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The Eurozone: Effects on Spain After the Implementation of the Euro

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THE EUROZONE: EFFECTS ON SPAIN AFTER THE IMPLEMENTATION OF THE EURO

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ABSTRACT

CAROLINE MÜRER ROHDE-MOE: The Eurozone: Effects on Spain After the Implementation of the Euro

(Under the direction of Joshua Hendrickson)

This thesis examines the current situation in the Eurozone and how the entry into the currency union has affected the member countries. I have especially focused on the consequences the implementation of the euro has had on Spain because of the deeper recession that this country has experienced compared to many of the other Eurozone countries. I wanted to figure out what has caused some nations to struggle at a different level than others. By comparing Spain to countries such as Germany, United Kingdom, and France I have tried to look into how much of the domestic problems seen in the Eurozone are the result of the common monetary policy and how much is due to country-specific issues.

The paper briefly describes currency unions where the relatively short-lived Eurozone currency union is compared to the American currency union using the dollar. Furthermore, the Eurozone financial crisis of 2008 is discussed and how the period right after the crisis has been crucial for the countries that today are finding themselves encountering economic difficulties. The data that has been gathered for this paper comes from examining previous journals and researching various Internet sources.

The findings illustrate that the problems that many of the nations in the Eurozone have encountered are a mix of the imposed monetary policy that the countries were obligated to follow when entering the currency union, and country-

specific issues. To explore these indicators further, statistical data such as the unemployment rate, debt to GDP ratio, and inflation rates were examined. Spain's unemployment rate is currently extremely high, and I found that it has diverged from many of the other countries in the Eurozone since the financial crisis of 2008. This problem has risen from for example the country's employment protection legislation, strong protection of permanent workers, and high share of temporary workers. My findings for Spain illustrate that the problem has been a mix between the common Eurozone monetary policy and Spain's employment protection legislation policy.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

Introduction

A unique attempt of European economic integration was done in 1999 with the introduction of the common currency for the Eurozone countries. I am researching how the different member nations have reacted to this membership. In my work, I especially focus on the consequences this change has had on the Spanish economy, which has been struggling for various reasons since the implementation of the euro. In this research I will try to answer whether it could be that this deeper recession Spain has experienced is due to structural problems unique to Spain, or if it is due to the membership of Spain in the European Union, which would indicate a suboptimal policy. By looking at Spain in particular, I try to determine the extent to which the problems European countries have experienced are the result of a common monetary policy and how much is the result of country-specific characteristics. In the paper I have done a detailed analysis of the Spanish labor market and compared it to other member nations in the Eurozone to see if it was a good or bad decision for Spain to join the common currency union.

Chapter 1

Currency Unions

A. What are Currency Unions?

A currency union consists of a group of countries with the same currency that also shares a common monetary policy. Currency unions are often used as a way to achieve international economic integration. It is common for countries within a currency union to share geographical borders, and hence the member nations are often close trading partners. A currency union also has a common central bank. There has been a lot of research looking at the advantages and disadvantages of currency unions. Different research has found benefits and costs of membership in a currency union. For example, Hugh Rockoff (2000) found in his research that one benefit of a currency union is that it makes it easy to travel to another part of the union without having to convert money. This aspect makes it especially easy for tourists and producers to travel and do business amongst the different member countries without complications of various currencies. Also, one can easily compare prices for goods and services, and interregional investments can be made without the risk of currency fluctuations. Another advantage of being a member of a currency union is that transaction costs get reduced due to the fact that the people travelling within the currency union do not have to exchange currency and hence avoid paying commission to financial intermediaries. A common currency between a group of countries also creates a degree of certainty for firms because it is easier for them to predict the cost of materials they use in production that are imported from other countries. This aspect

makes it easier for firms to plan for the future because they can find a good estimate of how much their exports will cost, hence, allowing them to be more certain about predictions for future budgets. This tendency will make firms more likely to invest and create more jobs.

However, researchers have also argued that there are many costs of joining a monetary union. The biggest disadvantage is that a country that enters a monetary union loses their sovereignty over monetary policy and is not able to control their economy in the same way they would have been able to do if they were independent. Another problem that countries have encountered when establishing a currency union is that convergence between economies can be difficult due to the uniqueness of every country's economy. When there are big differences between the countries it can be seen as unproductive to have the same monetary policy because policies that will benefit one country might be disastrous for another. These differences are an aspect that I will examine about the Eurozone and how it has affected the different member countries, especially Spain. The countries that joined the currency union in Europe had vastly different economies before the entry and to share a common monetary policy has led to difficulties for certain member countries. This issue is because of the possibility that monetary policy for the Eurozone as a whole is different from the desired policy of one particular member country. One reason for this disadvantage is that member countries might be subject to asymmetric shocks. A currency union is subject to an asymmetric shock if the demand or supply side of one or more of the member countries is affected differently than any of the other member countries when a shock in the economy occurs. For example, if the German government decides to make changes to the country's fiscal policy by increasing government expenditures, it will result in a positive aggregate demand shock for Germany. However, if the

government in France, at the same time, decides to adjust their fiscal policy by doing the opposite and lower expenditures in the country, then France will experience a negative aggregate demand shock. If this were the case, then these two different countries would be better off with separate currencies, and floating or at least adjustable rates between them (Rockoff, 2000). When a currency union is experiencing asymmetric shocks between their member countries it is challenging for the central bank of the monetary union to conduct a monetary policy that is beneficial for each member of the union. The country that is most affected by an asymmetric shock would benefit from having a lower interest rate compared to the other countries. Therefore, there are obvious costs associated with joining a currency union. Nonetheless, there are examples of countries and regions that have benefitted from entering into currency unions, the most obvious of which is the United States.

One of the most famous and recent examples of a currency union is the attempt of unifying the currencies of the many nations in Europe. The Eurozone was formed January 1st, 1999 when eleven countries in Europe adopted the common currency. The introduction of the euro in 1999 was a major step towards a closer European integration. The countries that joined the Eurozone gave up their national currencies to use the euro as their medium of exchange. By January 21st, 2002 all the national currencies of the member nations ceased to circulate and were replaced by the euro. The Eurozone currency union is in many ways an unparalleled experiment in monetary unification and a milestone in European integration. Today, the Eurozone, which currently consists of 18 countries, has been going for 15 years and more than 333 million EU citizens use the euro as their currency.

Since the introduction of the euro some things have changed in the Eurozone. For example, Francesco Paolo Mongelli (2002) argues that countries sharing the same

currency trade three times as much as they would with different currencies and being a member of a currency union more than triples trade among partner countries. Therefore Eurozone countries are becoming more specialized by focusing on the activities in which they are comparatively stronger. A relevant question is which direction causation runs and whether countries are in a currency union because they rely on trading with other countries, or start trading more because they form a currency union. There is now also more emphasis on the benefits for a larger group of countries scoring highly under most Optimal Currency Area properties. In his work, Mogelli (2002) argues that 10-15 years ago it was not believed that the Eurozone would have as many member as it does today. The euro has already developed into a major currency and in some ways it is challenging the U.S. dollar as the global reserve currency. In their research, Lars Jonung and Eoin Drea argue that the euro is one of the most exciting experiments in monetary history due to the fact that never before have some of the world's largest economies surrendered their national currencies and national monetary sovereignty in favor of a common currency and a common central bank (Jonung and Drea, 2010).

B. The Theory of Optimal Currency Areas

As previously mentioned, the most significant characteristic of currency unions is that the member nations have surrendered their own currency and now share a common currency. The Theory of Optimal Currency Areas centers on the issue of whether or not a geographic region should share a currency in order to maximize economic efficiency, and grew out of the debate over fixed versus flexible exchange rates. Mongelli (2002) defines an optimal currency area as "the optimal geographic domain of a single currency, or of several currencies, whose exchange rates are

irrevocably pegged and might be unified." Therefore, an optimal currency area is a geographical region in which it would maximize economic efficiency to have the entire region share a common currency. Mongelli (2002) also argues that the European experience with economic and monetary union is the most important example of recently established currency unions and the one to which the Theory of Optimal Currency Areas has been most frequently applied. This signals how much the Eurozone countries can benefit from their currency union if they manage to lead it in the right direction. The monetary union in the Eurozone is interesting because individual countries of Europe do not each form an optimal currency area, but together as a whole Europe is an example of a prospect that can be a successful monetary union.

To become a strong currency union like the U.S. is a long and difficult process. Throughout history, it is evident that to become a successful currency union there are central phases that an area has to go through. In his research, Mongelli (2002) recognizes four phases of the optimum currency area: *pioneering phase, reconciliation phase, reassessment phase,* and *empirical phase*. Rockoff (2000) argues that optimal currency area theorists have found several factors that identify an area as a candidate for its own currency, including that it must be a large area that is specialized in the production of certain goods. If the member nations of the currency union have similar economies with related production then it will be easier for the central bank to conduct a monetary policy that will be beneficial for all countries. This aspect will protect the currency union from large asymmetric shocks, which economies are subject to over the course of the business cycle. Other factors that are important in order for countries to be suitable to enter into a currency union together are labor mobility and capital mobility. High labor mobility is important because it

enables workers to work in other countries within the currency union and can therefore result in more skilled workers for the correct jobs, hence an increase in productivity. However, labor mobility can also result in a higher unemployment rate and lower wages so it is important for the currency union to consist of economies where labor mobility can be exploited. Capital mobility is significant for a currency union because it is important for the member countries to be able to easily transfer capital across boarders without incurring high transaction costs in the process. Also, fiscal transfers between the candidate region and other regions should be limited because this will keep as much capital as possible running through the currency union and therefore become a stronger area (Rockoff, 2000).

In his research, Marjan Petreski (2007) lists other factors that are detrimental elements to whether an area is optimal for a currency union or not. He argues that when a shock in the economy occurs, it is important for the currency union to have price and wage flexibility that will allow the corrective adjustments that have to be made help all of the member countries. With this flexibility, the currency union will avoid creating a high unemployment rate in one country and inflation in the other. In the same paper, Petreski (2007) also argues that when inflation rates of the countries in a currency union converge, the terms of trade will do the same. Another important aspect of a currency union that Petreski (2007) discuss is that it should be a unified financial market, which will prevent the need for an exchange rate adjustment. He expands on this issue with relating it to the significance of economic openness. The argument is that the higher the openness, the faster the international prices transmit on the domestic monetary scene. The last and most crucial element that Petreski (2007) argues has to be present in a currency union in order for it to have the properties of an optimal area is political integration. Political integration will lead to a higher chance

of commitment to joint economic policies, a common fiscal policy, and similarity in institutions among the member countries. A valid question is if Europe can fulfill these requirements. As one can see with the experience of the U.S. it takes a long time to successfully complete the process of establishing a currency union and over time it will be interesting to see if the euro will manage to become as powerful as the dollar.

C. Government Debt and Common Currencies

i. Why is this different for Countries in Currency Unions Relative to those with Sovereign Countries?

While they are both large currency unions, the Eurozone is different than the United States. The Eurozone is only a currency union due to the shared currency and the common bank that is in charge of monetary policy, the European Central Bank. The United States is one country consisting of 50 states that share the same political system as well as the same economic system. Many researchers have compared the currency unions of the United States and Europe. Mongelli (2002) argues that the biggest difference between the two powerful currencies is that the single European currency is shared by a group of sovereign countries that do not form a single state. This highlights one issue that the Eurozone has encountered; the fact that they are not under the same political systems like what American citizens are in the U.S. Lars Jonung and Eoin Drea (2010) argue that the unification of the countries in the Eurozone was an inherently political process and that there is an inseparability of politics and economics in the European monetary unification. For example, before the Eurozone, researchers were concerned with how other big nations in Europe would handle forming a continental government in which Germany has the largest population and the strongest economy. Some researchers believed that a political

union needed to precede a monetary union and that the sustainability of the single currency would depend on the political will to cooperate of the EU member countries (Jonung and Drea, 2010). Therefore, the Eurozone currency union meets greater challenges than what the U.S. did in the development of a shared currency, due to the fact that in the Eurozone each country has their own set of rules and regulations. Therefore, whenever a decision is to be made concerning the monetary union it will have to go through many different governments with different incentives, hence it can be time-consuming and difficult to get changes implemented. On the other hand, there are a lot of things that the Eurozone countries can learn from the U.S. currency union and their experience of becoming the largest reserve in the world.

ii. Lessons from the U.S. Experience

Throughout history there are a few examples of countries or states trying to go together to form a currency union. As noted above, the most successful example is the United States. Hugh Rockoff (2000) argues that,

> The U.S. is often taken to be the exemplar of the benefits of a monetary union. Since 1788 Americans have been able to buy and sell goods, travel and invest within a vast area without ever having to be concerned about changes in exchange rates. They have had problems, like shocks. But political considerations have ruled out separate currencies in the United States.

It is clear that to get to the point where the United States' monetary union is today has required a long process with a lot of trouble. For example, throughout the first 150 years of the U.S. monetary union, there were several disputes within the country. Many of them were regional disputes, for example what was considered a good monetary policy from the point of view of one region was sometimes bad policy from the point of view of another (Rockoff, 2000). The experience of the United States is

cited as evidence that in fact the benefits of a monetary union greatly outweigh the costs. After all, their monetary union has survived since 1788. The problem is that due to this long process and the several severe conflicts the U.S. had to go through in order to get to the point where they are today, research has found that it is at best weak evidence that the net effects of the shared currency in the United States have been positive (Rockoff, 2000). It can also be said that it took a long time for the U.S. to develop their currency to be as stable as it is today. For example, Rockoff (2000) argues that a reasonable minimum time that the U.S. used to establish the position of the dollar might be one hundred and fifty years. Therefore, it will be a gradual process for the European monetary union to establish a strong currency for all the member countries.

However, some research suggests that the Eurozone would be better off with individual currencies like they had in the past. Jonung and Drea (2010) state that research has questioned the fiscal federalism under the lessons from the U.S. experience and several have questioned whether the Eurozone would be better off sharing a common monetary standard instead of a common currency. They argued that a common monetary standard is preferable to a common currency because it respects the fiscal need to keep national central banks and national currencies in place in highly indebted European countries. Therefore, it is clear that many researchers are against the shared currency in Europe and share the point of view that a monetary union is not the preferred option for the Eurozone.

