The Lost Generation of Europe

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Abstract

The persistently high level of youth unemployment places policy makers across Europe under considerable pressures to accommodate the situation. This thesis seeks to provide insight into the general situation in four countries; Germany, the UK, France and Spain. It is confided to the analysis of descriptive empirics, across countries and time. Furthermore, an illustrative analysis of labor market efficiency will be given through utilizing the Beveridge curve relation. A comparative analysis will be exploring differences in policy response, with the purpose of providing suggestions for future policy. I argue that the recession have contributed to an acceleration of structural changes in the labor market. Moreover, the countries under most strain are advised to draw on successful experiences from those who have fared better, although this might not be politically favorable.

Keywords: Youth Unemployment, Great Depression, Great Recession, Beveridge Curves, Labor Market Efficiency, The Lost Generation

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Summary

The turbulence experienced by the world economy since 2008 bears numerous similarities to the Great Depression. Firstly, both erupted in the United States and affected the world through trade flows, capital flows and commodity prices. Secondly, both crises emerged after a period of declining lending standards leading to large real-estate booms. This was in both cases followed by reversal of expectations and lowered confidence among economic agents. In turn, this resulted in downward pressure on equity prices, increased uncertainty causing liquidity to evaporate, and reduced aggregate demand. Furthermore, both crises occurred after eras where technology was advancing at a higher velocity than the economy could adjust to.

The objective of my thesis is to provide useful insight into the nature of the recession. I am particularly interested in the consequence for the younger generation of Europe. I will shed light on the following questions: What are the similarities between the two crises? Why have the youth become the uttermost strained subgroup of the population during this crisis? Is there a need for deep structural reforms, and if so, how can the adjustment processes be implemented most efficiently?

With regard to analyzing these topics, I commence by presenting descriptive empirics aiming at providing a general overview of the situation of four selected countries. The countries selected are Germany, the UK, France and Spain. The decision was based on the role these countries held during the two crises. It is seven years since the pre-crisis peak of industrial production, and none of the countries have been able to surpass this benchmark. Although, the overall fall in investment and production have contributed to a dangerously weak labor market, it is clear that the world escaped a second depression. The statistics illustrate that the youth have suffered a disproportionate share of job losses in the current crisis, in comparison with the Great Depression. Moreover, there is a clear asymmetry related to the crises impact between countries.

The persistence of the labor market slack is analyzed using Beveridge curves. This analysis provides insight into the cyclical and structural components inherent in the unemployment figures. It is becoming increasingly evident that labor markets are indeed undergoing structural change. The tendency for high unemployment to persist, meanwhile other economic indicators return to trend, suggest presence of inefficiency in the matching process. The Beveridge curve illustrates that only Germany has experienced an improvement in labor market efficiency since the crisis commenced. This was chiefly due to the implementation of the successful Hertz labor market reforms earlier in the decade.

I recommend other countries to follow the German example in terms of enhancing vocational training and certified transferable occupational skills. This is confirmed to be highly effective, and countries with low and stable unemployment rates, typically, do offer vocational training in accordance with the employers' current demand. Boone &

van Ours (2004) argues that increased spending on labor market training is the most effective form of intervention to improve the youth's situation. Dolado (2015) finds lack of vocational training as one of the main reasons behind high youth unemployment, and recommends European governments to devote substantial resources to active labor market policies for the young.

In section 5, I provide an outline of the prominent characteristics and consequences of youth unemployment. A major contributor to youth unemployment is their lack of experience, and this is especially a weakness for the lower skilled subgroup. Furthermore, I find that a disproportionate share of temporary employees is young. The low dismissal cost related to temporary positions resulted in an extensive dismissal of young employees. This consequence was significantly outstanding in Spain. I further suggest that enhanced integration of European labor markets would dampen the asymmetry of the systemic crisis' impact on European regions. I believe that further encouragement of labor mobility can foster economic stability and absorb adverse shocks. Higher labor mobility is inclined to improve the matching efficiency by balancing the supply of and demand for labor, leading to increased economic growth (Krause et al., 2014). It will be challenging for the ECB to maintain full employment and price stability across the Eurozone without increased labor mobility, particularly, because the geographical domain of the Eurozone does not coincide with a geographical fiscal authority domain. Therefore, improved adjustment mechanisms to combat regional asymmetries, such as enhanced fiscal integration, should be implemented. If long term stability is to be achieved, in my opinion, increased political unification is necessary, advocated by the heterogeneity of the Eurozone countries.

In addition to strengthen applicability of the youth's skillset across countries, I conclude that improved economic growth is prominent to sustain a long term labor market improvement. In order to prevent a longer-lasting exclusion from the labor market, the excessive level of youth unemployment facing Europe today is in urgent need of efficient policy action. To relieve this situation the workforce composition must be reformed to become suitable for the structural change of the European labor market (André, et al., 2013). Real economic growth must be further advocated as this is required for long term utilization of available resources. The European Commission is confident that the Youth Guarantee implemented in 2013 has a prominent role in improving the labor market situation. The efficiency of the Youth Guarantee depend on policymakers' ability to address the structural strain of the labor market, otherwise Europe might be deprived of a generation.

Contents

1 Introduction

Marking the possible end of the Great Moderation we entered the most severe financial and economic crisis since the 1930s; the Great Recession (Quiggin, 2010).[1] Most industrialized countries have experienced a demand side failure during the past seven years. Keynes' words from the Great Depression are again of high importance as we are confronting the return of depression economics (Krugman, 2009).

"*But to-day we have involved ourselves in a colossal muddle, having blundered in the control of a delicate machine, the working of which we do not understand. The result is that our possibilities of wealth may run to waste for a time—perhaps for a long time*."[2]

-John Maynard Keynes

The main objective of this paper is to develop an understanding of the main differences between the Great Depression and today's Great Recession, focusing on the consequences for Europe and youth unemployment.[3] Determining the nature of the unemployment situation we are facing is of high importance when selecting the appropriate policy response. The social and economic problems related to high levels of unemployment are often linked with negative externalities such as; violence, crime, reduced confidence and social unrest (Helliwell & Huang, 2011). Furthermore, unemployment represents a waste of human capacities. The fact that unutilized human resources, as other durable goods, tend to depreciate over time raises the urgency of the situation. Exploring lessons from the past is advantageous when determining what caused the crises, what can be done to heal the wounds, and how to prevent a reoccurrence.

Both crises erupted in the US after years of credit-fueled spending booms, and led to widespread consequences on economic performance, labor productivity and employment around the world. The Great Recession has caused the steepest, and most prolonged, collapse of world trade and labor market downturn in the postwar era. The core of this paper relates to the issue of youth unemployment, which is currently a more dramatic problem than during the Great Depression. If the trend does not turn, this might lead to a "Lost Generation" (Bell & Blanchflower, 2011).[4] The lack of recovery in the labor market has led to a substantial increase in long-term unemployment (Elsby et al., 2011).[5] A significant component of this increase in unemployment is cyclical, but it is becoming increasingly clear that structural changes play a major role in creating the labor market imbalances (Dobbs, et al., 2012).

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[1] The term the Great Moderation was first used by Stock and Watson in their 2002 paper: *Has the Business Cycle Changed and Why?* This paper is referring to the American business cycle, but a similar reduction in volatility is also seen in Europe.

[2] This quote, from John Maynard Keynes' book; The Great Slump of 1930 is also highly relevant for the situation today.

[3] Youth unemployment refers to the age group 15-24.

[4] The popularity of term "the Lost Generation", originates in Ernest Hemingway's *The Sun Also Rises*, where it is used to describe the generation coming of age during WWI (the same generation was known as the "Generation of 1914" in Europe). Similarly to now, the term refers to a disoriented or directionless generation.

[5] There has been an increase in long term unemployment, both as a share of the labor force and as a share of unemployment in most of the Eurozone

The main literature of these types of comparisons has been focused on the United States (Almunia et al., 2010).[6] However, both crises were and are world phenomena, and countries are heterogeneous in terms of impact and policy response (Eichengreen & O'Rourke, 2009). Therefore, I find it useful to provide a comparative analysis with a European perspective. I believe reducing the period of secular stagnation in Europe should be of high priority. To accomplish this, it is necessary to learn from the past and adapt these lessons to our reality. This paper, therefore, analyzes and compares four European countries: the UK, Germany, Spain and France. The countries are selected to display a vast variation, in both crises impact and policy action, within the European economies, both across countries and across time.

The remainder of this paper is organized as follows. Section 2 provides an overview of the methods and data used in this study. Section 3 is an illustrative comparison of the crises impact on various variables. Section 4 analyzes the consequence of the recession's persistence on the labor market in the selected countries, using Beveridge curves. Section 5 provides a discussion of the European youth, a possible "lost generation". Fiscal and monetary policy responses across countries and time are presented and compared in section 6. The final section concludes the paper with suggestions for future development.

[6] Possibly since this was the crises country of origin, but likely also because more extensive statistics are available for the US.

2 Outline of Method

A full structural analysis comparing the Great Depression and the Great Recession would perhaps require a structural vector autoregressive model. This would ideally be created using an extensive and reliable data set, analyzed with detailed historical information. This paper takes a much simpler approach, namely it presents a literature review of existing journal articles accompanied by descriptive empirics. Although this does not substitute a full analysis, it yields insight to similarities and differences between the two eras. This can be found useful in itself; additionally it might contribute to identification of possible future policies.

Questions discussed in this paper include: Why has the European youth suffered a disproportionate share of job losses in the current crisis, compared to 1929? What can the Beveridge curves reveal about the persistence of the shock on the labor market changes? Are the labor market changes purely cyclical, or are we facing structural changes? What lessons can we draw from the past, and how should we move forward?

Section 3 analyzes descriptive empirics comparing the two crises.[7] The illustrations of key economic indicators (except from unemployment) are normalized and parallel to each other, commencing from their pre-crisis peak,[8] aiming to create a simple overview of the differences and similarities. Primarily, the variables used for comparison are unemployment, GDP and industrial production. These are chosen as economic health indicators. Industrial production and GDP are measures of economic activity, and they are expected to drop during times of economic hardship. The unemployment rate serves as an important welfare indicator, as it reflects the performance of the labor market. A number of additional variables are also included in the analysis. These variables are used as country-specific welfare indicators, and this may vary across the studied countries.

To analyze the present situation in the labor market, section 4 compare Beveridge curves across countries based on the past 12-15 years (Abraham & Katz, 1986). The time frame is selected to give a slightly broader perspective by presenting the labor market situation in the countries prior to the crisis. The Beveridge curve is a graphical presentation of the negative relationship between job vacancies and unemployment. This relationship provides an important, but simple, indicator of the health of the labor market, by analyzing the efficiency of the matching process. The curve is used in this paper, to give an indication about the endurance of the labor market slack facing Europe.

[7] This section is inspired by the readership record VOX column, *A tale of two depressions*, by economists Kevin O'Rourke and Barry Eichengreen (2009), who, in turn, were inspired by Paul Krugman's widely read blog.
[8] The month of pre-crisis peak, June 1929 (Q2) and April 2008 (Q1), are selected based on the world pre-crisis peak of industrial production. These dates will therefore not be the peak for all countries and all variables, but used consistently to display an equal timeframe.

2.1 Data Critique

Statistics from the Great Recession is primarily collected from Eurostat and the Organisation for Economic Co-operation and Development (OECD), as well as national statistics agencies. The choice of the source has been determined by the length of the series and the collection method. Data from the Great Depression is mainly collected from *the League of Nations*, but supplemented with data from various volumes of *the Cambridge Economic History,* edited by Postan, Coleman and Mathias, and Maddison's *Historical Statistics*. Cases where other sources are utilized will be acknowledged in the corresponding section. The time interval used for analysis are the years following the onset of the Great Depression and the Great Recession, but slight variations depending on statistical availability will occur.

The unemployment rates for the recent years are collected from Eurostat's database for all the selected countries, and are seasonally adjusted and harmonized.[9] When analyzing unemployment, it is important to be aware that the definition of being unemployed is not homogenous across countries. Most countries, however, count an individual as unemployed if this person does not work, but is available and actively searching for a job. Nevertheless, such a definition might be subject heterogeneous interpretation.[10] Due to this possible source of comparison bias, I will use the harmonized unemployment rate for the selected countries. This rate is adjusted to conform to standardized guidelines of defining unemployment. Therefore, it ensures the maximum potential for international labor market comparability.[11] The main problem with unemployment statistics is underestimation of unemployment. There are always individuals who do not register themselves as unemployed, especially among those who cannot claim benefits. Also, if a negative shock to the labor market is highly persistent, some will be inclined to drop out of the labor force due to discouragement and lowered confidence (Levitas, 1996).

Unemployment figures from the depression are collected from the League of Nations for Germany, from the Office for National Statistics (ONS) and Garside (1977) for the UK, and Eichengreen and Hatton (1988) for France. The UK is the only country where a comparison of unemployment and youth unemployment from the depression is possible, as the gathering of these statistics for the other countries have been unsuccessful. In the case of Spain, the series is largely incomplete, as no official unemployment statistics were collected before 1933 or during the Spanish Civil War. This weakens the analysis

[9] All data series used in this paper will be seasonally adjusted, if available, to reduce seasonal fluctuation. If it is not available this will be stated in the relevant section.

[10] It is mainly the criteria that an unemployed person should be actively seeking work, which can be interpreted differently across countries. There are mainly two subcategories here that differ nationwide; what type of work the person is looking for and how actively searching is defined.

[11] These guidelines were adopted by the 13th Conference of Labor Statisticians and are referred to as the International Labor Organization (ILO) guidelines. The data is gathered through a Labor Force Survey, answered by a representative part of the population. Unemployment is defined as a working-age person without paid work, but currently available and seeking work during the reference period. Specific criteria can be read by following this link: http://ec.europa.eu/eurostat/documents/3888793/5834669/KS-CC-06-001-EN.PDF/bdde7b22-1eca-408d-8ba1-26005af93932?version=1.0

as years of importance are missing. Data for available years is collected from Instituto Nacional de Estadistica (INE).[12]

The data on job vacancies, defined as unfilled job positions, are publicly available. Unfortunately, the figures are not entirely comparable across countries, as they are based on different data collection methodologies. Because the Beveridge curve displays the relationship between job vacancies and unemployment across time, and not across countries, this will not distort the individual country analysis. However, it is important to keep in mind this statistical bias when comparing countries.

