UNIVERSITY OF AGDER

Is the Euro Sustainable?

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This Master's Thesis is carried out as a part of the education at the University of Agder and is therefore approved as a part of this education. However, this does not imply that the University answers for the methods that are used or the conclusions that are drawn.

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Preface

The idea of writing the master's thesis about the sustainability of the euro came from the media. The mass attention and criticism that the Eurozone has been experiencing recently made me curious to find out more. I wanted to write about something new that has relevance for the present and future times.

A course held by Arngrim Hunnes called history of economic crises was another reason that this subject became the topic of my thesis. Throughout this course I learned that there are general mechanisms that often seem to reoccur in economic crises throughout history. The role of monetary policy in the time of crisis was analyzed in the course, something that I have applied in the thesis. I was unsure how this was done in a currency union with one monetary policy for all its members and found that this was a tense subject.

I would like to thank my supervisor Arngrim Hunnes for supporting and acknowledging my idea of writing about this subject, and for helpful and quick feedback throughout the process. Especially the choice of theory and the forming of a structure for the thesis were important contributions. My fellow students creating a wonderful study environment deserves a notice as well. I have met many knowledgeable people during these five years and not least good friends.

The writing of this thesis has been the most challenging yet the most rewarding part of my five years here at the University of Agder. At times it was frustrating to do endless hours of research without any visible result. However, at the end it is a great feeling to have been able to dig deeper into a particular subject of interest and used what I have been taught during my education on a practical problem.

I hope whoever reads this will be able to follow the reasoning in the thesis. I have tried to express the arguments and theories surrounding this topic in the simplest possible way, while at the same time using objective economic thinking as the baseline. I hope the reader will gain knowledge of the presented problem and understand some of the troubles in the Eurozone at the moment and perhaps the future.

Kristiansand, May 2011

Trond Nygren

Summary

The purpose of this thesis is to evaluate the economic sustainability of the Eurozone. The thesis has a macro-economic approach which looks at the Eurozone as a whole, with special emphasis on the peripheral countries of Europe that are experiencing a sovereign-debt crisis at the moment. Both economic theory and history will be used to illustrate the topic.

The role of the currency union in the time of crisis is the main scope of the thesis. A monetary union in reality means fixing the exchange rates of the members against each other. Many countries outside the Eurozone that were also suffering from the economic shock of the financial crisis used their monetary policy as a mechanism to restore competitiveness. Lowering the interest rate or printing money ensured liquidity in the markets to limit the damage done by the economic shock. In the Eurozone the monetary policy for all its members is governed by the European Central Bank in Germany. Members of the currency union therefore have to accept a common monetary policy for all countries within it. This is a major disadvantage of having a currency union, and the loss of monetary independence is the basis for a debate that will be analyzed in the thesis.

In the thesis both sides of this debate are presented. The criticism of the currency union has roots in the Optimum Currency Area theory (which is explained in the thesis), where Europe's insufficient integration reveals flaws of the currency union. The economists arguing in favor of the currency union focus on the lack of realistic alternatives.

The combination of high debt, low investor confidence and no control over domestic monetary policy is a problem for many European countries. Considering how the Eurozone institutionally is set up at the moment there is no clear solution. No system of fiscal transfers to ensure liquidity is present. This makes it legitimate to question the sustainability of the currency union as it works now. Institutional changes are likely to happen.

This thesis presents proposals made by economists for such changes. The need for a crisis mechanism tool in order to prevent a future economic shock of having similar consequences as the shock of 2007/2008 has wide support. How it is going to work is a tense subject, as the richer countries of Europe are afraid of having to pay the periphery out of trouble.

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Chapter 1: Introduction

The creation of the euro was a proud moment in European history. It was possibly the greatest achievement made by the European Union so far when it arrived in 1999. This was the ultimate symbol of an economically integrated Europe that had left the previous rivalries behind. Cooperation and solidarity was the way forward.

At the time of and before the creation of the euro not everyone was convinced however. In particular American economists arguing with support in the fundamentals of the Optimum Currency Area theory were skeptical. They believed that a continent like Europe, with no way near the same level of integration in the economy as the US, was bound to fail when creating a monetary union. Shocks in the economy were believed to pose a major threat to Europe if they introduced the euro.

The baseline for the Optimum Currency Area theory is that the level of integration in the economy is the best measure for determining the success of a currency union. Criteria such as labor mobility, political integration and fiscal transfers will determine the ability of a currency area to reduce the consequences of asymmetric shocks. The more integration in the economy the better the grounds for a currency union exist.

For a long time the euro was a success – it became a worldwide recognizable currency and price stability in the Eurozone prevailed. The single currency had seemingly lifted the periphery of Europe up to its potential; everyone in the market believed that when Europe had its own mutual currency the risk of failure was lower. For a long time Europe was looked upon with envy during the financial crisis in the late 2000s. The model of the welfare state had minimized the social consequences of the crisis. In the US the social consequences were higher.

At this moment in 2011 the situation has turned completely. Now major countries of Europe are struggling with high debt levels and unsustainable budget deficits. Many of the same economists voicing their skepticism before the introduction of the euro are now hovering and reappearing with their old arguments. They projected this to happen and believe the major cause of the critical situation has to be blamed on the euro itself. The countries with difficulties have now lost their monetary independence and cannot react to the economic

shock with adjusting their interest rates. They are to some extent locked in and are dependent on help from the outside to restore competitiveness.

Europe at the moment is being monitored closely by the world community. The Eurozone is a major economic player in the world market. It is of great importance to the rest of the world, and Europe especially, to restore competitiveness. A country like Greece is facing a mountain of debt and needs to undergo serious changes in its finances to turn the table. The authorities in Greece repeatedly say they are prepared to undergo the reforms that are needed, but the market does not seem to take notice. The government bonds of Greece at the moment have reached record breaking highs in comparison with Germany.

The way out of the problems will not be easy. It will most likely include unemployment and wage decreases for the countries involved. The solution to the problem is also an issue that is heavily discussed. Europe is reluctant to creating a monetary union similar to that of the US where automatic fiscal transfers to the areas in trouble are done federally. Instead Europe, at least until now, has emphasized the need of a crisis mechanism tool which does not include such a fiscal transfer system.

The title of this thesis is a question: “Is the Euro Sustainable?” The reason for such a dramatic question is the fact that the recent economic crisis has brutally shown the fragility of the currency union. When exposed to a massive economic shock such as the one in the late 2000s, the need for a monetary policy beneficial for every member of the union becomes clear. When the countries of Europe have been struck asymmetrically and the level of integration is inferior compared to the US, the Eurozone is seemingly defenseless. Through heavy negotiations Europe did create a bailout package for the troubled economies, but it was something done in desperation when realizing the severity of the problems.

This thesis will try to clarify the most important factors of the ongoing problems. Through history of European integration with emphasis on the creation of the currency union, economic theory, a presentation of the ongoing discussion with arguments from both sides, and a speculative part of the future, the sustainability of the Eurozone will be addressed. The situation at the present will be devoted time but also possible future measures in order to improve the sustainability will be analyzed, as well as bleaker outcomes that cannot be undermined given the critical situation at the moment.

At the time of writing a resolution is far from reached. Greece, a country that will be explained in more detail in the thesis, has an unbearable situation according to many reports. With confidence in the market reaching record lows it will be extremely difficult for Greece to change the conditions. A fear of contagion of risk is also worrisome, something that the market has seen some signs of.

The present moment is probably the greatest challenge the Eurozone has experienced. If the Eurozone can get through this and change the institutions to prevent new crises, the outlook can be brighter. To do so will require much discipline and cooperation, something many doubt the Eurozone has enough of.

The thesis is structured into six chapters. The first one is the introduction. The second chapter covers the history of economic integration in Europe and explains the happenings leading up to the currency union. It starts after the Second World War and ends up at the creation of the euro in 1999. It also explains the spirit of the time which was a positive outlook on the future of a possible currency union.

The chapter concerning economic arguments for establishing a monetary union presents relevant economic theory. To be specific the Law of One Price, the Purchasing Power Parity, and most importantly the Optimum Currency Area theory are the ones that are covered.

The euro at the present is the fourth chapter and includes an explanation of the current problems as of May 2011 in Europe. It does also voice opinions of influential economists in the debate of whether or not a currency union in Europe is advantageous. At the end opinions of a possible solution is presented.

The fifth chapter is about the future of the Eurozone. It includes future challenges and speculations of outcomes of the current conditions. The sixth and last chapter is the conclusion of the thesis.

Chapter 2: History of European Economic Integration and the Euro

2.1 Introduction

This part of the study will explain the happenings that made way for the monetary union. The most important aspects of the history of European Economic Integration from the Second World War until today will be covered, with special emphasis on the creation of the monetary union. Integration is important because a monetary union is considered a great step towards economic integration in Europe. The most interesting and applicable events to my study will be devoted the most focus. Because a unified currency is in the need of a closely integrated economy, history of economic integration within Europe will be important in the thesis. Understanding the current integration in Europe requires an understanding of the history. Certain challenges that the euro overcame will also be covered.

History can often relate to the present by providing explanations to current events. Europe has been an area of the world throughout history often associated with war and rivalry, although as presented in this section we shall see that the idea of integration and cooperation within Europe is not completely new. It is also interesting to notice how the history affects countries' feeling towards integration and losing independence. Countries that were positive towards integration in Europe from before continue to support the idea of cooperation in Europe. The idea of a step-by-step process of making the European continent more integrated has attracted many people and speeded up after the Second World War.

2.2 The Divide between Federalism and Intergovernmentalism – European Economic Community (EEA) and the European Free Trade Association (EFTA)

There were two ideologies of European integration after World War 2. There was a common agreement within Europe that integration was the way forward, although the role of the nations was questioned. The two ideologies on this were federalism and intergovernmentalism. This is relevant even today because this divide and debate is still present.

The federalist idea was based on fear of the sovereignty of the nation state. European states had always been involved in battles for power between them, and this structure was seen upon as prone to war because the race for power often involved invasion of other states. As recent history had proved even democracy could create dangerous and aggressive regimes. The only way to stop the inevitable rivalry that would come from independent states was through a supranational organization that would have the amount of power which traditionally was a privilege only for independent nations. This is called a federalist structure. A big step in the federalist movement came in 1952 by Robert Schuman who suggested that France and Germany should submit their coal and steel industries under supranational control. It might sound trivial today but it was big business at the time, and it provided the ground base for more sophisticated economic cooperation. Other nations were also invited to this partnership, four of whom actually joined. These were Belgium, Luxembourg, the Netherlands and Italy. To this date this group of countries in addition to France and Germany called “the six” have been the most supportive of European integration. (Baldwin & Wyplosz, 2009)

The other ideology was intergovernmentalism. The thinking here was that the nations and national governments were the most effective and stable structure. Cooperation between nations was however essential, especially in economic issues, but power should remain on national hands. Any cooperation needed to be agreed upon by all countries affected. (Baldwin & Wyplosz, 2009)

Naturally the federalist movement was largely supported in countries with the most difficult governmental times i.e. the countries with the most destruction and deaths from the

war such as Italy, the Netherlands, France, and Germany. The intergovernmentalism movement had Britain in front and was supported by countries avoiding the worst consequences of the war such as Norway, Denmark, Iceland and neutral countries such as Sweden and Ireland. (Baldwin & Wyplosz, 2009)

Leading political figures of the federalist six countries agreed to the treaties of Rome in 1957 that created the European Economic Community (EEC) in addition to the coal and steel agreement. The members of this group had merging the countries into a supranational structure with a much wider scope than the steel and coal agreement as their aim. The EEC was by far regarded as the most important point in the treaty in the later years and the Treaty of Rome became synonymous with the EEC treaty. The EEC was formed in 1958. Both the organizations created in the treaties of Rome merged into the "European Communities" (EC) in 1965. (Baldwin & Wyplosz, 2009)

The result of this treaty was a commitment of the six to a great degree of economic integration between them. They formed a customs union which removed barriers on trade between the nations, and created a common tariff system for imports from outside countries among many other policies. Many institutions between the nations were also created including the European Commission. The response to this discriminatory agreement from the outside was the creation of a similar organization called the European Free Trade Association (EFTA) with the UK in front. The result was a rapid increase of trade within each of the blocs and a loss for exporters within each group. The groups performed very unequally as well in economic measures. The six EEC nations' GDP was more than double the seven EFTA countries, and for exporters the EEC was favorable. Because of this the EEC countries grew much faster since gaining entrance to the EEC market was more important than the same in the EFTA countries. (Baldwin & Wyplosz, 2009)

In 1961 the UK wanted to enter the EEC. The threat of discrimination in Europe's fastest growing markets became too great. This led to a domino-effect by other EFTA-countries. They were suffering from unfavorable discrimination already and with the UK forced to also provide discriminatory barriers against EFTA members, discrimination would be even greater. Ireland, Denmark and Norway applied for membership in the EEC quickly after Britain. The remaining members of the EFTA did not join because of neutrality-issues or that trading with the EEC was not critical for them. After many delays because of French

skepticism to the UK and the other applicants the membership was approved in 1973 for the four countries. When this happened another domino-effect arose, this time in the form of a series of agreements concerning free trade between each of the remaining EFTA members and the EEC. (Baldwin & Wyplosz, 2009)

The economic performance of Europe in the 1950s and 1960s were exceptionally good and was accompanied by successful economic integration. This led to a more optimistic view on the national governments. A new wave of belief in the national countries swept over Europe. This was again led by France and their president Charles de Gaulle. The situation came to a climax when the Treaty of Rome was scheduled to go into its final part where majority voting in decisions was supposed to be introduced. De Gaulle felt this would undermine France's authority because policies they were against could be forced upon them backed by the majority. The result was the so-called "Luxembourg compromise" where de Gaulle forced the other members of the EEC to accept unanimity as the way of deciding in the EEC through boycotting of the EEC-meetings ("empty chair policy"). The Luxembourg compromise had no legal backing but still had a great significance. Unanimity became the practice when making most decisions. Naturally this led to an almost complete stagnation of European integration because most policies would be rejected by at least one member. (Baldwin & Wyplosz, 2009)

The EEC's lack of ability to make decisions led to an increase of trade barriers. Before the Luxembourg compromise there had been a steady decrease of trade barriers. The situation had now been reversed: the national trade barriers were implemented faster than the few decisions in favor of integration made by the EEC that were accepted. These barriers were designed to protect consumers. (Baldwin & Wyplosz, 2009)

2.3 Exchange Rate Cooperation – the Bretton Woods System

There was also exchange rate cooperation well before the introduction of the euro. After the Second World War a system called the Bretton Woods system for exchange rates between currencies arose. Preparations for this system had begun earlier however, but it was the creation of the International Monetary Fund (IMF) that was the most important step of the Bretton Woods conference in July 1944. It was supposed to provide the stability of which the gold standard system in the interwar period failed to give. Significant features of the IMF's Bretton Woods system was that exchange rates were fixed; the dollar was the fixed parity that all currencies had to value themselves against, and the dollar value was fixed towards gold. All currencies had a par value in terms of the dollar which they could not move more than 1% away from. The IMF was allowed to provide loans to countries that struggled to handle their debt instead of a possible devaluation of the currency. (Burda & Wyplosz, 2009)

The Bretton Woods system proved quite efficient for a long time. Stability of the exchange rates was the melody and trade increased. The IMF governed the system through usage of loans which came from member deposits. These were based on the respective country's international trade. The level of international trade and member deposits were also linked with the country's influence within the system as well as the amount allowed to borrow from the IMF. Devaluations were supposed to be the last option for economies with fundamental problems that could not be regarded as temporarily. The IMF still exists today in the form of a "bank" for countries involved in economic difficulties. (Burda & Wyplosz, 2009)

While the Bretton Woods system had a promising start, it was a system with a notable flaw. As countries recovered from the war and international trade increased, the demand for international money subsequently increased as well. In the Bretton Woods system the international money was the American dollar meaning that in practice more American dollars were needed. The only way that the US was able to do this was through trade deficits, resulting in a gradual move towards a point where eventually the USA's liabilities abroad would exceed their gold reserves. USA could no longer provide the gold value of the US dollar. This is called the *triffin paradox*, named after the Belgian economist Robert Triffin who first discovered the phenomena. (Burda & Wyplosz, 2009)

The Triffin paradox weakened the international credibility towards the Bretton Woods system. Criticism from other countries became more frequent, with France being the most prominent. In addition to this the Vietnam War and other unfavorable circumstances increased the trade deficits of the US. The market was aware of the situation and the demand for gold rose. No one wanted to sell gold, and the situation became unclear. The unfavorable economic situation led to a recession in both the US and Europe. The result was the decision to remove the gold parity of the dollar made by President Nixon in 1971, and the demise of the Bretton Woods system. (Burda & Wyplosz, 2009)

When the Bretton Woods system collapsed, a vacuum presented itself in Europe. The system had provided stability at least in the short run, and had pushed European economic integration forward. The creation of the European Monetary System (EMS) in 1979 was the reaction to the Bretton Woods collapse. The EMS was a new system of fixed exchange rates among European countries of the European Community, or the European Union as it was later called. A new version of the EMS was introduced in 1999, as a preface to join the current European Monetary Union. According to Burda and Wyplosz, the EMS was involved in four phases. The first phase was characterized by a loose structure that had a high degree of tolerance towards inflation among its members. The second phase was a successful period where the Deutsche Mark was identified as the benchmark for the other currencies. This period eventually led to the Maastricht Treaty in 1991. The third phase was the currency crisis of the early 1990s that I will mention later, and the fourth phase was the phase of stability following the crisis. (Burda & Wyplosz, 2009)

2.4 Change in European Policy and the Single Market Programme

After the economic crisis right before the collapse of the Bretton Woods system, the economy recovered in the mid-1980s. Political attitudes in this period changed as well, with a more increased belief in the market economy. US President Reagan and British Prime Minister Thatcher were important in this change. Another important factor was the failure of earlier protectionist policies. Coincidentally this healthy economic environment was accompanied with the arrival of Jacques Delors, a firm believer of European integration and a talented speaker. He was appointed as President of the European Commission in 1985. He made way for the "Single Market Programme" which listed 300 efforts to change the Common Market into the Single Market. All members had adopted the Single European Act by 1987 which was the formal name of the law for this procedure. (Baldwin & Wyplosz, 2009)

