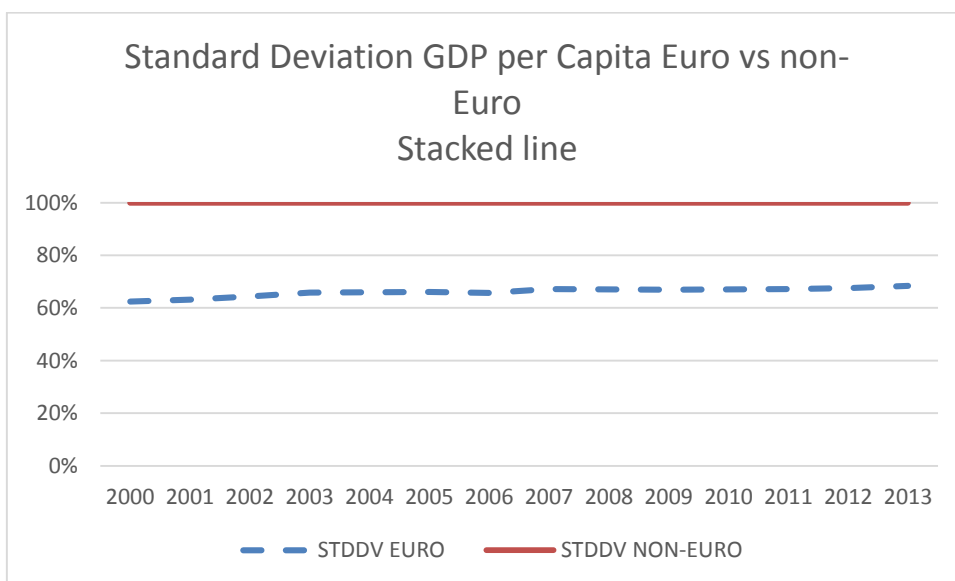


Figure 19: Standard Deviation of the GDP per Capita versus a non-Euro stacked line (Source: Eurostat + own research) (see appendix 10.12)

7.2 CONVERGENCE IN INFLATION

An important indicator for economic convergence is the standard deviation in inflation. The common idea was that with the start of the third phase of EMU inflation convergence should finally take place among EMU-members (Bearce 2009: 286/287). Looking at figure 20 the standard deviation of the inflation between Eurozone members and Non-Euro countries are compared.

Convergence in inflation implies that the standard deviation should decrease (Martin 2001: 62). Convergence took place from 2002-2007, the distance of countries from the average was at the smallest. The crisis temporarily caused a small peak, which stabilized from 2011-2013. As Weber & Beck argue a temporary higher inflation rate is not bad, the most important question is if the process of inflationary convergence is linear in general (2005: 18-19). Figure 20 clearly indicates that this process is not linear, but it also indicates that the standard deviation is low. This is a direct result of the inflation target set by the ECB. Although they successfully achieved this target, it still not indicates that convergence took place. Drezner argues that: *“Where harmonization has occurred, it has been a conscious choice of states made under the aegis of an international organization”* (2001: 75). An inflation target of 2% was set by the member states and executed by the ECB, it is therefore interesting that although the standard deviation is low, not total convergence has taken place.

When comparing the Euro-sample versus the non-Euro sample an interesting conclusion can be drawn. Differences within the non-Euro sample are smaller than the Euro-sample over-time. The expectation is that the Euro-samples standard deviation should be lower, but overall the non-Euro sample seems more ‘converged’ than the Euro-sample.

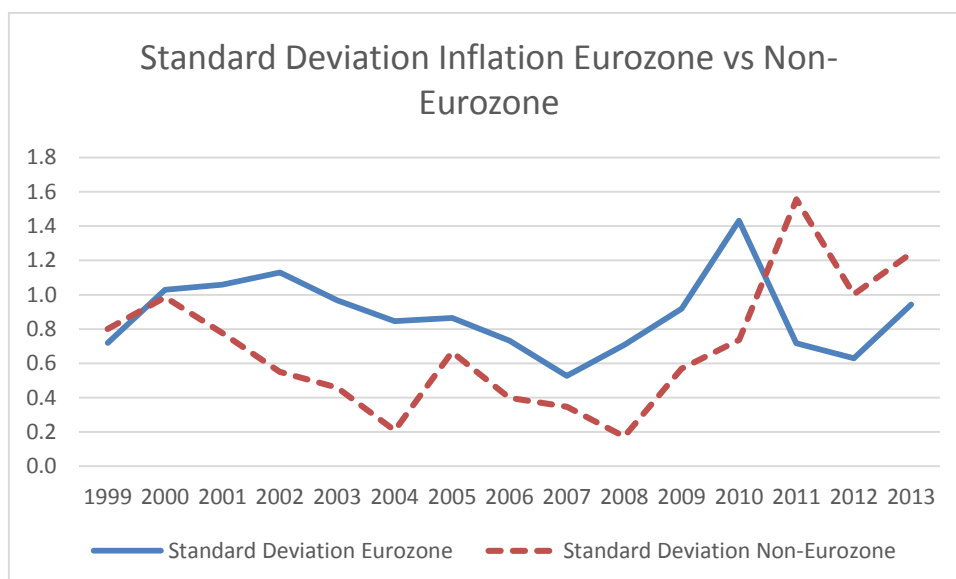


Figure 20: Inflation standard deviation Eurozone vs Non-Eurozone (source: Eurostat + own research) (see appendix 10.9)

7.3 CONVERGENCE IN BUSINESS CYCLES

To start the analysis of convergence in business cycles with a quote from Christodoulakis: *“For several countries it was precisely this prospect of accelerating real convergence that helped governments to win the support of public opinion for carrying out the fiscal and market reforms that were necessary to qualify for the EMU project”* (2009: 86). When EMU started the expectations were high: convergence would lead to prosperity for all countries and the least-performing would catch up soon. The evidence presented in figure 21 and also partially evaluated in the OCA-analysis and catch-up speed suggests otherwise. The standard deviation of Eurozone countries remains diverged and compared to the non-Eurozone sample the Eurozone is even performing worse. As figure 21 also shows there has been no convergence in business cycles, the crisis has even widened the gap. Pre-crisis signs of small convergence can be seen, but compared to the non-Euro line this conclusion is pre-mature (Bearce 2009: 591). The crisis showed that this conclusion is indeed invalid, as business cycles diverged instead of converged. Furthermore the expected positive slope downwards cannot be seen, the slope is moving upwards (thus a negative slope).

The reasons for no convergence in business cycles have already been discussed in the OCA analysis, I will not go into repeat. But a conclusion can be drawn that no convergence in business cycles can be found and that the difference with the non-Euro sample has not become smaller; the non-Eurozone sample even seems to perform better when it comes to convergence.