Job vacancies and employment in the UK and Spain are collected from Eurostat, and the job vacancy rate (v) is found by dividing number of vacancies by the sum of vacancies (V) and employed individuals (E, occupied positions), $v = \frac{V}{V+E}$. The same method is used for Germany and France, but with numbers from OECD due to longer available time series. The collection methodologies differ in the following way: in France the job vacancy data is collected through general employment surveys, whereas in Spain, Germany and the UK, the data is collected via dedicated job-vacancy surveys answered by employers (Eurostat, 2010). Neither of these methods likely accounts for all vacancies. Hence, there is an exposure to statistical bias.[13] To exemplify, positions filled without formal job postings, or jobs filled quickly, are usually not included in job vacancy statistics. Furthermore, due to different measurement and presentation methods, different statistics providers might offer a slight variety in the reported data. These differences, however, do not affect the conclusion of the curve as the relative relationship between periods is highly correlated. The Beveridge curve analysis will focus on the Great Recession due to, both, lack of data availability and data reliability at earlier dates.

This paper includes stock market indices (if available), as it gives an impression of the economic agents' expectations about the future economic health of the nation. This gives an indication of their confidence and the effectiveness of policy actions. The stock indices from the current crisis were all established after the depression, which reduces the quality of comparison across time. However, an impression of the agents' confidence will be visible through their reaction in the case of both crises.

The next section provides a graphical presentation of the variables of importance in explaining the crises impact on various key indicators.

[12] The data available for Spain is number of registered unemployed (wholly and partially), and not as a percentage of the labor force. Due to varying information regarding the labor force the statistics is not converted into percentage. The data is consistent with the numbers reported by the League of Nations.

[13] This bias is likely largest for France. For example Activité et conditions d'emploi de la main-d'oeuvre (Acemo), which collects vacancy data in France, exclude firms with less than ten employees and the farming sector. According to Zanda and Fondeur (2009), the Acemo vacancy statistics accounts only for 1/3 of job openings placed with the public employment service. France is one of four countries (Italy, Denmark and Malta) who do not provide a full coverage of vacancy statistics. Autumn 2010, France changed their questionnaire on job vacancies to reduce the bias which led to an increase in reported vacancies, as displayed in section 4.4.

3 The Impact of the Crises

The Great Depression is one of the most significant episodes in economic history and marks the beginning of macroeconomics as a distinct discipline (Bernake, 1995). This period shattered the flawless view of the capitalist system and free markets. However, as these memories faded it seems that economists at large turned back to this vision of rational agents interacting in a world of perfect markets. Paul Krugman (2009) argues that, as in 1929, this immersive ideology led economists to ignore the signs of the commencing recession, caused by imperfect markets, irrational agents and flawed institutions.

There are many similarities between the crisis commencing in 1929 and the crisis now, both in terms of cause and effect. Firstly, both erupted in the United States and affected the world through trade flows, capital flows and commodity prices. Secondly, both crises emerged after a period of declining lending standards, leading to large real-estate booms. This was in both cases followed by reversal of expectations and lowered confidence among economic agents, which in turn resulted in downward pressure on equity prices, increased uncertainty causing liquidity to evaporate, and reduced aggregate demand. The quote by Keynes in the introduction is as suitable today, as it was when he wrote it in 1930. Aikins (2009) argues that periodic global economic crises occur, primarily, due to ineffective regulatory governance and the failure to learn from the past. Several other economists also argue that this crisis could have been largely avoided if the world had remembered the lessons from the past (Krugman, 2009). In the period between these two crises; rational agents, Dynamic Stochastic General Equilibrium models[14] and the efficient-market hypothesis received widespread acceptance. This contributed to deregulation of the market, financial destabilization and increasing the availability of complex assets that few were capable of comprehend (Wolf, 2014). As this unraveled, the Great Recession was further worsened by the sovereign debt crisis, which had a highly detrimental impact the peripheral nations in Europe.

The acceleration of the recession was exponential, after originating by affecting the financial and construction sectors, immediate international contagion followed (Pissarides C. , 2013). On the 15th of September 2008, after a year of speculation about banks' overvalued derivatives, dampened confidence and interbank activities, the world learned that no corporation was "too big to fail".[15] As a consequence, we saw economies jump into freefall. Instead of seeing signs of recovery the world faced an additional crisis,

[14] The Dynamic Stochastic General Equilibrium model is a merger of the Real Business Cycle literature and the New Keynesianism produced in the 2000s. It is based on the general equilibrium models developed in 1950s by Arrow and Debreu. In these models any variation in employment and output were caused by optimal responses to changes in preferences, technology or the world market. The DSGE models implemented sticky prices, allowing recessions to occur.

[15] The term "too big to fail" refers to the common belief that the Government would be willing to bail out corporations whose failure would have a disastrous outcome on the greater economy. This quote was proven wrong when the US Government decided not to bail out their fourth largest investment bank, Lehman Brothers.

the emergence of the sovereign debt crisis in Europe. Since 2008, the changing pattern of the global financial order has become more visible.[16]

The recession has officially ended in most countries; the Second Great Depression has been avoided (at least for the moment). However, seven years into the Great Recession several countries have not been able to reach their pre-crisis peak level of various key economic indicators (Ormerod, 2014).[17] Large parts of the world are still facing a demand side failure with private spending insufficient for utilizing economies' available productive capacity.

This section provides an illustrative overview of the two crises in the selected countries, by explaining the cause and consequence of both the Great Depression and the Great Recession.

[16] The crisis' consequence on advanced economies was relatively more significant and more persistent, than on developing countries. This has contributed to the rise in economic power of developing countries, particular the BRIC's (Drezner & McNamara, 2013).

[17] This paper will use the standard definition of a recession; reduction in GDP over two successive quarters, ending when output grows again.

3.1 Germany

Germany was the first and most heavily affected European country during the Great Depression. In the time of the Weimar Republic, Germany suffered from a highly volatile business cycle, also before the depression. There was hyperinflation, political instability, massive unemployment and civil unrest. Prior to the depression, Germany was also one of the countries experiencing an economic boom. This period is often referred as "the golden twenties", and was characterized by economic growth and rapid developments in culture and arts. The golden twenties were reached with help from the US (Dawes Plan and Young Plan).[18] As a result of the close ties to the US, the depression quickly found its way to Europe through Germany, who could no longer rely on American credit.

The figures display comparisons of the Great Depression and the Great Recession, and in Germany's case it is utterly clear that the situation today is far from the one in the 1930s. Germany is no longer thought of as "the sick man of Europe", but a major engine in the heart of Europe's "virtuous core".[19] Their social market economy has been of great benefit when stabilizing economic expectations in the presence of the global recession. During the recent crisis, Germany experienced only a relatively modest drop in GDP during 2009. At the time of the Great Depression, GDP did not return to the pre-crisis level until six years later.[20]

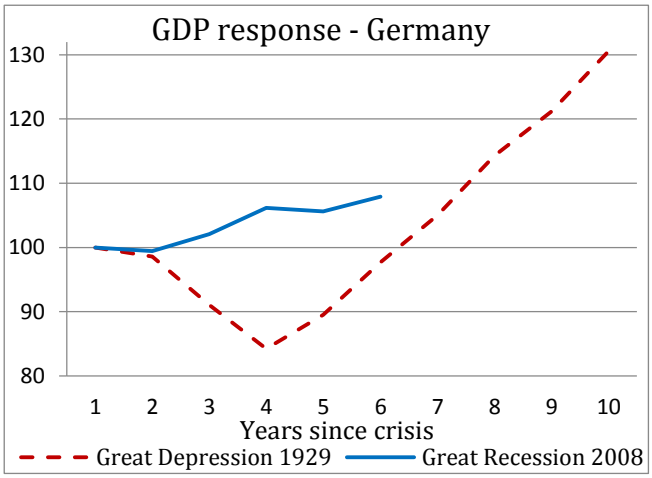

Figure 1 – Comparison of the impact on GDP during the Great Depression and the Great Recession.

When turning to industrial production in Germany, there has been a significant drop, followed by a relatively rapid recovery. Unfortunately, the recovery seems to have stagnated since 2012.[21] The lack of ability to overcome this slowdown is largely contingent on the political tensions related to the Russia-Ukraine crisis began in April 2014, as this has reduced German export demand and weakened confidence. Autumn

[18] These funds from the US were aimed at helping Germany pay the war reparations owed to the winners of the war, as well as improving their own welfare and maintaining the gold value of their currency (Temin, 2010).
[19] At least what could be called a "virtuous core" before the Sovereign debt crisis emerged.
[20] The GDP data from the Great Depression are from Angus Maddison's World Economy: Historical Statistics, pp. 428. The data from the Great Recession are provided by Eurostat.
[21] The seasonally adjusted monthly index of industrial production for the Great Recession is collected by OECD. The data from the Depression are from League of Nations, and is calculated as an arithmetic average of 31 items based mainly on actual production. The weights are intended to represent the coefficients value added by manufacture; but as accurate net production figures were not available, they were based on the average number of workers employed and the motor-power installed in each industry in 1925. Both series are seasonally adjusted.

2014, Germany experienced the largest drop in industrial production in more than five years.[22]

In comparison with the depression, the decline has been much milder and arguably less alarming, as industrial production is now having a lower share of GDP and employment than in the 1930s (Almunia et al., 2010).[23] The international spread of industrialized locations today, compared with the concentration of industry in the US and Europe in the early half of the 20th century, contributed to the recession's global contagion. It also reduced the impact on any single industrialized country, which is a reason why the recent plummet in industrial production did not cause extreme unemployment rates. In 1929, Germany saw the end of a prosperous industrialist time of American loans used for investment. With the crisis, access to credit and capital vanished, at the same time as the main importer of German industrial exports, the US, implemented tariffs to protect domestic producers. The effect was downsizing and closing of numerous factories, leading to widespread unemployment, hunger and death (Fisher & Hornstein, 2001). The impact on industries varied, and possibly the worst hit was the shipbuilding industry, where about 70% of the workforce became unemployed within a year into the depression (Crew, 1998, pp. 71).

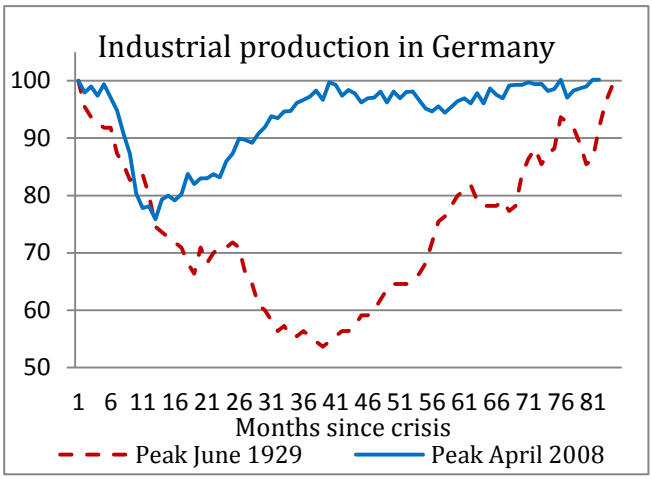

Figure 2 – Comparison of how industrial production responded to the two crises. Ending January 2015 and June 1929.

Including the stock market in the analysis, gives an indication of the market confidence. The German stock market suffered a decline in the emergence of the current crisis, but recovered faster than most other countries. After the initial negative shock, the trend in the German stock market has been positive, with the exception of a drop in 2011. This drop was heavily affected by the preparations of the second Greek bailout package. This involved increasing bank reserves, a decrease in the interest on Greek debt and a write-down of 50% by holders of Greek governmental

Figure 3 – Comparison of the impact the two crises had on the German stock market. Ending in March 2015 and December 1935.

[22] Germany is one of the most heavily affected nations due to their strong trade ties with Russia. In addition to the EU and US' sanctions on various Russian companies and individuals, including the energy industry, an example of an affected sector is the German automobile industry (as much of their manufacturing is placed in Russia).
[23] This is also the case for the early industrializers, France and the UK.

bonds (Ardagna & Caselli, 2014). The situation today, is a sharp contrast to the situation during the Great Depression, where Germany still had not recovered seven years into the crisis.[24]

One of the most devastating consequences of the depression was soaring unemployment, which led to an increase in the demand for a political reform.[25] The Weimar government prioritized avoidance of inflation and budget deficits at all costs, including failing to stimulate growth and create jobs. The fiscal policies implemented to deal with the crisis involved raising taxes and reducing government spending.[26] Furthermore, it was decided to cut the time period of being unemployed with rights to benefits, and exclude women and young workers from the benefit system altogether (Crew, 1998, pp. 72). The aim of this was to reduce the deficit and price level. As prices fell, and the presence of downward nominal wage rigidity was amplified by strong unions firms faced additional difficulties. This contributed to further increases in unemployment and political frustration and instability (Fisher & Hornstein, 2002).