Before this was implemented there were many trade barriers present in Europe, which limited the free movement of goods, labor and services, even though the Treaty of Rome involved these issues. The Single Market Programme's main goal was to implement the "four freedoms" that were promised in the Treaty of Rome, but not present in practice. These were removal of barriers restricting movement of goods, services, people and capital. Another important institutional feature of the Single European Act was the abolishment of the unanimity policy in favor of majority voting to overcome similar decision-making difficulties as in the 1970s. (Baldwin & Wyplosz, 2009)

Once again this increasing of integration within the EU posed a threat of discrimination to countries left outside this cooperation. It led to another phase where countries considered membership. Jacques Delors reacted to the situation and created the European Economic Area which in practice was a broadening of the Single Market Programme to include EFTA economies. Given the threat of discriminatory policies it is easy to understand the EFTA countries desire for the EEA. The EEA does however have democratic issues in the sense that EFTA countries can be forced legislation upon them without having any real influence, as well as imposing supranational features to EFTA countries which is something they historically have been against. This caused many EFTA

countries to apply for membership to the EU. Today the EEA consists of the EU25 plus Norway, Liechtenstein and Iceland. (Baldwin & Wyplosz, 2009)

2.5 The planning of the monetary union: The Maastricht treaty and the Convergence Criteria

The Maastricht Treaty is probably best known for providing the base for progress towards a monetary union in Europe, although the treaty goes way beyond only monetary terms. Jacque Delors took advantage of the unstable situation after the fall of the Soviet Union and the Berlin Wall. Inspired by the successful Single Market, he wanted to suggest a monumental increase in European integration. Other European leaders agreed with Delors and supported his vision. (Baldwin & Wyplosz, 2009)

The strategy for implementation of the monetary union was supposed to be gradual, and a possible entry into the union should be based on certain criteria. The treaty was signed in Maastricht Netherlands, in December 1991 (Grauwe, 2009). Political ambitions came on the agenda and made the Maastricht Treaty go beyond its original motive which was creation of a common market. (EuropeanCommission, 2007)

The monetary union came about twelve years after the signing of the Maastricht Treaty. The period from 1991 until the monetary union was characterized by a gradual process towards the monetary union. (Grauwe, 2009) A country could only join the union if certain economic criteria were met. These are called the convergence criteria. (EuropeanCommission, 2011)

Germany was the driving force behind these criteria because they were concerned about price stability and questioned other countries commitment in this area. In the early 1990s when the Maastricht treaty was signed the macroeconomic environment varied greatly from country to country in Europe (Baldwin & Wyplosz, 2009). The following are the five convergence criteria:

1) The inflation rate of the country shall not exceed above 1,5% of the average of the three lowest inflation rates within EU.
2) The long-term interest rate of the country shall not exceed above 2% of the average in these three countries.
3) The country must have joined the exchange rate mechanism of the EMS, as well as avoided devaluations of the currency at least two years before entering the union.

4) The government budget deficit is not above 3% of the GDP (If it is it should be declining).
5) The government debt should not be above 60% of GDP (If it is it should be declining).

(Grauwe, 2009)

Price stability and control over inflation is important issues for countries engaging in a monetary union. To keep a stable currency all countries need to work toward this goal. The five convergence criteria therefore have this as their main focus. (Grauwe, 2009)

The first three of these convergence criteria are mainly concerned about inflation. The first one specifies it directly. The second criterion aims at “catching cheaters” or making it impossible to lower inflation on a temporary basis to gain admittance to the union and then go back to old habits. This is done through not allowing a long-term high interest rate which usually reflects a market’s acceptance of high inflation. The third criterion also involves price stability and the exchange rate mechanism. A country has to have proven itself capable of keeping their currency relatively fixed to the possible monetary union partners of the future. (Baldwin & Wyplosz, 2009)

While the three first criteria involve price stability and inflation, the last two cover the incentives behind these issues. High inflation itself is not considered a wanted economic situation but still some countries experience facing this issue. A high degree of inflation is usually linked with budget deficits and high public debt. The process is rather simple: When a country runs budget deficits it borrows money to finance this. If this is done excessively there will at some point be legitimate questions between the lending countries on whether or not this debt will ever be paid back. The reaction can be to stop lending the country with budget deficits money. If this happens a problem arises: The only way that the country can continue to run budget deficits is through the central bank printing money, which of course leads to high inflation. Consequently the fourth and fifth convergence criteria deal with budget deficits and public debt respectively. (Baldwin & Wyplosz, 2009)

In 1998 it was determined that 11 of the EU members successfully met the criteria. The countries were Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Portugal and Spain. These countries formed the monetary union in 1999. At the start the euro was not a “normal” currency with bills. It was exclusively used by banks and

for accounting. The creation of the banknotes and coins and the removal of the national currencies that completed the monetary union in Europe came in 2002. Three countries, Sweden, Denmark and the UK, decided not to enter the monetary union regardless of meeting the criteria. (Grauwe, 2009). Still these countries have not adopted the monetary union. Sweden was a unique case. They violated condition three of the Maastricht convergence criteria on purpose in order to prevent entrance to the EMU. Slovenia, Cyprus, Malta and Slovakia made the union include 16 members (Grauwe, 2009). As of today the currency is shared by 17 European countries and approximately 331 million people. Estonia was the last country to join the monetary union in 2011. (EuropeanCommission, 2011)

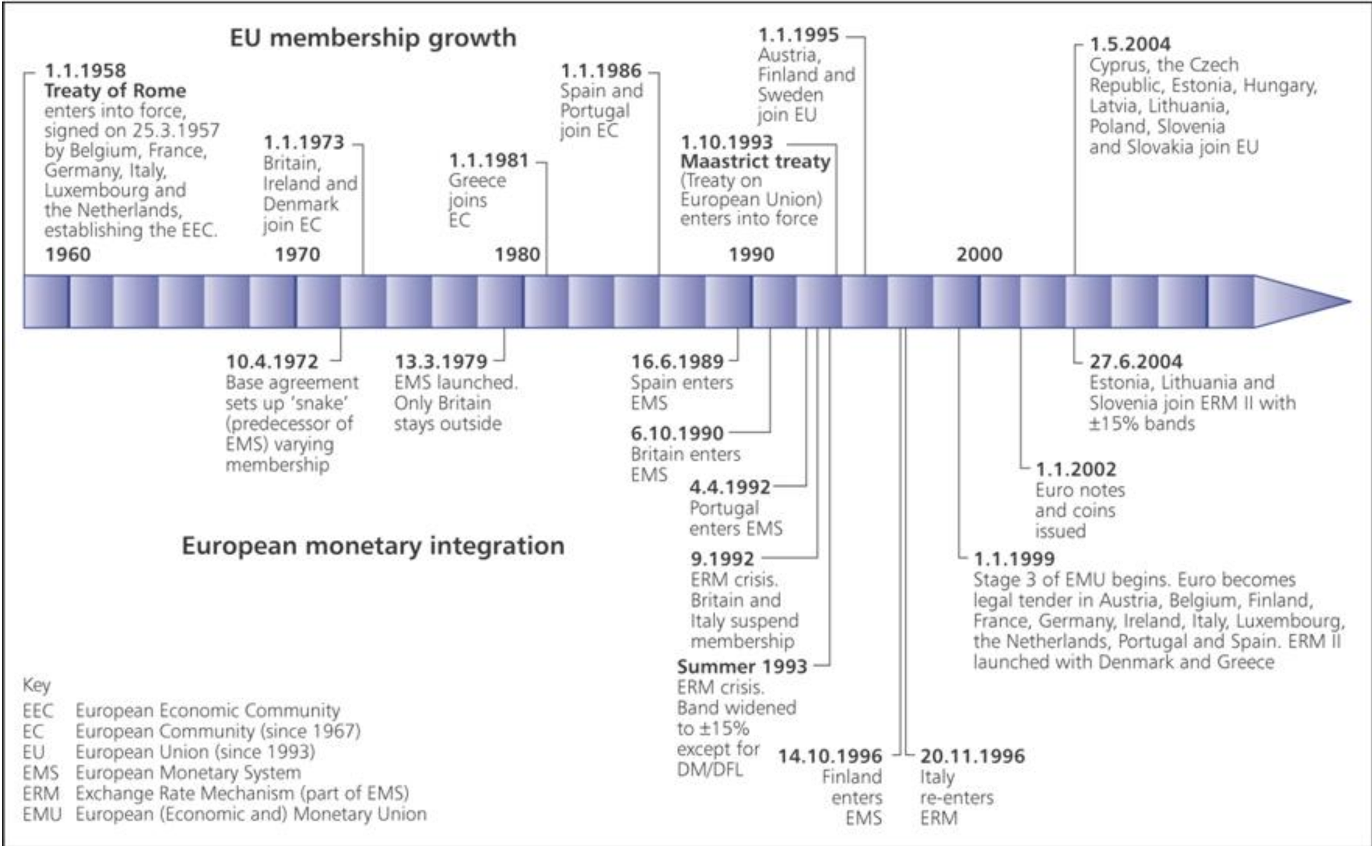

Figure 1: History of European Integration and the EU

Source: (Figure 12.1, Gärtner, 2006, p. 319)

Figure 1 is an overview of the most significant events in the history of economic integration in Europe relevant to the EU. It starts with the Treaty of Rome in 1958 and ends up with the new members entering the union in 2004. The bottom part of the model illustrates the monetary integration in Europe, while the upper part of the model focuses on EU

membership growth and when the different members entered the union. Some parts of this model have been covered in the history part of my thesis, but it would have been too comprehensive to involve everything for the case of my study. What this model can help illustrate however is that the history of economic integration in Europe is complex and involves an array of different events, before ultimately ending up in the position that Europe is in today. The European Union has expanded greatly along the way and the euro has come about through a step-by-step process of monetary integration.

After the signing of the Maastricht Treaty, the euro was subject to many challenges before it actually went into practice. Yet, the euro survived these challenges and became the common currency of the euro area that we know today. I will now look at some important points of the opposition at the time, and explain the arguments behind a common currency that might have relevance to its founding and existence today.

2.6 Challenges of the euro from Maastricht until implementation: How did the euro survive?

The period from 1991 when the Maastricht treaty was signed until 2002 when the implementation of the currency was done, the euro had its fair share of challenges to cope with.

One of these was an almost rejection of the currency by the French people in 1992 (Risse, Engelmann-Martin, Knope, & Roscher, 1999). One can only speculate what the consequences would be for the euro if the outcome of the referendum was different. It is however easy to imagine that a rejection from such an influential country as France could potentially jeopardize the whole plan of a monetary union.

The European Monetary system went through a crisis shortly (1992/1993) after the Maastricht treaty, which threatened to ruin the plans of a single currency in Europe (Risse, et al., 1999). The reuniting of Germany was financed through public loans. The central bank of Germany implemented a more restrictive monetary policy in order to reset the possible effect the loans had on currency stability (Malz, 1996). This led to a turbulent market that was prone to speculative attacks on the ERM parities (Burda & Wyplosz, 2009). The speculations led to many interventions from the exchange rate mechanism and the domestic central banks, when the years before 1992 were a period of little intervention (Malz, 1996). In addition to this the Danish public rejected the Maastricht treaty, which in consequence heightened the general skepticism towards a monetary union (Baldwin & Wyplosz, 2009). Italy and the UK were other countries that withdrew from the ERM, and their currencies were left to float on their own (Malz, 1996). A central component in this crisis was the intense battle between France and Germany to become the anchor currency of the ERM. The French and the German central bank attacked the currencies of each other (Rhodes & Mazey, 1995). The unclear environment and heavy speculation nearly made the ERM come to an end. The stabilization of the situation came when the margins of fluctuation of the parities rose to 15%, which in practice meant that the fixed exchange system was similar to a free-floating regime. The stabilization made way for the transition towards a Monetary Union. (Burda & Wyplosz, 2009)

There was also a high level of initial opposition towards the monetary union, underlined by the negative result from the first Danish referendum, and the neck and neck

result from the important French referendum. The convergence criteria included in the Maastricht treaty proved difficult for many countries to deal with as well, given the tough economic environment. (Risse, et al., 1999)

In the final part towards transition some obvious technical problems arose. These were related to the conversion rates. How should the transition be done smoothly without any speculative attacks?

The treaty together with a decision made at the Madrid council in 1995 stated that one euro currency unit (ECU) would transform into one euro on January 1st 1999 (Grauwe, 2009). *"The ECU was defined as a basket of currencies of the countries that are members of the EMS"* (Grauwe, 2009, p. 118). Consequently the conversion rates of the national currencies against the upcoming euro had to be equal to the rates in the market at closing day December 31st 1998. This was done in order to prevent that the beginning of the EMU would be troubled by changes in the exchange rates and create possibilities for gains and losses through speculations. These conditions undoubtedly resulted in a potential for speculation before the last day of the year. Because it was announced that the market rates at the last day of 1998 would be used as the conversion rates as fixed forever, movements during this day would be crucial for the upcoming launch of the EMU. If someone were to speculate the exchange rate of one national currency against another upwards during the last day, this speculative attack would result in an irreversibly "false" exchange rate. Academics in cooperation with the authorities solved this issue by announcing the conversion rates well in advance. If these rates were regarded as credible it was thought that the market itself would adapt to these rates. It worked out smoothly. The authorities announced the rates in May 1998 and the market was also informed that the national central banks would work together in order to achieve this in terms of the appropriate policy responses. Little intervention in the market had to be done; there were a great deal of confidence that the conversion rates were set correctly. (Grauwe, 2009)

"To Euro or Not to Euro" (Risse, et al., 1999) tries to explain why the euro has overcome these great obstacles. The article focuses on economic reasons linked with European integration. The single currency is viewed as a logical "next-step" after the European single market, and it facilitates free exchanges of goods, services, labor and capital. The EMU was viewed as the only and final solution to stop speculations on the currencies and

protectionist trade behavior. Only a strong central organization could stop the situation that evolved in the early 1990s. The euro should ensure the elimination of transaction costs and might possibly enhance investments. (Risse, et al., 1999)

The article also has a focus on the motives behind the decision of monetary union at the time. It has been claimed by some that the decision were influenced by political pressure and political motives rather than pure economic motives and theory.

The preceding are good economic arguments but many economists were not impressed. Classical economists disagree with each other on the issue of how advantageous a currency union really is without a common policy. Some believe that the European central bank always will be subject to political pressure and never become 100% independent. There are also disagreements among economic theorists on what an optimum currency area really is. One thing that is clear though, is that the acceptance of the 11 initial countries in the Eurozone was mainly a political decision, and had not much to do with the Optimum Currency Area theory. Over 300 leading economists argued against the EMU in 1997, followed by 150 German economists doing the same in 1998. (Risse, et al., 1999)

Furthermore the article finds a peculiar correlation between the policy-makers interests in European integration and their economic reasoning for establishing the EMU. This correlation does not say much about the connection between this but it does say that economics are not the main motivation behind the decisions. If it was otherwise one would expect that countries practicing a more classical oriented economy to be in favor of a single currency, while other countries will be concerned about their welfare state and its survival. Britain as a skeptic does not fit in with this description as opposed to for instance France and Germany which are more socialist countries. Additionally if economic motives were dominant in the decision-making process one would expect clear differences in opinions of different parties within lone countries. This is the case of course but not in the way one would expect where left-wing parties would be against the EMU and the right-wing parties the opposite. In both France and Britain the conservatives represented the strongest resistance against the euro from the start. (Risse, et al., 1999)

An important geopolitical reason for the EMU can be the end of the Cold War and the unification of Germany. Many countries, especially France, believed that sharing the power over an independent European central bank was better than giving the German "Bundesbank"

too much influence. This was a result of the historical events in the 20th century that created mistrust to a strong independent Germany. This fear was real, although somewhat irrational, because Germany was a strong supporter of the single currency. In addition for this argument to be valid there needs to be an assumption that a single currency and centralized European institutions would constrain the power of Germany, which is not necessarily true. (Risse, et al., 1999)

Another reason why the euro managed to stand up against opposition is the path that the Maastricht treaty began. The cost of switching route in another direction became progressively larger with time, both in the form of more negotiation and the creation of costly public institutions. The institutions especially in the southern part of Europe needed a major face-lift in order to meet the convergence criteria. Fear of the global community's response towards a change was increasing. The crisis of 1992-1993 might have had the effect of strengthening the belief in the euro, in the way that the unstable capital and currency markets needed to be stabilized. (Risse, et al., 1999)

The article also claims that nation state identities were important in the decision making process of the EMU. The different cultures of the nations were reflected through the discussion. The reason why Britain was skeptical for instance, is said to be because of their conservative nature and their history as the only superpower in the world. Among the conservatives in England especially, giving up the pound was seen as a hard blow. It was one of the proudest symbols of their great past. This research investigated the elites in the country and had little focus on the public mass. The focus was on the political decision-makers and how their opinions were linked with nation state identities. (Risse, et al., 1999)

There definitely are clear cut economic advantages in a single currency that cannot be disputable, such as lowering transaction costs and eliminating heavy fluctuations of currencies. Still, the variation of opinions in the political landscape between European countries poses a problem that can be difficult to solve. The OCA theory is also a theory where optimality is virtually impossible in reality, and the different criteria for integration are difficult to measure exactly. It is therefore hard to be categorical on whether or not the decision of establishing the EMU was right or wrong in economic terms at the time, although from the "To Euro or not to Euro" article it seems clear that political arguments played an important part in the decision. (Risse, et al., 1999)

Chapter 3: Economic Arguments for Establishing a Monetary Union: Economic Theory

3.1 Introduction

If we use economic theory in order to evaluate the decision of establishing the monetary union in 1999, we can come up with an array of arguments. This part will cover the economic arguments in light of economic theory. There are clear economic advantages of having a common currency between countries, but at the same time certain factors need to be in place in order for a monetary union to be effective. A monetary union will do more harm than good if these conditions are not present, because a common policy and relatively homogenous countries in certain respects are important stabilizers for a currency area. It is therefore useful for the sake of evaluating the monetary union in Europe to identify what a successful, stable currency consists of and which factors support a successful monetary union. The theories presented in this thesis are the law of one price and its connection with the purchasing power parity theory, as well as the Optimum Currency Area theory. The former being the relationship between the general price level in the economy and how the exchange adjust to this, and with price stability being the most important economic goal for the monetary union the understanding of this mechanism is essential, the latter listing criteria for an optimum currency area with a neutral perspective without regarding traditional country borders. Europe is not a country but it can be an optimum currency area according to the theory which measures integration using certain parameters.