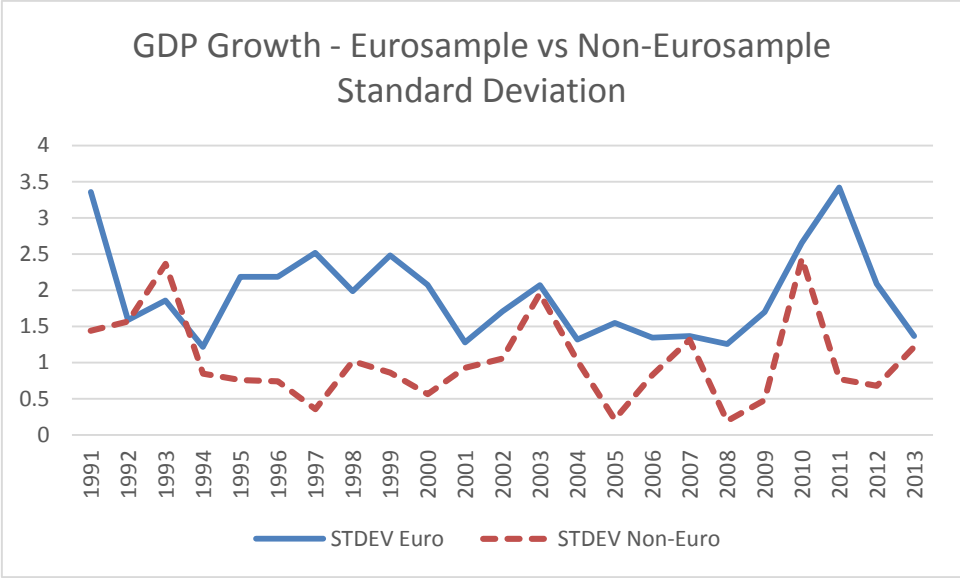


Figure 21: GDP Growth standard deviation between Eurozone vs non-Eurozone (Source: Eurostat + own research) (see appendix 10.3)

7.4 CONCLUDING REMARKS ON POLICY CONVERGENCE

This chapter has shown that policy convergence is not taking place between the Eurozone countries. When looking at business cycles and the catch up speed, there is even policy divergence. An interesting result. In the next chapter I will present the conclusion of this thesis, in which I will re-evaluate each chapter.

8 THE ECONOMIC AND MONETARY UNION: A FINAL VIEW

The Economic and Monetary Union is a complex institution. An institution with many different countries, views, economies, demographics and moreover an interesting interaction between the different centralized (ECB, European Commission) and decentralized (countries and national central banks) actors. Having researched the institutional setup of the EMU, the institutional changes over the past year, the different crisis, the OCA criteria and the degree of policy convergence a conclusion can be drawn about the need for policy change in the EMU.

First the central research question and sub-questions shall be reiterated. Then the different hypothesis derived from the sub-questions will be answered. After giving answer on the sub-questions a conclusion shall be presented on the central research question. Finishing with scientific and social recommendations and a reflection on the research done in this thesis.

8.1 A SNAPBACK TO THE RESEARCH QUESTIONS

The central research question in this thesis was: “How did the sovereign debt crisis trigger policy change towards a more ‘optimal’ Optimal Currency Area in the European Monetary Union”. Using the latest policy reforms in the EMU as my dependent variable to answer the central research question. The null hypothesis was that the sovereign debt crisis did not trigger policy change towards a more optimal currency area.

Three sub-questions were used to research my central question. First: “To what extent did the crisis reveal shortcomings in the institutional design of the EMU”. The hypothesis was that the crisis showed flaws in the institutional design of the EMU and therefore created the need for policy change. Second: “To what extent did the crisis produce an asymmetric shock according to OCA theory”. The hypothesis were that a-symmetry already existed pre-crisis within the EMU and that the crisis produced an asymmetric shock according to OCA theory during the crisis. Third: “To what extent have policies converged since the start of the EMU”. The hypothesis was that there was a lack of policy convergence since the creation of EMU.

8.2 AN ANSWER TO THE SUB-QUESTIONS

8.2.1 Shortcomings revealed by the crisis

The framework of Linsenmann & Wessels gives an answer to the question how the legal base of an institution played out in real life. This sub-question has been researched by using two indicators: the shortcomings in the original treaties and the coordination degree of old- and new treaties. The original EMU treaty original intention was to both ensure fiscal discipline and flexibility for the countries who signed the treaties, this discipline and flexibility was reinforced with the 2005 reform. The Six-pack reform and Two-pack reform, in 2011 and 2013, provided a fix for institutional shortcomings. Strengthening budgetary surveillance and budgetary objectives on the preventive side, and the stricter enforcement of the excessive deficit procedure and the emergence of an emergency finance on the corrective arm has significantly strengthened central coordination of fiscal policies. The ECB and European Commission now have more opportunities and a wider mandate to act against deficit countries.

What shortcomings did the crisis reveal? Change was needed as the crisis revealed how fast countries can be pushed in to a sovereign debt crisis. Spain, Ireland, Portugal and Greece all needed additional support, while other Euro-countries saw their deficit and debts rising high as well. The Stability and Growth pact was not binding enough to ensure fiscal discipline to countries. The focus on deficits instead of debt proved wrong, the new treaty and method to measure a countries budgetary objective now includes the debt/gdp ratio of a country. Centralized monetary policy combined with decentralized economic policy coordination proved to be off-balance. Even though many economic policy instruments remains in the hands of countries themselves, the new SGP ensures that centralized monetary policy can now be implemented more effectively. In line with this the absence of a transfer mechanism proved to be essential during the sovereign debt crisis; countries could not immediately get assistance from the ECB/European Commission, earlier transfers could have prevented the crisis from becoming this far reaching. Last but not least, slow decision making; the failure to take collective action proved to be a big shortcoming. Even now still no real commitment has not been shown by any of the institutions or European leaders to solve this crisis by any means.

Answering my hypothesis the conclusion can be drawn that the crisis revealed big shortcomings in the original institutional setup of the EMU. New legislation was needed on

both the preventive- and corrective arm of the Stability and Growth Pact which created the urgent need for policy change.

8.2.2 The crisis produced an asymmetric shock

Four indicators have been used to see if the crisis produced an asymmetric shock. These indicators were derived from the Theory of Optimal Currency Area. The similarity of economic cycles is a very important one. The empirical evidence clearly shows a big asymmetric shock during the crisis. Meaning that an asymmetry occurred within the Eurozone, growth rates differed significantly from each other. Furthermore the expectation would be that the Eurozone would perform better than surrounding countries, no evidence for this has been found.

The flexibility of labor markets is another big theme. The results show that pre-crisis the average wages were growing, as well as the GDP. OCA literature suggests that wages should be flexible in order to respond to a crisis. While the average GDP fell in almost all Eurozone countries; wages did not decrease and kept increasing. In an OCA full labor market flexibility is important, the empirical evidence show that other national characteristics (e.g. unions, social contracts) limit the flexibility of the labor market.