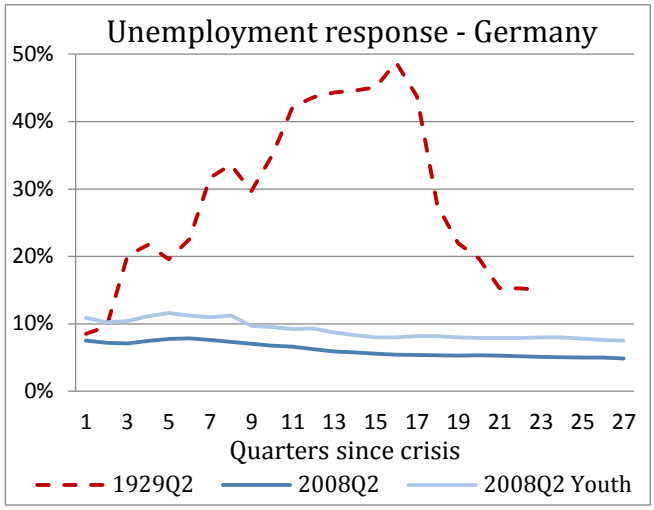

Figure 4 – Comparison of the labor market response of the two crises. Ending in 1934Q4 and 2015Q1

Germany escaped the unbearable situation in the labor market relatively early due to an abrupt turn in the political strategy. When Hitler won the election in 1933 he initiated massive expansion of public spending. This contributed to the sharp decline in unemployment illustrated in figure 4.[27] Reducing the youth unemployment rate was also considered one of Hitler's triumphs. The most important initiatives in this regard were the implementation of the *Voluntary Youth Service* and *Voluntary Youth Labor* that employed the youth to rebuild the country. Mass unemployment, especially among the youth, was one of the reasons why the Weimar Republic collapsed (Crew, 1998).

The unemployed youth often possessed a high level of skills. These workers were often exploited as cheap labor through apprenticeships.

The current situation in the labor market is, also, significantly different from the situation during the Great Depression. German unemployment is lower than it has been

[24] Monthly data from the recession is collected by Otto Donner (Donner, 2013), follow 329 selected stocks, and is not seasonally adjusted. Data from the Recession are monthly closing prices of the DAX from Yahoo finance. As the DAX was established in 1988 and only includes 30 large companies the comparison will not be optimal.
[25] Between 1928 and 1932 the number of unemployed without any rights to claims (mainly due to the length of unemployment – 39 weeks was the upper limit) increased from 8.9% to 56% of Germany's welfare clients (Crew, 1998, pp. 70-72).
[26] More specifically there was an increase in the tax rate by 1/5 and decline in government expenditure by 16%.
[27] The increase in public spending mainly included spending on manufacturing of machinery and armaments in preparation of war (Gourevitch, 1984, pp.105-112).

for two decades, and has stabilized at a lower level than in other European countries. During the past decade, the German economy has undergone several steps to increase labor market efficiency. Contrary to the other countries analyzed, Germany suffered from increasing unemployment rates already in the early 2000's, and therefore implemented the Hartz labor reforms before the Great Recession originated. These reforms commenced in 2003, aiming at increasing the efficiency of the matching process through raising the search effort by the unemployed, and the participation rate of the working age population, as well as making the Federal Employment Agency more customer-orientated (Hertweck & Sigrist, 2012).[28] Furthermore, increased competitiveness have placed downward pressures on wage growth, and in combination with increased productivity, workers are now employed more cost-efficiently.

[28] The reform is discussed in further detail in section 4.

3.2 The United Kingdom

The magnitude of today's recession is similar to the depression, but overall, there is a more positive outlook. The fall encountered in GDP was slightly milder than during the 1930s, but more persistent. It took 23 quarters before GDP recovered to the pre-crisis level, compared with 16 quarters into the Great Depression. The UK experienced the fastest growth in GDP (2.6%) since the beginning of the recession in 2014. However, figure 5 illustrate that the growth rate is currently lower than it was almost seven years into the Great Depression. Eichengreen (1992) argues that the main contributor of the relatively early recovery of output was due to the early devaluation of the pound sterling.[29] This opened for expansionary monetary policy involving rate cuts and targeting a higher level of inflation. It led to increased money supply, investment and consumption (Howson, 1980).

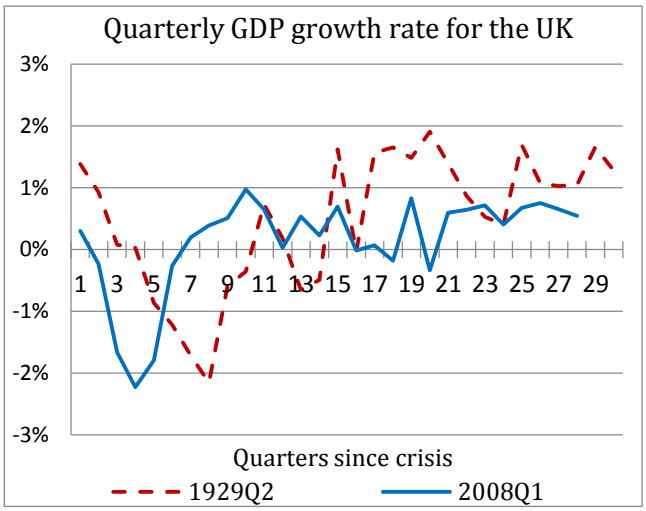

Figure 5 – This figure display the GDP growth rates of the two crises. The figure indicates that the UK experienced a double dip recession during the depression as they were in a recession from 1930Q2-1931Q3 and 1932Q2-1932Q3. The official recession in the current crisis lasted from 2008Q2-2009Q2.

The current slowdown of growth in the UK, is due to their exposure to international risks, which has placed downward pressures on investments. In particular, these risks include increased uncertainty in the Eurozone, primarily related to the possbility that Greece will abandon the Euro, and the slowdown of growth in China (ICAEW, 2015). In addition, there is downward pressure on growth due to reduced spending by oil and gas companies as a concequence of the fall in price. This recution overrides the increased consumer spending due to the lower prices.[30] The presence of several geopolitical foreboding forces has also contributed to lowering confidence at the moment. The cause of the current recession in the UK relies heavily on the low credit restrictions, which led to a massive housing bubble, as well as their exposure to the financial sector and the Eurozone export markets (UKCES, 2014). As a consequence of the bubble bursting, the housing prices fell, and this had a direct negative effect on employment in the construction sector due to falling demand.[31] This, in turn, led to reduced consumption, which was severely amplified by the break-down of the financial system (Krugman, 2009, pp. 179-181).

[29] The UK and most of their trade partners returned to the gold standard between 1925 and 1927 believing that this would cause stability and prosperity. Instead the gold standard reduced the UK's competitiveness and curtailed monetary policy options. Similarly to today, monetary policy action was constrained by a system combining highly dissimilar economies. This will be discussed further in section 6.

[30] According to the Office for National Statistics, business investments fell at the highest rate in six years during the fall of 2014. This fall was mainly driven by oil and gas companies' response to the plummet of oil prices.

[31] This is similar to the experience in Spain and the US.

There was a large sectoral dispersion of the reaction to the depression. The sectors that were disproportionally hit by negative shocks were mostly involved in export industries (coal, steel, iron and shipbuilding). These were lacking modernization after World War I, and struggled with increased competition from abroad. After a decade with downward trend, exports plummeted when the Great Depression emerged.[32] However, not all sectors suffered; for example, in South-East England, the chemical, electrical and automobile industries blossomed when the prices fell during the depression. The depression contribted to a change in the composition of their production, namely a decline in "staple trades" and an increase in modern industries (Eichengreen, 1992, pp. 214).

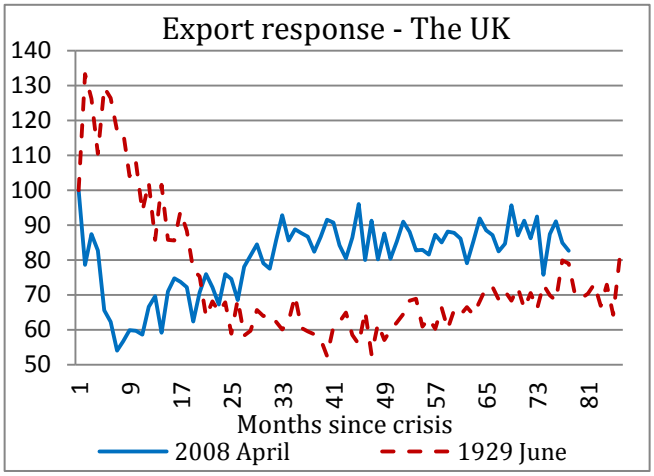

Figure 6 – Comparison of the impact from international trade is measured by exports. Ending December 2014 and July 1936.

The reduction in export demand was also a severe consequence for the UK in the current global crisis. The response of world international trade was more abrupt, but luckily the shock did not display the same degree of persistence. Figure 6 display a comparison of the shock on exports during both crises, and it is clear that the persistence of the shock was larger in the 1930s.[33] The reduction in export demand largely contributed to a major drop in industrial production, which raised unemployment massively.[34] The level of industrial production is currently growing slower than what it was seven years into the Great Depression (Jackson, 1985). The persistence of the adverse shock to production is stronger today, but the shock itself was milder.

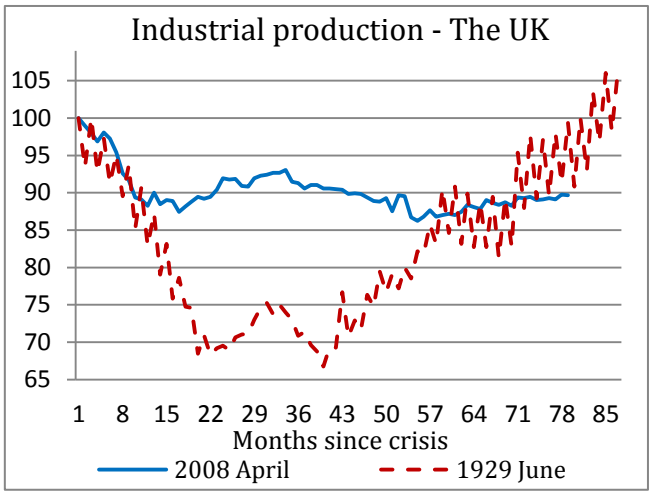

Figure 7 – The comparison of industrial production display a much more severe slide during the depression. The ending months are August 1936 and October 2014.

[32] Export data from the depression are collected from NBER Macrohistory, chapter 7 on foreign trade (file m07024). NBER collected the figures from the Board of Trade, and it is checked by the Royal Economic Society. The figures from the Great Recession are collected from OECD.

[33] A similar illustration can be found for imports and trade volume.

[34] Statistics on industrial production and GDP during the Great depression are collected from a paper on monthly estimates of inter-war data in Britain created by James Mitchell, Solomos Solomou and Martin Weale (2012) using a mixed stage estimation procedure based on the League of Nations quarterly numbers. The statistics from the Great Recession are collected by OECD.

The reaction in the stock market was more immediate compared to 1929, likely because of more interactive world equity markets, and the credit boom experienced by the UK. The UK did not experience a real credit boom in the 1920s, and this contributed to a lesser reaction in the stock market (De Long & Grossman, 1993). Now, on the other hand, the UK was amongst the three countries experiencing largest credit boom in the decade before the recession, leading to a housing bubble.[35] It took almost five years for the stock market to recover to pre-crisis level, and the recovery has been volatile.[36]

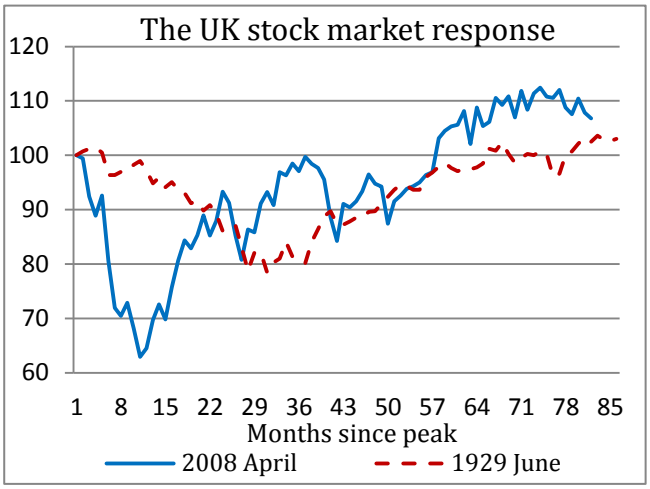

Figure 8 - The effect on the stock market was much more significant during the Great Recession. Ending February 1936 and January 2015.

During the 1920s Britain struggled to recover from major devastations obtained during World War I. As figure 9 indicate, the UK actually entered the depression the same year as the First World War ended, in 1918, and did not recover until 1934.[37] Data suggest that the large decrease in output was contributed by a fall in labor input due to lower employment, and a reduction in average annual hours.[38] One of the main reasons for this reduction was unions demanding that hours were reduced from 55 to 47 hours per week, from 1919 to 1920 (Cole & Ohanian, 2002). Other factors contributing to the lower employment and output level were a contraction of money supply, deflation, high real wages and overvaluation of the pound sterling. Keynes (1932) argued that the high wages prevented a fall in domestic prices, and with a high exchange rate this led to a major loss in British competitiveness. The reason for the overvaluation, which reduced the UK's competitive edge, was essentially the return to the gold standard in 1925 at an overvalued rate. The negative effect on export demand dampened economic growth (Moggridge, 1972, pp. 106-108). Bank of England (BoE) kept interest rates high to maintain the peg to gold, and the UK suffered from deflation or zero price growth between 1921 and 1934 (O'Donoghue, Goulding, & Allen, 2004).

It is possible to argue against these causes of the time of economic hardship in the UK. The first argument is that the UK entered a recession before money supply and inflation contracted, indicating that this cannot be the cause of the depression.[39] Another

[35] The two others being the US and Spain.
[36] The stock market figure uses monthly data adapted by NBER on the security price index for the Great Depression and FTSE100 (100 largest companies in terms of market cap listed on the London stock exchange) for the current recession.
[37] Data on annual real GDP from 1920-1948 are collected from Sefton and Weale (1995): Balanced Gross Domestic Product at factor cost, table A.3, pages 188-189. For the period prior to 1920, Mitchell's British Historical Statistics will be used (1988). For the period following 1948, data are collected from the Office for National Statistics.
[38] Working hours fell from 2700 per worker pre WWI to around 2200 from 1924 until the end of the 1930s.
[39] Data on inflation and money supply are from the Office for National Statistics. In this figure money supply is notes and coins in circulations, all types of money supply displayed a similar behavior. Inflation is calculated as the annual growth in the composite consumer price index.

argument is that deflation is not bound to cause lower GDP. Several countries experienced deflation during the interwar years. However, these countries did not experience a complementary fall in GDP (e.g. France and the US).