Critics have stated that economic reasoning was not the main driving force behind the establishment of the currency union, but rather a romantic idea of convenience and increased economic growth through establishing the monetary union with little evidence to support such claims. This will be discussed in the thesis but for now I will present the economic theory chosen as relevant for discussing the issue on a strict economic basis.

3.2 The Law of One Price and the Purchasing Power Parity (PPP)

As presented in the historical part of this study we will see that the conditions for countries to enter the Eurozone monetary union mainly involve the ability to preserve price stability in order to maintain a stable currency. This is done through the convergence criteria stated in the Maastricht treaty that countries need to fulfill before entering the Eurozone. It is therefore useful to address how the price level of a country is linked with the exchange rate.

"The law of one price states that in competitive markets free of transportation costs and official barriers to trade (such as tariffs), identical goods sold in different countries must sell for the same price when their prices are expressed in terms of the same currency." (Krugman & Obstfeld, 2009, p. 383)

The law of one price states that the price for the same commodity must be the same in two countries when using the same currency if there hypothetically were no barriers to trade or transportation costs present. The idea is that in a completely free market a consumer in one country will have the economic incentives to import the same good from abroad if it is more expensive domestically, resulting in pressure for a relative decrease in prices domestically and a relative increase in foreign prices until the prices are identical in both markets. This is of course in terms of the same currency. (Krugman & Obstfeld, 2009)

"The theory of purchasing power parity states that the exchange rate between two countries' currencies equals the ratio of the countries' price levels." (Krugman & Obstfeld, 2009, p. 384)

This statement says that changes in the domestic price level will result in appropriate changes in the exchange rate. For example an increase in the domestic price level will be followed by currency depreciation in the foreign exchange market. The reasoning behind the theory was done as early as in the nineteenth century by David Ricardo among others. Controversy has surrounded the theory but it does without a doubt involve factors that help explain why exchange rates fluctuate. (Krugman & Obstfeld, 2009)

The difference between these two theories is that the law of one price explains changes in the price of a single commodity, while the purchasing power parity applies to the general price level in the economy involving prices of all commodities. Thus, if the law of one price

applies to all products and services in the economy the purchasing power parity will hold as well. Supporters of the PPP theory states that it can hold even though the law of one price does not necessarily hold for all commodities. They state that although the law of one price fails for some commodities the exchange rate between countries will not deviate dramatically from the price level ratio between them. When facing a change in the general price level in the economy it will be accompanied by an appropriate push in demand for the products and currencies, resulting in movement towards the PPP relation. The conclusion is that when the law of one price does not hold the economic relations will help the currency restore its purchasing power. (Krugman & Obstfeld, 2009)

3.3 Optimum Currency Areas

In reality, the joining of the Eurozone currency region is the same as entering an area of fixed exchange rates. There are benefits and drawbacks of having a fixed exchange rate. The theory of Optimum Currency Areas by Robert A. Mundell addresses these issues. It mainly focuses on the degree of integration within the currency region. The higher degree of integration in the currency area the more effective it will be. (Krugman & Obstfeld, 2009)

3.3.1 Benefits of a fixed exchange rate area: The GG schedule

A great economic advantage of entering a fixed exchange rate system is the increased efficiency of transactions. When a country has its own currency that floats freely against another, economic trade between them becomes more complex. It increases the risk and uncertainty of the trading. Trading will also involve more work and become more time-consuming in the sense that more "unneeded" calculations need to be done. If a country enters the euro currency area for example, trading with countries within this area will involve less transaction costs and become more efficient. The currency risk will also be eliminated. The exact number of this gain is of course hard, if not impossible to measure. (Krugman & Obstfeld, 2009). The European Commission's estimations calculated it to be between 13billion and 20 billion euros each year however, which is about 0,25-0,5% of the total GDP (Grauwe, 2009). What is evident however, is that the more a country trades with the countries involved in the euro currency, the more the gain is for entering the fixed exchange regime present in Europe. A country that trades heavily with Europe has more to gain in fixing the exchange rate to the euro, than a country that does not. If factors of production can move freely between a given country and the euro area, the gains from fixing the exchange rate will also be higher. Both the investors investing in Europe, as well as people working in the euro area will gain more predictability. The increased price transparency may influence the price level. (Krugman & Obstfeld, 2009)

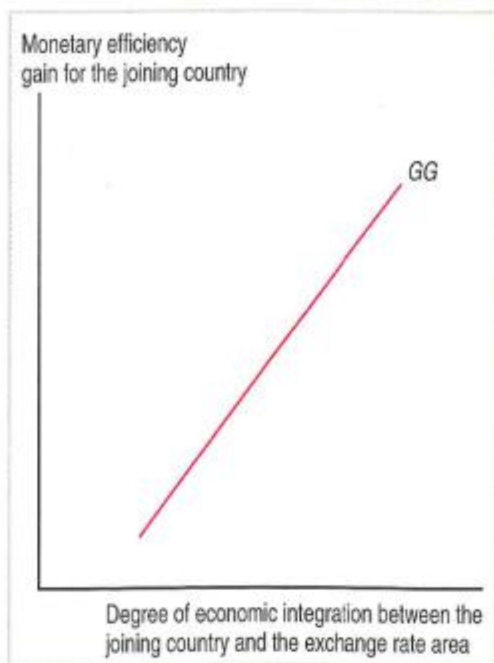

Figure 2: The GG Schedule

Source: (Figure 20-3, Krugman & Obstfeld, 2009, p. 576)

The figure presented above shows the relation between the degree of economic integration between the euro area and a given country wanting to enter the euro area (horizontal axis), and the benefits for the lone country of joining the monetary union (vertical axis). This curve is called the GG schedule. As shown this relation results in an upward sloping curve because increasing economic integration gives increasing monetary efficiency. Implicitly in this model there is an assumption that the euro area has a stable price level. If this is not the case, then the efficiency gain of joining the monetary union would be smaller. The unstable prices would then create uncertainty for the country. (Krugman & Obstfeld, 2009)

3.3.2 Costs of a fixed exchange rate area: The LL schedule

There are also costs of joining a fixed exchange rate area, no matter how stable the area is. An important one is the loss of monetary independence. Monetary policy and the exchange rate can be used as a tool for stabilizing the economy. Output and employment can be influenced through this. When entering a monetary union a country is no longer independent and cannot decide these issues alone. The result is a loss of economic stability. (Krugman & Obstfeld, 2009)

The stability loss that occurs when a country joins a fixed currency regime and the degree of integration with Europe in our case, are the key components of the LL schedule. The relation between these two needs to be understood before we can derive the schedule. The aggregate demand of a country is defined as: *"the amount of a country's goods and services demanded by households and firms throughout the world."* (Krugman & Obstfeld, 2009, p. 421)

Changes in the aggregate demand of countries happen frequently. It is important to address that a country will experience serious problems when having a fixed exchange rate and the aggregate demand of the country *alone* goes down. If the aggregate demand of European area in general goes down, the euro will depreciate in order to stabilize the situation. Thus, the problem is not as serious as if there is an exclusive drop in aggregate demand for the lone country. (Krugman & Obstfeld, 2009)

In a monetary union the effects of a loss in aggregate demand for a country within the union are greater. Or rather, one of the methods in order to restore the situation disappears.

When aggregate demand shifts from one country to another within a currency union, both countries will experience challenges. The country facing a negative shift will experience higher unemployment and reduced output. The country facing the positive shift will experience an upturn that will pressure the relative price level in the economy. Mechanisms to restore the situation back to par are wage flexibility, mobility of labor and monetary policy. (Grauwe, 2009)

If the wages are sufficiently flexible the country facing a loss in the aggregate demand will be faced with a loss in the wage rate. The aggregate supply curve will then make a shift

downwards and provide a new equilibrium point. Similarly the country facing the positive shock in aggregate demand will face an increase in the wage rate and a positive shift of the aggregate supply curve. A new equilibrium point will appear. The situation will be stabilized because the country facing the negative aggregate demand will have decreased production costs in producing goods cause of lower wages, making their products more competitive and increasing demand. The other country's products will face a loss in competitiveness because of cheaper products from abroad. (Grauwe, 2009)

Another mechanism that will restore the effects of an asymmetric shock back to normal is full mobility of labor. Here the restoration will happen through movement of labor from the country facing a drop in aggregate demand to the country facing the positive rise. This situation eliminates the need to change the wage level in the two countries. Unemployment problems for the country facing a negative shock will disappear, which will result in the removal of wage inflation in the country facing the opposite shock. (Grauwe, 2009)

The last way of restoring the situation and preventing inflationary pressures is through the monetary policy. This method cannot be done in a monetary union because the countries involved in it are not completely independent and thus able to freely use monetary policy. If the two countries facing asymmetric shocks had flexible exchange rates, they could simply have stimulated or reduced aggregate demand through reducing or increasing the domestic interest rate. The likely effect of this would have been a depreciation of the currency of the troubled economy and conversely an appreciation of the booming economy's currency. This would of course have implicated a change in the prices of their respective goods and thereby also changing the aggregate demand back to normal. (Grauwe, 2009)

In other words if wages are rigid and labor mobility is not sufficient, it will be hard for a country within a monetary union to react to asymmetric shocks. However through insurance systems it is possible to reduce the problems. This is done through transferring funds from the booming economy to the one having problems. It is important to notice that the insurance mechanism does not neglect the underlying problem whether it being rigid wages or low labor mobility. The insurance mechanism can, especially during permanent asymmetric shocks, create a moral hazard problem reducing the incentives to adjust wages. (Grauwe 2009)

The insurance mechanism can be done either through a public or a private system. The example made by de Grauwe of a public system is a system where a part of the two countries' government budgets is centralized, and a European government ensuring social benefits exists. In this case the country with a loss in output will accumulate less tax income to the European government, and the opposite for the other country. Social benefits costs will increase in the struggling country through larger degree of unemployment and conversely be reduced in the booming country. This will result in a stabilization of output over time back to normal. Another public insurance mechanism when not having centralized governments is simply through more careful behavior when a decrease in tax revenues through a lower output will increase the budget deficit and debt of the government. (Grauwe 2009)

A private insurance mechanism when being in a monetary union is done through the stock market. Here the asymmetric shock will be readjusted if the countries' two markets are fully integrated. The transfer of funds here is done through residents of the booming country paying part of the output loss in the struggling economy through loss of value in their foreign stocks. Conversely residents of the struggling economy having stocks in the other country will earn some of the output gain by having stocks in the booming economy. (Grauwe 2009)

The level of integration is the basis for how dramatic the effects of the shock are. The correlation is that a greater level of integration means a lower drop in prices and wages. The thinking behind is that in an economy closely integrated with Europe, a small drop in prices in a certain country would increase the demand for that country's goods in Europe. Another issue is that workers in that country can easily move to EU countries in order to find jobs in tougher times. In both cases, the result is a more swift movement towards full employment in cases of higher integration with the Eurozone. Conversely an increase in aggregate demand will be shifted back to equilibrium with a small increase in the price level. (Krugman & Obstfeld, 2009)

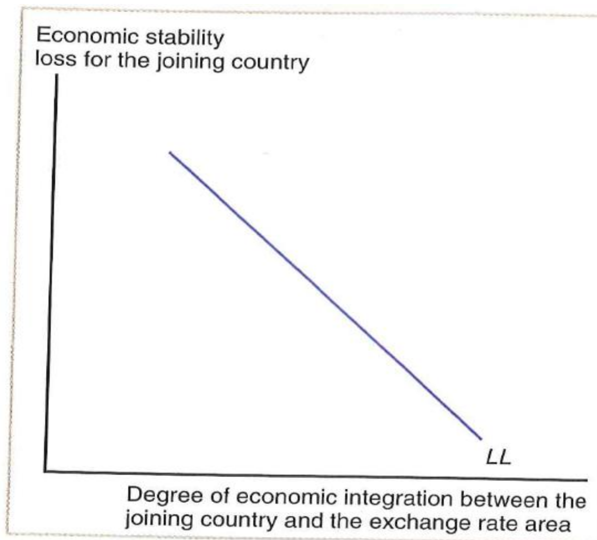

Figure 3: The LL Schedule

Source: (Figure 20-4, Krugman & Obstfeld, 2009, p. 579)

So the conclusion is that if a country introduces the euro currency, a high integration with Europe will result in a smaller stability loss if the economy is disturbed. These disturbances can be for instance changes in aggregate demand for a country's products. From this statement we can derive the LL schedule, which consists of the economic stability loss for a country joining a fixed exchange region on the vertical axis, and the degree of economic integration with that region on the horizontal axis. The downward sloping curve reflects the previous argument; higher integration means less of a stability loss. This is shown in figure 3. (Krugman & Obstfeld, 2009)

3.3.3 When to Fix the Exchange Rate: The intersection between the GG and the LL Schedules

When these two curves have been explained, one can put them together in the same diagram. Here we get both the positive gains from joining the fixed currency area, and the negative losses, as well as the crucial degree of economic integration with the area. The intersection of the GG and the LL curves provides an interesting point θ_1. At this level of integration with the fixed currency area, the gains equal the losses of joining the fixed currency. At a higher level of integration there will be a net gain by introducing the fixed exchange rate, and at a lower level of integration there will be a net loss by the same action. As long as the red GG line is above the blue LL line, it will be beneficial for the analyzed country to enter the fixed exchange rate area. These curves are in reality dynamic however. Shifts will occur for instance in changes in aggregate demand for a country's products. (Krugman & Obstfeld, 2009)

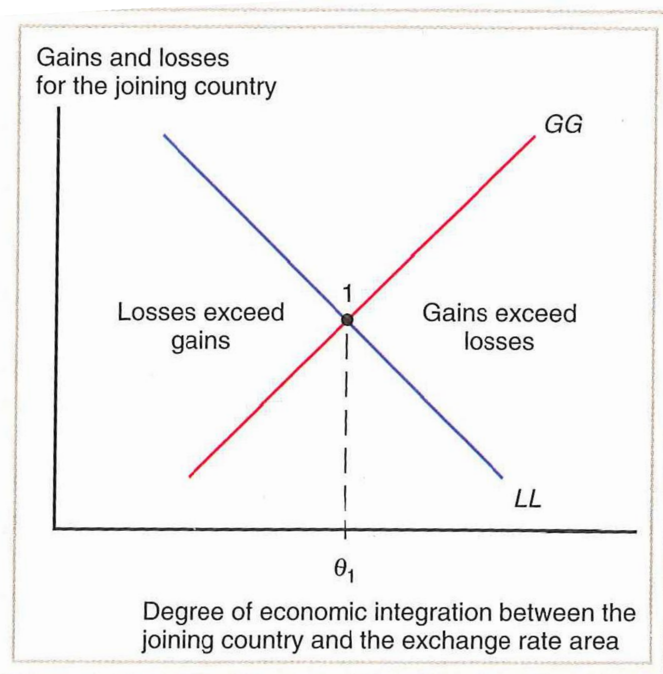

Figure 4: Intersection of the GG and the LL Schedules

Source: (Figure 20-6, Krugman & Obstfeld, 2009, p. 582)

So what the GG-LL model (figure 4) essentially conveys is that the more integrated an economic area is, the more beneficial it is to have a fixed exchange rate within this area. An economic area is not necessarily a country, usually an optimum currency area involve more than one country. Economic integration involves factors such as trade of goods and services and easy mobility of factors of production. (Krugman & Obstfeld, 2009)

A larger currency area is beneficial in the sense that the transaction costs are lowered. However, adding countries to a currency area does only give net gain when the marginal benefits exceed the marginal costs. Where the marginal cost and marginal benefit are equal for adding a new country represents the optimal size of a currency area. (Baldwin & Wyplosz, 2009)

3.3.4 The criteria for the optimum currency area

While the previous analysis was of a general character and mainly conveyed that the efficiency of a currency union depends on the net benefits for creating one, which is based on the degree of integration in the currency area, this section will more thoroughly address what creates efficient economic integration applicable in the optimum currency area.