Very important to the Eurozone is the degree in which countries are fiscal similar towards each other. The budget surplus/deficits vary from country to country; not abnormal as country's budgetary objects differ. But it is interesting to notice that pre-crisis some countries did not meet the 3% maximum deficit criteria and during the crisis almost all countries had a deficit bigger than 3%. Moreover looking to the debt ratio versus debt ceiling a shocking conclusion can be drawn: Most countries did not fulfill the debt ceiling criteria before the crisis and almost all countries exceeded the debt ceiling during the crisis. Combining a big deficit with a high debt ratio the countries who experienced troubles during the crisis can easily be picked out. A currency union can only become optimal if all countries follow the same budgetary path. In the Eurozone this was not the case.

Finally, the inflation of countries was measured. Being one of the main objectives of the ECB: price stability, the inflation remained around the 2% on average and no significant differences between countries could be seen. Although the inflation was around the same level between all countries, OCA literature does not suggest that inflation should be the same

in any country. In an OCA the pace of development of deficit countries is set by the will of surplus countries to let their economy let inflation rise – meaning that the same level in inflation would suggest that the ECB sees all economies in the EMU as equal. Which is not a weird thought: countries are expected to minimize their deficit and debt. But as deficits and debts differed substantially between countries, an inflation target for the whole EMU zone of 2% is not in line with OCA literature.

To give answer to the hypothesis; the crisis did produce an asymmetric shock according to OCA theory pre-crisis as well as during the crisis. Business cycles of EMU-countries were not the same pre-crisis and did even differ more during the crisis. Furthermore countries follow different fiscal paths which were not corrected by a central authority. The Eurozone cannot be called an Optimum Currency Area according to this empirical evidence. Countries differ too much from each other and the institutional base is too weak. Furthermore the new-Eurozone countries have made the gap even bigger, significantly decreasing the changes of the current Eurozone in the current form to ever become optimal.

8.2.3 No sign of policy convergence

Policy convergence theory argues that countries tend to become more similar over time in a globalized world and therefore their policies and economies will converge towards each other. Measuring convergence in this thesis three concepts have been measured: the catch-up speed, the convergence in inflation and the convergence in business cycles. Especially the amount of pre-crisis convergence is important as it can explain the need for policy changes. The standard deviation of the GDP/Capita has increased since the creation of the EMU. A surprising outcome as policy convergence theory would argue otherwise. The crisis temporarily lowered the standard deviation, but it was still substantially higher than since the creation of the EMU. Countries have not caught up with each other, they have diverged from each other. Convergence between the highest and lowest income within the Eurozone was also measured; no sign of convergence between the incomes of Portugal and Luxembourg could be found. An important hypothesis in policy convergence theory is that the variation of the euro-sample will become smaller in comparison with the non-euro-zone sample. No sign of decreased variation has been found, the variation within the Eurozone has become bigger instead of smaller compared to the non-euro zone sample. Although the crisis has had some effect on the standard deviation in inflation, overall the conclusion can be drawn that inflation has

converged within the Eurozone. The results of price stability being the single policy object of the European Central Bank can be seen, inflation has remained constant between the Eurozone members over time. Lastly, the convergence in business cycles. No evidence for convergence in business cycles has been found. The business cycles even showed some divergence instead of convergence, while the crisis further widened the gap between the various countries of the Eurozone.

The answer on the hypothesis is therefore that there was a clear lack of policy convergence in the EMU. No sign of convergence was found, moreover signs of divergence were found.

8.2.4 Concluding scorecard: hypothesis per sub question

H1 The crisis revealed flaws in the institutional design of the EMU causing the need for policy change.	Five institutional shortcomings found: <ul style="list-style-type: none"> • SGP not binding • Focus on deficits, not debts • Centralized monetary policies, with decentralized economic policies. • Slow-decision making • Absence of a fiscal transfer mechanism
H2a Pre-crisis an asymmetry in the economic system of the EMU already existed.	An asymmetry in the economic system of the EMU already existed prior to the crisis.
H2b: The crisis produced an asymmetric shock in the EMU which created the need for policy change.	The crisis produced an asymmetric shock and revealed other asymmetries. Creating the need to fix this (policy change)
H3: The lack of policy convergence in the EMU created the need for policy change.	Policy convergence was not found between the Euro countries. The results showed signs of policy divergence.

8.3 CONCLUSION - THE SOVEREIGN DEBT CRISIS AS TRIGGER FOR POLICY CHANGE?

Moving on to the answer on my central research question. To what extent has the sovereign debt crisis produced the need for policy change. Focusing on the three most important changes made by the new treaties an answer has been sought by using the three sub-questions.

The most important policy changes were embedded in to the six-pack and two-pack regulations reinforcing the Stability and Growth Pact. The stronger focus on debt and deficit; through more surveillance and stricter medium term budgetary objectives (better prevention mechanisms); and reinforced coordination through stricter corrective mechanisms as the excessive debt procedure and the emergency finance plan have changed the Stability and Growth Pact significantly.

The sovereign debt crisis can be seen as a big trigger for policy change. Pre-crisis most researchers already pointed out the problems which could occur within the Eurozone. But as the Eurozone kept growing no real need for a big change was needed. The sovereign debt crisis proved a big bang. The Eurozone already was far from an optimal currency area pre-crisis, the crisis produced an asymmetric shock which ended any optimistic thoughts that the Euro Currency Area is 'optimal'. Moreover no sign of convergence between the Eurozone countries could be found. The differences within the Eurozone have become bigger instead of smaller, a surprising conclusion.

The events which happened during the crisis opened up the eyes of policy makers. Fixed had to be made in the design of the Eurozone. These design failures were already known before the crisis, but the crisis proved the need for these measurements. The strengthened and stricter surveillance of countries with high debts and excessive deficits, was necessary. Almost no Eurozone country met the criteria as laid down in the SGP. The budgetary objectives for countries had to be made stricter, the old objectives proved not strict enough to prevent the problems which occurred during the crisis. And last but not least: the absence of a transfer mechanism and a good procedure to fix excessive deficits proved to be almost fatal to some countries. Four countries had the potential of running into a default if no emergency austerity measures were agreed by the EU-members/EC and IMF. Embedding these crisis measurements in a new SGP can prevent countries from falling into big problems in the future. The result of this thesis is therefore that the sovereign debt crisis has had a significant impact on the need for policy change. Shortcomings in the institutional design, the absence of an 'optimal' currency area and a lack of policy convergence have pushed the policy makers to reform the Stability and Growth Pact.

8.4 RECOMMENDATIONS

8.4.1 Academic recommendations

Optimal Currency Area Theory has proven to be extremely useful to explain why and how countries form currency unions. It has also predicted the working of currency areas and the factors for success quite well. The Eurozone is yet another fine example. The Eurozone is the first big practical implementation of a Currency Area. OCA-theory argues why countries form a currency area, views differ whether they have to converge ex-post or can converge ex-ante. OCA theory does not give an answer on how countries can converge ex-ante. Therefore more research to how countries converge ex-ante is useful. In this thesis I have tried to explain this phenome using policy convergence theory. However the hypothesis policy convergence theory has proven to be wrong in this thesis. Policy convergence theory can therefore not provide an answer on how convergence can take places within a currency union. I would recommend to research on a macro-level how convergence can take place within a currency union and on a micro-level which country-specific characteristics contribute towards regional convergence.