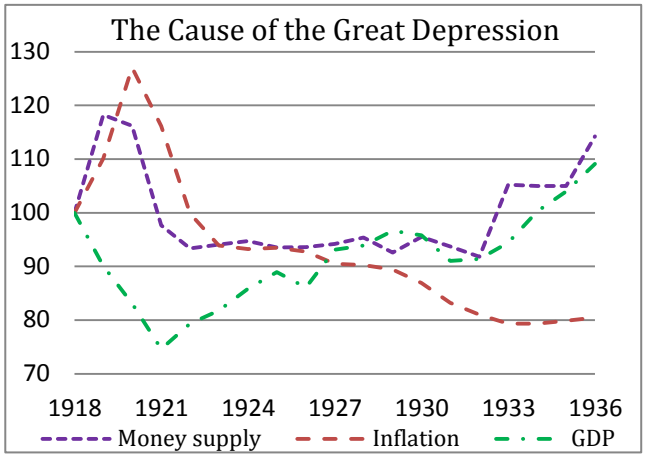

Figure 9 – Comparing the development of three important variables from the end of the First World War until 1936.

Cole and Ohanian (2002) argue that the reasons behind the tough period experienced by the UK, during the time characterized as prosperous elsewhere, were not the overvalued pound sterling or contractionary monetary policy. Rather, regional concentration of negative sectoral shocks, in combination with too generous unemployment compensation relative to wages and housing subsidies, were the main reasons for this period of economic distress.[40] Three features of the generous unemployment situation contributed to issues of both adverse selection and moral hazard. The benefits were independent of the individual's employment history and past wage. Also, benefits could be collected from the first day of unemployment without any upper time limit. The safety-net in existence today is significantly more generous than the alternatives back in the 1930s, but not relative to wages (Benjamin & Kochin, 1979). However, today's welfare system has suffered from similar incentive issues as in the 1930s. The stagnating and falling real wages in combination of few available jobs and an increasing number of involuntary part-time positions, caused insufficient incentives to encourage people on benefits to return to employment (Brewer, Browne, & Jin, 2012).[41]

When comparing total current unemployment with the rates during the depression, the view is a lot more positive.[42] According to Rowntree (1941), 73% of the unemployed in 1936 lived below the poverty line, and most of them were long term unemployed.[43]

[40] Unemployment benefits rose drastically after WWI. The initial intention was to ease the transmission of returned soldiers, but with the implementation of the Unemployment Insurance Act in 1920 it covered virtually all registered as unemployed. The weekly benefits increased by nearly 40% relative to the level in 1911 (Cole & Ohanian, 2002). The housing subsidies where local policies, and significantly increased the cost of leaving depressed regions because the subsidy would be lost once a household relocated (Pattison et al., 2010).

[41] 27.1% of part-time employees between the age of 25 and 29 report inability to find full-time employment as the main reason for their employment status, and increase from 15.6 in 2007. One of the initiatives implemented by the UK government to combat the incentive issues is the *Universal Credit system* (in 2013). This system aims at raising work incentives by implementing a universal benefit, and will be further discussed in section 4 and 6.

[42] Monthly unemployment figures from the depression are provided by James Denman and Paul McDonald in an article from the government statistical service. The unemployment rate for juvenile (under 18) used in this paper is from Garside's paper on Juvenile Unemployment and Public Policy between the Wars, and is only available in yearly intervals. I have unfortunately not been able to find the unemployment rate for the age group 15-24. However, in the 1920-30s the school leaving age was 14, and few continued formal education after this age, the average school-leaving age has increased significantly since. Therefore I argue that the issue of youth unemployment was related to those under 18, as those above 18 were then largely regarded as adult. The recent data on monthly youth unemployment and total unemployment are collected from Eurostat and OECD respectively.

[43] Rowntree's poverty line was based on a weekly minimum sum necessary to enable families to live a healthy life; this included minimum amounts of food, rent, light, fuel, clothing and household items. In order to find out what the

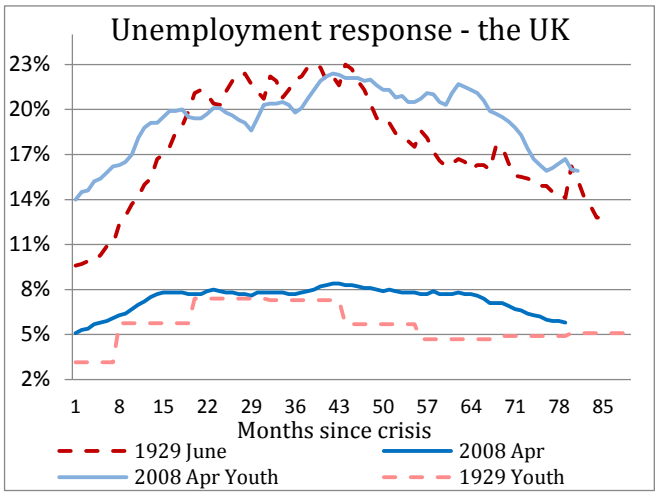

Figure 10 – This figure indicate the relatively larger issue of youth unemployment today, compared with during the depression. The ending months are December 1936 and December 2014.

However, the youth labor market is facing larger challenges in this recession. During the 1930s, juvenile unemployment was significantly lower than adult unemployment, averaging at only 5% between 1920 and 1938 (Eichengreen, 1987). The main reason for the low youth unemployment rate was the casual nature of their positions, in addition to demanding lower wages while displaying a higher level of mobility than adults. Positions making war supplies in factories were common.[44] These "Blind-Alley" occupations implied working long hours, for relatively high wages[45], but provided no transferable knowledge to be used when these workers were no longer required (Garside, 1977, pp. 324). Additionally, those under 16 were relatively attractive employees on the labor market because firms were not obliged to contribute to the unemployment insurance fund for employees below 16, who were not eligible for benefits (Garside, 1990, pp. 82). The result was exploitation of these workers, who would often lose their position when they turned 16. Furthermore, it reduced their incentive to register as unemployed, causing an underestimation of unemployed youth (Eichengreen, 1987, pp. 6).

The negative impact on employment during the Great Recession was above all contributed by a 25% plummet in new hires. The group most sensitive to this shock was the young entering the professional life (Gregg, 2015). The stated causes of the high youth unemployment today are often related to a drop in recruiting due to the global recession, public sector cuts, or the youth's lack of qualifications and experience.[46] A major trend in the UK during the past years, seemingly reducing unemployment, has been unpaid internships. An individual in an unpaid internship will not be counted as unemployed. However, the standard of living will not necessarily be any better compared with someone who is unemployed, rather worse as they are not eligible for unemployment benefits.

minimum amounts of, for example, food needed before becoming malnourished he consulted with leading nutritionists.

[44] This casual work usually involved queueing up outside factories or at docs at sunrise, wishing for one day of income. Other options included fruit picking, messengers or confectionery work (Eichengreen, 1987, pp.5).

[45] High wages relative to apprenticeship. However, apprenticeships provided the youth with the necessary skills to pursuit a lifelong career, but low wages.

[46] The young generation of today is historically the most qualified, and is still argued to be lacking experience and qualification (Gregg, 2015, pp. 75).

3.3 France

France experienced a relatively mild, but prolonged depression in the 1930s. France was the last country in Europe to recover from the depression, and they were not able to reach the pre-crisis peak of GDP until 1939.[47] Similarly to the UK, France suffered from great devastations as a consequence of World War I, in the 1920s. France did, however, experience a more optimistic decade (Beaudry & Portier, 2002). Heavily investments in gold, and relatively less in stock exchanges, limited a possible banking crisis (only one major bank failed during the depression). Gold was seen as a "safe haven" during the crash in 1929 (as it also was in 2008), and with the price increase in gold, the value of French reserves grew by about 500% from 1927 to 30 (Jackson, 1985, pp. 25-26).[48]

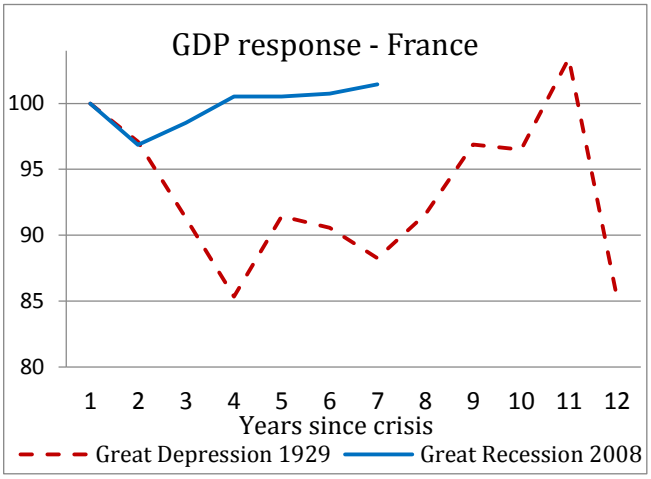

Figure 11 – This figure display a comparison of the crises effect on GDP.

During the initial stages of the depression, export related industries were affected by lower international demand. However, as France entered the gold standard at an undervalued rate, their competitiveness was relatively strong compared with most other countries (Gourevitch, 1984, pp.122-125). From 1931 and onwards, other countries were forced to devalue, and the franc became relatively expensive (Gourevitch, 1984). This marked the beginning of the French depression, as France had enough gold reserves to refuse devaluation (Beaudry & Portier, 2002). This generated a major drop in export demand, followed by a plunge in investments and industrial production. Inconsistent government policies worsened the situation. More active expansionary fiscal and monetary policies, and devaluation of the Franc earlier than 1936, would have improved the economic situation. However, austerity measures were instead pushed through, causing a never-ending slump (Jackson, 1985). During the decade that followed the 1929 stock market crash, a structural reform of the French industry was launched. The tough period moved the

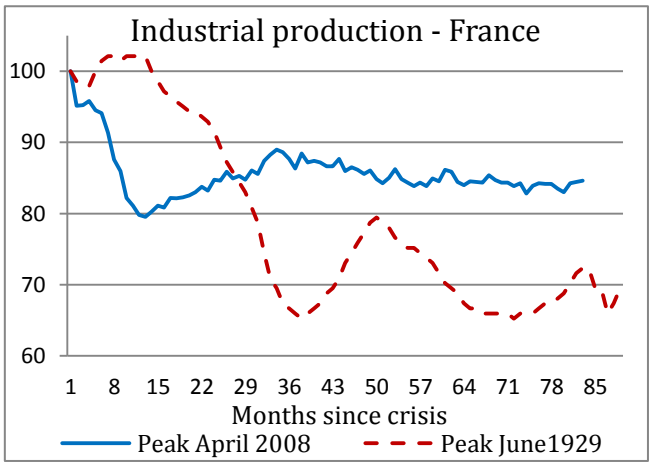

Figure 12 – Comparison of the fall in industrial production as a consequence of the two crises. Ending in February 2015 and October 1936.

[47] The recovery of GDP in 1939 was rather brief as it was followed by a larger downfall than during the depression as a consequence of WWII. In 1949 GDP was again back on the level of 1929 and 1939. From 1949 until the Great Recession, France experienced strong economic growth with only a few minor setbacks. The historical GDP figures are from Maddison's Historical statistics (2006).

[48] France held 25% of the world's gold supply in 1932.

economy away from traditional industries such as textiles (historically, the most important export industry), and in the direction of more technology intensive industries such as hydro-electric power, chemicals and petrol refining. The massive fall in industrial production forced France towards this transformation.[49] Industrial production began to fall in 1929, and did not return to the pre-1929 peak level until 1950, leaving France as the only industrial power not attaining the 1929 level of production until after World War II (Jackson, 1985, pp. 1-6). The recovery was set back by a number of deflationary policies, aimed at preventing depreciation of the currency. The politicians of the time were heavily criticized for ignoring the severity of the economic situation.[50]

In the current crisis, France was also slower than other industrialized countries to join the list of countries in recession.[51] According to the IMF's mission chief for France, Anne-Marie Gulde, the main reasons for this includes that France relies relatively less on exports, dampening the effect of reduced world demand, and that the country has a generous social safety net (Vrijer & Yontcheva, 2009). Furthermore, France has been, and still is, relatively conservative in regards to supervision of lending institutions.[52] Figure 13 illustrates France' export demand, and display a severe and abrupt shock in response to the Great Recession. However, the persistency is milder than during the Great Depression.[53] The French economy is a major player in international economics. France was the sixth largest exporter in the world in 2013.[54] However, as most other industrialized countries, France has experienced tough competition from emerging markets during the past decades, and the recession accelerated this trend.[55]

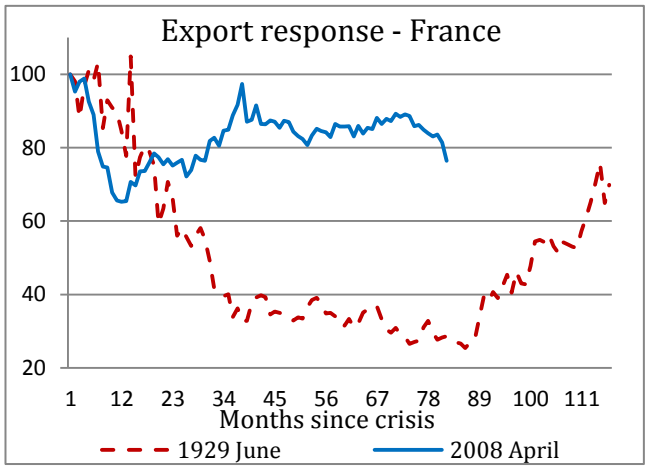

Figure 13 – The effect on export demand in the two crises. Ending in January 2015 and February 1939.