Thomas J. Sargent (2012) argues that another lesson that the Eurozone can learn from the U.S. experience is:

> The ability to borrow today depends on expectations about future revenues (prospective debt holders rationally anticipate that the government will be

constrained in its ability to raise enough revenues to service the debt), Free-rider problems exist for subordinate governments vis-à-vis a central government (states in the U.S. or nations in the EU cannot be relied on voluntarily to provide to the central government to pay for public goods, each state has an incentive to refuse), Good reputations can be costly to acquire (governments therefore have incentives to earn reputations that they will pay off their debts in the future), It can help to sustain distinct reputations with different parties, Confused monetary-fiscal coordination creates uncertainties.

Many researchers have been concerned with the implications for the global position of the dollar as a result of the introduction of a common European currency. It has been argued that there is a possibility that the Americans will feel threatened by the Eurozone currency union. However, in many ways, the U.S. is embracing the cooperation of the European countries. The Americans have also said that it is believed that the euro would only have an impact on the dollar as the predominant means of exchange in international financial transactions in the long run and it would only occur gradually in a manner that would be easily coped with. Therefore, the American view on the euro was that it would not present a challenge for the dollar in the "foreseeable" future. After two years of the euro, in 2001, it was noticed only a small change in the role of the dollar as the pegged exchange rate for third world countries or as the globally preferred reserve currency (Jonung and Drea, 2010). Researchers have also argued that the rise of the euro as an international currency and competitor for the dollar would only be achieved gradually, and that the position of the dollar as the lending international currency depended primarily upon the ability of the U.S. to avoid financial crises and to maintain strong economic performance. Most research agrees that the establishment of the euro created many new benefits for U.S.

firms in trade and finance. On the other hand, it is found that the introduction of the euro will cause a significant drop in the international holdings of dollars. However, the Americans have also identified the opportunity of a larger market and the removal of obstacles to trade freely within the European Union's borders as the future benefits of European monetary union to U.S. businesses. The official position of the U.S. government was that the euro was a sign of progress made by the European Union (Jonung and Drea, 2010). It has been commented that the euro and the dollar will always be in a struggle for dominance, and the severe decline in the value of the euro compared to the dollar in the period between 1999 and 2001 triggered a strong debate about the euro against the dollar. Some people argued that since the euro would create an integrated currency area greater than the U.S., the euro would quickly rival and even surpass the dollar as the international reserve currency. It was forecasted that by 2010 the world foreign exchange reserves will consist of 1.2 trillion in dollar, 1.2 trillion in euros, and 0.8 trillion in other currencies. Today, however, the dollar remains the leading reserve currency (Jonung and Drea, 2010).

Chapter 2

The Eurozone Crisis

A. Description of the Crisis

The European System of Central Banks (ESCB) is comprised of the European Central Bank (ECB) and the national banks of all EU member countries, whether they use the euro or not. In countries that use the euro, the national central banks no longer issue currency. Much of the process of designing the ESCB was based upon comparisons with the Federal Reserve System. There are a number of similarities between the two biggest monetary unions in the world. For example, the European Central Bank and the Federal Reserve both consists of different regions or countries. The ECB currently has 18 countries within itself and the Federal Reserve is composed of 12 districts. Each bank is an independent institution with a decentralized structure. However, these two central banks are characterized by significant differences in many aspects. The biggest differences between the European and the U.S. central banking systems are their policy mandates, the concentration of power and the decision-making structures (Jonung and Drea, 2010).

The Federal Reserve and the European Central Bank have different objectives and different methods of achieving these objectives. For example, the primary objective of the ECB is to maintain price stability within the Eurozone, which they are doing by trying to keep inflation low and preventing deflation. Jonung and Drea (2010) argue that the ECB's clear policy mandate would aid its long-term credibility, but that the broad diffusion of power might prevent them from resolving future conflicts between national interests. On the other hand, the Federal Reserve has

chosen several objectives to pursue such as having a safe, flexible and stable monetary and financial system (The Federal Reserve System, 1984, 1).
Another issue that has affected the accountability of the ECB compared to the Federal Reserve is that the Federal Reserve has a very defined process of operating and everything is going on in between the same borders with the same politics and decision-making processes. The governors of the Federal Reserve are nominated by the President and approved by the Senate. Also, the Federal Reserve publishes all the steps that they take in monetary policy in monthly reports to the Senate, which are available to the public. In that way it is easier for U.S. citizens to know what is going on and by making it available to the public, it is evident that they will fit the political interests of the greatest part of the people.

However, as described earlier, it took the United States a long time to develop their currency union into today's strong dollar. The development of the euro in the Eurozone has already been a long process. In their research, Lars Jonung and Eoin Drea (2010) argue that the work of all the nations that wanted to be a part of the Eurozone currency union began in June 1988 when the European Council met in Hanover, Germany, and set up the Committee for the Study of Economic and Monetary Union which included all the European Council central bank governors. This meeting resulted in The Delors Report, named after Jacques Delors, then president of the European Community. The objective for this process was that they would create a monetary union in Europe with a possible replacement of national currencies with a single currency.

The Delors Report included a three-stage program in the development of the Eurozone currency union that had the ultimate goal of turning Europe into a true distinct market. The period between 1989 and 2002 has often been divided into two

phases. The first phase begins with the publication of the Delors Report. In 1992, The Maastricht Treaty was signed. In this treaty, the European Council governors had outlined "convergence criteria" for the Eurozone's transition to become a currency union. The conditions were based on the rate of inflation, long-term interest rates, and membership of at least two years in the Exchange Rate Mechanism of the European Monetary System before entry into the monetary union. The Maastricht Treaty also obtained clear limits for the government budget to deficit to GDP and the ratio of government debt to GDP, which each member country had to stay below. The margins for the Exchange Rate Mechanism were 2.25 percent above or below a central rate for most member currencies (Jonung and Drea, 2010).

At this point, there was much debate as to how to implement the euro. During the modifications of The Maastricht Treaty the strategy discussed that the majority believed would be most successful implementation of the euro was to allow EU countries into the monetary union at different times. This idea of a multi-speed transition to EMU was the most popular proposal due to the fact that through this kind of transition to a currency union a small group of countries would first form the fundament of the monetary union, with the other countries joining in over time. Jonung and Drea (2010) concluded that a multispeed approach was to be expected, albeit with slightly differing combinations of countries.

In the Maastricht Treaty it was suggested a set of modifications to ensure that the advantages of joining the currency union would outweigh the disadvantages. The Madrid Summit of December 1995 concluded the first phase. This event was where the European Council decided the final timetable for the launching of the euro, which set the starting date of January 1999 for the euro and for irrevocably fixing the exchange rates of the currencies of the initial member states seeking to introduce the

euro. In The Madrid Summit they also decided to call the currency "euro" replacing the name European Currency Unit (ECU). In May 1998, they selected the countries that would adopt the euro in January 1999.

The second phase began right after The Madrid Summit and lasted up until January 2002, when euro notes and coins entered circulation, replacing each of the independent currencies in the Eurozone countries. This time was chosen for the launching of the currency union because there existed an opportunity in Europe to build a currency union among many countries. One of the reasons was due to the fact that many nations felt a need for monetary unification of Europe because of the region's lack of mobility at the time as well as the need to improve the relationships between countries. Another cause to why it at this point was a unique opportunity to move towards a single currency in Europe was because of the end of the Soviet Union, German unification, and growing nominal exchange rate stability in Western Europe.

However, the implementation of the Eurozone currency union has not always been a successful integration and many countries are struggling today. When the euro was initiated, the member countries were imposed with a single currency and fixed exchange rates. This change imposed problems for some of the member countries because they now had to follow the monetary policy set by the European Central Bank and could not adjust it for their needs like they could when the countries had independent monetary policies. This issue increased the amount of cyclical unemployment among the countries in the Eurozone. One problem that many have discussed with the euro is that the monetary policy objective only takes into account price stability and it does not take into account employment, production or growth. As earlier described, since the Eurozone countries all have different political systems, it

is hard to implement changes in monetary policies. Thomas J. Sargent (2012: page 3) argues that the fiscal institutions in the Eurozone today are similar to those in the U.S. under the Articles of Confederation, "the power to tax lies with the member states. Unanimous consent by member states is required for many important EU-wide fiscal actions."

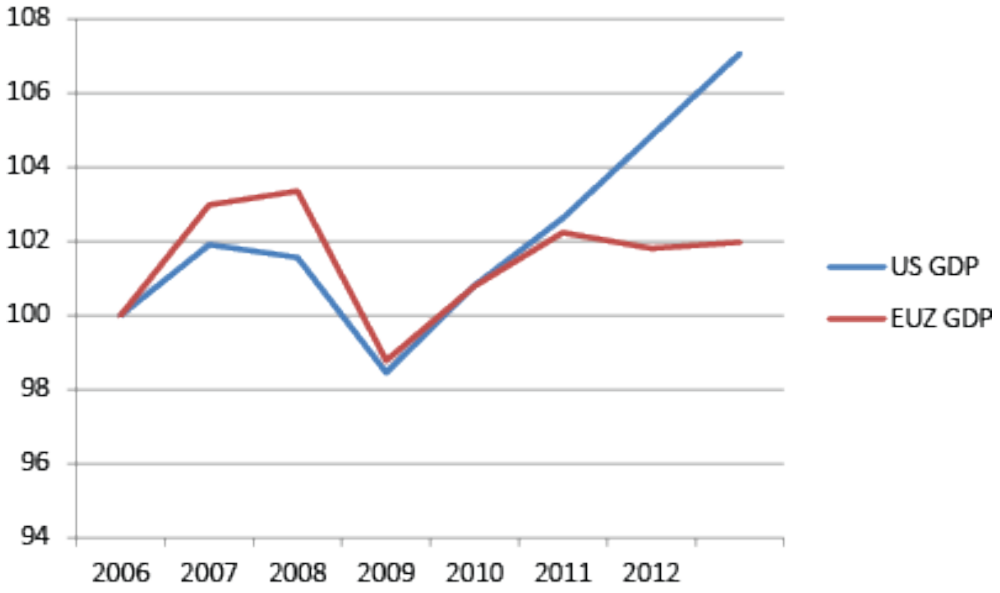
As previously mentioned, another potential problem that can result in conflicts between the countries in the Eurozone is the lack of political integration in the area. There is a possible conflict with the fact that there will be an inevitable contest for leadership between the most powerful nations in the Eurozone, such as Germany and France, which is likely to aggravate tensions within the currency union. Therefore it is argued that the long run sustainability of the European Monetary Union will depend on its contribution to long-term political security rather than on any economic success (Jonung and Drea, 2010). There have been identified three primary factors behind the desire of member states to join the Eurozone currency union. These includes: the fear of being left out of a central European Union institution, the fear of losing the support of the pan-European business community, and the fear of the economic consequences of losing the benefit of many years of hard work to get into Europe's monetary club. It is believed that economic success of the euro would be a potential driver of political integration in the future (Jonung and Drea, 2010).

As stated above, the U.S. economy has often been used as a benchmark of a successfully functioning monetary union to compare to how the Eurozone currency union has progressed. This aspect has especially been the case in the debate of comparing the development of the Eurozone's currency union with the Theory of Optimal Currency Areas that they used in the integration of the dollar in the U.S. However, Lars Jonung and Eoin Drea (2010) argue that the Eurozone can be labeled

as a suboptimal currency area. In their article they describe that the Eurozone was "much less equipped" than the U.S. monetary union to deal with potential interregional or wider asymmetric shocks. They concluded that this mirrored the initial U.S. consensus that the Eurozone was a suboptimal currency area. Also, Jonung and Drea (2010) argued that a major asymmetrical shock would cause the Eurozone to dissolve. Another argument is that the optimum currency area criteria were endogenous. Which implies that once a country joins a currency union, its economy will adjust to the new environment.

The financial crisis of 2008 originated in the American housing market and developed into a worldwide economic downturn. In his work, Paolo Manasse (2013) provides a figure that compares the U.S. GDP with the Eurozone GDP from 2006 to 2013.

Figure 1. Comparison of the U.S. GDP and the Eurozone GDP 2006-2013



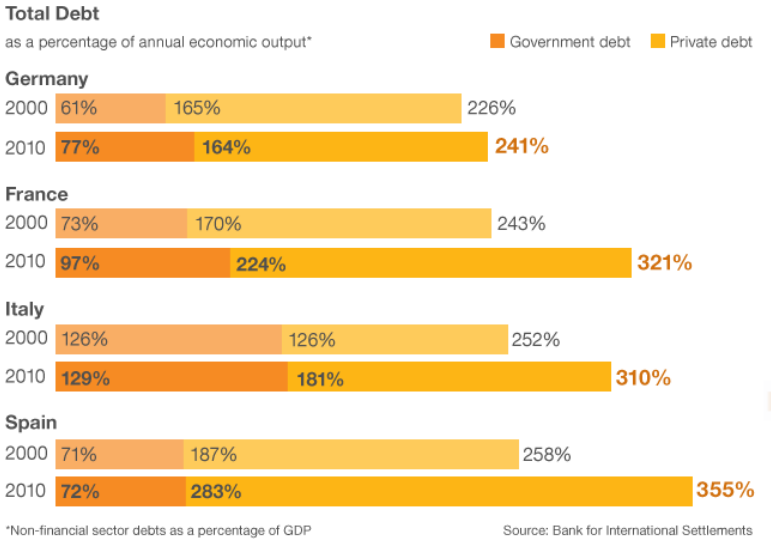
Source: Manasse (2013)

Figure 1 shows that the global economic crisis began earlier in the U.S. (2007), than in the Eurozone (2008). Therefore, one can say that the crisis originated in the U.S. and later spread to the Eurozone. Also, one can see from the figure that the fall in

output had a larger impact on the Eurozone. Manasse describes this by "The US economy started recovering from 2009, while in the Eurozone recovery has been short-lived, and flattens out in 2010" (Manasse, 2013). One can see that this financial setback had more severe consequences for the Eurozone than the U.S. This problem has forced certain members of the Eurozone (countries located in the south as well as Ireland especially) to continuously finance budget deficits due to increasing national debt. Since the beginning of the crisis, there have been multiple asymmetric shocks to the economy and the Eurozone still lacks ways of dealing with them. In the article "Eurozone crisis explained" the situation in Europe is described as,

> There *was* a big build-up of debts in Spain and Italy before 2008, but it had nothing to do with governments. Instead it was the private sector, companies and mortgage borrowers, who were taking out loans. Interest rates had fallen to unprecedented lows in southern European countries when they joined the Euro. And that encouraged a debt-fuelled boom (BBC News, 2012).