8.4.2 Practical recommendations

What has surprised me again and again when reading articles and doing research, is the lack of leadership within the European Union. No country leader, not the Commission president, not the ECB president has said what really needs to be done to save the Eurozone in the long-run. As long as creditor countries like Germany and the Netherlands are not willing to do fiscal transfers to deficit countries like Greece and Portugal, the Eurozone will never be sustainable. My advice to the European leaders would be to accept that there is also a dark side to a Currency Union. Yes, it went well in the first few years, although the differences remained big, economies kept growing. But now that it becomes more difficult and that the expected return from the Euro is lower, countries do not accept that serious sacrifices has to be made to keep this Eurozone together. Moreover the acceptance of the new-Eurozone countries have further widened the gap and have further created the need that creditor countries take their responsibility.

However my conclusion would be that a sustainable Eurozone in the current form is impossible. In my opinion we have two choices. Continue with the Eurozone with all these different countries, and create a full political union. This would open up the way to create a

real Optimal Currency Area, instead of the half finished one we have now. Or, and that would be my preferred method, create a new Eurozone with a core and periphery. A core consisting of surplus countries with the same economical characteristics – Germany, France and the Benelux and Austria for example. These surplus countries are surrounded by other countries who have their own national currency pegged against the new-euro.

It is a dream to believe that countries which are geographically so far away from the core (e.g. the Baltic States, Cyprus, and Greece) can ever integrate as much as needed with the current institutional setup of the EMU.

The Optimal Currency Area took its revenge this crisis, and it will strike again if the political will remains this low to really change the institutional setup of the Eurozone.

8.5 A REFLECTION ON THIS RESEARCH

Researching a macro-economic phenomenon in combination with policy change was a challenge. For both macro-economic indicators and policy change there are a wide variety of factors to be taken into account.

Starting with the part in this research of which I am proud. Both the analysis of the Optimal Currency Area and the Policy Convergence Theory were challenging but have led to a very clear view on the different European economies. I have shown that there are big economic challenges ahead for the EMU. Using (only) 15 tables the reader of this thesis has a clear insight in the dynamics of the European Monetary Union.

In particular there is one point which could have been done better. The evaluation on how economic policy coordination changed over time and the evaluation of economic policy outcomes has become clear. But the relationship between the changes in economic policy coordination and the evaluation of economic policy outcomes at the same time could have been done more extensively. If I knew from the start of this thesis how to compare certain policy outcomes with certain economic developments I would have definitely included these. But a theoretical gap and a knowledge gap from my side has prevented this: when writing this thesis again I would most definitely look for a theory which includes both the macro-economic and the policy coordination perspective. But as Maurer & Wessel also concluded: theory-making in the field of monetary policy is relatively new and a lot still has to be discovered.

If I knew at the start of this thesis that all evidence proved that there was economic divergence instead of economic convergence, I would have proposed to include some country-specific cases. Especially the case for the periphery countries are interesting to research more extensively: Why do the situations of Ireland, Spain, Portugal and Greece look the same on a macro-economic level, but on a micro-level totally different reasons are lying at the core of their problems. Then again, if I would have done this, this thesis would have become a project bigger than just a thesis.

Although some relationships could have been researched more extensively, I believe that I have given the reader a very clear insight in to the dynamics of policy change within the European and Monetary Union.

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9.2 LEGISLATION & TREATIES

- Directive (EU) 2011/85
- Memo (EU) 13/457
- Memo (EU) 13/318
- Memo (EU) 13/679
- Regulation (EU) 1466/1997
- Regulation (EU) 1467/1997
- Regulation (EU) 1055/2005
- Regulation (EU) 1175/2005
- Regulation (EU) 1175/2011
- Regulation (EU) 1177/2011
- Regulation (EU) 1173/2011
- Regulation (EU) 1176/2011
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- Regulation (EU) 472/2013
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- *Treaty on the Functioning of the European Union*. Signed 25/03/1957, Rome. Entered into force 01/01/1958: 11957E247.
- *Treaty of Maastricht (Treaty on the European Union)*. Signed 07/02/1992, Maastricht. Entered into force 01/11/1993.
- *Treaty of Nice*. Signed 26/02/2001, Nice. Entered into force 01/02/2003.
- G20 (2008). Declaration of the Summit on Financial Markets and the World Economy

9.3 DATA

- EUROSTAT statistics
- IMF Statistics
- OECD Statistics

10 APPENDICES

All tables were obtained through EUROSTATs statistical database and adjusted with Microsoft Excel.

10.1 EARLY-EURO EXPERIENCE NEW COUNTRIES

In this add-on I will shortly analyze the experiences with the new-euro countries.

The new euro-zone countries are Slovenia (2007), Cyprus (2008), Malta (2008), Slovakia (2009), Estonia (2011), Latvia (2014), Lithuania (2015). Their data is used from the moment they joined the EU to see whether they are converging towards the other Eurozone members (see figure 22). Furthermore in figure 23 their standard deviation has been compared with the standard deviation of the original Euro-countries.

First of all the mean GDP/capita is considerably lower than the original countries. In 2013 the average difference was €20.000,-. A huge income gap thus exists between the new- and old countries. An income gap this big is a potential risk in a currency area for asymmetries. Furthermore as can be seen in figure 22 almost no convergence has taken place in the recent years, which means that the income gap remained almost the same from 2006-2013.

Second of all in figure 23 the standard deviation of the GDP growth is compared. The new-Eurozone countries also experienced an asymmetric shock, in 2009 & 2011. Adding the GDP growth ratios of the new Eurozone countries to the original Eurozone countries an increase in the overall asymmetry can be seen.

A first conclusion on the basis of these graphs can therefore be drawn: the new-Eurozone countries have further widened the gap between low- and high performing countries and contribute further to the asymmetry within the Eurozone.