[49] Statistics of industrial production during the depression are gathered from the League of Nations. Corresponding figures from the recession are provided by OECD.
[50] In their defense this can be due to the lack of economic teaching. Teaching of economics was primary taught only to law students.
[51] France fell into recession in Q12009 as the last European country.
[52] Supervision of the French financial system is generally viewed to be of good quality, but the IMF has pointed out that they could gain from increased transparency.
[53] The source of data on exports from the Great Depression is *Documents Statistique Sur Le Commerce De La France*, the series is collected from the Federal Reserve of St. Louis' statistical database. The current exports are reported by OECD in their main economic indicators database.
[54] France fell from fifth largest exporter of goods and fourth largest exporter of services in 2010.
[55] Especially in the automobile industry.

After seven years, in March 2015 the French stock market, measured here by the CAC 40 index, again reached the pre-crisis level.[56] The reduction in oil prices has contributed to increased GDP growth, domestic demand and market confidence. During the depression, as figure 14 illustrate, the effect on the stock market was catastrophic. The persistent low confidence of market participants was severe, but as relatively few were invested in stocks, the real impact was rather limited (Jackson, 1985).

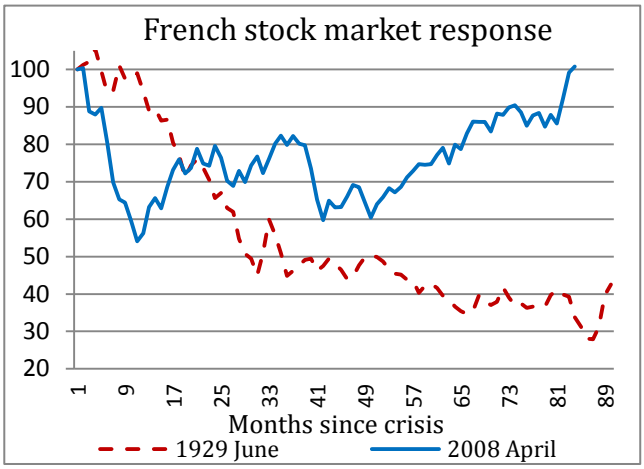

Figure 14 – Comparing the response of the French stock market in the two crises. Ending March 2015 and November 1936.

During the Great Depression, the French labor market suffered from a demographic deficiency (Hesse, 1998, pp. 184). France had experienced a declining labor force for an extended period of time. This was a result of a falling birth rate since 1850. The deaths of the First World War contributed to a further dramatic deterioration. The reduction of the labor force was more severe amongst the young, a quarter of those younger than 24 were dead. The era as the most populous country in Europe was long since passed, and in 1939, the French writer Jean Giraudoux stated; *"The Frenchman has become a rarity"* (Mathias & Postan, 1978, pp. 319).

The reduced labor force contributed to a less dramatic unemployment rate. It was for an extended period believed that France would be exempt from experiencing the wave of joblessness and economic downfall felt by others. These arguments were mainly based on; their massive gold reserves, the relatively large share of workers engaged in agriculture, and the 1,5 million immigrant workers who could arguably act as a buffer for domestic unemployment.[57] In comparison with other countries hit by the depression, the unemployment rate was not alarming. However, the growth in unemployment was extreme[58] and highly localized.[59]

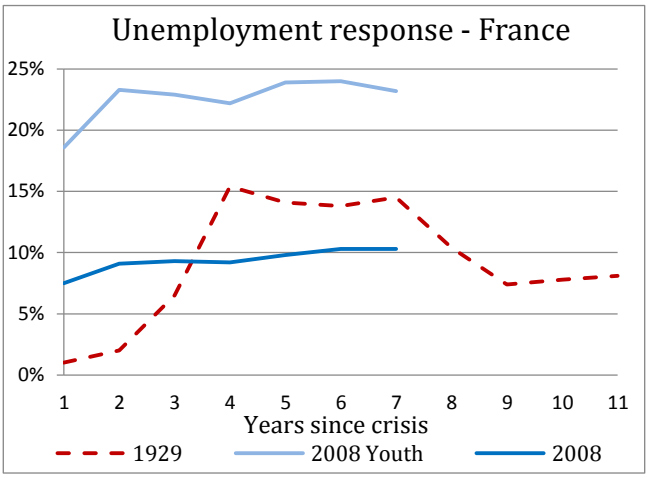

Figure 15 – Comparison of unemployment rates during the two crises not normalized due to extreme growth.

[56] The recent stock market values are from Yahoo finance, whereas those from the 1930s are from Bulletin De La Statistique Generale found in NBER's database on macrohistory.
[57] Foreigners were likely the subgroup most heavily affected by the depression in France, as they became excluded from the labor market (Hesse, 1998, pp. 184). The reason for the relatively large number of immigrants in France was due to the labor shortage, especially of manual labor, they experienced after WWI (Galenson & Zellner, 1957, pp.516).
[58] This growth in unemployment is likely heavily affected by measurement errors as there was not until 1931 that the issue of unemployment was raised in parliament, the standard way of measuring unemployment was counting those

Furthermore, there are great errors in the measurement of unemployment during this period, because official statistics primary counted those receiving benefits, and access to unemployment funds was limited.[60] A breakdown of unemployment statistics by age is not available after 1911, and therefore not included in this analysis (Galenson & Zellner, 1957, pp. 509). The statistics used in this paper is "applications for work" from the League of Nations, because this measure captures those not receiving benefits and is therefore, arguably, closer to the truth. However, it will still be an underestimation, for example it does not include discouraged workers. What is known, and supports a hypothesis of severe troubles in the labor market, is the increase in unemployment insurance funds from 27 in the fall of 1930 to 900 by fall 1935 (Jackson, 1985, p. 28-30).

The present situation of the labor market includes relatively stable, but high unemployment, especially amongst the young (Cahuc & Carcillo, 2015).[61] The global recession worsened the situation, notably within the industrial sector, but the overall negative impact was milder than in other countries (Haincourt & Mogliani, 2012). The persistent high unemployment and low labor participation in France is mainly claimed to be a consequence of strict employment protection legislation, high minimum wages and an imperfect educational system (Dolado, 2015; Labaye et al., 2012). Furthermore, the high prevalence of temporary contracts contributes to the impact endured by the younger generation.[62] Employees on temporary contracts are offered less protection, and suffer disproportionally from cutbacks when firms find themselves in financial difficulties. In France, 13% of workers are employed on a temporary basis. This subgroup chiefly contributed to the increase in unemployment, and 60% of them lost their position during the recession (Labaye et al., 2012).

France's youth employment rate is slightly less than 30%. Integration of the increasingly large number of young people, who is neither employed nor looking for work, is among the nation's most urgent issues (Cahuc & Carcillo, 2015).[63] The dual nature of the labor market is an important factor contributing to labor market discrimination. A proposed solution is the implementation of a "single contract"; a homogenous contract of indeterminate duration for everyone.[64] France was the first country to receive funding from the Youth Employment Initiative (YEI) to tackle unemployment among young individuals, received by regions where youth unemployment is above 25%.

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receiving benefits. The statistics from the depression is collected from Eichengreen and Hatton' s *Interwar Unemployment* (1988)

[59] Over half of the French unemployed where clustered close to the Seine until 1934. 10 out of the 101 French districts where hardly affected (Jackson, 1985, pp. 30).

[60] Precise numbers of unemployed exist only for March 1931 and March 1936 where 452 800 and 820 800 were the respective numbers. To give an impression of the understatement of the regular measure of unemployment; the corresponding figures of unemployed receiving benefits were 50 800 and 465 100 (Jackson, 1985, p. 30). The right to unemployment benefits for a limited period of time was highly exclusive, among the requirements were: being poor, belongingness to the same local area and occupation for years, and involuntary unemployed.

[61] High unemployment has been a concern in France for almost 30 years.

[62] A labor market separating employment contracts into temporary and permanent is called a dual labor market. The issue of temporary contracts if further discussed in section 5.

[63] The proportion of inactive youth is heavily skewed, 85% of the NEET's did not study beyond secondary schooling. The recession has reinforced the inequality of employment between those with and without higher education.

[64] This proposed reform is called Contrat de Travail Unique (CTU), and it was first proposed in 2007 (Casale & Perulli, 2014, pp.56-62).

3.4 Spain

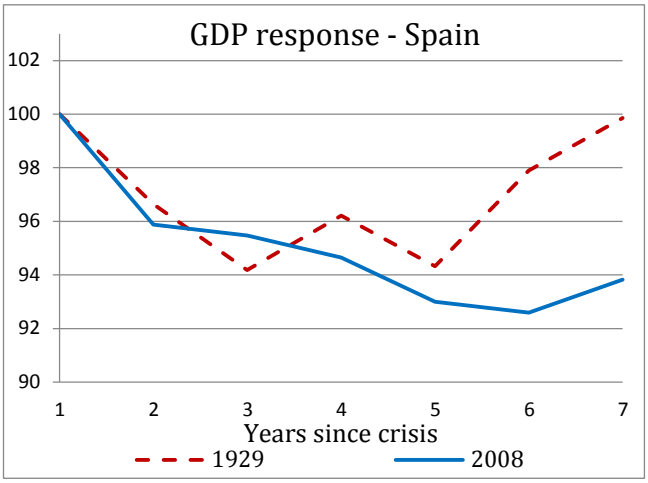

Figure 16 – This comparison display the relatively equal emergence of crisis, but the Great Recession's persistance has been much stronger.

Today's situation in Spain today is heavily contrasting the situation during the Great Depression. The depression in Spain was less severe than in most European countries.[65] There were both internal and external factors contributing to the economic decline of the 1930s. The domestic situation was likely as important as the international turbulence, and may even be the primary cause of the economic downturn. Under the Miguel Primo de Rivera dictatorship (1923-1930), Spain went through a period of expansive public spending. This included massive infrastructure programs, which, similarly to now, were incompatible with a balanced budget, and were funded by public loans. During these years there was an increase in inflation and a sharp decrease in unemployment as these public reforms increased labor demand. Primo de Rivera also raised the influential power of the labor force by appointing government arbitrators to dispute over wages. The economic boom ended in 1929 with a bad harvest, a weakened currency, and the resignation from Primo de Rivera (Payne, 1993).

The Great Recession, on the other hand, has hit the Spanish economy particularly hard.[66] The illustration of the evolution of GDP in figure 16 displays the contrasting experience of the two crises. The Spanish economy needed seven years to reach the pre-crisis GDP level during the depression. Today, reaching the pre-crisis GDP level is distant, but the outlook is becoming increasingly positive. Domestic demand has strengthened due to easier financing conditions, enhanced confidence and low oil prices. The European Commission expects growth to double from 1.4% in 2014 to 2.8% in 2015.

In the wake of the crisis, there has been strong agreement among professionals in the field of economics related to Spain's imbalance between savings and debt. The presence of large imbalances in debt and savings during their booming decade largely stimulated the economic meltdown. The massive housing bubble and GDP growth were largely caused by relaxing the governmental supervision of the financial sector.[67] Furthermore, during the decade of fiscal irresponsibility, dependence on unsustainably high government expenditure was cultivated. This prosperous image was artificial, and when the housing bubble burst, 50% of jobs in the construction sector were lost within three

[65] As mentioned in the third section, data on the Spanish depression is highly incomplete. The data available from the depression years are collected by the Spanish statistical office; INE, and can be found in their historical yearbooks.
[66] Other countries of in the "sinful periphery" were heavily affected by the crisis (Estrada, Galí, & López-Salido, 2012).
[67] Residential property prices in Spain increased by 200% between 1996 and 2007.

years. As a consequence property prices plummeted, and there are now around 3.4 million homes vacant in Spain.[68]

The fall in industrial production as a consequence of the Great Depression was milder, both, compared with other countries and compared to the situation today. One of the main reasons behind this was the relatively small industrial sector in Spain. In the 1930s, half of the male population was still employed in agriculture, and productivity levels were much lower than in most industrialized countries (Simpson, 1997).[69] The illustration of industrial production ends in 1933, because no official statistics where collected during the Civil War.

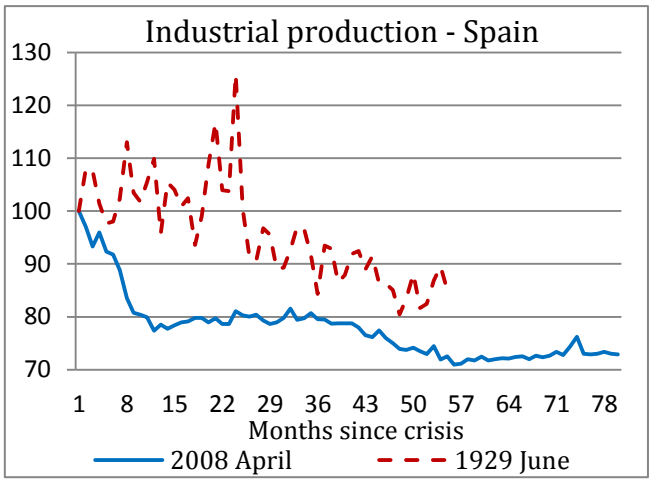

Figure 17 – This comparison of industrial production in Spain clairly display that there is still a long way back to their pre crisis level in 2008. The impcat is also much larger today, compared with in the 1930s. Ending January 2015 and December 1933.