Figure 2. Total Debt as a Percentage of Annual Economic Output for Eurozone Countries



Source: "Eurozone Crisis Explained." *BBC News* 19 June 2012: n. pag. Print

Figure 2, from the same article, displays that the debt of Eurozone countries grew by very high percentages between 2000 and 2010. As one can see from the figure, private debt has been the larger issue. However, the Eurozone has been trying different methods to help prevent further losses for the affected countries. For example, in 2010 they created a temporary crisis fund called the European Financial Stability Facility (EFSF). The main concern that the EFSF was going to address and try to improve was the lack of financial stability for some of the countries in the Eurozone. To improve this issue, the EFSF was going to provide financial assistance to Eurozone member countries within the framework of a macro-economic adjustment program (About EFSF). The EFSF provided cheap loans to the countries that were most affected by the debt crisis. The countries that received this help committed themselves to implement powerful changes to the public finances. Thus far, several countries have used this help. In May 2010, Greece received their first emergency loan of 110 billion euros from the EFSF, the International Monetary Fund and the European Central Bank. In November 2010, Ireland received a crisis loan of 85 billion euros and in May 2011 Portugal received a loan of 78 billion euros. In 2012, Spain and Cyprus requested emergency loans for their country's banks.

i. Detailed Analysis of the Eurozone Financial Crisis

In his speech at the Festival of Economics in Trento, Italy, at June 2nd, 2012, George Soros explained some of the conflicts that the Eurozone has encountered and the crisis in more detail. Before the countries entered into the Eurozone and adopted the euro as their currency, the less economically strong countries in Europe, such as Portugal, Ireland, Spain, and Greece, had to pay a larger amount to be able to borrow money from the bigger countries such as Germany, France, and United Kingdom. When the currency union was formed, all the member nations got the advantage of

being able to borrow at the same rate in between all countries in the union. In his speech, Soros (2012) argues:

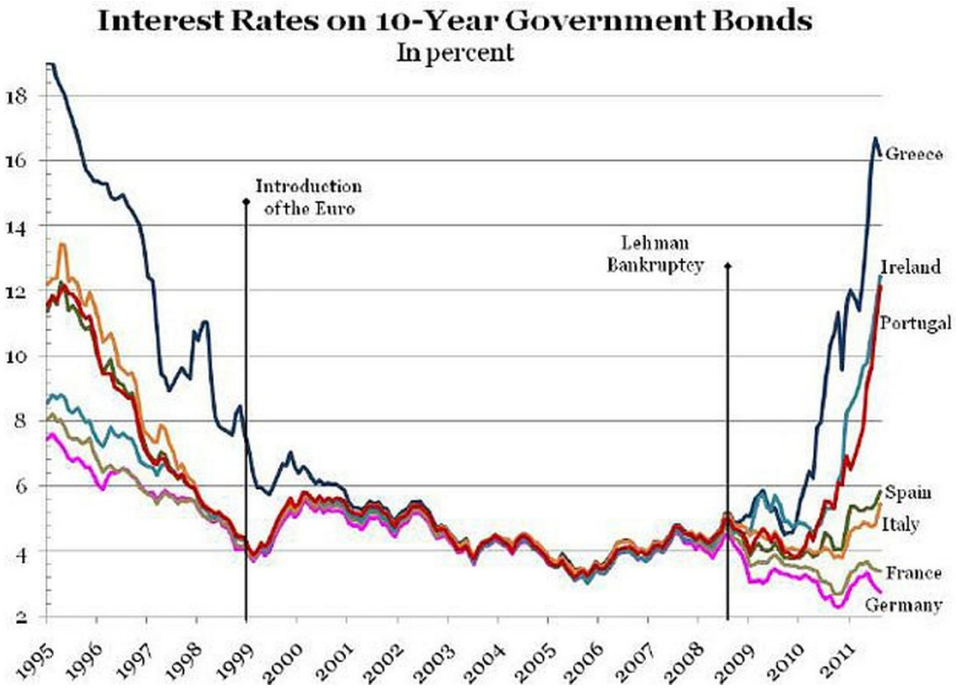
> When the euro was introduced the regulators allowed banks to buy unlimited amounts of government bonds without setting aside any equity capital; and the central bank accepted all government bonds at its discount window on equal terms. Commercial banks found it advantageous to accumulate the bonds of the weaker euro members in order to earn a few extra basis points. That is what caused interest rates to converge which in turn caused competitiveness to diverge.

In a way this made Eurozone countries, especially the ones with struggling economies, believe that bonds for all Eurozone countries are identical; whether they are sold by Ireland, Spain or Germany they are all the same. Therefore there were tendencies that banks rushed to lend money to the weaker Eurozone countries, hence their borrowing costs plummeted (Goldstein, 2012). Up until 2008 it looked like this prediction was true. During this time period, borrowing costs were almost identical for all of the countries in the Eurozone (See Figure 3). However, in 2008 this changed. During the nine years when it looked like all the Eurozone countries were benefitting from the common currency union, this indicator was wrong because the countries were actually diverging. In his speech, Soros (2012) argued that,

> Germany, struggling with the burdens of reunification, undertook structural reforms and became more competitive. Other countries enjoyed housing and consumption booms on the back of cheap credit, making them less competitive.

This point shows that the sovereign economies of the member countries in the Eurozone had extremely different development before and after the implementation of the euro and this has led to the large gap in the different countries' reactions today.

Figure 3. Interest Rates on 10-year Government Bonds for Eurozone Countries



Source: Thomson Reuters Datastream

As Figure 3 shows, one can clearly see the divergence of the interest rates on 10-year government bonds of these different Eurozone countries. This graph shows the reaction to that all these countries are, in fact, different countries with very different economies, and therefore not all Eurozone government bonds are identical. In his speech, Soros (2012) argued that,

> It took some time for the financial markets to discover that government bonds, which had been considered riskless, are subject to speculative attack and may actually default; but when they did, risk premiums rose dramatically. This rendered commercial banks whose balance sheets were loaded with those bonds potentially insolvent. And that constituted the two main components of

the problem confronting us today: a sovereign debt crisis and a banking crisis, which are closely interlinked.

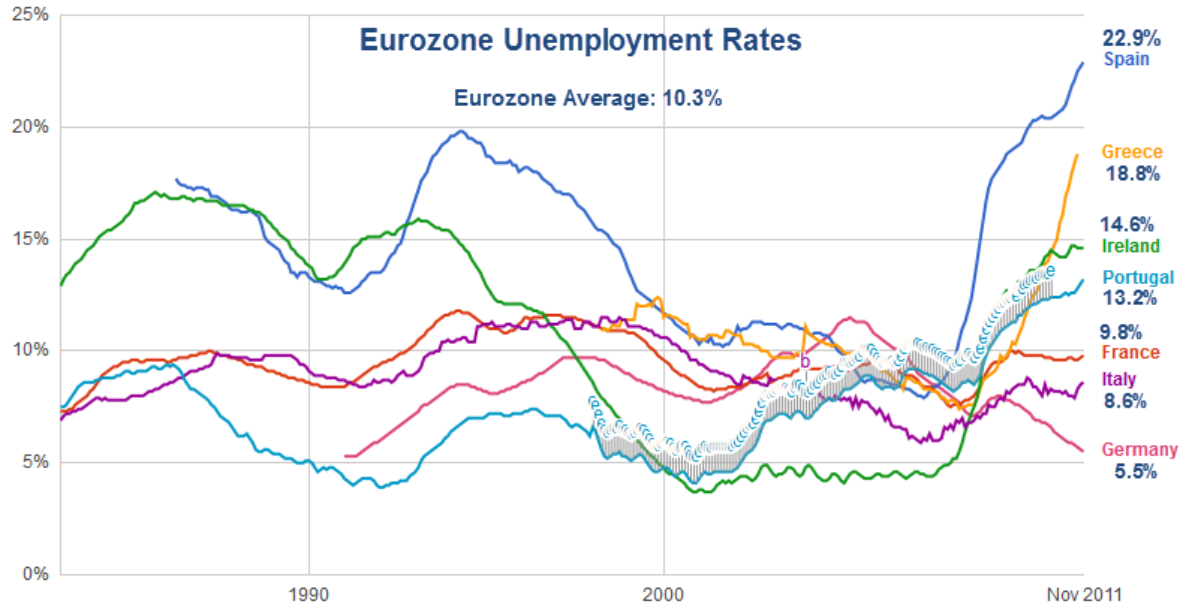
Therefore, the core of the European financial crisis is the two related problems with rising borrowing costs for the weaker countries in the Eurozone, and the banks that had already loaned money to these countries were now going to start struggling. As mentioned previously, certain nations were affected worse than others, and the next section describes this point.

B. This Disparate Experience of Ireland, Portugal, Spain, and Greece

Data from Eurostat show that the current unemployment rate in the European Union is 10.7% (Seghi and Burn-Muldoch, 2013), which means that a large part of the people that wants to work are currently unable to find work. Compared to the other Eurozone countries, the unemployment rate is extremely high in Ireland, Portugal, Spain and Greece. With Spain and Greece being the countries with the highest unemployment rate: they both currently have an unemployment rate above 26%. Figure 4 on the next page shows that Ireland, Portugal, Spain, and Greece are the four countries in the Eurozone with the highest and fastest rising unemployment rates. If this trend continues, there is only a matter of time until other countries, such as Germany, who has a relatively stable unemployment rate now, will be dragged down together with the countries that are struggling.

Increasing unemployment rates are a big problem that the Eurozone members have encountered and one can now see how important it is for the nations with weaker economies that have adopted the euro to be quick to adapt to changes and respond to the euro crisis for their future welfare. Differences between countries such as Spain, Greece, Ireland, and Portugal compared to countries such as Germany and France is

Figure 4. Eurozone Unemployment Rates 1990-2011



Source: Shedlock

that the first group of countries does not have the same financial resources to protect themselves and their own interests in difficult financial times. Hence, as figure 4 shows, weaker countries such as Spain, Greece, and Ireland have continued to diverge from more powerful nations such as Germany and France. The same figure demonstrates that it is over the period since around 2007 that the divergence in the unemployment rates has become very clear and this trend has become more and more extreme.

An interesting measure to look at is the debt to GDP ratios of the nations in the Eurozone in order to get an idea of the development the different countries have had under the currency union. The debt to GDP ratio provides an indication of the ability for a country to pay back its future debt. It is a good way to compare the different experiences that the member countries have had with the implementation of the common currency. In his research Robin Emmott (2013) argues,

> A divide now exists between France and Germany on the one hand, where debt fell slightly in the third quarter from the second, and the economies of Ireland, Greece, Portugal, Spain and Italy, whose debt-to-GDP ratio rose in the July-September period. In Ireland, there was a burst real estate bubble, which forced the country into an international bailout, reached 117 per cent of economic output in the quarter, while the number was 127 per cent in Italy. Spain saw its burden tick up to 77 per cent of GDP, and the Commission sees it reaching 97 per cent in 2014. Greece's debt rose to 153 per cent of GDP in the quarter and will reach 189 percent in 2014, although a deal struck by euro zone finance ministers and the International Monetary Fund in November aims to take it down to 124 per cent by 2020. Rising debt is particularly worrying for Italy and Spain, the euro zone's fourth- and fifth-largest economies, which are in recession and need growth to cut debt and unemployment.

Due to the fact that the economies of Spain, Ireland, Greece, and Portugal have struggled a lot after the economic crisis in 2008, it is interesting to look more in detail on their debt to GDP ratio. Table 1 provides the debt to GDP ratios for some of the Eurozone countries taken from Eurostat data.

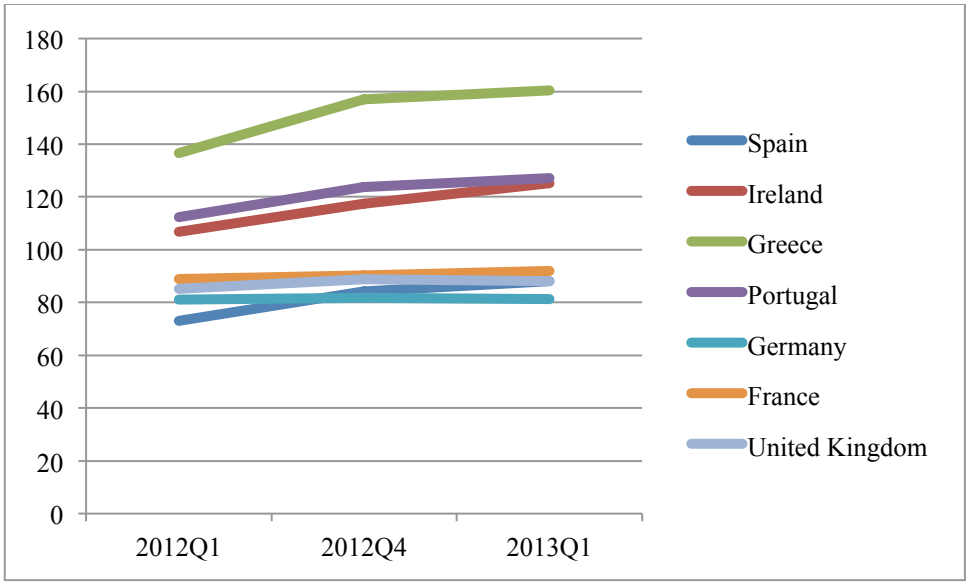
Table 1. Government Debt as a Percentage of GDP Eurozone Countries 2012 and 2013

	Government Debt as % of GDP		
	2012Q1	**2012Q4**	**2013Q1**
Spain	73	84,2	88,2
Ireland	106,8	117,4	125,1
Greece	136,5	156,9	160,5
Portugal	112,3	123,8	127,2
Germany	81,1	81,9	81,2
France	88,9	90,2	91,9
United Kingdom	85,1	88,8	88,2

Source: Eurostat

The values in Table 1 demonstrates that the debt to GDP ratios of Ireland, Greece, Portugal, and Spain have all been rising significantly over the period measured, while the debt to GDP ratios of Germany, France, and United Kingdom have remained more stable. In the first quarter of 2013, Ireland's debt to GDP ratio was 125.1%, for Greece it was 160.5%, and for Portugal it was 127.2%. These values are extremely high, suggesting that these countries are struggling with repaying their debt. Spain's debt to GDP ratio in the first quarter of 2013 was 88.2%, which is not as high as the other three countries just discussed. However, looking at the evident upward trend in the values of this measure that Spain has experienced, this increasing level of debt has the potential to develop into a problem for the country. Figure 5 below displays how the curve for the debt to GDP ratios for Portugal, Greece, Ireland, and Spain are steeper than the curves for Germany, France, and United Kingdom. It is this growing trend that is alarming for these four countries.