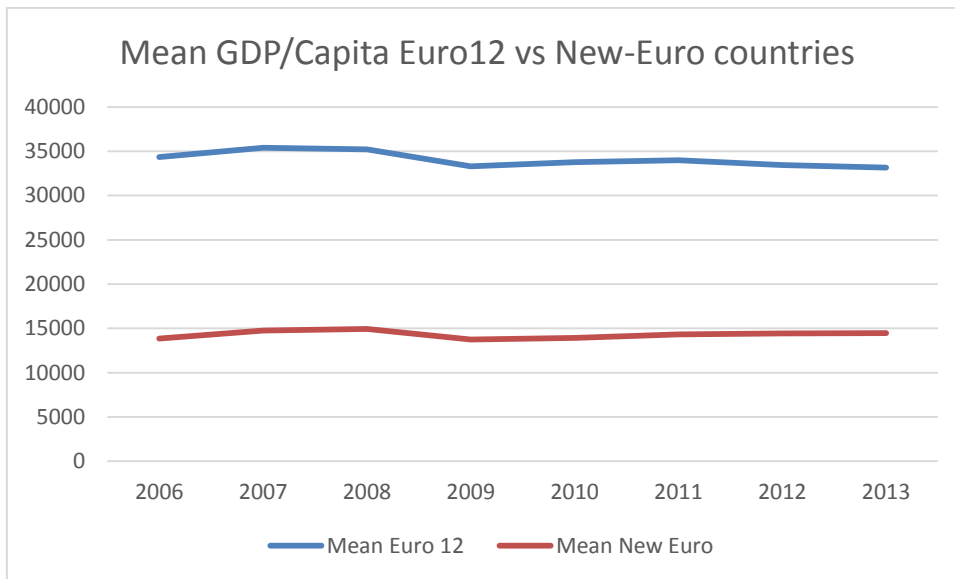


Figure 1: Mean GDP per Capita Euro12 vs new-euro countries (source: Eurostat + own research) (see appendix 10.13)

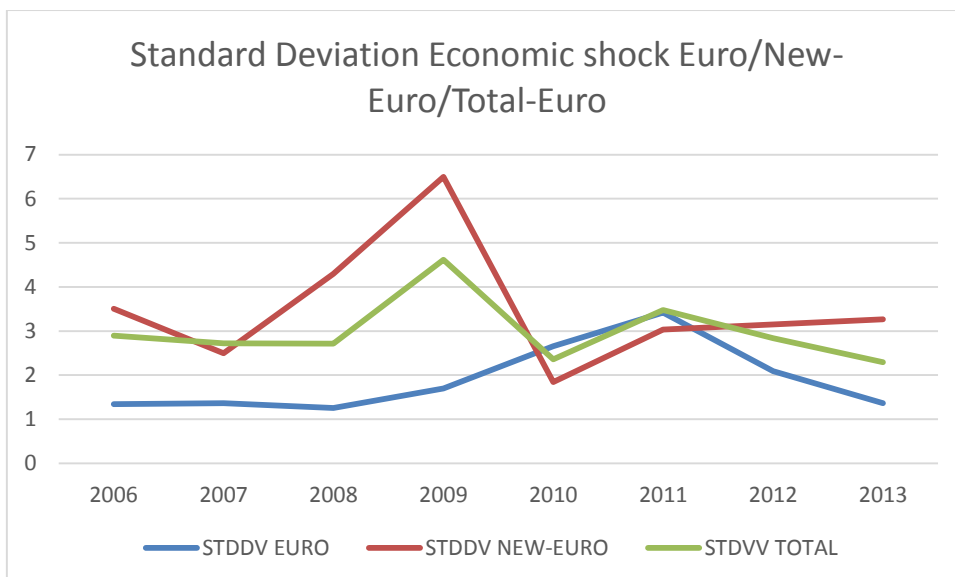


Figure 2: Standard Deviation economic shock Euro vs New-Euro vs Total-Euro (source: Eurostat + own research) (see appendix 10.14)

10.2 COUNTRY SURVEY TABLE (FIGURE 5)

Overview of EU and Euro members (Source: http://ec.europa.eu/economy_finance/euro/countries/ & <https://www.ecb.europa.eu/euro/intro/html/map.en.html>)

	Country	EU- member	EMU signed	Year of entry stage 3 (Euro)	Included in country survey
1	Austria	1995	Yes	1999	V
2	Belgium	1957	Yes	1999	V
3	Bulgaria	2007	Yes	TBD	X
4	Croatia	2013	Yes	TBD	X
5	Cyprus	2004	Yes	2008	X
6	Czech Republic	2004	Yes	TBD	X
7	Denmark	1973	Partially (see *)	-	V
8	Estonia	2004	Yes	2011	X
9	Finland	1995	Yes	1999	V
10	France	1957	Yes	1999	V
11	Germany	1957	Yes	1999	V
12	Greece	1981	Yes	2001	V
13	Hungary	2004	Yes	TBD	X
14	Ireland	1973	Yes	1999	V
15	Italy	1957	Yes	1999	V
16	Latvia	2004	Yes	2014	X
17	Lithuania	2004	Yes	2015	X
18	Luxembourg	1957	Yes	1999	V
19	Malta	2004	Yes	2008	X
20	Netherlands	1957	Yes	1999	V
21	Poland	2004	Yes	TBD	X
22	Portugal	1986	Yes	1999	V
23	Romania	2007	Yes	TBD	X

24	Slovakia	2004	Yes	2009	X
25	Slovenia	2004	Yes	2007	X
26	Spain	1986	Yes	1999	V
27	Sweden	1995	Yes (see *)	-	V
28	United Kingdom	1973	Partially (see *)	-	V

*United Kingdom & Denmark have signed the EMU treaties but are a special case as they have an opt-out. Sweden did sign all the EMU treaties, but did not adopt the ERM2 treaty which is obligatory for Euro-countries

10.3 GDP GROWTH EUROZONE (FIGURE 7 & 21)

	1999	2000	2001	2002	2003	2004	2005	2006	2007
Austria	3,6	3,4	1,4	1,7	0,8	2,7	2,1	3,4	3,6
Belgium	3,7	3,6	0,9	1,6	0,9	3,4	1,9	2,6	3,0
Germany	2,0	3,0	1,7	0,0	-0,7	1,2	0,7	3,7	3,3
Denmark	2,9	3,7	0,8	0,5	0,4	2,6	2,4	3,8	0,8
Euro area	3,0	3,9	2,1	1,0	0,7	2,3	1,7	3,3	3,1
Spain	4,5	5,3	4,0	2,9	3,2	3,2	3,7	4,2	3,8
European Union	3,0	3,9	2,2	1,3	1,5	2,5	2,1	3,4	3,1
Finland	4,4	5,6	2,6	1,7	2,0	3,9	2,8	4,1	5,2
France	3,4	3,9	2,0	1,1	0,8	2,8	1,6	2,4	2,4
United Kingdom	3,2	3,8	2,7	2,5	4,3	2,5	2,8	3,0	2,6
Greece	3,1	4,0	3,7	3,2	6,6	5,0	0,9	5,8	3,5
Ireland	10,2	9,5	5,3	5,8	3,0	4,6	5,7	5,5	4,9
Italy	1,6	3,7	1,8	0,3	0,2	1,6	0,9	2,0	1,5
Luxembourg	8,4	8,4	2,0	3,3	1,2	4,9	4,1	4,9	6,5
Netherlands	4,5	4,4	1,6	0,0	0,3	1,9	2,3	3,8	4,2
Portugal	3,9	3,8	1,9	0,8	-0,9	1,8	0,8	1,6	2,5
Sweden	4,5	4,7	1,6	2,1	2,4	4,3	2,8	4,7	3,4
STDDVT	2,4833	2,0728	1,2783	1,707	2,072	1,3207	1,5473	1,3430	1,3659
EURO	12	52	96	38	27	08	87	79	65