The impact of the international recession were dampened by the flexible exchange rate, relatively small volumes of international trade, and the protectionist policies adopted in the 1920s (Giménez & Montero, 2012).[70] Furthermore, Spain was not harmed by the bankruptcy of American banks, as they did not have any foreign loans; rather they had excess savings and large gold reserves. The main effect of the depression on Spain was through trade. International trade collapsed, both in the current crisis and during the Great Depression. However, the plummet in global trade as a consequence of the depression, was worsened by implementation of protectionist trade policies (Eichengreen & Irwin, 1993; Crucini & Kahn, 1996).[71] The severe drop in Spanish exports, illustrated by figure 18, was largely a consequence of

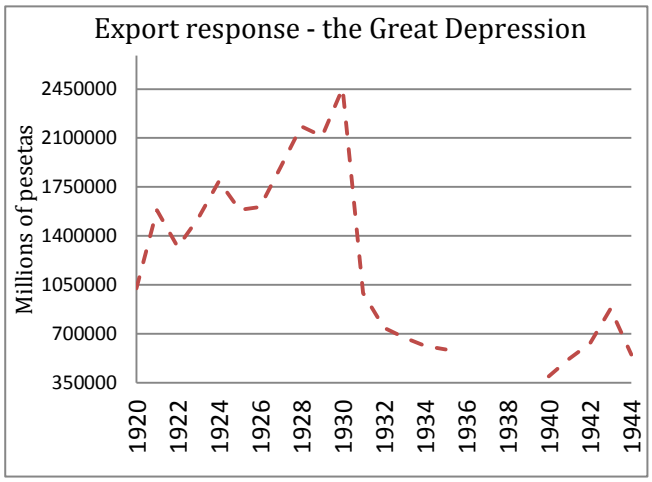

Figure 18 – There was a massive drop in export demand as a concequence of the Great Depression.

[68] The corresponding numbers in Germany, France and the UK are 1.8m, 2m and 0.7m homes respectively. In Europe as a whole it is estimated that more than 11 million homes are vacant (Neate, 2014).
[69] Patrick O'Brien and Leanardo Prados de La Escosura (1992)report that the labor productivity in Spain was only 44% and 39% of the levels in France and the UK respectfully in their chapter on *agricultural productivity and European industrialization, 1890-1980* published in the 45th volume of the Economic History Review.
[70] Spain was the only European country who did not return to the gold standard in the 1920s, and several authors, including Kochin, Choudhri, Bernanke and Fisher, argue that this is the main reason why Spain to a large extent escaped the depression (Choudhri & Kochin, 1980).
[71] The first trade restriction imposed as a response to the depression was the Smoot-Hawley Tariff adopted by the US. In the current crisis there has been no enhancement of protectionist policies, arguably because policy makers have learned from the past.

their main trading partners establishing tariffs on their imports (e.g. onions, cork, oranges and grapes), while Spain's protectionist policies were relatively mild.[72] This contributed to a reduction of the terms of trade (Giménez & Montero, 2012). INE (1936) reports that the trade balance also weakened because Spain's exports mainly consisted of agricultural goods, whereas imports consisted of raw materials which were difficult to produce domestically (e.g. cotton). The period that followed was characterized by economic crisis and political instability, and eventually ended with the Spanish civil war.

The reduction in exports during the Great Recession was also extreme. Spain's exports involve mainly ships, cars, pharmaceuticals and electronics. The recession in Europe affected them heavily as most of their international trade is with other European countries. However, there have been several reforms implemented in Spain, aiming at reducing labor costs. The idea was that this would raise international competitiveness, and contribute to an export-led recovery. There has also been a shift in the main importers of Spanish goods, towards emerging markets. Figure 19 illustrate that the reform of mid-2010 and mid-2012 was implemented simultaneously as exports rose. The recent decline in exports is presumably caused by the concurrent appreciation of the Euro.

Figure 19 –As most other industialized nations, exports plummeted as the crisis commenced, but the shock was more transitory than in the 1930s. Mainly because the introduction of protectionary policies has been restricted.

The severe decline in exports contributed to a rise in unemployment. There are no official figures of unemployment before 1933, or during the civil war. This hurdles the comparison of the two crises. However, there is reason to believe that, although, unemployment in Spain was a large issue, it was lower than in Germany and Britain. The increase in joblessness originated from a lower production rate, and as a result of migration of 118 000 people to Spain due to the international crisis (Bruno, 2003).[73]

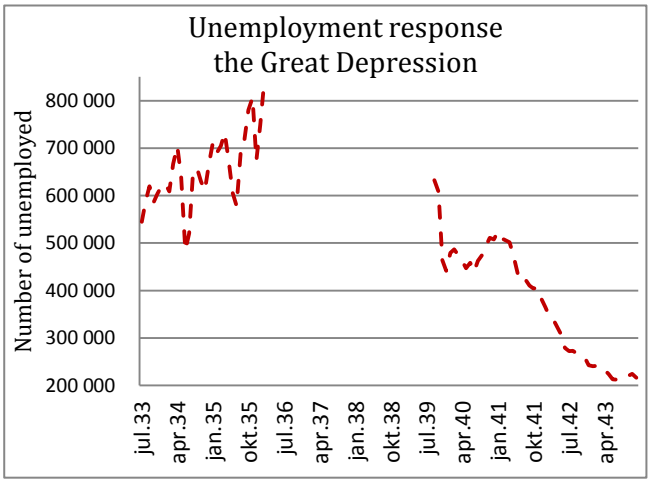

Figure 20 – Number of unemployed individuals in Spain during the 1930s.

[72] By 1932 every European Country had implemented import quotas or increased tariffs, in an attempt to protect own industries.
[73] This is a sharp contrast to the situation today. Eurostat reports a decline in Spanish immigration from 958 266 in 2007, to 280 772 in 2013.

Spain is currently experiencing the highest youth unemployment rate in history, including more than half of the younger population. The youth unemployment rate in Spain has historically been high relative to other developed countries, but it is now well above 20% higher than the historical average.[74] Moreover, Eurostat reported that, in 2014, 77% of part-time employees between 25 and 29, claimed lack of success in attaining full time employment as the main reason for their employment status. This is a major increase, from 39% in 2007. Immigrants were also heavily impacted. The reason was first and foremost because job losses were concentrated in sectors employing a relatively high number of foreigners. In addition, the state offered bonuses to non-EU immigrants who agreed to leave Spain for three years, in an attempt to relieve the strain upon domestic labor (Beets & Willekens, 2009).

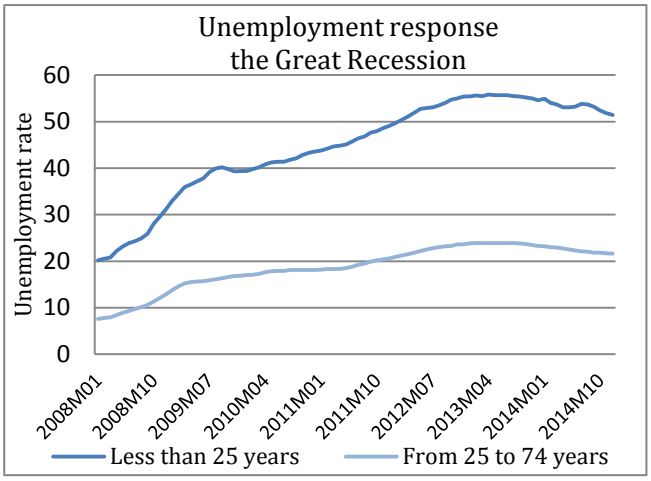

Figure 21 – The unemployment rate in Spain is still significantly more than twice what it was when the crisis commenced. The ending month is January 2015.

As the 6th largest economy in Europe these figures are truly dangerous, and the severity does not seem to diminish in the near future. A major reason why the Spanish labor market has been so heavily affected is the high degree of labor market duality and wage rigidity (Dolado, 2015). Furthermore, during their recent boom years there was a tendency of concentration of investments in the currently most distressed industries. Fortunately, the most recent figures suggest that Spain does display signs of recovery.

3.5 Summary of the Descriptive Empirics

This section has provided an illustrative outline of the crises impact on key economic indicators in the four selected countries. It is clear that the contagion of the current crisis display a different pattern. During the depression, Germany was the major source of the epidemic. Whereas today, Germany was relatively less damaged, and arguably function as a key piece in puzzle of improving the European situation. On the other side is Spain, who's situation today resemblances that of Germany during the depression. Although major differences between these countries exist, statistics indicate that most variables demonstrated higher persistence as a consequence of the Great Depression, relative to the Great Recession. Furthermore, the global shock of 2008 affected variables more immediately, possibly due to the stronger interconnectedness of the world today compared with in the 1930s.

Motivated by the high persistence of the depressing unemployment rates, relatively to other leading economic indicators, the next section seek to analyze whether this, originally cyclical shock, has contributed to structural changes.

[74] Their record low is 17.40% for youth unemployment and 10% total unemployment, these figures occurred in the year before the Global Financial Crisis of 2008.

4 Beveridge Curves

There have been gradual structural changes in the labor market throughout the world in the past decades. The world has experienced stronger globalization and a rise of technological advances when entering "the information age". Across the globe, the characteristic of labor demand changing, the need for lower- and medium-skilled workers has been declining, whereas the demand for high skilled labor is increasing. Particularly in advanced economies, increased technology and productivity has reduced the demand for lower- and medium-skilled workers as their responsibilities have, to a large extent, been automatized or outsourced to lower-cost locations (Brynjolfsson & McAfee, 2012, pp. 25-33). It is possible that the Great Recession, as the Great Depression, will act as a catalyst, accelerating the trend of labor market mismatch (Dobbs, et al., 2012).[75] This section will commence by outlining a simple theoretical framework underlying the Beveridge curve, based on a paper by Pissarides (2013).[76] The preceding subsections will analyze the Beveridge curve of the four selected countries separately, aiming at shedding light on each nation's labor market situation. I will only consider the Great Recession due to lack of reliable data from the depression years.[77]

4.1 Theoretical Framework

The global recession and Sovereign debt crisis has led to massive labor market distortion in Europe. This section will analyze the change in the relationship between job vacancies and unemployment.[78] In other words, it outlines the match between supply and demand in the labor market. Since 2007 there has been an overall reduction in vacancies and a major increase in unemployment across Europe, mainly due to falling employment (Estrada, Galí, & López-Salido, 2012).[79] The Beveridge curve, or UV-curve, illustrates the empirically negative relationship between unemployed workers and firms demand for labor as a matching function. The matching function, $M = M(u, v)$, describes the efficiency in matching unemployed workers (U) with vacant positions (V).[80]

The theory of search and matching can be applied to explain the rationale behind this relationship. The theoretical framework is based on the reallocation of labor in response to factors influencing the firm's profitability, and the efficiency of the matching process. Assume that the separation rate is given by λ, and depends on aggregate and structural changes. The probability of moving into employment is given by ρ, and depends on the unemployment rate and the vacancy rate, $\rho(v/u)$.[81] The intuitive prediction is that the

[75] Nir Jaimovich and Henry Siu (2012) find that the movement away from routine work is not a gradual phenomenon; rather 88% of these job losses occur during a recession.
[76] A detailed description of the theoretical framework can be found in Pissarides (2000).
[77] During the Great Depression, structural changes in terms of technological advances were a major reason for structural changes in the labor market (Keynes, 1932).
[78] In this section total unemployment will be used instead of youth unemployment because there are no separate vacancy rates for the younger generation.
[79] As opposed to a reduction in the participation rate, that has played a smaller role in raising unemployment. This is the rational for utilizing the simplifying assumption about the outflow from unemployment being solely a result of succeeding in finding employment used in the theoretical model. This is, arguably, a weakness because the increasing number of unemployed having been discouraged are an important characteristic of the Great Recession.
[80] The matching function is assumed to be increasing in both arguments, concave and homogenous of degree 1 (Pissarides, 2000, pp. 6). Lowercase letters indicate the rate of the arguments, whereas uppercase letters is the level.
[81] s and ρ are averages at the macro level. The labor force is assumed constant for simplicity.

probability of moving from being unemployed to employed, increases in the number of job vacancies, v/u, hence $\rho'(v/u) > 0$. This ratio is known for measuring the labor market tightness, and is typically low during a recession.

The number of individuals moving from employment to unemployment, given by $(1-u)\lambda$, and the number moving from unemployment to employment is given by $u\rho$. An equation for the unemployment rate can be obtained under the flow-equilibrium condition, stating that the flow into unemployment equals the flow out of unemployment in steady state.

$$(1) \qquad (1-u)\lambda = u\rho$$

$$(2) \qquad u = \frac{\lambda}{\rho+\lambda}, \quad u'_\lambda > 0, \quad u'_\rho < 0$$

We will, at any point in time, have a degree of labor market slack, because there will always exist employees and employers searching for each other. However, in recessionary times these matching frictions will be amplified. This simple framework can be utilized to analyze the evolution of labor market dynamics over the timespan of a recession. As the economy slows down, the average probability of job separation increases temporarily (λ). Furthermore, economic downturns result in reduced job creation, therefore the average probability of obtaining employment will also decrease (ρ). Historically, the tendency was been that the increase in λ is transitory, as employers complete their downsizing relatively rapid. However, the slack in job creation remains sluggish for an extended period. This is evident in the empirical analysis of the Great Recession below.

The Beveridge Curve can be drawn by exploiting equation (2), and can be used to distinguish between two of Keynes' three types of unemployment. Graphically, this will be presented as in figure 22, by plotting the job vacancy rate (v) against the unemployment rate (u). The illustration generates the possibility to determine whether the change in the labor market is structural or cyclical (Elsby, Michaels, & Ratner, 2014). Below is a description of the three categories of unemployment, utilizing figure 22 and the theoretical framework provided above.

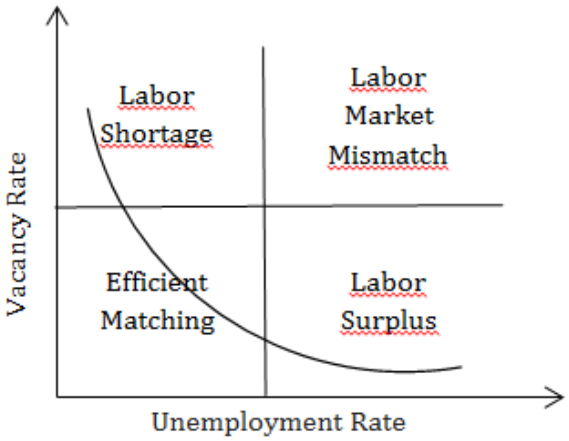

Figure 22 - Overview of the four labor market situations explained by the Beveridge curve.