The first criterion for the model is proposed by Robert Mundell, and is called labor mobility (Mundell, 1961). The thought process behind this criterion is that if factors of production (labor and capital) were completely mobile, the cost of sharing the same currency would be eliminated. With the assumption that capital is mobile the challenge is present in gaining labor mobility. It is explained as follows: When one country is facing unemployment while another is facing inflationary pressure, the problems can be solved through the movement of factors of production. The solution is to move capital and labor from the country with inflationary issues towards the country struggling with unemployment. An interesting note is that this movement does not affect prices or wages in these two countries. (Baldwin & Wyplosz, 2009)

The labor mobility criterion makes perfect economic sense. The reality is however more complex. As mentioned, capital is regarded as much more mobile than labor. Labor involves people moving, which is a relatively more complex process than simply moving capital. Moving labor across borders is of course more of a hurdle than moving within countries. Barriers such as language, culture and differences in institutions are often significant when moving to another country. Another issue is that countries specialize in producing certain goods because of different competitive advantages, making it more difficult for labor to move. It is not certain that an equivalent job that a worker enjoys domestically even exists in a foreign country. Finally, it is useful to address whether or not capital actually is mobile. While financial capital is rather mobile, the same cannot be said for equipment used in the production process. After all, a worker is seemingly useless without the proper equipment needed to do the job, which may not even be present in a different country. (Baldwin & Wyplosz, 2009)

The second criterion is presented by Peter Kenen and involves product diversification. If countries have a more diverse range of product that they produce, the frequency of asymmetric shocks will be greatly reduced (Kenen, 1969). The risk for asymmetric shocks is

far greater for a country specializing in one product, because changes in demand for that product will have dramatic effects for this country, while a country producing a wide variety of goods will not be greatly affected by demand shifts for a certain product. If members of a currency union are well diversified in their production, shocks will more likely be symmetric or have small consequences, and the need for interventions in the exchange rate will be smaller. (Baldwin & Wyplosz, 2009)

Ronald McKinnon has presented the openness criterion (McKinnon, 1962). The logic behind this statement is that countries trading heavily with each other will have less use of having different exchange rates. Prices will adjust automatically in an open market where it is easy to buy products from different areas. Competition will push the prices down regardless of what currency the countries might have. Relative to the currency used the prices will be the same in one country compared with another under perfect competition (Baldwin & Wyplosz, 2009). This criterion is of course linked with the law of one price and the purchasing power parity theories presented earlier in this part of the thesis.

Fiscal transfers can be an important tool in order to compensate for shocks. A large degree of cooperation between countries in fiscal policy will be beneficial for an optimum currency area. A country struggling with a negative shock in the economy will benefit from a fiscal transfer from another country engaging in a booming economy. Conversely the country which pays for the transfer will be expected to receive the same type of help if they should have similar problems. With a closely integrated fiscal policy one can create somewhat of an insurance system where countries in recessions will receive a transfer from a country with a booming economy, minimizing the effects of an asymmetric shock. (Baldwin & Wyplosz, 2009)

Another issue to take into consideration is the assumption of homogeneous preferences. Countries dealing differently with even a symmetric shock can be problematic. When having a single common currency, it is a great advantage to have a common agreement between countries on how to deal with shocks in the economy. There are no clear-cut answers on this – there are costs and benefits for each decision. Having a strong currency has its benefits and its costs, as does having a weak one. If there are serious conflicting opinions on these issues, the central bank will become controversial and whatever decision it makes can potentially harm the monetary union. (Baldwin & Wyplosz, 2009)

Finally there is a need for solidarity from countries within an optimum currency area. An important cause of conflict here is that the need for solidarity can conflict national interests. Within countries with independent currencies there are usually disagreements and discussions when officials decide on monetary issues. For the most part these decisions can be made because the inhabitants of the country are willing to sacrifice own needs in favor of the majority – or the most benefit for everyone. This is more problematic in a monetary union. A key issue is to make every member of the union understand that certain decisions needs to be done for the cause of everyone and to implement a feeling of togetherness and solidarity that surpasses the nationalism of the single country. (Baldwin & Wyplosz, 2009)

This is the basis for an optimum currency area to work perfectly. An optimum currency area is an area with a great degree of integration and cooperation between countries. The points presented in this section are however not in reality completely fulfilled, even within countries with an independent currency. There will always be some disagreements and perfect integration will most likely never happen. What these issues can shed light upon however is that the more integration and solidarity present, the likelihood of an efficient currency area increases.

3.3.5 Application of the optimum currency area model: Europe

Europe is probably the first region that comes to mind when thinking of a fixed exchange rate area involving many countries. As we know most of Europe has its own common currency, the euro. We can apply the theory presented earlier to the euro area. Although measuring the gains and losses of entering a fixed exchange rate area is not a correct science, some key numbers will give an indication. As the theory presented, the degree of integration is essential. (Baldwin & Wyplosz, 2009)

The Optimum Currency Area theory focuses on the effects of asymmetric shocks in the economy. A way of applying the theory to Europe is to address the frequency and importance of such shocks to find out if they are a serious cause of concern. The best way to speculate in this area is through analyzing the past which is by no means perfect, but it can serve as a guideline. Analyzing the use of national currencies to deal with shocks before the establishment of the EMU will be an appropriate way of doing this. It is important to note that changing the exchange rate is not always the result of asymmetric shocks, but also inflationary policies. Figure 5 is an overview based on the following question: *"Based on past experience, how much would European countries have adjusted their exchange rates vis-à-vis the center currency to deal with asymmetric shocks relevant to the three classic economic OCA principles of Mundell, Kenen and McKinnon?"*(Baldwin & Wyplosz, 2009, p. 330)

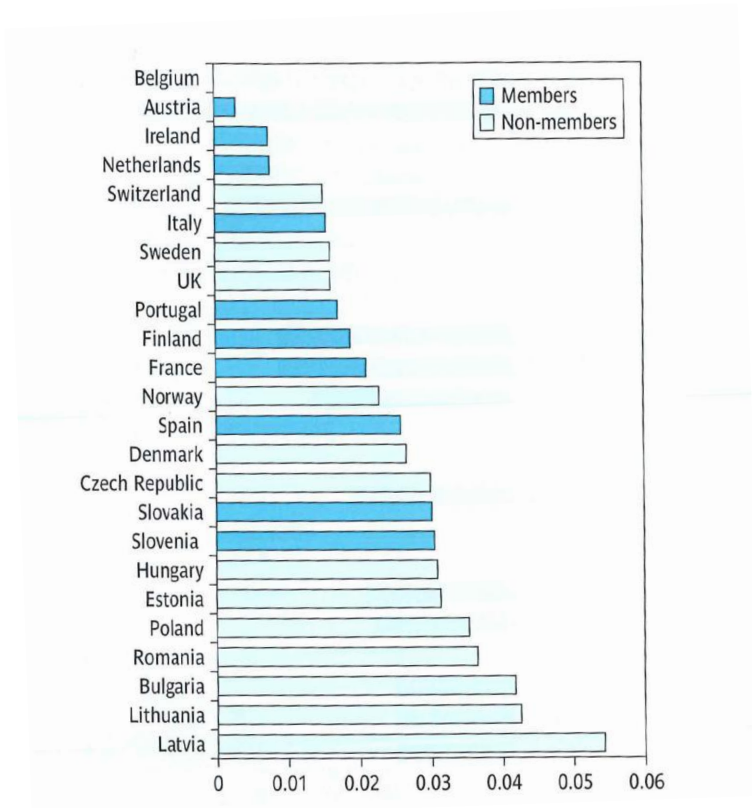

Figure 5: OCA index

Source: (Figure 11.8, Baldwin & Wyplosz, 2009, p. 331)

An interesting note from this figure is that the all of the "worst"-scoring countries appearing as non-members at the bottom of the figure are now new members of the EU. The difficult process of transition towards a market economy illustrates their low scores. (Baldwin & Wyplosz, 2009)

Openness to trade is essential in the theory and is the criterion presented by McKinnon. In smaller economies most of the goods that are produced and consumed are traded on the international market. In these cases changes in the exchange rate of the small country has no real effect because it is already adjusted into domestic prices. As expected, smaller countries tend to have a larger degree of trade internationally because of a small home market. This somewhat explains why the small countries throughout history have been the strongest supporters of a monetary union. Another measure of openness is trade intensity, measured by proportions of trade traded with a center country for old members of the union or with the euro area for new members. Most European countries have a satisfying amount of

trade in this category, making them eligible for joining a monetary union. (Baldwin & Wyplosz, 2009)

There are also statistics present involving the Kenen criterion that states that diversification of trade reduces the impact of asymmetric shocks, and that countries with similar production patterns enjoy less asymmetric shocks. A study divides trade into three general parts: agriculture, minerals and manufacturing. Again the comparison is made with a center country (Germany) for old members and the Eurozone for new members. There are few clear patterns here, other than the fact that two countries (Latvia and Denmark) that have not yet adopted the euro score the highest in dissimilarity of trade. (Baldwin & Wyplosz, 2009)

The labor mobility criterion proposed by Robert Mundell is important when measuring integration. Movement of labor to maximize employment in the economy is a powerful tool. Full mobility, meaning a sudden movement when economic incentives change, will never be doable in reality. The reason for this is because moving from one area to another involves risks to concern including possible unemployment, family issues, career issues, cultural differences, nationalism and a wide variety of other concerns. Getting another job is not like changing buying behavior from one product to another – it involves many issues to consider which not necessarily involve economic incentives. One way of measuring labor mobility is through the percentage of foreign-born population in comparison to total population. This is done in figure 6 (Baldwin & Wyplosz, 2009):

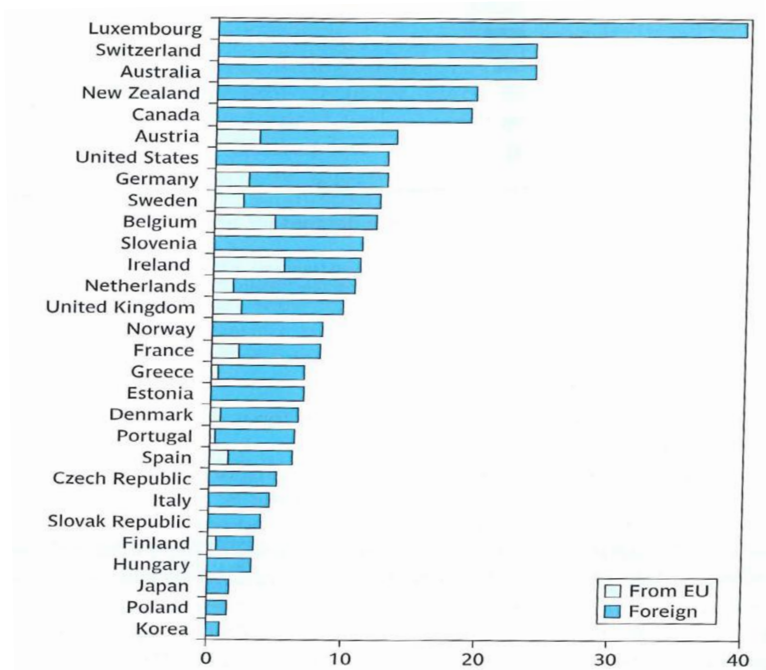

Figure 6: Foreign-born population as a percentage of total population, 2005

Source: (Figure 11.12, Baldwin & Wyplosz, 2009, p. 335)

A general tendency in this table is that most of the EU countries have a lower percentage of foreign-born people in their population than most other countries they can be associated with. (Baldwin & Wyplosz, 2009)

When compared with the US, Europe has greater regional unemployment differences which indicate lower degree of labor mobility. Also a study showed that in the 1990s people in the US switched regions a lot more often than people in a few selected European countries. This is true despite lesser border barriers since the creation of the union. The reason is greater cultural and language differences between countries in Europe than for instance between regions in the US. (Krugman & Obstfeld, 2009)

Another way of measuring labor mobility is internal migration, which means moving within the country. When compared to a currency area of a similar size such as the US, EU countries score low also in this respect, as can be seen in figure 7 below. What is even more discouraging when it comes to the term labor mobility is that only 5% of Europeans move for professional reasons. Personal reasons seem to be the dominant factor when Europeans move. (Baldwin & Wyplosz, 2009)

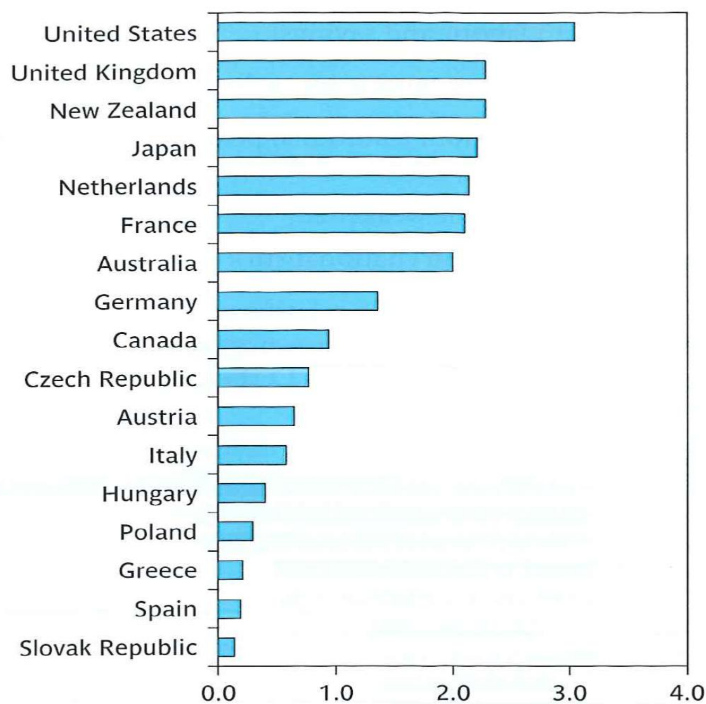

Figure 7: Internal migration across regions as a percentage of working-age population

Source: (Figure 11.13, Baldwin & Wyplosz, 2009, p. 336)

Some reasons why Europeans generally are rather immobile are easy to explain. Cultural and lingual barriers can be hard to overcome. Other, less visible issues can include differences in welfare systems. However when moving internally within the country these issues are eliminated. Still the Europeans seem less willing to move internally when for instance compared with the US. (Baldwin & Wyplosz, 2009)

From this analysis by Baldwin and Wyplosz it becomes evident that the Labor mobility criterion is far from fulfilled in the Optimum Currency Area theory.

When it comes to Fiscal transfers, the budget of the EU is too small to be efficient. The budget is approximately 1% of the GDP, and is spent on operating expenses, agricultural policies as well as support for the poorer regions. No transfer system to neutralize shocks is in place in the EU, and is not likely to come in the near future unless serious changes are made in the EU budget. (Baldwin & Wyplosz, 2009)

There are also little homogenous preferences in policy-decisions across Europe. There are vast differences in how they are dealing with economic events throughout different European institutions, which can explain why there are differences in economic measures such as debt and inflation. A strong European Union which sets restrictions upon its members may improve these conditions. This is not an easy process because of the nationalism versus solidarity problem. There are strong opposition against joint decisions for all members, especially among older members and in particular the Nordic countries. It is natural to think that this is because of trust towards the national government, because more unstable economies from newer members are more positive towards centralized control. They may also feel that they will gain from common welfare policies, which the Nordic countries are strongly against according to a poll of 2008. (Baldwin & Wyplosz, 2009)

Another obvious way of measuring the integration between European countries is to look at the degree of Intra-European Trade. That is trade of goods and services between European countries. At the launch of the euro in 1999 the general volume of trade exported to the other EU countries was between 10 and 20 percent for the majority of EU countries. This level of intra-European trade alone does not justify the immense impact of launching a joint monetary system (Krugman & Obstfeld, 2009).

Certain trade barriers from before might have influenced the level of intra-European trading. Many of those were removed in 1992, and often it takes time to adjust after such liberalization. Price differences have decreased during the 1990's, although there still are major differences in price in Europe. One study finds no evidence of further decrease in price differences after the adoption of the euro. (Krugman & Obstfeld, 2009)

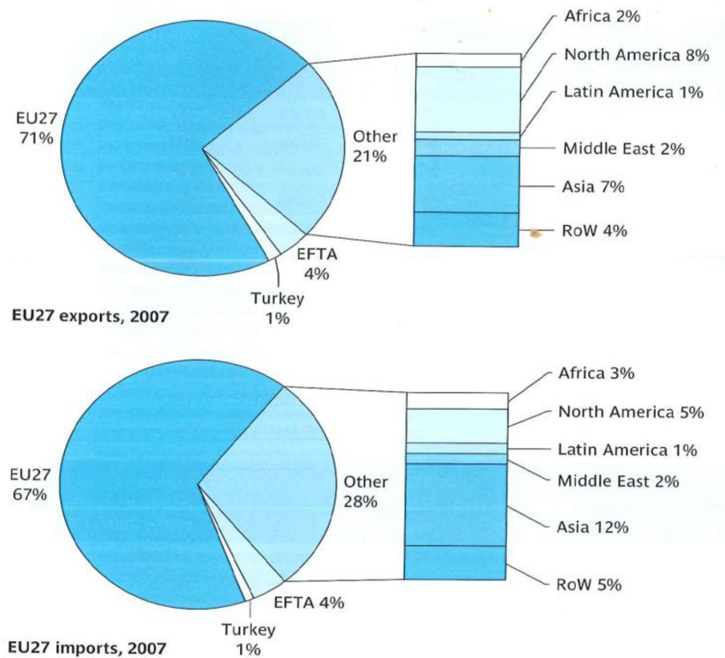

Figure 8: EU27 exports and imports by main partner

Source: (Figure 15.1, Baldwin & Wyplosz, 2009, p. 451)

Since the creation of the EMU there has been a trend of increased intra-European trade, which means increased integration. Figure 8 depicts the situation in 2007. From this, one can see that two-thirds of the EU27 exports are exported to other EU27 countries. When adding the EFTA countries of Switzerland, Norway, Iceland, and Liechtenstein in addition to Turkey, it becomes three-quarters. Outside Europe the main trade partners are North America and Asia. (Baldwin & Wyplosz, 2009)

When comparing the situation in 1999 to that in 2007 it is easy to see a massive increase in intra-European trade. It is however important to note that the 2007 figure includes the introduction of the eight countries from Eastern Europe in 2004, which of course will boost the level of intra-EU trade.