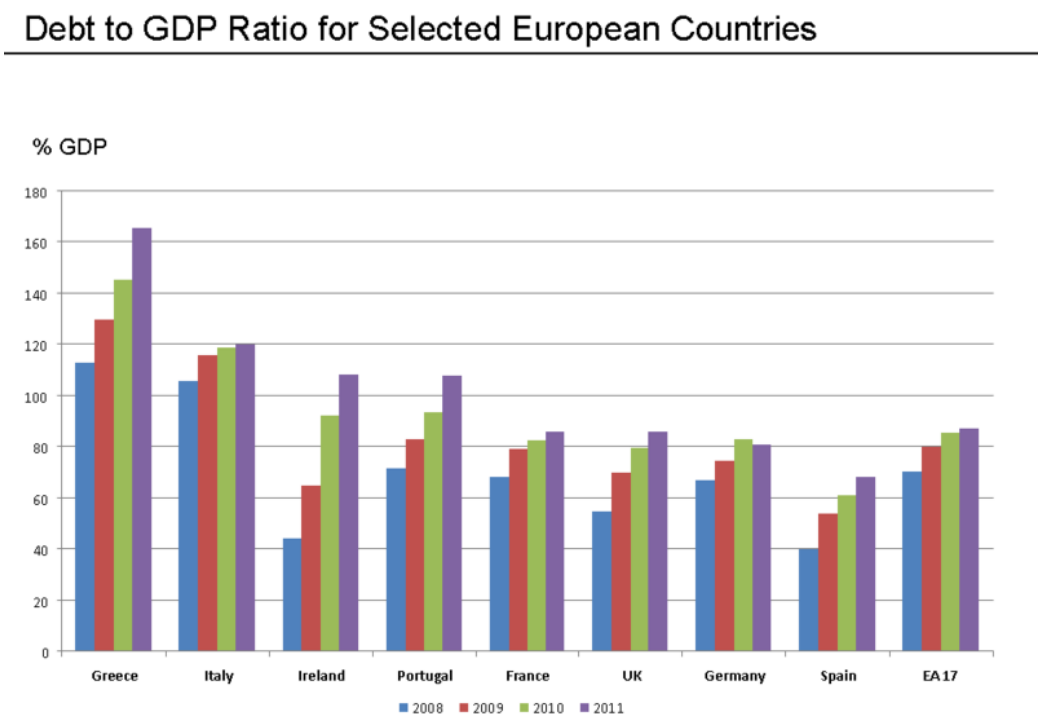
Figure 5. Debt to GDP Ratio for Eurozone Countries 2012Q1-2013Q1



Source: Eurostat

Figure 6 below compares the debt to GDP ratio for some of the Eurozone countries. The high values of Greece, Ireland and Portugal clearly stand out here. Spain lies a little under the other nations on this graph, but one has to consider the fact that after 2011 the nation's debt to GDP ratio has increased significantly. What is interesting to see here is the difference from year to year between the distinct countries and again one can see that Ireland, Greece, Portugal, and Spain are the countries with the highest increase from year to year.

Figure 6. Debt to GDP Ratio for Selected European Countries

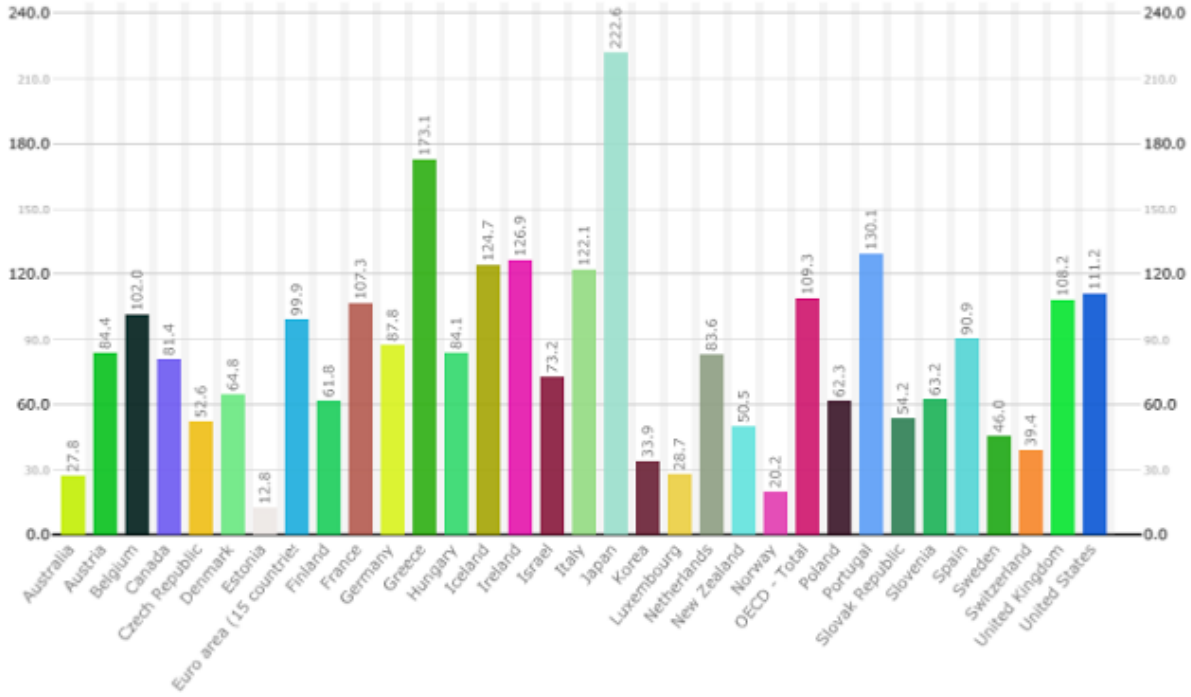


Source: Data from Eurostat

Figure 7 on the following page demonstrates the estimates for the 2013 debt to GDP ratio for many of the same Eurozone countries as well as other big countries in the rest of the world. As one can see, many of the same Eurozone countries that have

been discussed previously are ranked high when comparing their debt to GDP ratios with other countries in the world as well.

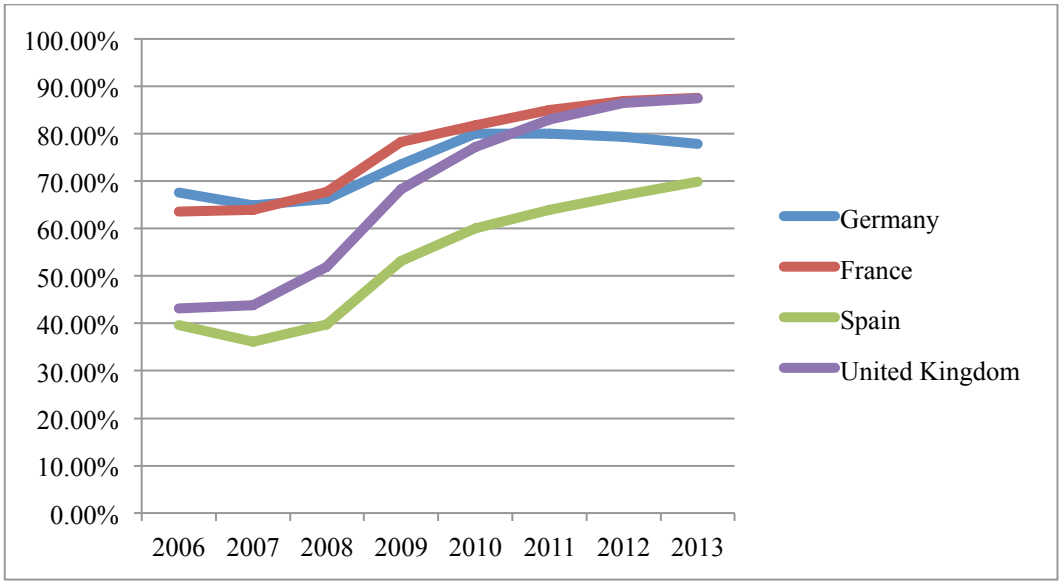
Figure 7. Estimate of the 2013 Debt to GDP Ratio for Selected Countries in the World



Source: Wang, Data taken from OECD database

Figure 8 on the next page also displays data over a longer time period where one can see the development of the debt to GDP ratio of these different Eurozone member nations. These four nations are what I am going to compare in the rest of this thesis in order to figure out what has caused this deeper recession that Spain has experienced compared to France, Germany, and United Kingdom. I chose to use France, Germany, and United Kingdom as comparisons to Spain's data because these countries will give me a better picture of what issues have caused the problems in Spain. All of these countries have large economies that all are a big part of the total Eurozone economy. However, they each also have very distinct differences. Germany is the country that

Figure 8. Debt to GDP Ratio Eurozone Countries 2006-2013



Source: Data taken from Eurostat

one would think is the closest to the trend and is therefore a good comparison for Spain in terms of seeing what periods the country has had its largest problems. United Kingdom is a country that has its own monetary policy and has a much freer labor market than what Spain has, therefore we can expect United Kingdom and Spain to be quite different in many areas. France is expected to be similar to Spain in many areas, however as the data shows, this will indicate what areas that have caused Spain to suffer after the implementation of the euro.

C. A Europe-Wide Solution – Monetary Policy

Charles Wyplosz, at the time he was president of the Bundesbank, portrayed the first decade of the Eurozone currency union as nine successful years followed by a destructive tenth year. Wyplosz argued that the success the currency union experienced during the first nine years was due to price stability and improved trade and financial integration. Although he thought that it was debatable whether this acceptable implementation was due to "good luck, good policies or both," he

concluded that the Eurozone had “operated better than most observers had predicted” (Jimeno, 2000). One problem that especially the smaller peripheral countries have encountered is that the control that individual countries have over the common monetary policy for the Eurozone is very small. A more powerful economic country, like for example Germany, is more likely to dominate due to the fact that Germany had the best monetary policy to begin with so in many ways this country has more to say when implementing big decisions. This problem is often referred to as the competitiveness crisis where the imbalance between the different Eurozone countries is a possible source of conflict. In the future development of the currency union it will be important to equalize the power relationships between the member nations.

After interviewing many people to get different point of views, Lars Jonung and Eoin Drea (2010) concluded in their research that the currency union in the Eurozone would encounter a lot of difficulties due to the fact that there is a significant difference between the needs of monetary policy between two countries such as Ireland and Italy, and with one single currency one cannot have that. Therefore, it will be hard to implement a common monetary policy that will solve the problems for each of the individual member countries in the Eurozone. Hence, this point illustrates that the common monetary policy imposed on all the member countries is the main issue that has led to some countries struggling more than others, as is the case for Spain.

Chapter 3

Spain

A. Spain's Experience in the Eurozone

Spain has been progressing economically since the early 1960s. The Spanish Civil War ended in 1939 with the dictator Francisco Franco and the nationalists continuing to have the power in the country. The war was followed by a period of famine consistent of food shortages resulting in approximately 200,000 Spaniards dying. This period is therefore referred to as Los Años de Hambre, or the years of hunger. The nation's rapid economic development after the civil war and the years of starvation has become known as the "Spanish miracle". The determinant factor for Spain to achieve an increase in economic growth occurred in 1959 when Franco decided to rely less on the country's various ideologies and give more authority to the Francoist technocrats. Most of these technocrats were members of the influential catholic group, the Opus Dei or the Work of God. This event resulted in that the Spanish government began to include more people that were working towards a modernized country. With this increase in authority that the technocrats had been given, they were able to move Spain towards a more modernized country. The technocrats introduced many new development strategies, such as convincing the rest of the country to adopt a free market economy, increasing competition, and having a closer relationship with other European countries. By increasing the cooperation with other countries, more international corporations decided to expand their businesses to Spain. These reforms resulted in an increase in growth. They also altered the

monetary policy of the country by closely following the guidelines of the International Monetary Fund. These new implementations resulted in the Spanish economic boom. At this time, Spain was suffering from overpopulation. Due to the change in economic policies, a lot of Spaniards moved to other countries and sent money back home to their families, which helped the economy recover. Another aspect that helped boosting the Spanish economy was the increased attention to introduce Spain as an attractive tourist destination.

Spain became a member of the European Union in 1986 along with Portugal. Spain was among the first 11 countries to adopt the euro as their currency on 1st January 1999, and introduced notes and coins in 2002. Since its entry, the country's economy has prospered in many areas, such as manufacturing, agriculture, mining, the services sector, and heavy industry (Marca España). Over the last couple of years Spain has had one of the fastest growing economies in the world. Looking at GDP, Spain is today the fifth largest economy in Europe, and represents 9% of the total economy in Europe. France, Germany and Italy are Spain's most important trading partners. Half of Spain's production comes from the autonomies located in the north of Spain: Catalonia and the Basque country. Catalonia has such a strong economy due to its diverse offering for tourists with both the nice Mediterranean beaches and the Pyrenees to enjoy. Also, this region has a strong manufacturing sector. The Basque country has the highest level of income per capita in Spain and the unemployment rate is much lower than in the rest of the country, approximately the same as the Eurozone average. This region has done well due to their strategic placement in the country and a strong industrial sector because of access to iron and minerals. Barcelona is the commercial center of Spain and is considered to be an important economic driver of the European economy.