Cyclical unemployment is the first of Keynes' explanations for unemployment. It refers to the component of overall unemployment that follows the business cycle. A fall in aggregate demand typically leads a reduction of posted vacancies followed by higher cyclical unemployment that will abate as demand recovers. Across the countries analyzed in this paper this structure is present, and is illustrated as a movement along

the curve in figure 22. Shortly after the crisis commenced in 2008, there was a sharp fall in vacancies followed by an increase in unemployment present in the four selected countries.[82]

The second explanation is structural unemployment, which is a consequence of long-term skill mismatch between the laborers demanded and supplied. A period of prolonged deficient demand could cause specific industries to perish, leaving their specialized workers unattractive in the labor market. Furthermore, the skillset and confidence of these workers will deprive over time. This can be illustrated by an outward shift in the Beveridge curve. In the Great Depression persistent cyclical unemployment developed into a permanently higher unemployment for a significant part of the labor force, and the same is at risk of happening today (Jensen, 1998). Higher structural unemployment will imply a permanent waste of human capabilities, and massive negative externalities on various parts of the economy.

The final type of unemployment is not explained by the Beveridge curve. Frictional unemployment relates to the time spent job searching. Both during the Great Depression and now, it has been observed that workers are more reluctant to quitting, and the youth remain in education longer. This has caused a temporary decrease in frictional unemployment (Mattila, 1974).

Figure 22 depicts the four areas which the Beveridge curve can be separated into, indicating four different labor market situations. The top right corner is an area of high unemployment and abundance of job vacancies. It can be reached if a shock is very persistent, and therefore leads to structural changes in the economy. A change in labor market trends typically shifts the curve, and is caused by institutional changes, technological advancement, changes in sectoral composition or demography (Blanchard & Diamond, 1989). In the presence of structural changes in the labor market, the role of intervention becomes much more complex. The situation causes a long term mismatch of the skills of workers and the demand for them. According to the European Commission (2013), there are currently more than 2 million unfilled job vacancies in the EU. High priority must be placed on hindering the trend of countries moving to this area of the figure, as well as guiding those already in this situation out of it. The bottom right corner is the area of high unemployment and few vacant positions. This is a symptom of an economy in recession, where firms are reluctant to hire due to economic hardship. The result is higher cyclical unemployment. The top left corner of the figure is an area of labor shortage, where the unemployment rate is low and there is a surplus of vacancies. This occurs, typically, in during a period of economic expansion. The final corner of the Beveridge curve is the bottom left, which indicates that the economy is in a situation of great matching efficiency. Both the unemployment rate and the vacancy rate are low.

[82] The increase in unemployment in Germany was very short and followed by a significant decrease over the following years.

4.2 The German Beveridge Curve

The German economy finds itself in the top left corner indicating, that they may be experiencing labor shortage. There is no sign of recession; rather there is low unemployment and a high number of job vacancies. This has been the situation since 2011, and can be seen as a light amongst the depressed labor markets of Europe. The German labor shortage has contributed to improve the situation of other countries, through a massive increase in labor immigrants since 2009. It has also been highly beneficial for Germany, who has experienced a decline in cohort sizes and a lack of skilled workers (Dolado, 2015). Furthermore, this decline has contributed to keeping the unemployment rate low.

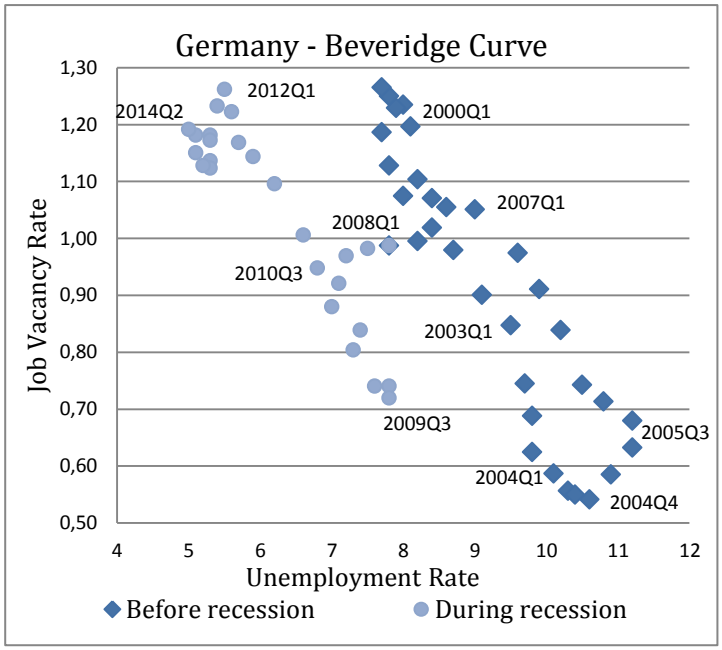

Figure 23 – The German labor market display a shortage of labor, and during the past seven years there is a clear inward shift in the curve.

In contrast with the rest of the Eurozone, there has been an improvement in the labor market in Germany, and possibly a decline in structural unemployment. The German labor market framework deviates from that of other countries, and is based on a collective partnership between the state, business and trade unions (Krause, Rinne, & Zimmermann, 2014).[83] Germany went through a much needed structural labor market change prior to the crisis, and the resulting increased labor market robustness contributed to the relatively mild recession. There has been a shift inward since the recession commenced, implying that for a given number for job vacancies the unemployment rate is lower than before. This can be a sign of improved matching efficiency between the supply and demand of labor, which was the goal of the Hartz reforms implemented between 2003 and 2005. It is argued by Klinger and Weber (2012) that the reforms were the main reason for the outstanding upturn in matching efficiency.

The reform involved four stages, where the three first aimed at creating new types of job opportunities, introducing additional wage subsidies and restructuring the Federal Employment Agency towards increased transparency.[84] The final stage involved a cut and restriction on unemployment benefits for the long run unemployed, aiming at increasing the search incentive. This stage has been largely unpopular in Germany as the

[83] This contrasts to the more regulatory approach used in France, and the market based approach in the UK.
[84] Mini-job and Midi-job are two new "types" of jobs. The mini-job refers to a contract which does not typically pay more than €450 a month, the employers pay 31% in tax and social insurance contribution and the employee is liable for their own pension insurance. The midi-job refers to contracts paying an average monthly salary of €450-€850, where the employees pay a reduced rate of social insurance and the employers pay a contribution rate below that of mini-jobs. These jobs are in addition to regular employment, fixed-term contracts and temporary employment aimed at fostering flexible employment solutions. *Source: Germany Trade & Invest*

long term unemployment benefits were reduced. It indicates that, despite the fact that the median household gained from the reform, due to reduced tax payments to a lower social security, households preferred the security of long term unemployment benefits (Krebs & Scheffel, 2013).

Germany has also implemented a strong vocational training system of three tracks; apprenticeships that combine formal vocational schooling with practical working experience, full-time vocational schooling and a training track for those not qualified for apprenticeship. The content of the program is constantly adapted to the labor market's changing demand, and it has proven to be highly effective in reducing unemployment, especially by easing the transition from school to work. The vocational training framework crucially depends upon collaboration between employers, the government and trade unions (Krause et al., 2014).[85] These reforms will be discussed further in section 6.

The Beveridge curve illustrate that, since the reform was implemented, the trend has mainly been towards a tightening of the labor market; falling unemployment and increasing job vacancies.[86] The exception to this trend was the short adverse effect on the labor market as a consequence of the international crisis. From figure 23, it is clear that there was an immediate negative effect on vacancies, followed by a slight increase in unemployment. When comparing the years before and after the reforms, there was actually a shift outward in the curve. A shift can also indicate changes in labor supply, and an increase in labor supply did occur in this period, as the participation rate increased from 56% to 60% of total population (Haincourt & Mogliani, 2012).

Figure 24 – Development of the German labor force size over the past 14 years.

[85] Trade unions agreement is needed, as the income related to an apprenticeship is below standard contracts. The government will provide funding for the teaching at schools, whereas firms bear the training cost.
[86] The increase in unemployment in 2005 is mainly due to changes in defining unemployed. The unemployment status expanded to include those who had previously received welfare benefits and is currently not working. Before the Hertz reforms, those not registered as unemployed would not be considered as unemployed (Riphahn, 2015).

4.3 The United Kingdom's Beveridge Curve

The British curve depicts an outward shift, and they are now in a situation with relative abundance of vacancies. For the same vacancy rate, unemployment is now greater than the before the recession. As explained above, this shift can be a sign of increased long-term unemployment, and structural change, causing reduced matching efficiency.[87] An outward shift can be a consequence of recession, and is often referred to as hysteresis.[88] Employees laid off during a recession often experience difficulty being reemployed, and will therefore lose their skills and motivation. The longer the recession, the higher becomes the probability that there will become long term unemployment (Haincourt & Mogliani, 2012).

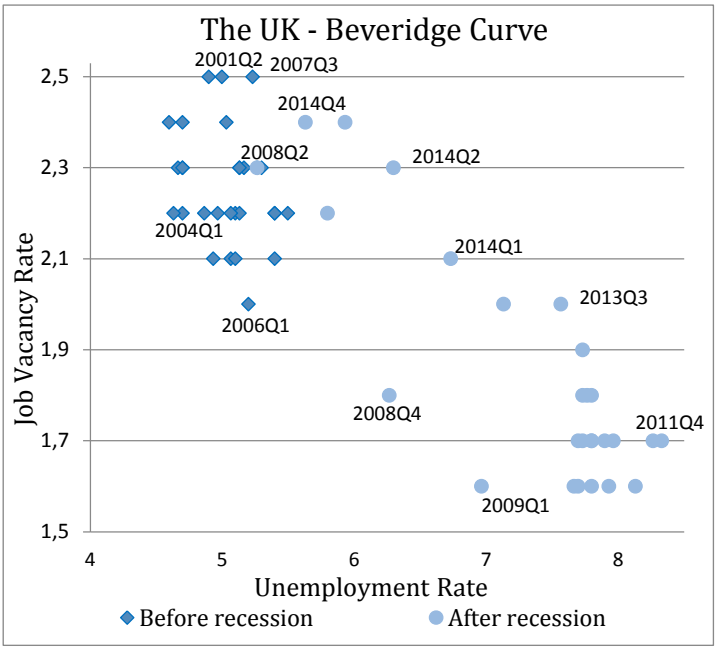

Figure 25 – The British Beveridge curve display a clear outward shift as a consequence of the Great Recession, commencing in 2011.

During the period between 2001 and 2007, the unemployment rate remained close to 5%, and the vacancy rate remained relatively stable. Between the 1980s and 2000s, the UK implemented institutional reforms improving the labor market. The reforms included stricter unemployment rules, tax reductions and increased labor market flexibility (Pissarides, 2013, pp. 395).

The UK experienced an increase in cyclical labor market slack, as the recession commenced. This was largely contributed, as in Spain and the US, by the disproportionate decline in employment in the construction sector, heavily affected by falling house prices and demand (Hobijn & Sahin, 2013). These workers are typically low-skilled and/or young. In addition to increased unemployment, there has been a decrease in productivity and real wages since 2008. This fall has been so significant that the real wage of autumn 2013 equaled the real wage of 2003 (UKCES, 2014, pp. 57). However, the trend has recently turned, as the severe fall in oil prices since the summer of 2014 has contributed to increased real income. The record low inflation is expected to result in the first increase in real wages since the recession commenced (ICAEW, 2015).

[87] According to Eurostat, long term unemployment (more than one year) doubled from 2008 to 2010, reaching 2.8% of the active population in 2012. Since then we have seen a steady decline, and in March 2015 the long term rate was 2.1%. The increase in long term unemployment, as a share of the unemployed, increased from 23% in 2007 to 35% in 2014. The corresponding numbers for long term youth unemployment is approximately 15% in 2007 to 27.5% in 2014.

[88] Hysteresis in unemployment refers to cases where the steady state equilibrium unemployment is path dependent. This indicates that permanently high unemployment after adverse shocks to the economy can have an effect on equilibrium unemployment (Blanchard & Summers, 1987).

Since 2011, there has been an increase in vacancies and a reduction in unemployment. This positive trend was contributed by the introduction of several policies discussed in section 6.[89] Unemployment and vacancies are now closely aligned with the situation in 2007. However, numerous workers have become discouraged by continuous rejection, and there has been a significant increase of underemployment, which does not have an impact on the unemployment statistics. The composition of the workforce is not what employers demand; also the matching efficiency between those workers who possess the desired skills and employers is not optimal. The long term structural change expected to occur in the UK, as well as other industrial countries, is a polarizing of high- and low-skilled occupations, and a massive surplus of undesirable middle-skill labor (UKCES, 2014).

4.4 The French Beveridge Curve

As of the third quarter of 2014, France found themselves in the corner of recession or labor surplus. France is experiencing high unemployment and a low number of job vacancies. Unemployment has been above 10% since the end of 2012, which is the highest rate since they implemented the Euro.