3.3.6 Criticism of the OCA-theory

The foundation of the Optimum Currency Area theory lies on the idea that demand for certain products can shift from one country to another. A question that is naturally raised is whether these shifts are less likely to occur in a monetary union. There are conflicting opinions on this, one by the European Commission and another by Paul Krugman. (Grauwe, 2009)

The European Commission states that these types of shocks are less likely to happen in a monetary union. The opinion here is that the high degree of intra-industry trade and economies of scale in the European market will lead to a situation where countries trade the same types of products with each other. The shocks in the market will then more likely effect more than one country rather than just one country alone. This is a symmetric shock. As presented in the theory demand shocks for one country alone is more dramatic for that country than a shock for the region as a whole. (Grauwe, 2009)

The other view comes from Paul Krugman. He emphasizes that the push for economies of scale will lead to more concentration of industries. This is exemplified by the automobile industry in the US, where a staggeringly high amount of production is located in the Midwest area. With the US being more integrated than Europe, greater concentration can be an effect of more integration. Because of this concentration the demand shocks for an industry will likely represent asymmetric shocks for single countries because a country or region might specialize in a certain industry. (Grauwe, 2009)

Both arguments are reasonable and have good points. One issue that points in favor of the European commission view is that when a region becomes more integrated, borders between countries are not as important as before. The result is that concentration of an industry will more likely than not pass national borders. For instance, the perfect place to concentrate an industry can be in Germany and France at the same time, and thus demand shocks in that industry will influence both countries. (Grauwe, 2009)

It is not known for sure what the effect will be of a monetary union on integration, but it is believed that it will increase the integration in that region. Also it is suggested that economic integration reduces the likelihood of asymmetric shocks. These assumptions seem

reasonable but it is still uncertainty concerning the magnitude of these relationships. (Grauwe, 2009)

There are also well-known differences in labor markets across countries, and these will most likely not fade through a monetary union. It would firstly require centralized supranational unions because they are different from country to country. Secondly monetary policies are not the only tool a national government has to influence employment. Generating jobs in the public sector financed through debt is an example. (Grauwe, 2009)

Additionally financial markets from country to country differ. This increases the risk of asymmetric shocks. The differences are mostly due to different legislations from country to country although this is not exclusively the case. Differences in monetary policies further widened the gap between different financial markets in the EU. Especially high inflation vs. low inflation seems to be important. Inflation has a dramatic effect on the investment in long-term bonds, in a negative way. With a high inflation there is significantly less investment in the long-term bond market. Countries with high inflation have more of their debt located in short-term debt. Italy can be an example of this before the introduction of the EMU. An interest increase affected Italy greatly in the short term because of their high inflation and thus high level of short-term debt, while other countries had little short term problems of an increase in the interest rate. This is an asymmetric shock because two countries react very differently to an "outside" shock. After the EMU these differences have disappeared because of similar monetary policies. Differences in legal systems are still present though and continue to have an effect on financial markets. Legal systems as of now are more rigid and more political integration from the EU is the only permanent solution to these more fundamental differences. (Grauwe, 2009)

Chapter 4: The Euro at the Present

4.1 Introduction

It is well known by everyone that the euro area has had its fair share of challenges in recent times. The recession that struck the world in the late 2000s was a global phenomenon that not only affected the US as it might have seemed by some media coverage. Europe suffered as well although the focus was mainly on the US at first. At the moment we constantly hear of European countries struggling. All Europeans have felt the effect of the economic downturn but certain countries, especially the southern ones, have been struggling more.

At the same time, the euro has been subject to criticism lately. Some economists believe that the euro currency as it works right now is not sustainable. Prophecies of its death have been increasing in numbers as more and more European countries have revealed that they are having tough times handling their debt. There is a fear of a domino-effect if one of the major economies in Europe has to surrender to their high debt. Arguments involve saying that the currency union works better in theory than in practice.

This part of the thesis will provide an overview of the financial crisis of the late 2000s with special emphasis on Europe. Central elements of the current debate surrounding the currency union will also be presented along, with a section covering a possible solution to the current situation.

4.2 The Ongoing Recession in Europe

The economic recession of the late 2000s was the deepest economic downturn since the Great Depression in the 1930s. It was similar to other economic downturns throughout history. The allowance of irresponsible spending and lack of regulations were key factors. The warning signs were there, but the belief that "this time is different" (Reinhart & Rogoff, 2009) (a term introduced by Kenneth Rogoff and Carmen Reinhart which also happens to be the title of their latest book, explaining the thought process before economic crises) made most people ignore them, and pushed the world into recession. The lack of regulations created an environment that allowed, or even rewarded, irresponsible economic behavior.

The massive increase in innovation in the financial system had a great impact on the crisis. The reality globally was that since the 1980s the innovation in the financial markets made it increasingly easier to perform financial transactions globally in the brink of a second, through computers and a range of other devices. The securitization market became increasingly larger and importantly for the run of the crisis it entered the mortgage market. This created principal/agent problems that placed the risk elsewhere than at the people issuing the mortgages. The mortgage market became more and more complex and thus decreased the transparency in the industry. (Knoop, 2010)

The global unsustainable trade imbalances were another cause of the crisis. The United States was performing massive trade deficits. These were made possible by budget surpluses of developed countries such as Germany and Japan, developing countries such as China and South Korea and the Middle Eastern countries. Such imbalances found place within the European continent as well. Germany ran budget surpluses financed by deficits in Britain, Italy, Greece, Portugal, Spain and Ireland. The surplus was also made possible through keeping down wages that limited domestic demand and boosted the exports. (Onaran, 2010)

The collapse of the infamous sub-prime mortgage market in the US triggered the global crisis. This market was the market for mortgages for people with low credit-ratings in USA. When the bubble burst and large banks that had invested in this market were failing it influenced the world negatively, not only USA. The role of USA as the biggest consumer in

the world had its impact on exporters globally. Results worldwide were generally a massive increase in unemployment and ordinary people losing the value of their homes.

The crisis made an impact across the Atlantic as well. The crisis shed light upon major flaws of the financial systems throughout the globe, also in Europe. Bank failures were common, most notably was the Northern Rock in the United Kingdom as one of the first banks admitting troubles. It culminated in a bank-run, something rarely seen in the UK.

What we have seen happened after the recession entered the private sector is a "movement" of the crisis from the private financial sector to the public sector. Through heavy intervention in the market in order to stabilize the situation the public tax money has been spent generously. According to Nouriel Roubini, Professor of Economics at Stern School of Business in New York, the "*socialization of private losses and fiscal laxity aimed at stimulating economies in a slump have led to a dangerous build-up of public deficits and debt. So the recent global financial crisis is not over; it has instead reached a new and more dangerous stage"* (Roubini, 2010, p. 34)

A few years after the crisis suddenly broke out it seems to be a general consensus that the crisis is not over – just moved from one place to another. Roubini believes from the quote above that it is even more dangerous than the initial phase of the crisis. He also has an elegant phrase where he states that *"The progression is clear: first came rescue of private firms, and now comes the rescue of the rescuers – that is, governments".* (Roubini, 2010)

It is also clear that this part of the crisis has been extra challenging for the Eurozone as an economic area with a wide variety of countries sharing the same currency, but lacking the political integration other countries have in order to perform swift intervention in the economy.

"What started as the Subprime Crisis in 2007 and morphed in the Global Credit Crisis in 2008 has become the Euro Crisis in 2009. " (Eichengreen, 2009b)

This quote by euro-critic Barry Eichengreen suggests that the financial crisis has turned into being an exclusive Euro Crisis. While this might be an exaggeration it is without doubt certain that the Eurozone has had unique challenges because of the EMU. As explained earlier in the theory part of the thesis, the presence of asymmetric shocks poses problems for a currency union. Adjusting the interest rates to cushion the shock becomes impossible for a

single country within the union because of the lack of independence. Asymmetric shocks will pose a greater threat to countries in a fixed exchange rate regime.

Globally the economy is recovering at the present. Most economic figures are pointing upwards and the majority of economists believe that the bottom of the recession has been reached. The problem in Europe however is the large government deficits and debt levels by the region as a whole and by some countries in particular.

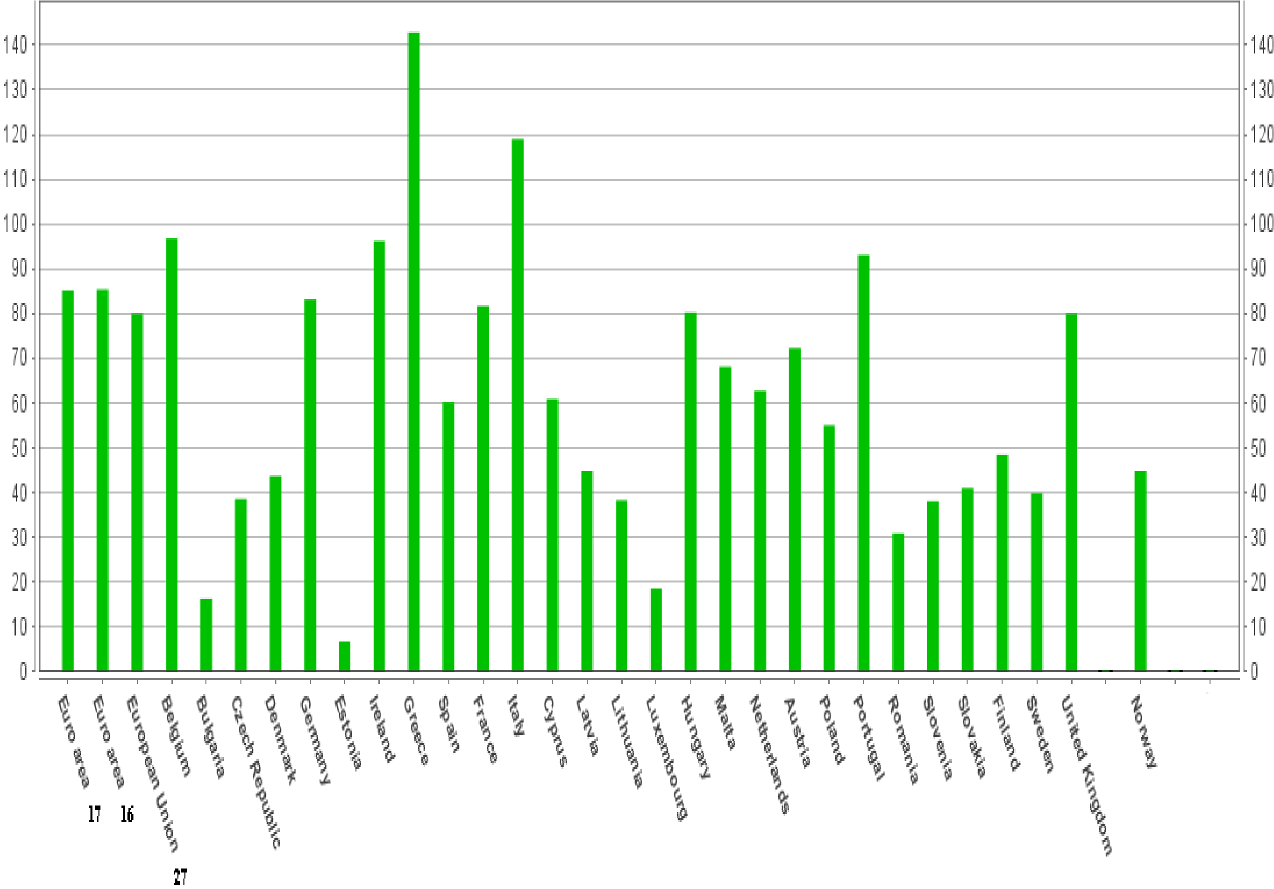

Figure 9: General government consolidated gross debt as a percentage of GDP

Source: (Eurostat, 2011a)

Figure 9 shows the government debt levels of 2010 as a percentage of the GDP for the European countries with data available on Eurostat. The euro area 17 bar to the very left of the figure includes Estonia which was included in the Eurozone at the 1st of January 2011. The euro area 16 bar excludes Estonia which was not in the Eurozone in 2010, the year these

statistics are gathered from. The European Union bar includes all the 27 members of the union. Whether one includes Estonia in the euro area statistics from 2010 or not, the Eurozone average debt level was slightly above 85% in either case. (Eurostat, 2011a)

The debt levels are generally high with many countries around the 80% mark. Some countries' debt levels are around or above 100% of their GDP which implies that the value of all goods and services produced annually equals the value of the governments' debt, which of course is a critical amount. The most severe situation is undoubtedly in Greece, a country followed closely by the world community at the moment because of rumors of debt defaulting and an exit out of the Eurozone. Whatever the speculations it is easy to acknowledge the seriousness of the situation – Greece had, as shown in figure 9, an incredible 2010 debt to GDP ratio of above 140%. The country that faced the largest deficit in 2010 however was Ireland with a deficit of 32.4 % of GDP. (Eurostat, 2011b)

A term called "PIIGS" has been created in the discussion over the crisis in Europe, reflecting the countries with the most severe problems. These are Portugal, Ireland, Italy, Greece and Spain and they have been the main recipients of the rescue package that Roubini names "*the mother of all bailouts"* (Roubini, 2010, p. 34) from the EU and IMF. (Roubini, 2010)

The package came by in May 2010 and included €750 billion in loans made available for countries facing liquidity problems. This came in addition to the previous €110 billion package for Greece. The total amount of it together was then €860 billion, or above $1 trillion. (Gros & Mayer, 2010)

The situation in Europe is monitored closely by the world community. News is flooding with rumors of countries defaulting on their debt or leaving the Eurozone and the potential catastrophic consequences that these scenarios might have. The situation feeds an ongoing heated debate that is presented in the next section of the thesis.

4.3 The Debate over the Currency Union

Background

The criticism against the EMU has roots way before the introduction of the euro. Already before the planning phase when there was just loose talk of the EMU, the monetary union was subject to critical voices.

Many US economists have always been especially negative towards the idea of a common currency across Europe. At the time when the monetary union was in the planning phase US economists voiced their opinion, both Federal Reserve economists and academic economists. The Federal Reserve economists were generally more positive of the EMU than what was the case among academic economists. (Jonung & Drea, 2010)

The optimum currency area argument, the Maastricht Treaty, and fiscal federalism were "popular" features to criticize among the academic economists during the time before implementation of the currency union. The discussion on the Maastricht Treaty mainly revolved around the speed of entry of the member states. It was thought that the most reasonable way of achieving monetary integration was through creating "groups" of countries entering the EMU at different times depending on their chance to meet the convergence criteria. A general consensus seemed to involve the unlikelihood of having all the twelve member states join the EMU at the same time at launch date in 1999. Another argument among the academics was the danger of not including a federal fiscal system in the Maastricht Treaty. (Jonung & Drea, 2010)

The Optimum Currency Area theory and its criteria that were presented in the theory section of this thesis has been the base for much of the criticism of the EMU. Eichengreen (Eichengreen, 1991) found out in a study in 1991 that exchange rate variability was higher in Europe than in the United States, and that the United States was superior to Europe in labor mobility and thus implying that Europe were not an optimum currency area. Other studies concluded similarly. (Jonung & Drea, 2010)

Another point on the agenda was the absence of a fiscal federalist system to neutralize asymmetric shocks within Europe. The United States had a well-functioning system for this and studies found that fiscal transfers had significantly reduced the impact of regional shocks

in the economy. It was also assumed that Europe would face more severe regional shocks than what would be the case in the United States. (Jonung & Drea, 2010)

Later in the process when it became clear that the euro was to become a reality the debate somewhat switched. In the beginning it was said that the euro could not happen at all. After acknowledging that it actually would happen, the American economists continued to voice skepticism and said that it was a bad idea. Many of the same arguments as earlier were dominant. The argument stating that the EMU was made on the basis of politics and not economics was still to be heard as well as the lack of an optimum currency area. Optimism among some of the American economists was to be found however; the effect of the EMU itself as a booster of integration was unknown and could have been underestimated. (Jonung & Drea, 2010)

After the euro went into practice and had existed for some years without large problems, the criticism somewhat dried out. Firm critics were still dubious to the idea arguing using the OCA theory but the euro surviving without many of the predicted problems made the pressure from the mass lessen. (Jonung & Drea, 2010)

The financial crisis of the late 2000s has underlined some of the weaknesses of the EMU as it works in the present, and the criticism is now flourishing again. Many of the critics from before are now voicing their skepticism and concern for the future of the monetary union in Europe. The criticism today still has relevance to the Optimum Currency Area theory. Many of the central points of this theory represent the core of the current debate. Once again it is claimed that the degree of integration is crucial for a currency union to prevail. Many of the arguments used 10-20 years ago are still used today.

Criticism by Paul Krugman

Paul Krugman is a well-known and respected economist worldwide. He won the famous "Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel in 2008". This was given to on the basis of *"his analysis of trade patterns and location of economic activity"*. (nobelprize.org, 2011)

He is a regular columnist at the New York Times. In January 2011 he expressed his concern for the situation in Europe in an article called *"Can Europe Be Saved?"* (Krugman, 2011)

He begins by stating that during the first phase of the crisis the European economy was showing its social advantages in dealing with the crisis. Europe faced a similar shock in the economy as that of the US, but with seemingly less social consequences. Regulations governing labor security and unemployment benefit programs ensured that the social consequences in the first phase of the crisis were less than what was the case in the US, he says. (Krugman, 2011)

During the second phase of the crisis Krugman believes the weaknesses of the European model are being underlined. He blames the euro for the current problems: "*the architects of the euro, caught up in their project's sweep and romance, chose to ignore the mundane difficulties a shared currency would predictably encounter — to ignore warnings, which were issued right from the beginning, that Europe lacked the institutions needed to make a common currency workable."* (Krugman, 2011, p. 1)

In this quote Krugman conveys that the idea of a monetary union in Europe was a bad idea from the start, and questions the decision-makers' consideration of the economic arguments behind the creation of the euro. The lack of basic institutions had sealed the euro's fate right from the beginning according to Krugman.