As mentioned above, the Spanish economy has had a lot of problems since the entry into the Eurozone. However, there are a lot of people that do not think that the decision for Spain to join the currency union in Europe was all bad. Luis Ángel Rojo, who was Governor of Banco de España when the Maastricht Treaty was signed, set Spain's participation in EMU in a historical perspective. He described the challenges that Spain faced to join the monetary union as a founding member, and clearly identified the advantages of integration, on the basis that macroeconomic stability was a necessary condition for sustained economic growth. He indicated that, despite all the difficulties that had to be overcome during the transition to EMU, such as correcting large macroeconomic imbalances and imposing strong budgetary consolidation, he considered the efforts worthwhile (Jimeno, 2000).

However, as previously mentioned, Spain has encountered a lot of problems in recent years. The period from 2008 to the present has been described as the Spanish financial crisis due to many factors. The crisis was a reaction to long-term loans, the real estate crash, and a very high increase in unemployment. In February 2009, the downturn in Spain's economy had gone so far that the nation, among other countries in Europe, entered into a recession. Although Spain has often been described as a European success story, the success proved to be unstable as this real estate bubble drove much of its growth. The article "An overview of Spain's economy" describes:

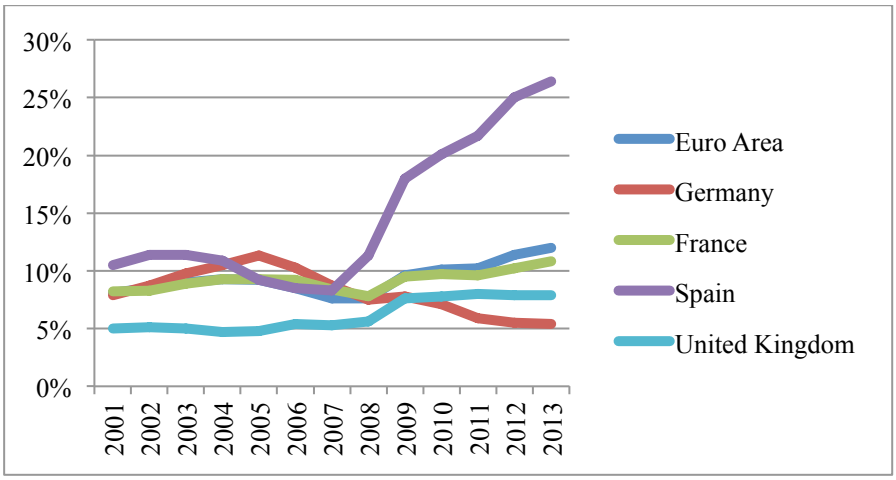
> The real estate bubble was caused by a combination of low interest rates, financial deregulation, rising domestic incomes as well as strong demand from foreign investors, and overshadowed Spain's falling competitiveness. In addition, many of the new jobs created were restricted to low-wage, low-productivity parts of the economy, such as construction and domestic services, while other more lucrative economic sectors remained sluggish. Eventually,

the burst of the housing bubble and the global financial crisis brought the Spanish economy into a severe downturn (Scios, 2012).

The development of real estate prices in Spain saw its most crucial period between 1996 and 2007 when prices rose by 200%. Therefore, one can conclude that after the burst of the housing bubble in 2007/2008, Spain's economy has encountered severe challenges.

The other problem that Spain has struggled with is their extremely high unemployment rate. The Department of Labor reported in January 2012 that the number of unemployed in Spain was 4.98 million, an increase of more than 132,000 people from the month before. The rise in real estate prices combined with the subsequent crash and the extremely high unemployment rate have heavily impacted the livelihood of Spanish citizens. Since October 2008 the unemployment rate has continued to increase. By March 2012, Spain's unemployment rate reached 24.4%, which is twice the Eurozone average. As Figure 9 below shows, since the financial crisis in 2008 Spain's unemployment rate has diverged dramatically from most of the other Eurozone countries. In 2013, Spain's unemployment rate was as high as 26.7%.

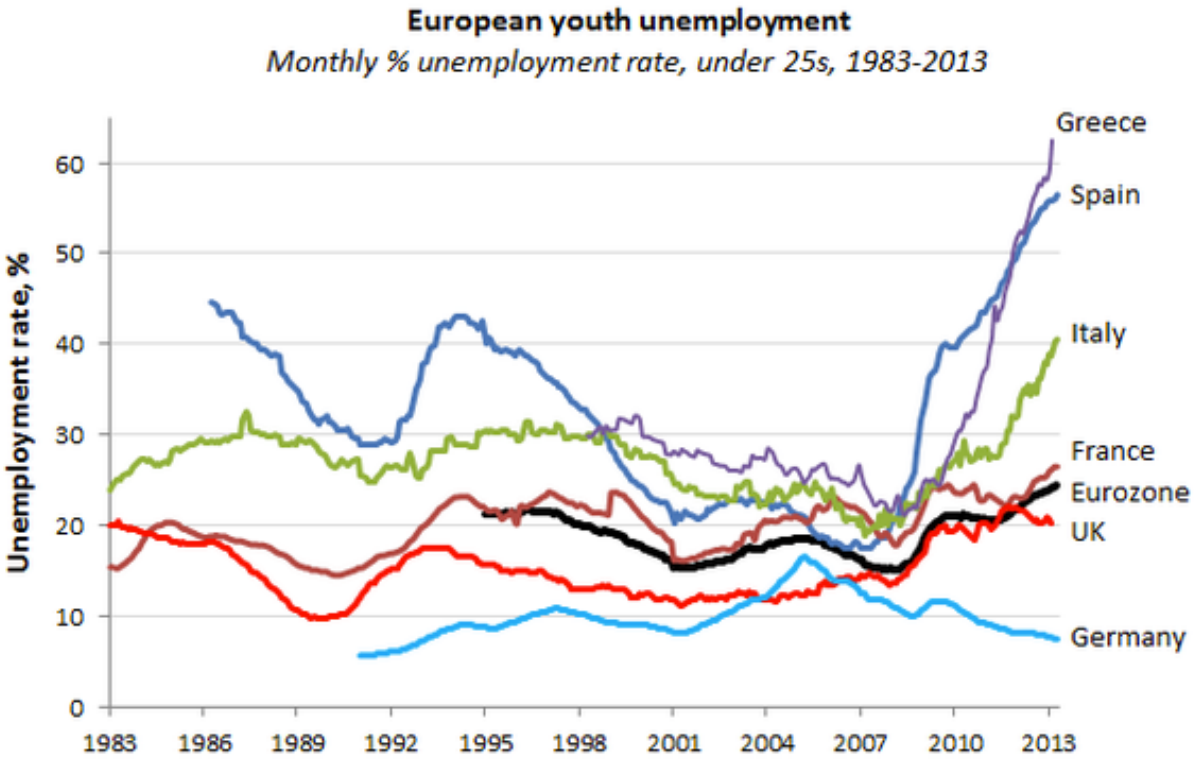
Figure 9. Unemployment Rate Eurozone Countries 2001-2013



Source: Data from Eurostat

In the Spanish labor market there are distinct groups of the labor force that are suffering more. For example, female and youth unemployment rates have been about 10 to 20 percent higher than the aggregate unemployment. The most alarming feature of the Spanish labor market is that the unemployment rate for those Spaniards less than 25 years is around 50%. These young people are the most educated generation that the country has ever had, yet they face the highest rate of unemployment in Europe. The article in the Spanish newspaper *El País* "El paro juvenil sigue subiendo" describes that the unemployment rate for the Spanish population under 25 years has increased to 53.28% (Romero, 2012), which means that more than half of the people under 25 years old that want to work in Spain, do not have the opportunity to do so. Figure 10 shows this development.

Figure 10. European Youth Unemployment 1983-2013



Source: Thompson (2013)

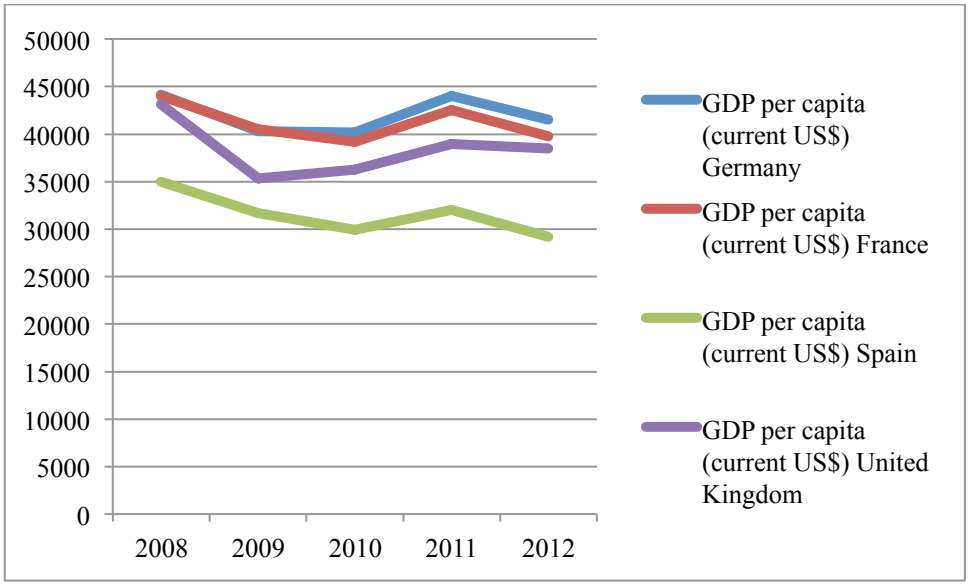
This problem has led to that a large amount of the highly educated Spaniards leave the country to search for better job opportunities. Recent numbers from OECD shows that the number of people leaving the country has taken over the number of arrivals, hence Spain is now a net emigrant country (La OCDE constata emigración neta por primera vez en España en 2011 de más de 50.000 personas por la crisis).

Another consequence is that highly educated people settle for jobs that pay minimum pay. This issue is often referred to as "over-qualification" and one can see that many people with college degrees have to settle for jobs that require no skills. A big concern among the Spanish population is that this generation will be known as the "Lost Generation" because of their constant search for jobs that will lead to that in the future they will be closed off from good careers. This problem also has another downside due to the fact that since there is not enough work, overeducated people end up having to take on lower paying jobs. When there is excess supply of labor, it is likely that highly educated workers who cannot find a job will accept jobs below their skill levels at the cost of "crowding out" lower educated workers who therefore become unemployed (Jimeno, Felgueroso, Dolado, 2000).

The fact that unemployment rates for lower (primary) educated and higher (tertiary/university) educated workers have quadrupled and tripled respectively over the last twenty years, and all despite a huge educational drive, can possibly be explained by a combination of three factors: (i) labor market institutional factors (fixed-term employment contracts, wage bargaining, etc.), (ii) skilled biased technological progress, and (iii) over-education and crowding-out of lower educated workers by higher educated ones who replace the former in their traditional entry jobs and engage into on-the-job search (Jimeno, Felgueroso, Dolado, 2000).

Together with the high Spanish unemployment rate, other measures also show the worsening conditions in Spain. For example, the GDP per capita in Spain is also lower than these other comparison countries as Figure 11 shows and appears to be slightly diverging.

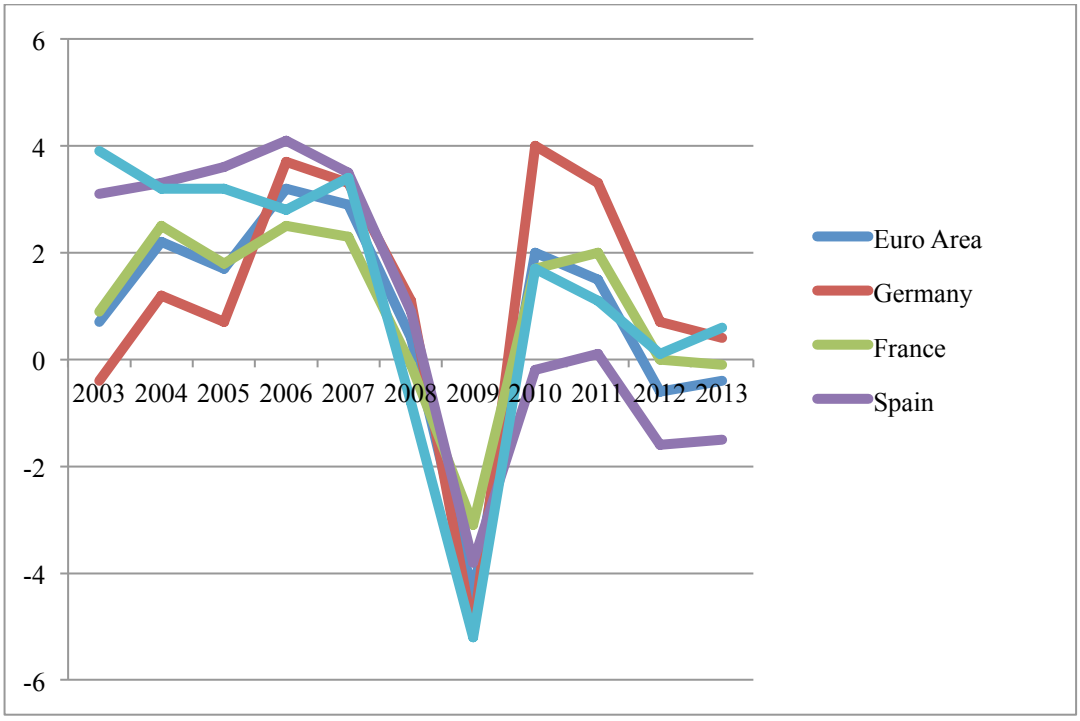
Figure 11. GDP Per Capita Eurozone Countries 2008-2012 (in US$)



Source: Data from Eurostat

As well as the unemployment rate comparison above, the real GDP growth rate shown in Figure 12 on the next page shows the issues Spain is encountering in the near future. Figure 12 demonstrates the difficulties that Spain has had since the recovery phase after the economic crisis in 2008. Since 2010 one can clearly see that the growth rate of Spain has diverged from those of Germany, France, and United Kingdom and has continued to be negative since then. What has made this issue unfold is what will demonstrate whether the domestic problems that some of the Eurozone countries are experiencing are due to the common monetary policy or if it is

Figure 12. Real GDP Growth Rate Eurozone Countries 2003-2013



Source: Eurostat

due to country-specific policies. The question that I will look at in the next sections is could it be that this deeper recession that Spain has experienced is due to structural problems or is it due to the membership of Spain in the European Union and hence suboptimal policy.