	2008	2009	2010	2011	2012	2013
Austria	1,5	-3,8	1,9	3,1	0,9	0,2
Belgium	1,0	-2,6	2,5	1,6	0,1	0,3
Germany	1,1	-5,6	4,1	3,6	0,4	0,1
Denmark	-0,7	-5,1	1,6	1,2	-0,7	-0,5
Euro area	0,5	-4,5	2,1	1,7	-0,7	-0,5
Spain	1,1	-3,6	0,0	-0,6	-2,1	-1,2
European Union	0,5	-4,4	2,1	1,8	-0,4	0,1
Finland	0,7	-8,3	3,0	2,6	-1,5	-1,2
France	0,2	-2,9	2,0	2,1	0,3	0,3
United Kingdom	-0,3	-4,3	1,9	1,6	0,7	1,7
Greece	-0,4	-4,4	-5,4	-8,9	-6,6	-3,3
Ireland	-2,6	-6,4	-0,3	2,8	-0,3	0,2
Italy	-1,0	-5,5	1,7	0,6	-2,3	-1,9
Luxembourg	0,5	-5,3	5,1	2,6	-0,2	2,0
Netherlands	2,1	-3,3	1,1	1,7	-1,6	-0,7
Portugal	0,2	-3,0	1,9	-1,8	-3,3	-1,4
Sweden	-0,6	-5,2	6,0	2,7	-0,3	1,5
STDDVT EURO	1,258272	1,697798	2,656005	3,420072	2,088189	1,365098

10.4 GDP EUROZONE (INDEX) (FIGURE 9)

	1999	2000	2001	2002	2003	2004	2005	2006	2007
Austria	125,3	129,5	131,3	133,5	134,5	138,1	141,1	145,8	151,1
Belgium	120,6	124,9	126,1	128,0	129,2	133,6	136,1	139,7	143,9
Germany	118,0	121,5	123,6	123,6	122,7	124,1	125,0	129,7	133,9
Denmark	125,5	130,2	131,3	131,9	132,4	135,9	139,2	144,5	145,7
Euro area	120,0	124,6	127,3	128,5	129,4	132,3	134,6	139,0	143,2
Spain	125,0	131,6	136,9	140,9	145,3	150,0	155,5	162,0	168,1
European Union	120,0	124,7	127,4	129,1	131,0	134,3	137,1	141,8	146,1
Finland	118,6	125,3	128,5	130,7	133,3	138,5	142,4	148,1	155,8
France	118,4	123,0	125,4	126,8	127,9	131,4	133,6	136,7	140,0
United Kingdom	122,1	126,7	130,1	133,3	139,0	142,4	146,4	150,9	154,7
Greece	122,7	127,6	132,4	136,5	145,6	152,8	154,2	163,2	168,9
Ireland	181,3	198,6	209,0	221,2	227,8	238,2	251,7	265,5	278,6
Italy	113,6	117,8	119,9	120,2	120,4	122,3	123,4	125,9	127,8
Luxembourg	150,7	163,4	166,7	172,2	174,2	182,8	190,3	199,6	212,5
Netherlands	131,0	136,8	139,0	138,9	139,3	141,9	145,1	150,6	157,0
Portugal	128,0	132,9	135,5	136,5	135,2	137,7	138,7	140,9	144,4
Sweden	117,9	123,5	125,4	128,0	131,1	136,8	140,6	147,2	152,2

	2008	2009	2010	2011	2012	2013
Austria	153,4	147,6	150,4	155,0	156,3	156,7
Belgium	145,3	141,5	145,0	147,4	147,5	147,9

Germany	135,3	127,7	132,9	137,7	138,2	138,3
Denmark	144,7	137,3	139,5	141,1	140,2	139,5
Euro area	143,9	137,4	140,2	142,5	141,5	140,9
Spain	170,0	163,9	164,0	162,9	159,5	157,6
European Union	146,8	140,4	143,3	145,9	145,3	145,4
Finland	156,9	144,0	148,3	152,1	149,9	148,1
France	140,2	136,1	138,8	141,7	142,1	142,5
United Kingdom	154,2	147,6	150,4	152,8	153,9	156,5
Greece	168,2	160,8	152,0	138,5	129,4	125,2
Ireland	271,3	254,0	253,3	260,4	259,5	260,0
Italy	126,4	119,5	121,5	122,2	119,5	117,2
Luxembourg	213,6	202,2	212,6	218,1	217,8	222,1
Netherlands	160,2	154,9	156,6	159,2	156,7	155,5
Portugal	144,7	140,4	143,0	140,4	135,8	133,9
Sweden	151,4	143,5	152,1	156,2	155,7	158,0

10.5 GDP VERSUS WAGE GROWTH (FIGURE 9, 10, 11)

	GDP 1999- 2007	Wage 1999- 2007	GDP 2008- 2013	Wage 2008- 2013
Austria	20,6	6,8	2,6	-0,4
Belgium	19,3	1,1	2,2	2,8
Denmark	16,1	14,4	-4,1	1,2
Finland	31,4	17,9	-7,5	4,2
France	18,2	8,7	2,0	5,5
Germany	13,5	1,8	2,6	3,8
Greece	37,6	22,3	-35,1	-21,2
Ireland	53,7	20,9	-6,2	1,5
Italy	12,5	1,4	-8,1	-1,8
Luxembourg	41,0	9,9	5,7	4,3
Netherlands	19,8	7,1	-3,6	1,4
Portugal	12,8	3,0	-8,4	2,8
Spain	34,5	-2,1	-9,9	-0,4
Sweden	29,1	16,8	5,7	6,5

United Kingdom	26,7	19,7	1,9	-5,0
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10.6 GENERAL GOVERNMENT GROSS DEBT 1999-2013 (FIGURE 12)

Percentage of gross domestic product (GDP)									
geo\time	1999	2000	2001	2002	2003	2004	2005	2006	2007
Belgium	114,6	109	107,8	104,9	101,2	96,6	94,7	90,7	86,8
Denmark	:	52,4	48,5	49,1	46,2	44,2	37,4	31,5	27,3
Germany	60,2	59	57,8	59,4	63,2	64,9	67,1	66,5	63,7
Ireland	46,7	36,3	33,4	30,7	30,1	28,3	26,2	23,8	24
Greece	:	:	:	:	:	:	:	:	:
Spain	60,9	58	54,2	51,3	47,6	45,3	42,3	38,9	35,5
France	60,2	58,7	58,2	60,1	64,2	65,7	67,2	64,4	64,4
Italy	109,6	105,1	104,7	101,9	100,4	100	101,9	102,5	99,7
Luxembourg	6,7	6,1	6,6	6,5	6,4	6,5	6,3	7	7,2
Netherlands	58,5	51,3	48,8	48,3	49,4	50	49,4	44,9	42,7
Austria	66,4	65,9	66,5	66,3	65,5	64,8	68,3	67	64,8
Portugal	51	50,3	53,4	56,2	58,7	62	67,4	69,2	68,4
Finland	44,1	42,5	41	40,2	42,8	42,7	40	38,2	34
Sweden	61,5	50,6	51,7	49,8	48,9	47,9	48,2	43,1	38,2
United Kingdom	41,9	39,1	36,2	35,9	37,3	40,2	41,6	42,5	43,6