Further in the article Paul Krugman addresses the recurring argument of the lack of flexibility in the monetary union. He exemplifies it with Spain, a country facing a difficult situation at the moment. During the housing boom before the crisis wages and prices were pushed upwards and now Spain needs to cut the costs back down. This is a painful process for a country without its own currency, as wages are rigid. No one in Spain is interested in being the first one having to accept a lower wage. If Spain hypothetically had its own currency a

devaluation would be an easier way of restoring the situation; studies have shown that a devaluation offers an instant reduction in relative wages, Krugman says. It is an instant reduction in the wages instead of doing it "one-by-one". (Krugman, 2011)

Krugman then starts an interesting comparison between Ireland and the state of Nevada in the US. They share many similar characteristics: Both have populations of a few million people and they are heavily dependent on trade with neighboring areas whether it being Europe for Ireland or other US states for Nevada. Both were also struck similarly by the crisis; large housing bubbles burst and they face a similar level of unemployment at the moment. Yet the situation in Ireland seems much more serious. The reason for that, Krugman argues, is that much of the spending that Nevada is dependent on is paid federally by United States as a whole while Ireland has to pay for the loss by its own without any help from the rest of Europe. Another advantage of Nevada that Krugman emphasizes is the likelihood of the unemployment issues being solved by migration – or labor mobility. Historically Americans have been extremely mobile and unemployment in Nevada will likely be reduced to the US average within a few years. (Krugman, 2011)

The above paragraph illustrates the continuous actuality of the Optimum Currency Area theory. The fact that much of Nevada's spending is paid for federally is in effect a fulfillment of the fiscal transfers criteria in the theory. The greater degree of migration in the US in comparison with Europe suggests greater labor mobility, another important criterion in the theory that helps neutralize the effects of asymmetric shocks in the economy. The criticism of EMU from Krugman derives from inferior integration in Europe when compared with USA: "*America, we know, has a currency union that works, and we know why it works: because it coincides with a nation — a nation with a big central government, a common language and a shared culture. Europe has none of these things, which from the beginning made the prospects of a single currency dubious.*" (Krugman, 2011, p. 6)

Paul Krugman also questions what happened with the European bond market after the launch of the euro, exemplified by Greece. Greece has a controversial history when it comes to debt defaults and inflation, and this has been notable in their interest rates; investors justifiably would only buy bonds from Greece if the Greek government paid back with an interest rate reflecting the investment risk, which in practice meant an interest rate significantly higher than "safer" European governments such as Germany. This pattern

changed when the euro came about however. The market seemed to believe that the European Central Bank would minimize the risk of inflation and thus the risk premium for buying Greek bonds was decreasing. Similar scenarios were observed in other European traditional high-risk countries: confidence in the euro as a market stabilizer made these markets seem almost as secure as for example Germany. The interest rates converged. In effect this led to heavy borrowing for the traditional high-risk countries which led to an overheated economy. When the crisis set in and the housing market collapsed, the nature of the European welfare system posed great costs to the governments in the form of unemployment benefits. The construction industry that had been a massive part of the economy before the crisis stagnated and the result was mass unemployment. The culmination of these reasons explained why investors lost faith in these markets, Krugman says. (Krugman, 2011)

Finally in explaining the concern of the current situation Krugman mentions USA and Britain. These countries have proportionally comparable budget deficits to the struggling European economies but they do not struggle with the same loss in confidence. The reason is that they do not have the euro and may use monetary policy to restore the situation. The countries in the Eurozone however have to painfully deflate their economies to restore the wage levels back to normal according to Krugman. This of course will raise the value of the debt which will further increase the reluctance towards spending money, downgrading economic activity even more. Even less confidence by investors will be the result which will increase the interest further. It becomes a negative spiral, Krugman concludes. (Krugman, 2011)

This article by Paul Krugman highlights the core of the ongoing debate. The OCA theory still has great relevance. The criteria such as for instance labor mobility and fiscal transfers are not nearly as fulfilled in Europe as in the US. Many economists believe that this is a great threat to the monetary union.

Criticism by Barry Eichengreen

A name that seems to be recurring in this debate is Barry Eichengreen. Eichengreen frequently publishes articles and commentaries on world economic events at the forum for leading world economists called VoxEU.org. He is Professor of Economics and Political Science of the University of California Berkeley (VoxEU.org). He was skeptical of the grounds for establishing the monetary union before it went into practice, and the recent events have of course not made him change his mind.

In the article *"Was the Euro a mistake?"* (Eichengreen, 2009b) he suggests that a part of what we are currently observing in the Eurozone is exactly what American economists warned Europeans about in the 1990s – asymmetric shocks. *"Countries like Greece with debt and deficit problems have been singled out by investors who are now fleeing everything that emits the slightest whiff of risk. Similarly, the countries with the biggest housing bubbles, such as Ireland and Spain, are now suffering the most serious slumps as their bubbles deflate problems ramify through their financial systems."* (Eichengreen, 2009b)

He also states that from the beginning when the idea came about, critics believed that if such shocks would hit heavily indebted countries they would have problems without a fiscal transfer system. The only option in such circumstances would be deflation and double figures of unemployment for the countries involved. He adds that the shock with asymmetric implications recently experienced will become more symmetric as time goes by and appropriate responses in the market has to be made. There might be some degree of asymmetry but all the countries in the Eurozone are likely to be affected by the shock (Eichengreen, 2009b). It is useful to notice that this article was written before the enormous bailout package of May 2010 which he somewhat anticipated.

In another article written a few months later called *"The crisis and the Euro"* (Eichengreen, 2009a), Eichengreen again discusses the role of the euro as a problem when facing asymmetric shocks. This time he also focuses on positives for being in the currency union however, or more precisely the risks of potential exit. There is a temptation to exit the union for certain members he acknowledges, but a fear of being discriminated against economically is significant. A devaluation in order to reclaim competitiveness from a country leaving the union could be seen as a form of betrayal and an "exporting of problems". He says: *"More generally, the current downturn, like all downturns, has intensified the pressure*

for governments to support embattled domestic producers with concessional loans and subsidies. Those policies threaten Europe's signal economic achievement, the creation of a true single market in which producers in EU countries compete on an equal footing." (Eichengreen, 2009a, p. 8). He continues by saying that there is no mentioning of an exit option for a member when it comes to the EMU. The only option would then be to leave the entire European Union something Eichengreen believes would not be taken lightly by a member.

Eichengreen also mentions that it is not necessarily true that it will be easier for a country to have control over their finances through a reintroduction of the national currency. He says that previous studies have suggested that interest rates for sovereign bonds rise faster in relation to the budget deficits/debt ratios in countries outside the Eurozone. The investors seem to regard the governance from the ECB positively when deciding their investments. He finally reminds readers of the immense technical barriers of such a drastic movement. All mortgages and credit-card debts would need to be readjusted. He questions which government that would be willing to put their country through these possible risks. (Eichengreen, 2009a)

Optimistic views

Although it is evident that the Eurozone at the present are in the midst of a major crisis and facing numerous challenges, something everyone seems to agree with, there is also optimism to be found. Erik Jones expresses such a view in the article *"The Euro and the financial Crisis"* (Jones, 2009).

In this article Jones believes it is useful to look at the broader picture of the situation. He criticizes the tendency that the commentators have of looking at the economic data exclusively. When doing that a dark picture of the situation appears, he admits, but the situation is not as critical as some articles seem to believe: *"The closer one looks at the problem, the worse it becomes, particularly if the economic data are to be believed. Nevertheless, there is good reason to believe that the situation is much better than most commentators are willing to admit. The trick is to dissect the economic analysis, much of which not only exaggerates the significance of recent trends but also underestimates or ignores the costs and benefits of the most likely alternatives."* (Jones, 2009, p. 42)

When analyzing the current events Jones emphasizes that the currency union is not as weak as many seem to fear and he also claims that the alternatives of the euro are far worse. *"Far from engendering conflicts, the single currency has diffused them. Along the way, it has also insulated politicians from being forced to make inevitably unpopular and difficult choices. Thus, the Eurozone is more likely to get larger than it is to get smaller."* (Jones, 2009, p. 42)

Jones follows by comparing Italy to Britain – one economy within the Eurozone and another outside. When comparing the relative labor costs of the two economies one can find interesting implications. From 2000 onwards, which was close to the start of the currency union, Britain's competitiveness in terms of labor costs have remained much the same while Italy scored worse in the same measure. This would suggest that Britain had profited from not entering the currency union. However when using the same measure from 1990 onwards the overall image is turned up-side down. In the transition phase to the monetary union Italy focused their efforts on gaining entry and Britain, being outside of the monetary union, did not emphasize the convergence criteria. The result was a rise in the relative labor costs for Britain in comparison with Italy. (Jones, 2009)

While this is a rather narrow scope the preceding example reminds us how economic data can be "manipulated" in order to end up with a preferred result. By choosing a different year as the base year the results are completely different, and it can be hard to know which ones to trust. Obviously both are correct – but which one gives the more accurate description of changes in competitiveness, Jones asks. (Jones, 2009)

Jones also mentions the advantage of greater liquidity within the Eurozone: *"One of the major benefits of joining the eurozone is that it has offered members both greater liquidity and a lower cost of capital. For highly indebted countries such as Italy, Greece or Belgium, this meant that they could borrow larger amounts at longer maturities and lower prices in "domestic" currency. During the months leading up to the start of the single currency, interest rates on long-term sovereign-debt obligations across the eurozone converged to within one-half of one percent."* (Jones, 2009, p. 47)

It is rather peculiar to compare the above statement to what Paul Krugman said in his criticism. Krugman claimed that the convergence of perceived risk was a dangerous trap, while Erik Jones addresses it as one of the major advantages for members of the Eurozone. The same argument is used both for arguing in favor of the EMU, as well as against the currency union.

As many others, Erik Jones uses Greece as an example for explaining the worsening of the situation. The Greek government bonds yield a much higher interest rate compared with Germany at the moment as the creditworthiness goes down. Despite this Jones focuses on the alternative being worse: *"The Greek government's default risk is increasing, but the point to note is that it would surely be higher outside the single currency than it is now. Although the yield differential with Germany has increased, this is largely due to the fact that while Greek sovereign-debt yields have been relatively stable, German sovereign-debt yields have gone down. As a result, Greece is still paying a lower interest rate on its long-term debt than it was just before it joined the single currency in 2000. The relative cost has increased but the absolute cost has not."* (Jones, 2009, p. 48)

The problems are of course at the present a lot worse than when Jones published his article in 2009. The differences in yields between Germany and Greece are enormous. It is hard to say if the problems would have escalated outside the Eurozone.

Jones states that the countries within the Eurozone benefit from the liquidity in the European market, and claims that leaving the Eurozone would pose higher borrowing costs and volatility in the exchange rates than what is true at the moment. (Jones, 2009)

Erik Jones ends his paper by saying countries outside the Eurozone envy the situation inside it especially when it comes to the liquidity issue. He refers to the EMU as a protection against the events that shook the world economy in the financial crisis. Removal of exchange rate volatility, eliminating the need to make unpopular decisions, lower cost of borrowing and providing incentives for reasonable economic behavior are benefits that he believes countries inside the currency union can enjoy. He does not neglect the fact that the Eurozone are experiencing tough challenges however, but he chooses to focus on the advantages of being inside the Eurozone instead of with the alternative.

Opimism from the European Central Bank

The European Central Bank focuses on the achievements already made by the EMU in the conference paper *"The Euro at Ten – Lessons and Challenges"* (ECBank, 2009). This was a conference with focus on the euro at the ten year anniversary of the EMU.

In the conference paper Francesco Paolo Mongelli from the ECB and Charles Wyplosz from the Graduate Institute of International Studies in Geneva point out the main achievements. (Mongelli & Wyplosz, 2009)

The main achievement mentioned by the Maastricht Treaty was price stability. The major motivation behind the convergence criteria for countries entering the monetary union was price stability as well. The mentioned authors have analyzed the effect on the currency union on price stability. (Mongelli & Wyplosz, 2009)

They present a table of inflation in the post-war decades in Eurozone countries and compare this with the level of inflation in the ten years that the euro has been active. The table shows only with certain exceptions that the inflation rates of the five decades before the launch of the euro have been higher than the inflation rates of the decade between 1999 and 2008. Wyplosz and Mongelli do acknowledge that these results may come from the fact that when the inflation rates decline, the absolute difference in inflation rates will decrease subsequently which does not indicate that inflation rates have been converged. Through using the coefficient of the variation they find out that the inflation rates have in fact converged. They even find out that the dispersion of the inflation rates similar to the levels in the US, and more stable. The table for the inflation rates is presented below in figure 10. (Mongelli & Wyplosz, 2009)

	1949-58	1959-68	1969-78	1979-88	1989-98	1999-08
Austria	8.9	3.1	6.0	4.0	2.6	1.9
Belgium	1.4	2.4	7.1	5.0	2.3	2.0
Finland	6.1	5.0	9.9	7.4	2.7	1.7
France	6.2	3.8	8.4	8.1	2.2	1.7
Germany	1.1	2.3	4.7	3.0	2.7	1.6
Greece	7.7	1.9	10.7	20.0	12.2	3.2
Ireland	4.0	3.3	12.2	10.3	2.6	3.7
Italy	3.1	3.4	11.1	12.0	4.6	2.3
Luxemburg	2.6	2.0	6.3	4.8	2.5	2.4
Netherlands	4.1	3.5	7.4	3.2	2.3	2.2
Portugal	0.8	3.4	15.5	18.7	7.0	2.9
Spain	6.1	6.3	13.0	11.1	4.7	3.2
Denmark	4.0	5.2	8.7	7.4	2.3	2.1
Sweden	4.4	3.6	8.1	8.0	3.9	1.2
Switzerland	1.1	2.8	4.9	3.3	2.6	0.9
UK	3.8	3.1	11.8	8.0	4.3	2.7

Figure 10: Post-war inflation rates: in Europe ten-year annual averages

Source: (Table 1, Mongelli & Wyplosz, 2009, p. 28)

Mongelli and Wyplosz find the comparison with the US quite surprising. One reason they point out is different fiscal policies. In the US there are strict rules concerning states running deficits, while in Europe fiscal policy is something mostly done by the individual countries. Another reason is the assumption that Europe is more prone to asymmetric shocks than the US. There is also a possibility that the launch of the euro was not a period of equilibrium in the exchange rate market for Europe in comparison with the US, where states would likely have made adjustments a long time ago. Lastly it might be that exchange rate equilibriums have actually changed due to lower developed countries in Europe "catching up" with the higher developed ones. In the US there is more homogeneity of development between the states than what is the case between European countries. (Mongelli & Wyplosz, 2009)

Mongelli and Wyplosz admit that it is hard to tell if the period between 1999 and 2008 was a period characterized by less shocks than the previous period. No matter what the conclusion to that is, the price stability discussion is concluded with saying that the period with the financial crisis undoubtedly has a massive shock in the economy to deal with. *"The 2007-08 combination of rising commodity prices (that subsequently declined rapidly) and the financial crisis amounts to a massive shock and a serious challenge for the ECB (as well as other central banks)".* (Mongelli & Wyplosz, 2009, p. 30)

On the euro's influence on growth there previously was a fear that the ECB would fight inflation to such an extent that it would hinder economic growth. This turned out to be an unneeded fear however. The growth rates in the first decade of the euro are varying from one country to another, an indication that monetary policies did not have an effect on the outcome on growth according to Mongelli and Wyplosz. (Mongelli & Wyplosz, 2009)

The effects on trade are also being analyzed in the paper. The euro has probably increased the intra-European trade by 5%, something considered substantial by the authors seeing that the intra-European trade has risen for five decades in a row before implementation of the euro. This quoted paragraph sums up the conclusions by the authors on the trade effects of the euro: *"The value of imports and exports within the euro area increased from about 26% of GDP in 1998, the year before the euro was introduced, to 33% of GDP in 2007. In the same period, intra-euro area services trade also went up, rising from 5% to 7% of GDP. Since 1998, the year-on-year growth of euro area exports of goods to the three EU15 countries that have not adopted the euro has been 3% lower on average than the year-on-year growth of exports within the euro area. Extra-euro area trade has grown more than intra-euro area trade, an indication that the euro has not had a trade-diversion effect, as was sometimes feared. Hence, there is no "fortress-Europe"".* (Mongelli & Wyplosz, 2009, p. 32)

The euro has also resulted in beneficial welfare effects, it is claimed. The price stability and low interest rates have made it easier to manage high debts and the integration of trade has benefited both the consumers and the companies. The danger of attacks on national currencies has been removed as well. (Mongelli & Wyplosz, 2009)

Furthermore, Mongelli and Wyplosz devote attention to what they believe are unfulfilled threats to the euro. Before the launch of the euro there was a lot of doubt in the euro's ability to overcome certain challenges.

One of these challenges was the credibility problem of the ECB. Skeptics feared that the ECB had to earn its credibility through proving itself and thus possible leading to a slow rise in credibility of the ECB. This would result in the market believing in high inflation, above the actual inflation rate, which would lead to a problematically high interest rate. This was cleverly dealt with by adopting the Deutche Bundesbank's strategy, resulting in an inheritance of the Bundesbank's credibility. (Mongelli & Wyplosz, 2009)

Another of the unfulfilled threats as stated by the European Central Bank is the national fiscal policies, something that has always been at the center of the currency union debate. The Stability and Growth pact between countries in the Eurozone which requires that national deficits should not surpass 3% of GDP under normal conditions has enforced discipline, it is claimed. This is not a binding agreement but merely a guideline that has loosened up over the years as it was too rigid originally according to the authors. The extraordinary conditions needed to violate the pact have been broadened. (Mongelli & Wyplosz, 2009)

The last point of unfulfilled threats pointed out by Mongelli and Wyplosz is the so called Walters Critique, stating that a unified monetary policy will result in a more expansionary policy in high inflation countries and the opposite in low inflation countries. As pointed out earlier in this section the inflation rates in the Eurozone have actually converged. (Mongelli & Wyplosz, 2009)

A remark that needs to be made is that this conference was in late 2008 – a time where the international crisis had broken out, but the severity of the Eurozone was not perhaps known to the same degree that it is at the present. This does not neglect the accomplishments that the euro has made pointed out by the ECB however. The conference brings up some interesting arguments about the positive sides of the creation of the euro.

Summary of the debate

The debate over the currency union is a debate that most likely will be going on a long time, at least until some kind of resolution to the crisis comes around. A currency union in Europe has without doubt both costs and benefits and there will always be critic voices heard. It is only natural that the debate has heated up right now during the greatest challenge of the EMU so far.