B. Detailed Analysis of the Spanish Labor Market

In this section, I have researched different parts of the Spanish labor market in order to figure out the reasons for the issues that can be observed in the country today. First, I looked at the importance of employment protection legislation for the unemployment rate. I found that the high level of temporary contracts in Spain,

combined with the reluctance to get rid off permanent workers are the two main problems for the country. To further explore this issue, I looked at a framework developed by Holt and Hendrickson (2014) which show that if costs associated with firing workers increase this results in a permanent higher unemployment rate.

Second, I calculated the labor wedge for four Eurozone countries. This measure is important because taxes cause inefficiencies in the economy. This tendency is due to the fact that workers do not get to keep all of their income because of the taxes they have to pay, which, given that the substitution effect is dominant, will result in workers having an incentive to work less and consume more leisure. However, my results showed that the labor wedge couldn't explain why Spain has entered into a deeper recession than other Eurozone countries such as France, United Kingdom, and Germany because Spain actually had the lowest labor wedge of these countries.

Third, I looked at the price level and how it has differed from country to country after the implementation of the euro. To do this, I compared the price level in different Eurozone countries relative to the counterfactual. In order to explain the effect of an event in economics it is useful to compare what actually happened to what would have happened if the event had not occurred. Therefore, it is helpful to use a counterfactual, which provides us with the trend of the measurement that is under investigation if it would have continued on the same path as it historically had been. In this thesis, the counterfactual was constructed by assuming that the price level would have remained on the same path that it had been for the past 20 years. This trend helped me be able to find the deviations from trend for Spain, France, Germany, and United Kingdom. What I found here was that all the countries are still below trend, however Spain is dramatically lower than any of the other nations.

i. OECD Regulations in Force on 1st January 2013 in Spain

In 2013, new regulations that affected the Spanish labor market were implemented. One distinct feature of the Spanish labor market is that the workers get a lot of compensation in severance pay "Workers dismissed for "objective" reasons: 2/3 of a month's pay per year of service up to a minimum of 12 months" (OECD page 88). This aspect makes it costly to fire permanent workers in Spain and therefore one can see that there is a significant larger part of temporary contracts in this country compared to other European countries. Severance pay for people that have been dismissed unfairly is even longer, "The level for severance pay concerning unfair dismissal is calculated as 33 days pay per year of service with the upper limit of 24 months pay" (OECD page 89) and for some contracts entered into prior to 12 February 2012 the maximum severance pay amount can be up to 42 months pay. When employers have to pay their employees for such a long time period after firing them, it gives them an incentive not to fire their employees even if they are not being as efficient as would be optimal.

Another regulation that makes it costly for Spanish companies to fire employees is the length of the trial period for dismissal, which is very long in Spain. For example, a new type of employment contract was created in 2012, called the Permanent Employment Contract to Support Entrepreneurs. This contract is available exclusively to small and medium-sized enterprises with less than 50 employees that did not make unfair or collective dismissals in the 6 months preceding hiring. This contract sets the duration of trial period to 1 year, which is a long time. This implies that the business has to keep paying the employee for one year due to the lengthy process of getting a worker fired. This is good for workers because they are highly protected against losing their jobs, but it is also not efficient because it is hard for

companies to get rid of workers that they do not feel they need. When workers get a long time in notice before dismissal it means that they are taking up the spots for more qualified and efficient workers that could have increased productivity. Because of this trend of a longer time associated with firing a worker, it has resulted in that the Spanish companies are more critical when hiring new workers due to the increased cost of getting rid of employees that are doing a dissatisfactory job. On the other hand, this tendency could also lead to an increased competition for high salary paying jobs. If this were the case, it could increase the productivity of a country because it would give workers an incentive to push themselves harder to obtain these top positions. However, in Spain today it is apparent that the longer time associated with firing a worker has resulted in an increased scrutiny by employers when hiring new workers.

As discussed above, Spain has a large part of temporary contracts compared to other Eurozone countries. One of the features that also were discussed in these new regulations from the OECD is the long training contracts in the Spanish labor market, which can be looked at as a form of temporary contract that has a long time that it can be in effect: “Training contracts: may be extended for six months up to two years, or three years by collective agreement, and up to four years for workers with disabilities” (OECD page 89). There are also no restrictions on the number of renewals or prolongations of temporary work assignments: “No limitation for renewals of contracts between the agency and the worker” (OECD page 89). Also, the condition of becoming a permanent worker is very extensive:

> Workers who – within a period of 30 months – had been hired during a period longer than 24 months, with or without continuity, for the same or different occupation within the same firm or group of companies and have been hired

> directly either on two or more fixed-term contracts or being placed at disposal by temporary work agencies with the same or different type of fixed-term contract will acquire the condition of permanent workers (OECD page 90).

The implications of this statement is that it is easy for a Spanish company to argue that an employee that has been a worker in the firm for several years is still under a temporary contract because of all these conditions that one have to fulfill in order to become a permanent worker. That means that, if the company enters an economic downturn, it will be easier for them to fire these employees because the employer can argue that they are still under temporary contracts.

As mentioned earlier, in Spain today it is extremely hard to get rid of permanent workers: "Replacement contract for workers near retirement: time left until the replaced worker reaches the age of 65, i.e. up to a maximum of 48 to 52 months, according to the age of the worker who retires" (OECD page 89). In Spain, it is currently hard for many corporations to fire employees that have been in the corporation for many years due to strong relationships. Here, it is assumed that the company would rehire and not eliminate the position to cut labor costs because of the many disadvantages associated with downsizing for a company. These disadvantages include lost business because of fewer available salespeople, a decrease in innovation because there are not enough people working on research and development, and reduced productivity due to the decreased work-morale associated with having workers laid off. Hence, the fact that these permanent workers are able to sit in their jobs for as long as they want has developed into a problem in the Spanish labor market because it forces younger and more qualified workers to settle for lower-paid jobs.

ii. Current State of the Spanish Labor Market

The current state of the Spanish labor market is problematic. The Spanish labor market is highly dual, with about 30 percent of the labor force in temporary or fixed-term contracts. This is the highest level in the EU15 since the mid-1980s, and about double the EU15 average. Florence Jaumotte (2011) suggests that the key reform for lowering the unemployment rate in Spain is to reduce the share of temporary workers by lowering the high employment protection of permanent workers. This point is important in my analysis because it suggests that temporary employment will increase when the costs associated with hiring and firing permanent workers increase. This issue will result in a reluctance for employers to hire new workers and create more jobs. The reality for many Spanish workers today is that they are forced to take on temporary contracts, which comes with great uncertainties about the future. This job instability that many Spanish workers are facing today is an incredibly stressful reality to live in. By lowering the protection of permanent workers, it does not necessarily mean that it will result in firing these workers. It implies that more jobs in Spain can be qualified as permanent positions, due to the reduced conditions that a job has to fulfill in order to become a permanent position. This further implies that more jobs will be created and Spanish labors will face less instability in the job market. However, Jaumotte also argues that to reduce the unemployment rate, the decreased protection of permanent workers has to be combined with a decentralization of the collective bargaining in the workplace. The collective bargaining refers to the discussion between the employer and the employee to determine wage, hours worked, and other conditions for the workers. This will result in the Spanish labor market being more dynamic and responsive to labor market changes. Due to the fact that a higher share of part-time workers is positively

associated with lower unemployment then to try to raise the number of part-time workers could be something worth trying as well. This fact is because a part-time worker is not looked at as an unemployed worker, hence, having more people in part-time positions will lower the unemployment rate for the country.

In their paper Bentolila, Cahuc, Dolado, and Barbanchon (2010) argue that the difference between the unemployment in Spain and France can be accounted for by the difference in employment protection legislation between the two countries. A response due to a combination of the larger gap between the dismissal costs of workers with permanent and temporary workers and the laxer rules on the use of temporary contracts in Spain than in France. The idea is further developed by Blanchard and Jimeno (1995) who argue that Portugal and Spain have had remarkable similar histories over the last 20 years, however Portugal has the lowest unemployment rate of 6.8% and Spain has the highest on of 24.4% in the Eurozone. This paper argues that the different combinations of unemployment protection and unemployment benefits can explain the magnitude of the difference in the unemployment between the two countries.

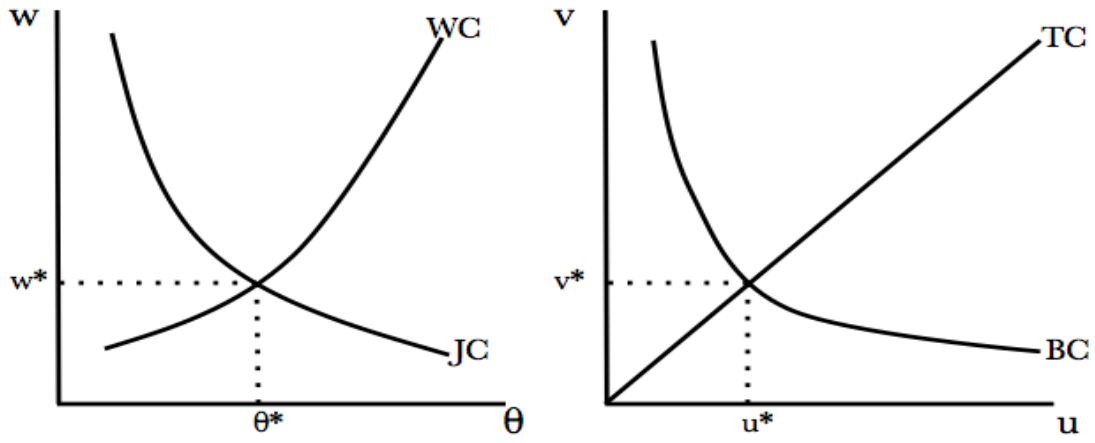
Research has been conducted on how a country's employment protection legislation can affect its unemployment rate. One framework, developed by Holt and Hendrickson (2014) describes this issue by identifying that if costs for employers to fire their employees increase, it will result in employers not being willing to alter their production and be very careful before hiring new employees. Increased firing costs can come from different administrative costs associated with firing people, such as, for example, severance packages and having a long time notice before dismissal. In this framework, it is demonstrated that an increase in the costs associated with firing a worker will result in a permanent higher unemployment rate. Hence, this framework

argues that although the primary goal of the Employment Protection Legislation (EPL) policies is to reduce the incidence of unemployment, it can actually have the opposite effect.

The Harlan and Hendrickson (2014) framework includes two graphs, shown in Figure 13 on the next page. The first graph includes the wage curve and the job creation curve. Real wage is on the vertical axis and labor market tightness is on the horizontal axis. The wage curve has a positive slope because as vacancy increases, employers need more workers, resulting in the employees to be in a position to negotiate higher wages. The job creation curve is downward sloping because it demonstrates that the firm is willing to create more jobs when the wage is lower. The graph on the right hand side, displays the vacancy rate on the vertical axis and the unemployment rate on the horizontal axis. The Beveridge Curve shows the possible combinations of unemployment rates and vacancy rates in equilibrium. The tightness curve is a straight line from the origin that has a slope equal to the labor market tightness parameter. The intersection between these two curves determines the equilibrium vacancy rate and unemployment rate, as Figure 13 shows.

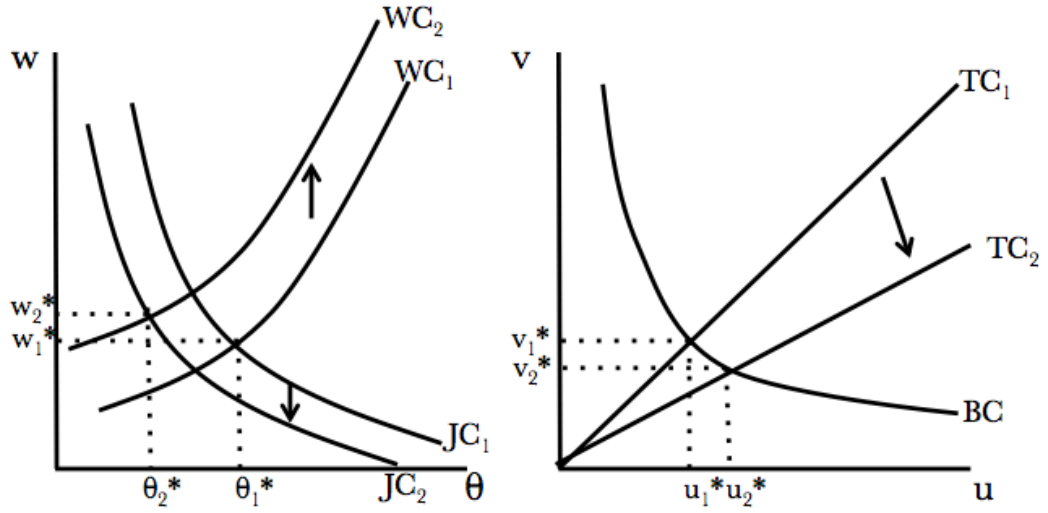
As described above, this framework shows that the effect of a stricter Employment Protection Legislation will shift the wage curve up since workers are in a position to negotiate for a higher wage at any level of labor market tightness. Due to the better protection of the workers, the associated wages for all workers will increase because the employer takes this into account when hiring new employees. This results in a downward shift in the job creation curve because it increases the costs of both hiring and firing a worker and therefore the firm is willing to pay less to the worker than they were previously. As one can see from Figure 14 on the next page, the

Figure 13. Employment Protection Legislation Framework 1



Source: Holt and Hendrickson (2014)

Figure 14. Employment Protection Legislation Framework 2



Source: Holt and Hendrickson (2014)

intersection between the wage curve and the job creation curve, which determines the equilibrium real wage and labor tightness, will result in decrease in the labor market tightness parameter. The effect on the real wage is ambiguous because it depends on how much each curve shifts. This transfers over to the graph on the right hand side with having the tightness curve rotate down as an effect of what happened in the previous graph. As Figure 14 on the previous page shows, this results in a decrease in the vacancy rate, and a permanent increase in the unemployment rate.