Percentage of gross domestic product (GDP)						
geo\time	2008	2009	2010	2011	2012	2013
Belgium	92,2	99,2	99,5	102	103,8	104,4
Denmark	33,4	40,4	42,9	46,4	45,6	45
Germany	65,1	72,6	80,5	77,9	79,3	77,1
Ireland	42,6	62,3	87,4	111,2	121,7	123,2
Greece	:	:	:	171,3	156,9	175
Spain	39,4	52,7	60,1	69,2	84,4	92,1

France	68,1	79	81,7	85,2	89,6	92,3
Italy	102,3	112,5	115,3	116,4	123,1	128,5
Luxembourg	14,4	15,5	19,6	19,1	21,9	24
Netherlands	54,8	56,5	59	61,3	66,5	68,6
Austria	68,5	79,7	82,4	82,1	81,5	80,9
Portugal	71,7	83,6	96,2	111,1	125,8	129,7
Finland	32,7	41,7	47,1	48,5	52,9	55,8
Sweden	36,8	40,3	36,8	36,2	36,6	38,7
United Kingdom	51,8	65,8	76,4	81,8	85,8	87,3

10.7 GOVERNMENT DEFICIT 1999-2014 (FIGURE 13)

	1999	2000	2001	2002	2003	2004	2005	2006
GVT DEFICIT								
Belgium	-0,6	-0,1	0,2	0,1	-1,8	-0,2	-2,6	0,2
Denmark	0,9	1,9	1,1	0,0	-0,1	2,1	5,0	5,0
Germany	-1,5	1,0	-3,1	-3,9	-4,1	-3,7	-3,3	-1,5
Ireland	2,4	4,9	1,0	-0,3	0,8	1,4	1,3	2,8
Greece	:	:	:	:	:	:	:	:
Spain	-1,3	-1,0	-0,5	-0,4	-0,4	0,0	1,2	2,2
France	-1,6	-1,3	-1,4	-3,1	-3,9	-3,5	-3,2	-2,3
Italy	-1,8	-1,3	-3,4	-3,1	-3,4	-3,6	-4,2	-3,6
Luxembourg	3,6	5,7	6,0	2,3	0,5	-1,1	0,2	1,4
Netherlands	0,3	1,9	-0,4	-2,1	-3,0	-1,8	-0,3	0,2
Austria	-2,6	-2,0	-0,6	-1,3	-1,8	-4,8	-2,5	-2,5
Portugal	-3,0	-3,2	-4,8	-3,3	-4,4	-6,2	-6,2	-4,3
Finland	1,7	6,9	5,0	4,1	2,4	2,2	2,6	3,9
Sweden	0,8	3,2	1,4	-1,5	-1,3	0,3	1,8	2,2
United Kingdom	0,8	1,2	0,4	-2,1	-3,4	-3,6	-3,5	-2,9

GVT DEFICIT	2007	2008	2009	2010	2011	2012	2013	2014
Belgium	0,0	-1,1	-5,5	-4,0	-4,1	-4,1	-2,9	-3,2
Denmark	5,0	3,2	-2,8	-2,7	-2,1	-3,7	-1,1	1,2
Germany	0,3	0,0	-3,0	-4,1	-0,9	0,1	0,1	0,7
Ireland	0,3	-7,0	-	-	-	-8,1	-5,8	-4,1
			13,9	32,5	12,7			
Greece	:	:	:	:	-	-8,7	-	-3,5
					10,2		12,3	
Spain	2,0	-4,4	-	-9,4	-9,4	-	-6,8	-5,8
			11,0			10,3		
France	-2,5	-3,2	-7,2	-6,8	-5,1	-4,8	-4,1	-4,0
Italy	-1,5	-2,7	-5,3	-4,2	-3,5	-3,0	-2,9	-3,0
Luxembourg	4,2	3,3	-0,5	-0,5	0,4	0,1	0,9	0,6
Netherlands	0,2	0,2	-5,5	-5,0	-4,3	-4,0	-2,3	-2,3
Austria	-1,3	-1,4	-5,3	-4,5	-2,6	-2,2	-1,3	-2,4
Portugal	-3,0	-3,8	-9,8	-	-7,4	-5,6	-4,8	-4,5
				11,2				
Finland	5,1	4,2	-2,5	-2,6	-1,0	-2,1	-2,5	-3,2
Sweden	3,3	2,0	-0,7	0,0	-0,1	-0,9	-1,4	-1,9
United Kingdom	-3,0	-5,1	-	-9,7	-7,6	-8,3	-5,7	-5,7
			10,8					

10.8 GOVERNMENT DEFICIT STANDARD DEVIATION 1999-2013 (FIGURE 14)

GVT DEFICIT	EURO STDDV
1999	2,14
2000	3,40
2001	3,30
2002	2,51
2003	2,28
2004	2,65
2005	2,72
2006	2,72

2007	2,56
2008	3,30
2009	3,94
2010	8,75
2011	3,92
2012	3,18
2013	2,35

10.9 INFLATION 1999-2013 (FIGURE 15 & 20)

Average inflation rate	1999- 2007	2008- 2013
Belgium	2,0	2,3
Denmark	2,0	2,1
Germany (until 1990 former territory of the FRG)	1,6	1,7
Ireland	3,4	0,6
Greece	3,2	2,2
Spain	3,1	2,2
France	1,8	1,8
Italy	2,3	2,2
Luxembourg	2,7	2,5
Netherlands	2,4	2,0
Austria	1,8	2,3
Portugal	2,9	1,7
Finland	1,6	2,7
Sweden	1,5	1,6
United Kingdom	1,6	3,2
Inflation Target	2,0	2,0
MEAN EURO	2,4	2,0
STDDV EURO	0,7	0,5

10.10 GDP/CAPITA (FIGURE 16)

	1999	2000	2001	2002	2003	2004	2005	2006	2007
Belgium	2980 0	30700	30900	31300	31400	32300	32800	33400	34200
Denmark	4080 0	42200	42400	42500	42500	43500	44500	46000	46200
Germany	2790 0	28700	29100	29000	28800	29200	29400	30500	31600
Ireland	3140 0	34000	35200	36600	37100	38100	39400	40500	41200
Greece	1680 0	17400	18000	18500	19700	20600	20700	21800	22500
Spain	2060 0	21600	22200	22400	22700	23100	23500	24100	24500
France	2820 0	29100	29500	29600	29600	30200	30500	31000	31500
Italy	2640 0	27300	27800	27800	27700	27900	28000	28500	28700
Luxembourg	:	69300	69900	71400	71300	73800	75700	78200	81900
Netherlands	3340 0	34600	34900	34700	34600	35200	35900	37200	38600
Austria	3070 0	31600	31900	32300	32400	33100	33600	34500	35600
Portugal	1580 0	16200	16400	16500	16300	16500	16600	16800	17200
Finland	2900 0	30500	31300	31700	32300	33400	34200	35500	37200
Sweden	3230 0	33800	34200	34800	35500	36900	37800	39300	40400
United Kingdom	2510 0	26000	26600	27100	28200	28700	29300	30000	30500
Mean EURO		30916 ,7	31425 ,0	31816 ,7	31991 ,7	32783 ,3	33358 ,3	34333 ,3	35391 ,7
STDDV EURO		13498 ,9	13552 ,9	13909 ,2	13805 ,9	14358 ,7	14855 ,9	15379 ,6	16242 ,1
STDDV NON-EURO		8101, 9	7901, 9	7700, 0	7150, 5	7414, 4	7617, 7	8035, 1	7938, 7
Percentage change			0,0	0,0	0,0	0,0	0,0	0,0	0,1