The critics of the monetary union are mostly arguing with the basis of the Optimum Currency Area theory. According to them the lack of integration between the Eurozone countries makes the EMU tough to sustain. The lack of labor mobility and fiscal transfers in particular is the reason for this.

There is a clear tendency from the critics to compare the Eurozone with USA. That is fair given similar sizes of the economies. When doing that everyone ends up with the same conclusion: USA is far more integrated than Europe economically, politically as well as culturally. That is no surprise however, given that the US is one country with the same language and for the most part a similar culture. There is also a national government performing many economic and political decisions for the individual states. Europe on the other hand includes many countries with completely different languages and cultures. In addition to that there is a lot more independence in political decisions for a European country than what would be the case for an American state. If the US is the benchmark for economic and political integration, Europe undoubtedly still has far to go. The fairness of comparing a single country with a continent having a common currency governed by a supranational organization in terms of integration is a question that of course can be raised. When doing such a comparison it is likely that Europe will always lag behind the US, unless Europe becomes a single country, something that is hard to imagine in the foreseeable future.

The other side of the debate mostly consists of the accomplishment made by the euro, and the lack of realistic alternatives. It is clear that the cooperation of the euro has had favorable effects such as low inflation and an increase in trade within Europe. It has also provided a safe and stable currency for the countries involved. In addition the alternatives are not favorable according to the pro-euro arguers. The alternative national currencies will inevitably lead to politicians having to make unpopular choices. The liquidity provided in the Eurozone is also a positive feature it is said.

There are many voices in this debate but the arguments seem to be similar to the ones presented here. Generally speaking the OCA theory is the basis for the critics while the accomplishments made by the euro as well as the worse alternatives are arguments at the other side of the table. I have presented the main arguments on both sides of the debate in this section in order to shed light upon the benefits and costs of the currency union. It will be interesting to see how this debate evolves and what the outcome of the current struggles will be.

4.4 Possible Solution

Some articles are devoted to finding a solution to the troubling situation at the moment. And by solution they mean a sustainable solution – one that will help the Eurozone overcome similar challenges that we are seeing now in the future. While the bailout package stimulating the economy given by the EU and the IMF is a reactive and a temporary solution to the problems, the authors of the articles I will be referring to in this section attempt to go to the root of the hardships.

In the article "*A European Mechanism for Sovereign Debt Crisis Resolution: A Proposal*" a panel of experts express their view on this issue: *"We agree that the euro area needs a mechanism for dealing with sovereign debt crises in an effective and predictable way. Even the most sophisticated and most effectively enforced set of fiscal rules will not eliminate the possibility of future debt crises in the euro area. One of the main problems of the crisis of 2010 was clearly that policymakers had no game plan for dealing with it."* (Gianviti, Krueger, Pisani-Ferry, Sapir, & Hagen, 2010)

They propose a creation of a European Crisis Resolution Mechanism (ECRM), which they believe should consist of two pillars. The first pillar revolves around the need for negotiations between countries facing debt levels of an unsustainable nature and their creditors in order to reduce the present value of the debtor's future payments, making the finances sustainable again. Legally there would be a need for a court to deal with these negotiations, and the authors suggest the European Court of Justice for such cases. The second pillar concerns rules for how to deal with financial aid for countries with liquidity problems. An institution for lending needs to become permanent. (Gianviti, et al., 2010)

The role of the ECRM should be to weigh the interest rate of the debtors up against the lenders' as well as minimizing the moral hazard problems. This is a balance. The ECRM should not create incentives for governments to borrow irresponsibly, but the introduction of heavy penalties is not the way of doing this in a crisis situation either. Penalties will only worsen the financial situation for the penalized country. A fault of the response to the current crisis according to the authors has been lack of regulations for private creditors, which resulted in creating incentives to loan to struggling governments. (Gianviti, et al., 2010)

The authors of this article also explain why there is such a need for a crisis mechanism. On the basis of comparing the EMU to the Gold Standard (which by now is considered one of the main reasons behind the severity of the Great Depression), the need for a mechanism for crisis handling is being justified. Many defaults were experienced in Europe during the Gold Standard and the Gold Standard system is similar to the EMU in the sense that a national government is not able to use high inflation to get out of the debt problems. Once again the issue of lack of monetary independence is raised. (Gianviti, et al., 2010)

The sovereign-debt problems we are now facing creates uncertainty and risk issues for bond holders. The enormous liabilities that the governments are facing create uncertainty through doubts whether they have the ability to ever pay back. Another source of uncertainty comes from what other bond holders might do with their bonds. In addition to this there is a specific type of uncertainty for the euro area: the uncertainty surrounding the financial assistance from other members of the Eurozone. This uncertainty will be reduced with a clear framework on how to handle such cases. This is of course an issue of solidarity versus responsibility for a country’s own finances something also mentioned in the OCA theory. In order for the uncertainty to be minimized through a crisis mechanism transparency is needed in the resolution process. (Gianviti, et al., 2010)

Finally in the article a framework for what the mechanism should include is presented. The framework should include these elements according to the authors:

- A clear pattern on how to start the resolution of debt. The rules should encourage early discussions between the creditors and debtors. The initiative should come from the debtor’s government, given the potentially large amount of creditors.
- The ECRM should prevent the minority of creditors to take advantage of the majority. By rejecting the restructuring of debt the minority can hope that the majority in the end will merely buy them out. The mechanism preventing this can for instance use a majority voting system where the majority can make decisions on the behalf of smaller bondholders.
- A mechanism that govern the negotiations, i.e a court.
- Rules for providing credit to governments with liquidity issues.

(Gianviti, et al., 2010)

The above is a general guideline for what this institution would need. In addition the authors have suggested a more specific framework based on these in the form of a proposal. The main points are that the mechanism exclusively should handle unsustainable debt, and if this is present, the mechanism should provide incentives for early negotiations between creditors and debtors. The sovereignty of debtors should be essential – it is they that would have to suggest such negotiations. The majority of creditors would also need to be able to negotiate and provide binding agreements upon the minority, and interference with contracts should generally not happen. Lastly the integrity of the whole process needs to be ensured by a neutral system handling disagreements. (Gianviti, et al., 2010)

The article concludes with this sentence, implying that an institutional crisis mechanism is urgent: *"We have argued that the current architecture of European Monetary Union, which rests on the flawed assumption that sovereign-debt crises cannot happen, is incomplete and that EMU needs a crisis resolution mechanism – an ECRM."* (Gianviti, et al., 2010, p. 29)

Another article that proposes a solution is *"A Comprehensive Approach to the Euro-Area Debt Crisis"* (Darvas, Pisani-Ferry, & Sapir, 2011). In this article the comprehensive solution as the authors call it will include three parts:

- Recovery of the banking sector solidity
- A solution of sovereign-debt crises
- Implementation of a strategy that enforce growth and competitiveness in the Eurozone

(Darvas, et al., 2011)

In the section covering recovery of the banking the authors acknowledge that their information is not complete. However they still believe the risk of contagion of banking crises is manageable, and they assume that Greece is the only country in need of restructuring of their debt. At the same time the overall spillover risk is still somewhat unclear. The stress tests of banks that were published in July 2010 are not credible anymore given the recent developments in Irish banks. The authors suggest that new thorough and credible stress tests

need to be made, possibly not by the EU, and that the proper restructuring of banks are to be done where such measures are needed. (Darvas, et al., 2011)

In the part covering the second of the three actions that need to be done to recover from the current crisis the obvious resolution of the sovereign debt crisis is presented. The calculations they refer to conclude that a major reduction in the Greek debt is needed, and preferably it should be done in a quick fashion. That is of course an action that would cause considerable controversy. The authors still believe that this needs to be done, and a change in the EU's views is the only way to make it effective: *"In particular, a voluntary exchange will only be marginally effective as long as the EU sticks to its no-restructuring commitment because, if credible, this commitment is an incentive to hold rather than sell the asset. In order to make debt-exchange schemes effective, public authorities would need to convey to markets their determination to achieve a reduction of public debt to a sustainable level."*(Darvas, et al., 2011, p. 10)

A restructuring of the debt instead of a reduction through voluntary exchanges is another way of handling the sovereign debt crisis. If restructuring is done the authors of the second article refer to the first article cited in this section of the thesis as a reasonable method for negotiations. (Darvas, et al., 2011)

The third and last part for providing a solution to the crisis was the encouragement of growth and competitiveness in Europe, and in the peripheral countries in particular. This is not done without social consequences. Because of the debt levels seen in some of these countries sustainability is only achieved through lower living standards and higher production. Policy should be used mainly for restoring employment and productivity. This is a time-consuming process and even when successful it will not significantly reduce the debt levels instantly. When much of the emphasis of private firms and governments is on reducing debt, the growth will decrease making it more difficult to pay the debt. With help from the EU the countries can be able to break out of this cycle. Right now the situation is unfavorable because of uncertainty. Households are reluctant towards spending and the cost of borrowing is high, because of uncertainty issues concerning the banks and possible default from governments. (Darvas, et al., 2011)

Both the articles agree that some institutional changes need to be done in the Eurozone. The crisis we have seen would not have been as severe as what is the case now if

the measures suggested here would have been implemented beforehand. The ability to react quickly to economic shocks has been proven to be vital in economic crises, and to some extent Europe did not have this ability in this crisis. No institution for fiscal transfers is present in the Eurozone at the moment. The discussion on how to get out of the current problems is also one of ethics and solidarity – how much are the stronger economies willing to give up for the beneficial of the whole Eurozone? Is the no bailout principle of such an importance that it cannot be violated?

What we are seeing in the media picture at the moment is a Greek economy in particular suffering vast social consequences while the stronger economies are reluctant to accept default, because it to some extent justifies the irresponsible economic policy that Greece has been running up until the crisis. The situation is not completely dark however. The problems have made the Eurozone cooperate extensively, creating rescue packages of loans aimed at restoring competitiveness in the struggling economies.

Critics have said that this situation was inevitable under the current framework of the EMU. While this is the greatest challenge of the currency union so far, perhaps if needed adjustments are being made and the EMU actually survives the crisis, the Eurozone will bounce back stronger. Nevertheless there is no lack of future challenges for the Eurozone. The next chapter of the thesis is devoted to just that – the future of the Eurozone.

Chapter 5: The Future of the Euro

5.1 Introduction

This part of the thesis will be covering the future of the euro. At the present there is mass speculation in the media on this issue. There is some degree of skepticism as to whether or not the Eurozone are able to cope with the current situation. The bailout package of 2010 does not affect the underlying causes of the crisis it is just a helping hand for troubled economies to regain their competitiveness.

There is also a looming fear of the possible consequences of a default of a European country within the Eurozone. There are conflicting reports on how realistic a default really is. Some say it is inevitable while others say it is very unlikely. The most likely candidate for a default is undoubtedly Greece. At the same time the stronger European economies are hesitant to accepting a Greek debt default - after all Greece has created this mess themselves albeit through a controversial previous government. Some economists believe that a Greek default will cause them to leave the Eurozone, possibly jeopardizing the whole EMU.

Many experts seem to believe that the Eurozone will need to undergo institutional changes in order to overcome the present challenges. The crisis has underlined the frailties of the system, which might need to change in order for it to not experience similar crises in the future.

The truth is that no one is sure what will happen – it is impossible to predict the future. The EMU is a unique experiment as well in terms of the scale of the economies involved. There have been currency unions between countries before, but nothing near the complexity that we have seen in the EMU. The EMU represents something unique: A new currency shared by almost an entire continent of different countries. Looking at history to predict the future can sometimes be useful, although difficult in this case as there are no similar cases to analyze. As always however there are economists speculating and suggesting, and this section will provide an overview of the challenges ahead for the Eurozone as well as possible outcomes of the current tricky situation.

5.2 Challenges ahead

The European Commission itself has in a paper covering the economic crisis of the late 2000s called "*Economic Crisis in Europe: Causes, Consequences and Responses"* (EuropeanCommission, 2009) identified the future policy challenges of the EU. In the paper they analyze the current crisis and the driving forces behind it, the consequences for Europe as well as how to respond to the crisis. They conclude by saying that the crisis we have seen underlines the importance of a framework for handling economic crises. It should include three blocks. (EuropeanCommission, 2009)

The first one should be devoted to the prevention of crises. How to most efficiently execute macroeconomic policies and regulations to prevent new crises to occur is the reasoning. If a crisis occurs anyway, policies that promote competitiveness in the European market can help the Eurozone experience a faster recovery. (EuropeanCommission, 2009)

The second block is called *"crisis control and mitigation"*. This section is proposed to minimize the damage of crises. Injections in order to prevent bank defaults and heavy social consequences of a crisis are the objectives of this section. Stability in the financial system is the goal. The coordination of this block needs to be done by the EU and not national governments in order to have full effect. (EuropeanCommission, 2009)

The third and final block is crisis resolution, aiming at closing the crisis at the lowest possible cost for the government. The removal of the temporary crisis management suggested in the second block is needed here. A sustainable crisis resolution is the goal, and as such moving away from the expansionary monetary policy that is reasonable in crises needs to be done. (EuropeanCommission, 2009)

Planning for such a framework is set to start according to the paper. During the present crisis the EU had to use the existing mechanisms for crisis prevention. Looking back the European Commission admits that the current framework was insufficient, providing the severity of the crisis. EU crisis policies up until now have mostly been in the second block of control and mitigation; however adjustments in the first block of prevention have also been done after the crisis. Actions concerning the crisis resolution block for sustainable solutions have so far been missing and the analysis from the paper suggests that this is now becoming

increasingly urgent, especially in order to restore confidence in the market. (EuropeanCommission, 2009)

It is clear that the policy responses made by the EU of this crisis, although reactive, were effective if they are to be compared with the Great Depression where contractive monetary policy was the response. However it is important that the EU develops a long-term perspective of crises resolution policies, in order to enhance the belief in the effectiveness of such a mechanism. (EuropeanCommission, 2009)

The question is when to stop the fiscal stimulus to prevent debt from rising, creating an even less sustainable debt situation. That of course depends on how the economy recovers. Unfavorable tax increases for workers might be inevitable in some countries, but it is of course also important to not undermine the incentives to work. When signs of actual sustainable recovery are to be seen the focus should be shifted from fiscal stimulus to more fundamental structural reforms. To create a robust banking sector is perhaps the most important task. It should create an environment promoting growth and productivity. (EuropeanCommission, 2009)

"Structural reforms should be directed to enhancing the economy's infrastructure capital, employing idle or underutilised labour resources and improving the use and development of new technologies. This requires government initiatives in the pursuit of investment in infrastructure (public or private), the development of skills, greater labour mobility (geographical or across industries and occupations) and innovation (including the development of low-carbon technologies). Now that the financial system takes a more conservative attitude to risk financing even allowing for recovery in the banking sector, the expected social rate of return on such investments easily exceeds their perceived private return." (EuropeanCommission, 2009, p. 84)

The commission suggests that the government should have a major role in these investments. This is reasonable because these investments create large social benefits for the society, while private returns on these investments are less. The restructuring of the banking sector also needs to be done at the lowest possible cost. (EuropeanCommission, 2009)

All these policy changes that needs to be done have to be done coordinated with the whole of Europe. If this is not the case reforms might have negative local effects.

Mechanisms that are set up to prevent crises that are not coordinated efficiently will reduce the competitiveness for some countries. (EuropeanCommission, 2009). That leads us again to the OCA theory, suggesting a more integrated area to be more effective as a currency union than one who is not. Martin Blessing, Chairman of the Board of Managing Directors of Commerzbank presented this phrase in a comment on one of Barry Eichengreen's articles: *"Without political integration Europe will become more and more unimportant globally."* (Eichengreen, 2010, p. 23)

Once again the future challenges of the Eurozone come down to the ability to cooperate efficiently and the level of integration between the different countries. The Eurozone has achieved a lot, creating an international and credible currency as well as price stability. The Eurozone are discussing mechanisms for crisis handling and there has been some increased intra-European trade after the introduction of the euro. Is it likely that Europe in the future will become an Optimum Currency Area according to the theory?

The criteria of the OCA theory are not something that is given and cannot change. It is a dynamic process where there always will be room for improvements. There has been an increase in the trade levels between Europe as stated before, but not as significant amount that would have justified the single currency by itself according to the critics. Perhaps the most striking difference between the US and Europe is the labor mobility criterion. Unemployment is on a general note higher and longer lasting in Europe because of the lack of mobility of the labor force. Differences in regulations when it comes to unemployment benefits and worker protection also play its part. The criterion that is most likely to change in a positive way in the near future is the one concerning automatic fiscal transfers. (Baldwin & Wyplosz, 2009)

The recent events have shown that the future of the Eurozone is dependent on the ability to handle crises. The consequences of the economic shock have been a heavy burden for the EU and a sustainable mechanism to prevent crises is needed. This is now not only something American economists believe, even the European Commission has acknowledged that the framework present up until the crisis was insufficient as they presented in their paper. Some changes are bound to happen; the question is to what extent. Some experts believe in more radical changes than others.

Daniel Gros and Thomas Mayer at the Centre for European Policy Studies suggest that a European Monetary Fund (EMF) needs to be set up. This should be set up as such that

national governments pay contributions to the EMF according to the risk levels of their finances. For example a country running heavy deficits and that has a high level of debt will have to pay more as a percentage of their GDP in contributions to the EMF, and thus creating economic incentives for fiscal discipline while having a permanent mechanism for fiscal transfers. (Gros & Mayer, 2010)

From an economic viewpoint it is easy to see the advantages of this. The ability to neutralize economic shocks is there and the moral hazard problem is minimized through the punishment system on fiscal discipline. Implementing this can be tough however. One of the main challenges for the EU will probably be to create support for such a mechanism. It is well known that the countries that are weaker financially are more positive towards such a system than the stronger economies. In particular Germany has been very negative towards this. The fear that the Eurozone will become a place where the richer countries "pay" for the weaker is believed to be the cause of concern. Because of this the financial crisis might actually be a blessing in disguise for the Eurozone. The serious shock of this crisis has brutally demonstrated the need for a crisis mechanism, and probably one that involves quick fiscal transfers. Not long ago, before the recession, a mechanism for fiscal transfers was seemingly unneeded and looked unthinkable. Urgent times need urgent measures, and now the issue is discussed although with disagreements between the member countries.