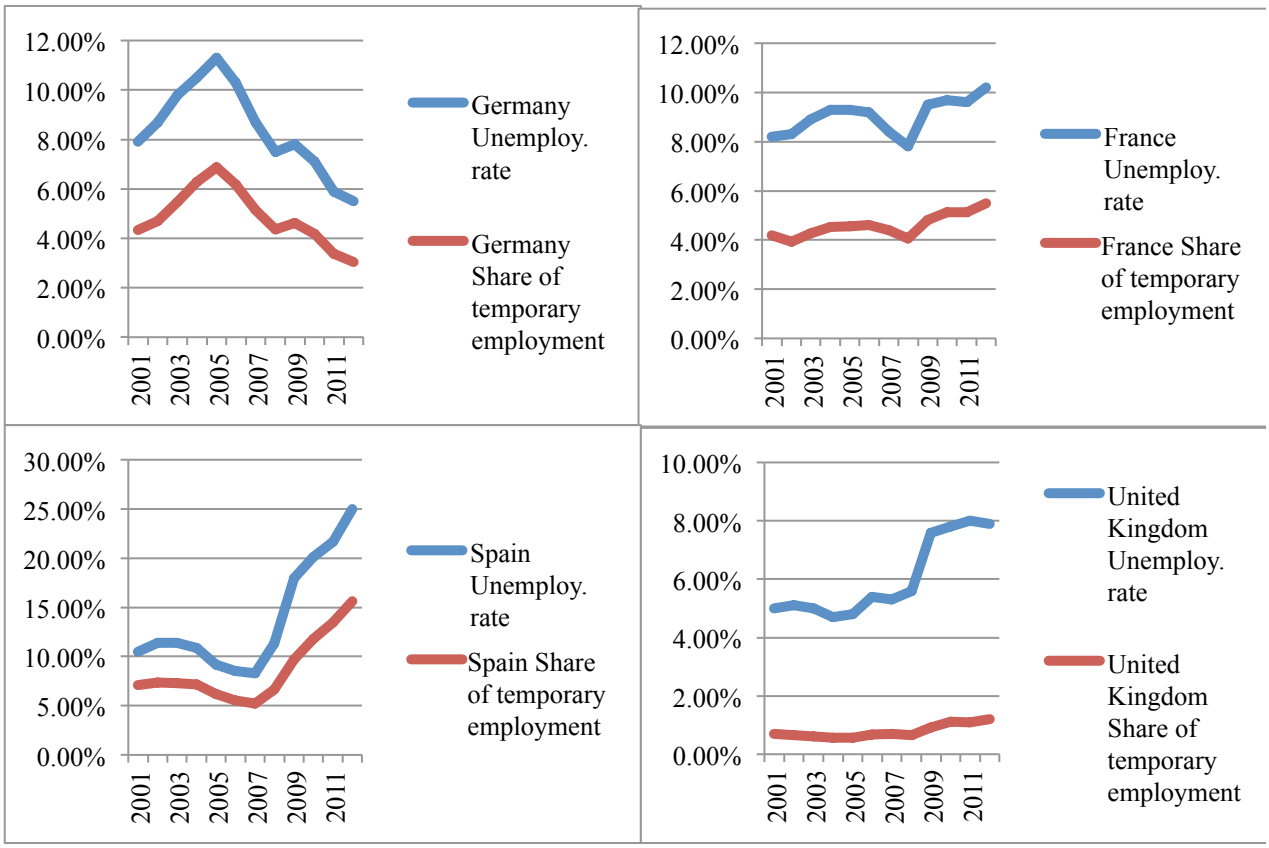
This framework implies that due to the higher cost associated with each employee the vacancy will fall. This will result in a permanent increase in unemployment rate due to these EPL policies. Hence, this framework can explain that part of the extremely high unemployment rate in Spain is a result of the country's strict employment protection legislation.

To further display the significant difference between the share of temporary employment compared to the total unemployment rate, I looked at the differences between Spain, France, Germany, and United Kingdom on this matter. I have put the results together in Figure 15 on the next page.

Figure 15 displays the problem earlier discussed with Spanish labor markets. As the graphs show, it seems like that in countries as for example Spain, France, and Germany, where there is significant labor market regulation, one can observe a strong relationship between unemployment and temporary employment. Whereas one do not observe the same tendency with respect to the United Kingdom, which is a country with a much freer labor market. One can also see from the graph that the share of temporary employment in Spain is higher than in any of the other countries.

I also looked at other indicators that can potentially explain some of Spain's problems. First, I found the average ratio of the strictness of regulations on permanent

Figure 15. Share of Temporary Employment Compared to the Total Unemployment Rate Eurozone Countries 2001-2011



Source: Data from the OECD Database

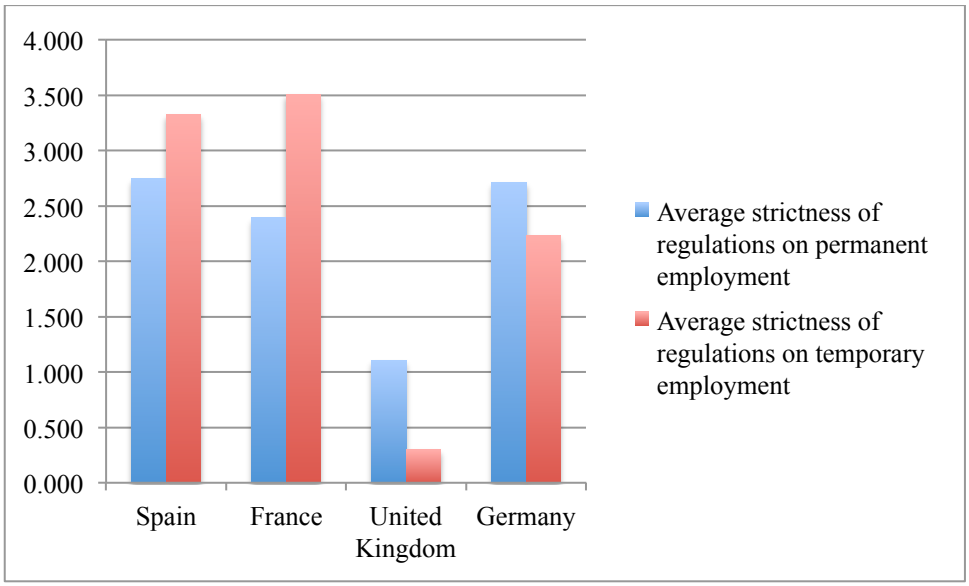
employment relative to the same measure for temporary employment. As shown below, this will give us some more indicators of how the Spanish labor market has done since the euro was implemented relative to other Eurozone countries. This is shown in Table 2 and Figure 16.

Table 2. Average Strictness of Regulations on Permanent Employment Compared to Average Strictness of Regulations on Temporary Employment Eurozone Countries

	ASRPE	ASRTE
Spain	2,747	3,321
France	2,392	3,509
United Kingdom	1,106	0,297
Germany	2,715	2,228

Source: Data from Eurostat (ASRPE: Average strictness of regulations on permanent employment, ASRTE: Average strictness of regulations on temporary employment)

Figure 16. Average Strictness of Regulations on Permanent Employment Compared to Average Strictness of Regulations on Temporary Employment Eurozone Countries



Source: Data from Eurostat

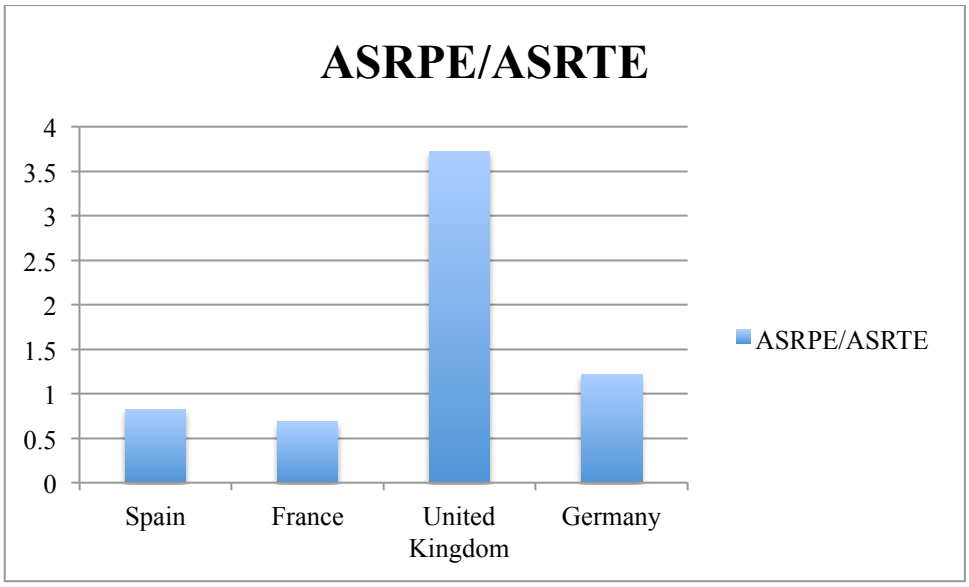
On the following page, I have calculated the average ratio of the strictness of regulations on permanent employment relative to the same measure for temporary employment, shown in Figure 17.

Table 4. Average Strictness of Regulations on Permanent Employment Divided by Average Strictness of Regulations on Temporary Employment Eurozone Countries

	ASRPE/ASRTE
Spain	0,827169467
France	0,68177887
United Kingdom	3,720267246
Germany	1,218200186

Source: Data from Eurostat

Figure 17. Average Strictness of Regulations on Permanent Employment Divided by Average Strictness of Regulations on Temporary Employment Eurozone Countries



Source: Data from Eurostat

If I had found here that this measure was much larger for Germany than Spain and France, this would have given some indication of structural problems. However, what we see here is that this measure is much larger for United Kingdom than the other three countries and Germany's measure is higher than both Spain's and France's measures. This might be indicative that what one can observe here is the dynamic

response to a bigger shock. This gives credence to the idea that this is a EU problem rather than simply a Spanish problem.

iii. Calculation of the Labor Wedge

To go further into the analysis of the Spanish labor market it is interesting to look at the labor wedge. In his work, Loukas Karabarbounis (2013) defined the labor wedge as the gap between the marginal rate of substitution between leisure and consumption and the marginal product of labor caused by taxes. In equilibrium, the marginal rate of substitution between consumption and leisure equals the marginal product of labor. However, taxes generate a wedge between these values that causes inefficiencies in the economy. The inefficiencies occur since the marginal product of labor is no longer equal to the marginal rate of substitution.

If taxes in an economy increase, it results in a decrease in the real wage. The effect for the workers is that it reduces the cost of leisure and the benefit of working many hours declines. However, the effect that taxes have on a country's economy depends on whether the substitution effect or the income effect is dominant in the nation. The substitution effect implies that there is a negative relationship between the real wage and leisure. Hence, if the real wage decreases, a worker is going to have an incentive to substitute labor for leisure. Therefore, if the substitution effect is the dominant effect in a country's economy, an increase in taxes will result in a decrease in hours worked. The income effect suggests that when a country experiences an increase in taxes, and hence a lower wage, workers will decrease their consumption of goods and leisure will go down. Therefore, if the income effect is the dominant effect in the country's economy, an increase in taxes will lead to an increase in hours worked. In his research, Edward C. Prescott (2004) found that compared to

Americans, Europeans work less hours. He found that the reason was due to the tax rate and these effects previously described. In his research, Prescott compared actual hours worked to the predicted amount of hours worked in the periods 1970-1974 and 1993-1996 for different countries. The results showed that between these two periods, the European countries had a much larger decline in hours worked than what the U.S. showed. Prescott concluded in his research that the European countries had experienced higher tax rates. Also, this made it possible to determine that the substitution effect was dominant in the European countries because the increase in taxes resulted in a decrease in hours worked (Prescott, 2004).

Therefore, one can assume that if the substitution effect is dominant in the Eurozone countries, an increase in taxes will give the workers an incentive to prefer more leisure and therefore the result is fewer hours worked. This demonstrates how I calculated the labor wedge for each of the countries.

First, I looked at this from the household's perspective. Suppose households have a utility function

$$U = logC_t + \theta log(1 - h_t)$$

where *C* is consumption and *h* is hours worked. The household's utility is therefore increasing in consumption and leisure. The household maximizes utility subject to a budget constraint:

$$C_t = (1 - \tau_t)w_t h_t$$

where w_t is the real wage and τ is the tax on labor.

The first order condition for this problem yields an equilibrium condition:

$$\frac{\theta c_t}{1-h_t} = (1-\tau_t)w_t$$

This equilibrium condition states that the marginal rate of substitution is equal to the after-tax wage earned by the worker. The marginal rate of substitution is the slope of the indifference curve (in absolute value). The after-tax real wage is the slope of the budget line (in absolute value). Graphically, we always show that the slope of the indifference curve is equal to the slope of the budget line. This equilibrium condition is the mathematical analog to the graph. Put differently, the left-hand side is capturing the marginal benefit of leisure whereas the right-hand side of the equation is measuring the marginal cost of leisure. Thus, in equilibrium, the marginal benefit from leisure must be equal to the marginal cost of leisure. Otherwise, we aren't maximizing utility. Finally, we can think of this equilibrium condition as the labor supply curve.