	2008	2009	2010	2011	2012	2013
Belgium	34200	33100	33600	33900	33700	33600
Denmark	45600	43000	43500	43900	43400	43000
Germany	31900	30200	31500	32600	32700	32700
Ireland	39300	36400	36200	37000	36800	36800
Greece	22400	21400	20300	18500	17400	16800
Spain	24400	23300	23200	23000	22500	22300
France	31400	30300	30800	31200	31200	31100
Italy	28200	26500	26800	26900	26000	25500
Luxembourg	80900	75200	77600	77800	75900	75400
Netherlands	39300	37800	38000	38500	37700	37300
Austria	36100	34600	35200	36100	36300	36200
Portugal	17200	16700	17000	16700	16100	16000
Finland	37300	34000	34900	35600	34900	34300
Sweden	39800	37400	39400	40100	39700	39900

United Kingdom	30100	28600	28900	29200	29200	29500
Mean EURO	35216,7	33291,7	33758,3	33983,3	33433,3	33166,7
STDDV EURO	15974,8	14677,5	15330,2	15595,5	15318,5	15280,8
STDDV NON-EURO	7831,3	7259,0	7530,2	7630,4	7366,4	7071,3
Percentage change	0,0	-0,1	0,0	0,0	0,0	0,0

10.11 HIGHEST PERFORMING VS LOWEST PERFORMING COUNTRY (FIGURE 17)

	1999	2000	2001	2002	2003	2004	2005	2006	2007
Highest performing country Luxembourg	:	69300	69900	71400	71300	73800	75700	78200	81900
Lowest performing country Portugal	15800	16200	16400	16500	16300	16500	16600	16800	17200
Income of Portugal in % of Luxembourg		23%	23%	23%	23%	22%	22%	21%	21%
			0,4%	-1,5%	-1,1%	-2,2%	-1,9%	-2,0%	-2,2%

	2008	2009	2010	2011	2012	2013
Highest performing country Luxembourg	80900	75200	77600	77800	75900	75400
Lowest performing country Portugal	17200	16700	17000	16700	16100	16000
Income of Portugal in % of Luxembourg		21%	22%	22%	21%	21%
	1,2%	4,5%	-1,4%	-2,0%	-1,2%	0,0%

10.12 STANDARD DEVIATION EUROZONE VS NON-EUROZONE STACKED LINE (FIGURE 19)

	STDDV EURO	STDDV NON-EURO
2000	13498,9	8101,9
2001	13552,9	7901,9
2002	13909,2	7700,0
2003	13805,9	7150,5
2004	14358,7	7414,4
2005	14855,9	7617,7
2006	15379,6	8035,1
2007	16242,1	7938,7
2008	15974,8	7831,3
2009	14677,5	7259,0
2010	15330,2	7530,2
2011	15595,5	7630,4
2012	15318,5	7366,4
2013	15280,8	7071,3

10.13 MEAN GDP PER CAPITA EURO VS NEW-EURO (FIGURE 22)

	Mean Euro 12	Mean New Euro
2006	34333,3	13842,9
2007	35391,7	14742,9
2008	35216,7	14957,1
2009	33291,7	13742,9
2010	33758,3	13942,9
2011	33983,3	14328,6
2012	33433,3	14442,9
2013	33166,7	14485,7

10.14 NEW EUROZONE VS OLD EUROZONE ECONOMIC SHOCK (FIGURE 23)

	2006	2007	2008	2009	2010	2011	2012	2013
Austria	3,4	3,6	1,5	-3,8	1,9	3,1	0,9	0,2
Belgium	2,6	3,0	1,0	-2,6	2,5	1,6	0,1	0,3
Cyprus	4,1	5,1	3,6	-1,7	1,3	0,4	-2,4	-5,4
Germany	3,7	3,3	1,1	-5,6	4,1	3,6	0,4	0,1
Denmark	3,8	0,8	-0,7	-5,1	1,6	1,2	-0,7	-0,5
Spain	4,2	3,8	1,1	-3,6	0,0	-0,6	-2,1	-1,2
Estonia	10,4	7,9	-5,3	-14,7	2,5	8,3	4,7	1,6
Finland	4,1	5,2	0,7	-8,3	3,0	2,6	-1,5	-1,2
France	2,4	2,4	0,2	-2,9	2,0	2,1	0,3	0,3
United Kingdom	3,0	2,6	-0,3	-4,3	1,9	1,6	0,7	1,7
Greece	5,8	3,5	-0,4	-4,4	-5,4	-8,9	-6,6	-3,3
Ireland	5,5	4,9	-2,6	-6,4	-0,3	2,8	-0,3	0,2
Italy	2,0	1,5	-1,0	-5,5	1,7	0,6	-2,3	-1,9
Lithuania	7,8	9,8	2,9	-14,7	1,3	6,0	3,7	3,3
Luxembourg	4,9	6,5	0,5	-5,3	5,1	2,6	-0,2	2,0
Latvia	12,2	10,0	-4,2	-18,0	-0,3	5,3	5,0	4,1
Malta	2,2	4,3	3,9	-2,8	4,3	1,4	1,1	2,9
Netherlands	3,8	4,2	2,1	-3,3	1,1	1,7	-1,6	-0,7
Portugal	1,6	2,5	0,2	-3,0	1,9	-1,8	-3,3	-1,4
Slovak Republic	8,3	10,7	5,4	-5,3	4,8	2,7	1,6	1,4
Slovenia	5,7	6,9	3,3	-7,8	1,2	0,6	-2,6	-1,0
Sweden	4,7	3,4	-0,6	-5,2	6,0	2,7	-0,3	1,5
	2006	2007	2008	2009	2010	2011	2012	2013
STDDV EURO	1,3430 79	1,3659 65	1,2582 72	1,6977 98	2,6560 05	3,4200 72	2,0881 89	1,36509 78
STDDV NEW-EURO	3,5065 14	2,4989 82	4,2942 16	6,4929 19	1,8425 92	3,0353 62	3,1488 75	3,26288 26
STDVV TOTAL	2,8946 6	2,7221 42	2,7149 13	4,6151 79	2,3583 91	3,4760 74	2,8379 23	2,29673 8