A concrete challenge for the Eurozone is of course to reduce its debt levels, especially for the countries that seem to be in the greatest difficulties. Wage levels will need to go down, productivity has to increase and taxes probably have to increase. A high percentage of the GDP will need to be spent on managing loans. This is doable if the authorities can create a feeling of togetherness in the time of crisis, making everyone drag in the same direction towards decreasing the costs. A worrying factor in this sense is the increasing percentage of older people soon to come in Europe.

"For the EU27 the old age dependency ratio in 2030 is expected to rise to 38.0% from 25.4% in 2008. This means that where, in 2008, 100 persons of working age supported 25 persons aged 65 or over, in 2030 they are projected to support 38%... It is noted that in more than half of the 281 regions the old age dependency ratio is projected to increase by more than 13 percentage points over the period 2008-2030." (Giannakouris, 2010, p. 6)

An ageing population will be more costly because of the loss of tax revenue from retirees and the increase in pension benefits. Against Greece which is the country most heavily discussed at the moment, one of the main points of criticism have been the low age of retirement. The longer they can keep workers employed the better for the economy, and this is one of the measures that are discussed.

Restructuring of the economies has begun in order to decrease the costs. A mechanism for crisis prevention has broad consensus. There is no doubt that the EU acknowledges the severity of the situation. Still, it is far from certain that a crisis mechanism will prevent economic crises. They can still happen and as such it might be reasonable to have a system of fiscal transfers as a safety net, especially given the low labor mobility in Europe. A currency union does after all have unique challenges when faced with asymmetric shocks.

Another point of uncertainty concerning the future is the fact that the Eurozone partnership is something unique in history. Nothing similar to this scale of currency partnerships has been present where almost an entire continent decides to share its currency. One can argue that the US economy is similar in size but unique challenges for Europe involve different countries and cultures. Therefore looking at history for similar events will only provide limited applicability for the Eurozone.

Although structural changes have started and more are planned, the seriousness of the situation in Greece cannot be underestimated. Some experts believe that there still is a probability of default or even dismissal of the currency for Greece. The following section will cover possible scenarios for the European countries facing difficulties, with special emphasis on Greece.

5.3 Possible Outcomes of the Situation

In the case of Greece, Michael G. Arghyrou and John D. Tsoukalas present two possible scenarios in the article *"The Greek Debt Crises: Likely Causes, Mechanics and Outcomes"* (Arghyrou & Tsoukalas, 2011); one optimistic and one pessimistic.

The major issue for Greece is to regain confidence in the market. Greece has suffered higher interest rates on its loans than other more credible European countries since 2009. Given this, the rescue package of 2010 from the EU and the IMF was probably the only option available to receive the credit needed to get Greece back on its feet. To receive the package the EU and the IMF needed transparency in the country's policies, which was an unpopular decision made by the government. Thus it does signal a strong will towards strengthening the fiscal discipline of the country, something the bonds will be positively influenced by. This is still not enough. Reforms are needed to convince the market. (Arghyrou & Tsoukalas, 2011)

The optimistic scenario is that Greece will show the determination needed to turn the situation around. This will include cuts in social benefits which may result in social unrest and demonstrations. If Greece still manages to get the people's support for these changes, the market will likely have a more optimistic outlook on Greek bonds. With time it is also needed to remove the temporary support from the EU and the IMF to fully restore the confidence that Greece lost. It will not be easy; the results will likely be lower output and increased unemployment in the short run. There are also external risk from possible new shocks in the Eurozone economies and the possibility of losing the funding from the IMF and the EU. (Arghyrou & Tsoukalas, 2011)

The pessimistic scenario is the opposite. If the needed reforms experience resistance and reluctance in Greece, the market will react accordingly. This means that Greek government bonds will experience greater spreads in comparison with for example Germany. Another consequence will be a stop in the funding from the IMF and the EU. If this is the reaction from the Greek government, the only possibility to recover is for Greece to leave the EMU. If this happens the risk associated with the possibility of Greece leaving the EMU will disappear, but the market will likely react apprehensively to a new independent monetary policy for Greece. To reintroduce the drachma will devalue the assets held by Greek banks as

well, a scenario meaning a broadening of the crisis in the economy. (Arghyrou & Tsoukalas, 2011)

In sum the article states that the outcome is all up to Greece. If Greece implements the reforms needed successfully they can stay in the EMU. This depends on the authority's willingness for such reforms as well as their ability to communicate effectively to their citizens. They must convey that these reforms will result in staying within the Eurozone, and that this is beneficial for everyone. (Arghyrou & Tsoukalas, 2011)

The article does touch upon the possibility of contagion to the other countries in EMU's periphery as well. They conclude that Greece is in a unique situation, but they cannot neglect the possibility that other countries may experience similar difficulties. Portugal, Spain and Ireland seem to be the other countries at risk according to the spread levels. Italy with its high debt is also at risk. In order for them to not become the "new Greece" they need to show signs that they are also willing to implement structural reforms. Similar problems as in Greece will be experienced in these countries to then, and a clear strategy and communication towards their citizens will be the key. (Arghyrou & Tsoukalas, 2011)

Another economist that presents what he believes is the most likely outcomes of the current crisis is Paul Krugman. Four alternatives are covered and he calls them "four European plotlines" in his article *"Can Europe Be Saved?"*(Krugman, 2011)

He finds many similarities in today's situation in Greece and other European periphery economies to that of Argentina in 1991. Argentina at that time had a link between the dollar and the peso where every peso in circulation was backed by a dollar in reserves. This was mainly done in order to prevent Argentina from returning to old sins – printing money to finance its deficits. This link was successful for a large portion of the 1990s where low interest rates and foreign investments were the melody. Later, however, much of the same happened in Argentina as in Greece. A recession struck the economy and the market reacted with loss of confidence towards Argentina. Argentina responded with restructuring of the economy as well receiving loans from the IMF. The efforts did not work out; the results were demonstrations, high unemployment and deflation. The link between the dollar and the peso was removed and Argentina had to default on their debt. Krugman says that the outcome in Europe might not be the same even though the examples are similar. Four outcomes are likely according to him. (Krugman, 2011)

He calls the first scenario “Toughing it out”: This is a similar outcome as the first optimistic scenario presented by Arghyrou and Tsoukalas where troubled European economies, through proving determination and will, can be able to turn the situation around. A high degree of fiscal discipline is needed for the wages to gradually decrease and to reintroduce competitiveness. This will eventually restore the market belief in these European economies, but the social costs will be great in terms of unemployment and output loss. (Krugman, 2011)

The second scenario presented by Krugman is debt restructuring. Krugman believes that the current interest rates on Greek and Irish bonds reflect that the market does not have faith in these countries. The market believes that a restructuring of their debt is on the agenda, meaning that they will not pay back 100% of their loans. This scenario does not automatically bring the crisis economies of Europe back on their feet. On the positive side it can help restore the confidence in the market and better the interest rates, but deflation and wage suppression with their unfavorable social consequences will still be needed. Krugman believes Greece will have a tough time getting out of the crisis without restructuring of their debt and that Ireland does not have a much better outlook. (Krugman, 2011)

“Full Argentina” is the name of Paul Krugman’s third possible scenario. As presented earlier Argentina rejected the link between the peso and the dollar and in effect devalued the peso. For countries in the Eurozone to do a similar action they would need to reject the euro and bring back the national currency. A suggestion that this might happen can lead to a bank run in the particular country. (Krugman, 2011)

The fourth and last scenario is more optimistic than the others and is called “Revived Europeanism”. This scenario implies that improved integration will rescue the Eurozone. Krugman explains why he thinks this scenario is unlikely by an example: The Prime Minister of Luxembourg Jean-Claude Juncker and the Finance Minister of Italy suggested a creation of “E-Bonds” to countries of Europe with safety from the whole European Union. This proposal was met with massive opposition from Germany. Krugman believes that a fiscal transfer system that can be compared to the one in USA is far off in Europe when this proposal, which is a small step in the right direction, met such criticism from the most powerful nation in the Eurozone. (Krugman, 2011)

The current strategy that the EU executes is the optimistic or the "tough it out" strategy. They have faith in the countries' willingness and ability to cut costs and increase taxes. The EU has provided loans in cooperation with the IMF. Unfortunately, the market does not agree. The media at the moment is flooded with headlines that convey record breaking interest rates and economists who can see no other way out than debt default. The consequences of a default will be a loss in credibility of the whole Eurozone, and a failure of one of their main principles. It will also be a legitimization of moral hazard, where countries running deficits and unsustainable economic policy will be rescued. People or institutions that are not responsible for the situation will have to pay for the losses. It is by no means an ideal situation, but if the countries involved do not show signs of sustainable changes it becomes inevitable.

It seems as though the countries in trouble at the moment will have to endure painful economic reforms, unemployment, high taxes and sluggish growth for the foreseeable future in order to regain competitiveness no matter which of the presented alternatives that actually plays out. It is without doubt that from an economic viewpoint, the best alternative is to create an efficient fiscal transfer union, possibly by the model of Daniel Gros and Thomas Mayer. Unfortunately, politics is a major obstacle for such a solution.

Chapter 6: Conclusion

In this study I started with presenting the history of economic integration in Europe. I found that the idea of an integrated Europe is not a new one that came about at the creation of the EU. Furthermore, I found that the creation of a common currency was perceived to be a radical increase in economic integration in Europe, and this became a reality in 1999. At the time before and up until the creation of the euro it could seem that a sweep of optimism caught Europe and that political arguments, not only economic arguments, played a part in the decision of a monetary union.

In the second part of the study I presented economic theory and in particular the Optimum Currency Area theory. The conclusion here was that the US is by far a more beneficial area for a fixed currency compared with Europe.

The third part covers the euro at the present time with emphasis on the current recession, as well as the inflamed debate over the euro possibly worsening the problems for Europe. Lessons from this part are that Europe is experiencing a severe economic crisis and that the critics of the euro argue that Europe is not integrated enough to justify a single currency, while the other side of the debate point out lack of alternatives and achievements made by the monetary union as arguments.

The fourth part of the study speculates around the future. Possible solutions for Europe as well as possible outcomes for the countries in trouble were presented. The future is uncertain, although a crisis mechanism and institutional changes in one way or another are bound to happen.

What can we conclude from all this? It is obvious that the euro both has its advantages and its disadvantages. What this crisis brutally has discovered however, is the need for a sustainable crisis mechanism. Right now the Eurozone has little power to neutralize economic shocks other than reactive loans that needs time to negotiate. The vulnerability is striking; when a country is struggling with high debt levels and interest rates on government bonds that often is the case during crises, the only way the Eurozone can help is through a bailout package. The countries themselves cannot use monetary policy in order to restore the situation. The creation of a fiscal transfer union seems to be the obvious long-term solution

given that the Eurozone, at least in comparison with USA, is rather immobile when it comes to labor mobility.

For a mechanism of fiscal transfers to be effective and not become an arena for exploitation, it needs a system that rewards fiscal discipline. It should not by any means be a mechanism where the stronger European economies are paying the weaker ones. This seems to be the general fear of the stronger European economies and it makes the political process of creating such a mechanism a difficult one.

To answer the question in the title of the thesis the euro as it works at the moment have clear weaknesses to such an extent that it may not be sustainable. The market at the moment has little faith in recovery and believes that default is a scenario that is nearly inevitable, something reflected in the increasing spreads in countries like Greece. The debt levels are reaching critical amounts that it is hard to see the countries managing by themselves. A crisis resolution mechanism is urgent.

In order for the outcome to be a long-term positive one major institutional changes are needed. The countries in trouble will need to undergo social cuts and tax increases to reduce the deficits. In the short-run the outlook in certain countries looks bleak. However, if the Eurozone can cooperate and actually become more politically integrated the future looks brighter. A need for extensive cooperation between all the countries in the Eurozone is a prerequisite for the future existence of the currency union. Europe is not an optimum currency area at the moment, but as stated earlier, the criteria are not frozen. For the Eurozone to become more of an effective currency union every country needs to understand the problems and act with solidarity. That will benefit the whole Eurozone in the long-run. It is starting to become urgent – Europe is a major player in the world economy. A failure of the currency union can have unknown and disastrous economic consequences for the world.

One might say that the euro was an experiment that Europe was not yet ready for and that the decision was based on other successful reforms and "European romance". Whether this is right or not, now when the euro is introduced it is hard to reverse back to national currencies. The key issue right now is to have a long-term view and get the struggling economies back on their feet as quickly as possible. Secondly, a sustainable crisis mechanism needs to be enforced. The Eurozone cannot passively watch another blow such as the shock in

the economy experienced in the late 2000s and be unable to do anything about it. To not introduce a more proper defense mechanism is arguably unacceptable and unlikely.

References

Arghyrou, M. G., & Tsoukalas, J. D. (2011). The Greek Debt Crisis: Likely Causes, Mechanics and Outcomes. *The World Economy*.

Baldwin, R., & Wyplosz, C. (2009). *The economics of European integration* (3rd ed.). London: McGraw-Hill Higher Education.

Burda, M., & Wyplosz, C. (2009). *Macroeconomics - A European Text* (5th ed.). New York: Oxford University Press.

Darvas, Z., Pisani-Ferry, J., & Sapir, A. (2011). Working Paper: A Comprehensive Approach to the Euro-Area Debt Crisis. *Corvinus University of Budapest - Department of Mathematical Economics and Economic Analysis*.

ECBank. (2009). *The Euro at Ten - Lessons and Challenges*. Paper presented at the Fifth ECB Central Banking Conference.

Eichengreen, B. (1991). Is Europe an Optimum Currency Area? *National Bureau of Economic Research, Working Paper No. 3579*.

Eichengreen, B. (2009a). The Crisis and the Euro. Retrieved from University of California, Berkeley: http://emlab.berkeley.edu/~eichengr/crisis_euro_5-1-09.pdf

Eichengreen, B. (2009b). Was the euro a mistake? Retrieved from http://morningbull.blog.tdg.ch/media/00/01/2011259151.pdf

Eichengreen, B. (2010). Panel 1: Globalization and the Crisis. *CESIFO Forum, 3/2010*.

EuropeanCommission. (2007). European Commission: Treaty of Maastricht on European Union, 2011, from http://europa.eu/legislation_summaries/economic_and_monetary_affairs/institutional_and_economic_framework/treaties_maastricht_en.htm

EuropeanCommission. (2009). Economic Crisis in Europe: Causes, Consequences and Responses. *European Economy, 7*.

EuropeanCommission. (2011). The euro Retrieved 10, may, 2011, from http://ec.europa.eu/economy_finance/euro/index_en.htm

Eurostat. (2011a). General government debt.

Eurostat. (2011b). General government deficit (-) and surplus (+).

Giannakouris, K. (2010). Population and Social Conditions. *Eurostat - European Commission*.

Gianviti, F., Krueger, A. O., Pisani-Ferry, J., Sapir, A., & Hagen, J. v. (2010). A European Mechanism for Sovereign Debt Crisis Resolution: A Proposal. *Bruegel Blueprint Series, 9*.

Grauwe, P. d. (2009). *Economics of Monetary Union* (8th ed.). New York: Oxford University Press.

Gros, D., & Mayer, T. (2010). How to deal with sovereign default in Europe: Create the European Monetary Fund now! *Centre for European Policy Studies - Policy Brief - Thinking ahead for Europe*.

Gärtner, M. (2006). *Macroeconomics* (2nd ed.): Pearson Education.

Jones, E. (2009). The Euro and the Financial Crisis. *Survival, 51*(2), 41-54.

Jonung, L., & Drea, E. (2010). It Can't Happen, It's a Bad Idea, It Won't Last: U.S. Economists on the EMU and the Euro, 1989-2002. *Econ Journal Watch, 7*(1).

Kenen, P. B. (1969). *The Theory of Optimum Currency Areas: An Eclectic View*: Chicago University Press.

Knoop, T. A. (2010). *Recessions and Depressions - Understanding Business Cycles* (2nd ed.): Praeger.

Krugman, P. (2011). Can Europe Be Saved? *The New York Times*.

Krugman, P., & Obstfeld, M. (2009). *International Economics: Theory & Policy* (8th ed.): Pearson Addison Wesley.

Malz, A. M. (1996). Using option prices to estimate realignment probabilities in the European Monetary System: the case of sterling-mark. *Journal of International Money and Finance, 15*(5).

McKinnon, R. (1962). Optimum currency areas. *American Economic Review, 53*, 717-725.

Mongelli, F. P., & Wyplosz, C. (2009). *The Euro at Ten - Unfulfilled Threats and Unexpected Challenges*. Paper presented at the Fifth ECB Central Banking Conference.

Mundell, R. A. (1961). A Theory of Optimum Currency Areas. *The American Economic Review, 51*(4), 657-665.

nobelprize.org. (2011). The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 2008

Onaran, Ö. (2010). From wage suppression to sovereign debt crisis in Western Europe: Who pays for the costs of the crisis? *Prepared for the Day Conference Economic Policy: in Search of an Alternative Paradigm Middlesex University*.

Reinhart, C., & Rogoff, K. (2009). *This Time is Different: Eight Centuries of Financial Folly*: Princeton University Press.

Rhodes, C., & Mazey, S. (1995). *The State of the European Union* (Vol. 3): Lynne Rienner Publishers inc.

Risse, T., Engelmann-Martin, D., Knope, H.-J., & Roscher, K. (1999). To Euro or Not to Euro?: The EMU and Identity Politics in the European Union. *European Journal of International Relations, 5*(2), 147-187.

Roubini, N. (2010). Crisis Economics! A return to the abyss. *International Economy - The Magazine of International Economic Policy*.

VoxEU.org. Research-based policy analysis and commentary from leading economists Retrieved May, 2011