Now we can look at this from the firm's perspective. The firm wants to maximize profit,

$$Profit = z_t h_t^{1-\alpha} - w_t h_t$$

where *z* is some measure of productivity and α is the labor share of aggregate income. Solving the profit-maximization problem yields:

$$(1-\alpha) z_t h_t^{-\alpha} = w_t$$

Thus, the marginal product of labor is equal to the wage. Given the properties of the production function, we could write this as $(1-\alpha)\frac{y_t}{h_t} = w_t$

Combining the labor supply curve and the labor demand curve, we can determine the

equilibrium in the labor market:

$$\frac{\theta c_t}{1-h_t} = (1-\tau_t)(1-\alpha)(y_t/h_t)$$

Before discussing the labor wedge, one can look at what this says intuitively. First, consider the equilibrium in the absence of the tax on labor:

$$\frac{\theta c_t}{1-h_t} = (1-\alpha)(y_t/h_t)$$

Written in this form, the left-hand side represents the marginal rate of substitution between consumption and leisure. The right-hand side represents the marginal product of labor. Since an equilibrium must be consistent with utility maximization and profit maximization, in the absence of taxes the marginal rate of substitution must be equal to the marginal product of labor:

$$MRS = MPL$$

or

$$\frac{MRS}{MPL} = 1$$

Taxes generate a wedge between these values, for example like the wedge that taxes generate between the prices that buyers pay and that sellers receive. In the context of our framework, with taxes, it is true that:

$$\frac{MRS}{MPL} = 1 - \tau$$

Thus, it is no longer the case that the marginal product of labor is equal to the marginal rate of substitution. In addition, the larger the tax rate, the larger the difference between MRS and MPL (i.e. the more leisure and the less hours worked in equilibrium).

However, if we generalize the equation above, we can think of τ as not simply the tax rate, but as simply anything that might drive a wedge between the MRS and the MPL. This is what we mean by the labor wedge. The size of the labor wedge might therefore depend on factors other than tax rates. It might, for example, depend on the degree of regulation in the labor market. As a result, we would like to estimate the labor wedge for each country by using our equilibrium condition. Re-arranging our equilibrium condition above, we have:

$$\tau = 1 - \frac{\theta}{1-\alpha}\frac{c_t}{y_t}\frac{h_t}{1-h_t}$$

We can then calculate τ by making the following assumptions about the parameters:

$$\theta = 0.7$$

$$1 - \alpha = .67$$

In addition, since we have normalized the amount of time that a worker can devote to work and leisure to sum to one, we can normalize hours worked by making the total amount of time available equal to the total number of potential hours. For example, let's assume that workers can work 5 days per week and that they must get 8 hours of sleep per day. Thus, the total number of hours that someone could work in a year is $5 * 16 * 52 = 4,160$. Thus, to calculate *h* take the total number of hours worked per person per year and divide this number by 4,160. One can then use this normalized measure of hours, the parameter values above, and the consumption-to-GDP ratio to calculate τ.

iv. Calculations of the Labor Wedge for Spain, Germany, France, and United Kingdom

Table 2 below demonstrates the values of the Labor Wedge calculated for Germany, France, Spain, and United Kingdom.

Table 2. Labor Wedge Calculated for Eurozone Countries 2002-2012

	Labor Wedge = 1 - (1/LaborShare)*(c/y)*[h/(1-h)]			
	Germany	**France**	**Spain**	**United Kingdom**
2002	0.661	0.657	0.521	0.546
2003	0.659	0.655	0.533	0.555
2004	0.661	0.647	0.536	0.557
2005	0.660	0.647	0.545	0.557
2006	0.668	0.656	0.553	0.565
2007	0.680	0.653	0.559	0.563
2008	0.678	0.649	0.559	0.571
2009	0.677	0.648	0.561	0.568
2010	0.676	0.646	0.548	0.567
2011	0.677	0.648	0.534	0.577
2012	0.679	0.649		0.557
Average	0.670	0.651	0.545	0.562

Source: Data from Eurostat

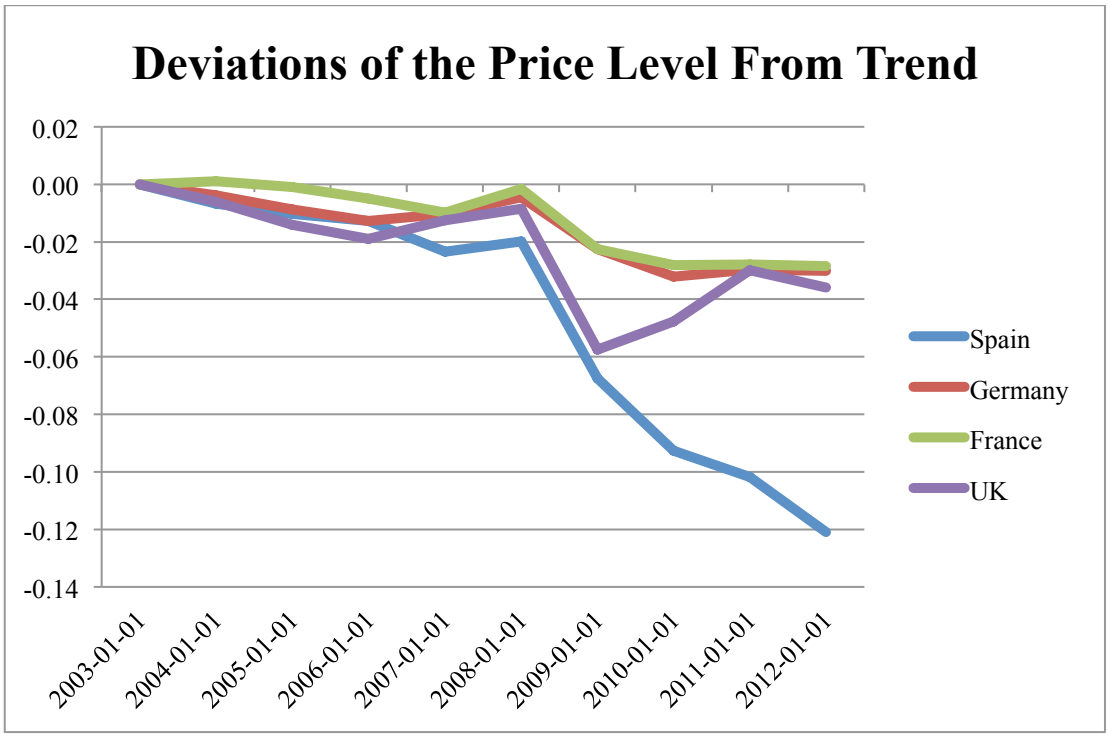
These measures for the labor wedges in the different countries indicate that the differences in unemployment do not seem to be explained by the labor wedge. Thus, while employment protection might help explain the differences in unemployment, the labor wedge does not. This is because the average value for Spain is actually the lowest of all the values calculated. This implies that the labor wedge is not what has caused the deeper recession that Spain has experienced compared to France, United Kingdom, and Germany. In the next section I will look at another indicator of whether it is the membership in the Eurozone that is the main cause of the problems in Spain and therefore a suboptimal policy or if it is more evidence for country-specific issues.

v. Price Level Trend for Spain, Germany, France, and United Kingdom

Another data set that I looked at is the trend in the price levels for Spain, France, Germany, and United Kingdom. The price level is something that the central bank can control, therefore by looking at the tendency of inflation over the period after the implementation of the euro in these countries I can find some indication of the effect of the European Central Bank policy on its member countries. First, I used the price level for each country by taking data on each country's Consumer Price Index and found inflation by taking the percentage difference between each year. Then I looked at the period between 2002 and 2012 to see how much the price level changed from year to year over this period compared to a trend that shows what would have happened using the 20 year average rate of inflation. The counterfactual was constructed by normalizing the initial Consumer Price Index from 2002 to one. Then the trend was found by assuming that the price level would grow at the 20-year average rate of inflation. Since the actual price level was normalized to 1, the initial observation for the trend and the actual series are equal. This comparison of the actual price level and the trend of what would have happened give us an indication of what actually happened and what one would have predicted could have happened if there had been no crisis. Then the deviation from trend was found, and this shows us the percentage deviation of the price level from trend. The deviation from trend is shown in Figure 18. This graph shows that the trend in the inflation rate for all the countries fell below the trend during the financial crisis. However, it is evident that Germany, France, and United Kingdom have gotten back closer to trend than what Spain has. Figure 17 demonstrates that all of these countries are still below the counterfactual, however the deviation is much larger for Spain than for the other countries. This

illustrates that monetary policy has been tighter in Spain than in these other Eurozone countries.

Figure 18. Deviations of the Price Level From Trend Eurozone countries 2003-2012



Source: Data taken from Federal Reserve Bank of St. Louis

vi. Concluding Remarks of the Spanish Labor Market Analysis

By looking at these different measures, I have found different effects that are able to give important insights into the causes of Spain's economic problems since the implementation of the euro in 2001. The extremely high unemployment rate that the country has been struggling with, especially after the financial crisis of 2008, can in some degree be explained by their employment protection legislation. Due to the high cost of firing Spanish workers and the large amount of temporary contracts, employers are reluctant to hire new people. Hence, this employment protection

legislation has the effect of permanently increasing the unemployment rate. Other factors that were discussed that also have affected the country's high unemployment rate are the severe consequences that the burst of the housing bubble in Spain had for the economy combined with the drop in tourism due to the international financial crisis.

The labor wedge demonstrates the wedge that taxes and the degree of regulation in the labor market generate between the marginal rate of substitution of consumption and leisure and the marginal product of labor. My calculations showed that the labor wedge was the lowest for Spain, and hence I can conclude that this is not the right measure to look at in order to explain the country's economic difficulties. However, by looking at a measure that the European Central Bank can directly control, such as the price level, I was able to find some indication of the effect of ECB policy on its member countries. The comparison of the counterfactual (what would have happened if the trend from the 20 previous years continued) and what actually happened to the price level in the different countries showed that all of these four Eurozone countries have been below the counterfactual. However, one can clearly see that Spain's price level has diverged more from the counterfactual than any of the other nations have.

These results give credence to the idea that the issues that Spain has encountered are a result of the mixture of both country-specific issues, such as the strong employment protection legislation and the high portion of temporary contracts, and the Eurozone monetary policy that was imposed on them after they entered the currency union.

Conclusions

The implementation of a common currency in 2002 is the best example of economic integration between European countries. The early years of the currency union were marked by economic progress of each of the member nations. However, this apparent success in the first years of the currency union where it looked like the member countries' economies were converging was not true. The countries were actually diverging. The financial crisis in 2008 affected certain countries in the Eurozone more than others. In the years following this downturn in the economy, one can see how some of the Eurozone countries have been struggling a lot economically.

In this thesis, I have looked at Spain because I wanted to find the reasons for the deeper recession that this country has experienced compared to other big countries in the Eurozone. Also, by comparing Spain to other countries, I wanted to figure out whether the economic issues experienced in the Eurozone are due to the common monetary policy or more due to country-specific problems. What is evident from my research is that there are combinations of factors that have created complications for Spain.

One significant issue in Spain is their unemployment rate. Spain is one of the countries with the highest and fastest growing unemployment rates in the Eurozone. This is an alarming trend. Currently Spain has an unemployment rate of over 26% and for Spaniards less than 25 years old it is above 50%. Looking at data of unemployment rates between the different Eurozone countries, it is clear that Spain has diverged from the other countries since 2008. From the data that I have looked at,

it is apparent that Spain has experienced difficulties since the recovery phase after the economic crisis in 2008. Since then, one can clearly see that both the unemployment rate and the growth rate in real GDP for Spain has diverged from those of Germany, France, and United Kingdom. Also, compared to these countries, the trend in Spain's debt to GDP ratio has been increasing a lot more over the past few years.

The issue that I have researched is whether these problems that Spain have encountered are due to their membership in the currency union and therefore suboptimal monetary policy or if it is more due to issues and policies that is happening domestically. To explore this further I looked at the Spanish labor market. Some of the measures that I looked at gave credibility to the idea that this is a Eurozone problem rather than each individual country. This idea was found in the calculations displayed of the labor wedge. The labor wedge calculation showed that it was not so much the structural problems in Spain that were the main issue because it was higher for Germany and France, and lower for Spain and United Kingdom. I also looked at the ratio of the strictness of regulations on permanent employment relative to the same measurement for temporary employment and this supported the same idea. In order for this measurement to have provided us with some indication of that this might be more of a structural problem in Spain, the values should have been higher for Germany than for Spain and France. However, the values were similar and this provides more credibility to the idea that it is the common monetary policy that is the issue for the member nations of the currency union.

However, some of the other measurements that I looked at showed results that are supporting the idea of country-specific problems in individual countries in the Eurozone. Spain has strict employment protection legislation. In the framework that I discussed, it was shown that higher employment protection leads to a permanently

higher unemployment rate. Also, I looked at the share of temporary employment and the unemployment rate. Here I found a strong relationship between these two measurements. This is especially a problem in Spain because large shares of the Spanish workers are hired on temporary contracts. I also looked at the deviations from trend of the inflation rates of the Eurozone countries over the period 2002-2012. The result found was that Spain had deviated from trend a lot more than the other countries. This indicates that Spain has had a tighter monetary policy than other member countries in the currency union and supports the idea of domestic problems in Spain.

Therefore, as Spain and the Eurozone implements methods to resolve some of the problems that they are currently facing, it is important to consider this issue as being a mix of two complications. First, it was a bold move to impose a single currency on a very heterogeneous group of countries. It is evident that a good monetary policy for a country such as for example Germany might not be the best option for a country like Spain. Hence, the common monetary policy for all the members of the currency union is one of the problems. Second, there are indicators of country-specific issues that also have developed into problems for some of the countries in the Eurozone. For Spain this is their employment protection policy, which has resulted in their extremely high unemployment rate.

The main issues that should be addressed in Spain are their employment protection legislation and how they can make this policy more flexible. Another issue to be looked into in Spain is how they are implementing their monetary policy, since there is found evidence that they have had a tighter monetary policy. Also, one should try to pay more attention to the development of the Eurozone's monetary policy so that all member countries will benefit as much as possible from new changes. If more

changes like these can be made, Spain can possibly recover from their recession and the Eurozone will become a stronger currency union.

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