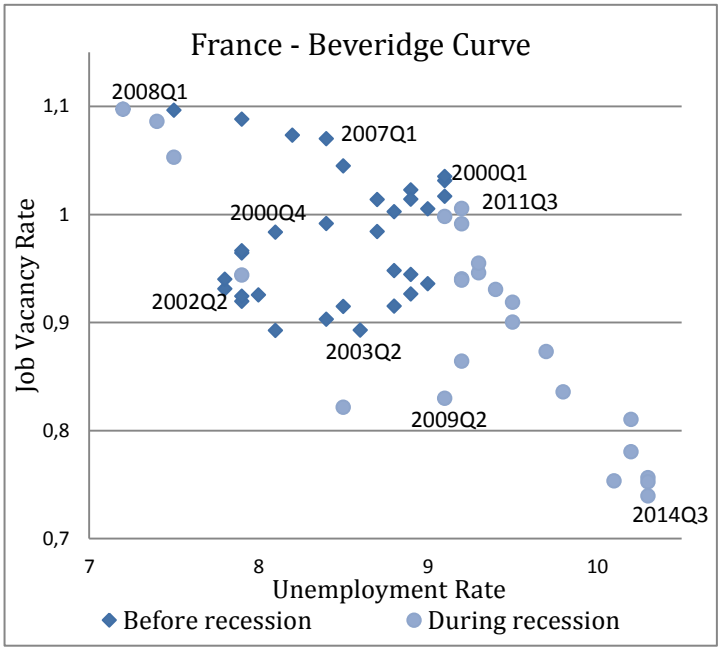

Figure 26 – The French Beveridge curve display a transition from the corner of labor shortage to a situation of labor surplus caused by the recession.

The evolution of the French Beveridge curve is possibly less clear compared to the other countries, as the curve reveals several labor market disruptions during the last 15 years. However, when comparing the years before and after 2009, the presence of an outward shift is clear. The curve also exhibits a further worsening of the labor market situation in 2011, as illustrated in figure 26.

The history of the years analyzed is as follows: In February 2000, France implemented the first of the Aubry Acts. This meant introducing a 35-hour workweek. The goal of this implementation was to reduce unemployment by improving the division of labor, and to take advantage of the improvements in productivity by freeing time for leisure.[90] This

[89] Including *Universal Credit, Job Seekers Allowance* and *Future Job Fund.*

[90] The rationale for believing that firms will hire more workers if each employee work less hours is based on the assumption that firm production is fixed, which can be regarded as a false premise. An additional assumption that must hold is that workers are perfect substitutes (only wage affect labor demand) and wages per hour is constant. In this act monthly wages is constant, and in reality firms also face costs associated with hiring making them reluctant to hire.

was to be done without any losses imposed on the employees.[91] In other words, the income of the workers should not alter significantly, which implies that it would be more costly for firms to produce. However, it was argued that the increased productivity would make up for much of the reduction in hours. The acts also gave firms, especially small firms, a soft transition into the new workweek.[92] In addition, all firms signing 35-hour workweek contracts with unions received social security rebates. Taking these benefits into account, it was claimed by French authorities that firms would not face higher labor costs, possibly even lower (Estevão & Sá, 2008).

In the two years following this implementation, the Beveridge curve displays a reduction in unemployment, but a failure to increase job vacancies. With the loss of the socialist government in 2002, the laws where gradually weakened until 2005. In this period, both unemployment and vacancies increased. Estevão and Sá (2008) conclude their paper by rejecting the work-sharing hypothesis; they find no effect on employment after implementation of these acts.[93]

As an immediate response to the Great Recession, the curve depicts a decline in vacancies, followed by an increase in unemployment. The outward shift in the curve, completed in 2011, indicates decreased matching efficiency in the labor market. A report by McKinsey Global Institute (2012) claims that France is indeed experiencing a severe mismatch between the supply of, and demand for, labor. The presence of this trend existed before the recession commenced, but the crisis seems to have caused this evolution to accelerate. The report further explains that the mismatch stems from the strong demand for high-skilled labor and abundance of low-skilled workers. It is suggested that the overall level of skills must be adapted to meet market demand, and also adapted to international standards.

The mismatch in the labor market has been increasing over the past 15 years, as we have seen a wave of automatizing and standardizing routine work, replacing workers with low and medium skill levels of technology. The French educational system is encountering large difficulties in meeting the rapid changes in labor demand due to technological advancement (Labaye et al., 2012, pp. 20).

[91] Aubry II introduced rules of correct implementation of the act, including not significantly altering monthly labor income. Arguably a flaw to this rule is that it did only apply to employees earning minimum wage (the social security rebates were also most beneficial for employees earning a minimum wage).
[92] A firm was considered small by the Aubry act if it employed less than 20. Small firms would experience more difficulties transforming into the new laws, and therefore they received a reduction in overtime premium and the limit to yearly overtime per firm.
[93] However, dual-job holdings increased for men, which indicate that the extra hours of leisure received after the reform was often used to work. This will give no productivity gain to the main employer. Furthermore, firms were more inclined to let go of their more expensive workers (men), replacing them with cheaper labor, causing no aggregate effect in employment, but a change in the labor force composition (the same result holds for Germany).

4.5 The Spanish Beveridge Curve

The labor market situation in Spain is by far the darkest of the countries compared in this thesis. Unemployment is still alarmingly high, and ambition of returning to their relatively prosperous situation in 2007 if fading. The increase in long term unemployment, as a share of the unemployed, increased from 20% in 2007 to 53% in 2014. The corresponding numbers for long term youth unemployment is 10% in 2007 and 40% in 2014. This intense increase provides an indication of the persistence of the labor market slack. The plummet in employment is disproportionately affecting the youth and workers employed in the construction sector. Reasons behind the skewed distribution of unemployment are lack of aggregate demand and vocational training, as well as the segmentation of the labor market (Garcia-Serrano & Malo, 2013). Spain has been the largest driver of EU unemployment, contributing with 40% of the increase in the period 2009-2012.[94]

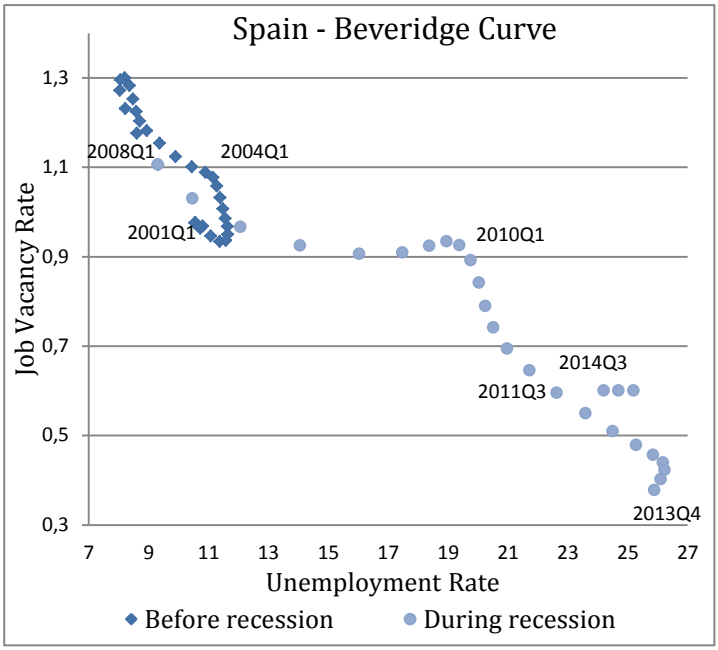

Figure 27 – The Spanish Beveridge curve display few highlights since the Great Recession hit their labor market. The first increase in vacancies since 2007 was experienced in 2014.

The Spanish Beveridge curve depicts a less ambiguous relationship than the French.[95] The country experienced steady employment growth from the 1990s to 2007. The period of growth was contributed by a large increase in the labor force and implementation of more flexible temporary contracts. Bentolila, Cahuc, Dolado and Le Barbanchon (2010) found that the increase stemmed from immigration (typically low-skilled employed in the booming industries), a 1% of population growth each year, and increased female labor market participation. After more than a decade of falling unemployment, increasing vacancies and rising GDP, the Spanish economy collapsed with a massive housing bubble. Vacancies started to fall already in 2007, continuing to drop until the end of 2008. In 2009, job vacancies remained stable, but unemployment rose sharply. The dual nature of the Spanish labor market makes it easy for employers to choose not to renew temporary contracts, this drove up cyclical layoffs (Pissarides, 2013, pp. 401). Since then there have been few encouragements, and the Beveridge curve illustrate a continuous downwards sliding trend until the end of 2013. Since 2014, the

[94] Total unemployment has declined for three successive months for the first time since 2008. Youth unemployment was declining, but experienced a 1% increase in the 4th quarter of 2014. The second largest contributor to unemployment is close to 10%, and includes France, Italy and Greece.
[95] Often comparisons are made between France and Spain because they started at seemingly equal labor situations, in terms of vacancies, labor market institutions and unemployment rates.

labor market exhibits improvements in terms of both lower unemployment and a higher number of job vacancies.

In 2012, Spain (under the Rajoy administration) initiated a labor reform similar to the German Hartz reform. The objective of the reform included raising Spain's competitiveness by reducing the cost of labor, as well as reducing the rigidity of the employment protection legislation, an internal devaluation.[96] The importance of raising competitiveness is driven by the prolonged internal reduction in demand (Bentolila, Dolado, & Jimeno, 2012). Rajoy argued that growth should be attained from other countries through exports, and deprived of the possibility of devaluing the currency, increased competitiveness could be realized by reducing product prices through lowering labor costs. From figure 19 we saw that exports did indeed increase after these reforms.

The lack of sectoral labor mobility in Spain contributes to possible increases in structural unemployment. The highly labor intensive construction sector was disproportionately hit by the recession. The sector felt a drop in employment of close to 50% between 2009 and 2012 (European Commission, 2013, pp. 22). After a decade of high growth, the housing bubble in Spain burst, and 35% of unskilled positions in the construction industry were lost. The investment boom in the construction sector was fuelled by the relatively high inflation rate when adopting the Euro, which led to a 6% fall in real interest rates, and a relative abundance of unskilled labor (Bentolila et al., 2010). The high unemployment in the construction sector seems to be highly persistent. Reasons for this belief include the stubbornly high net supply of housing, as well as the lack of important adjustment mechanisms to combat the crisis (Fingleton, Garretsen, & Martin, 2015).[97] Additionally, the low-skilled workers are experiencing difficulties reallocating to other industries (Haincourt & Mogliani, 2012, pp. 77). There is a major need for sectoral rebalancing to generate alternative job opportunities for the, likely, irreversible job losses in the construction sector (Bonthuis et al., 2013).

[96] Making the employment protection legislation more business friendly included for example the possibility of dismissal of workers by companies facing three successive quarters of declining revenues.
[97] These mechanisms include strong labor market rigidity and low tendency of labor migration, which will be discussed further in section 5 and 6.

4.6 Summary of the Beveridge Curve Analysis

The analysis presented in this section is simple, and it is too soon to draw any significant conclusions about the structural changes in the labor market. However, of the countries analyzed, there is an evident outward shift in the Beveridge curve of the United Kingdom and France. Germany has experienced an inward shift as a result of the rewarding reforms earlier in the decade. That Germany has succeeded in increasing matching efficiency is evident from figure 23. Furthermore, there has been a significant decline in individuals reporting that their main reason for being part-time employed is lack of full-time opportunities, from 27.6% in 2007 to only 16.5% in 2014. The Spanish curve reveals a possible initiation of an outward shift. It is realistic to believe that the divergence in the European labor market is not temporary, but that we have entered a period of structural change.[98] The prolonged adjustment process is amplified by weak labor mobility, and labor market rigidities not allowing wages to fall to the extent necessary to mend the gap between supply of and demand for labor (Fingleton et al., 2015). The cyclical effect of the recession has disproportionally hit the lower skilled workers. However, the structural change is believed to be borne mainly by the middle skilled, as technological advancement increasingly automatizes the need for these professions. This indicates that, similarly to during the depression, a polarization towards the lower and higher skilled occupations are underway.[99]

The information provided in this section indicates that the changes in the labor market are not transitory. Therefore, it is immensely important to adapt the educational and training system in such a way that the youth can provide skills demanded by the labor market. Before analyzing policy options, the next section provide an outline of the recession's consequences faced by the European youth.

[98] Only one quarter of the respondents to the IZA Expert Opinion Survey think that the divergence experienced in Europe after the recession commenced is transitional, whereas 60% believe that it will be long lasting (Krause et al., 2014). This is a survey conducted on the Single European Labor Market in 2014. The 284 respondents were all among the prominent IZA Research and Policy Fellows.

[99] "*We are being afflicted with a new disease of which some readers may not yet have heard the name, but of which they will hear a great deal in the years to come—namely, technological unemployment. This means unemployment due to our discovery of means of economising the use of labour outrunning the pace at which we can find new uses for labour.*" From the essay Economic Possibilities of Our Grandchildren (Keynes, 1932)

5 The Lost Generation

One of the most severe consequences of the labor market slack caused by the recession is youth unemployment. Joblessness of young people is becoming an endemic feature of modern economics. Unemployed youth are in danger of never developing the customs and mindset necessary to acquire stable employment if their time on the sideline of the labor market is extensive (Eichengreen, 1987). This is one consequence of the crisis that is more severe today than during the Great Depression, and a true recovery remains to be seen. The young are affected disproportionately by the crisis compared to the general population, and have been for several decades (Bell & Blanchflower, 2010). There are currently close to 24 million unemployed people in EU, where 4.85 million of the EU's youth is standing outside of the labor market (Eurostat, 2015). Furthermore, 12.4% and 20.3% of the age groups 15-24, and 25-29, respectively, are neither enrolled in any form of education nor training (NEET). Additionally, a third of the unemployed youth has been so for more than 12 months (Felgueroso & Jansen, 2015).

There are several reasons why the situation of the young are significantly deteriorated in times of economic downturns, and why youth unemployment in general tend to be higher than total unemployment. Among the main reasons on the demand side, we find that employers often prefer more experienced applicants, and as the youth tend to possess less human capital they will be dismissed first in times of economic hardship. This indicates that young people might find themselves trapped. They will not be employed due to lack of experience, but have no option to attain the required experience. On the supply side, we find that the young have less significant responsibilities than adults, which can give an incentive to restrict their job search activity. Moreover, there is higher worker turnover amongst youth because the chance of getting their dream job when young and inexperienced is low (Bell & Blanchflower, 2011).

This section will provide an overview of the youth demography; opening with the historic evolution, before analyzing the characteristics of today.

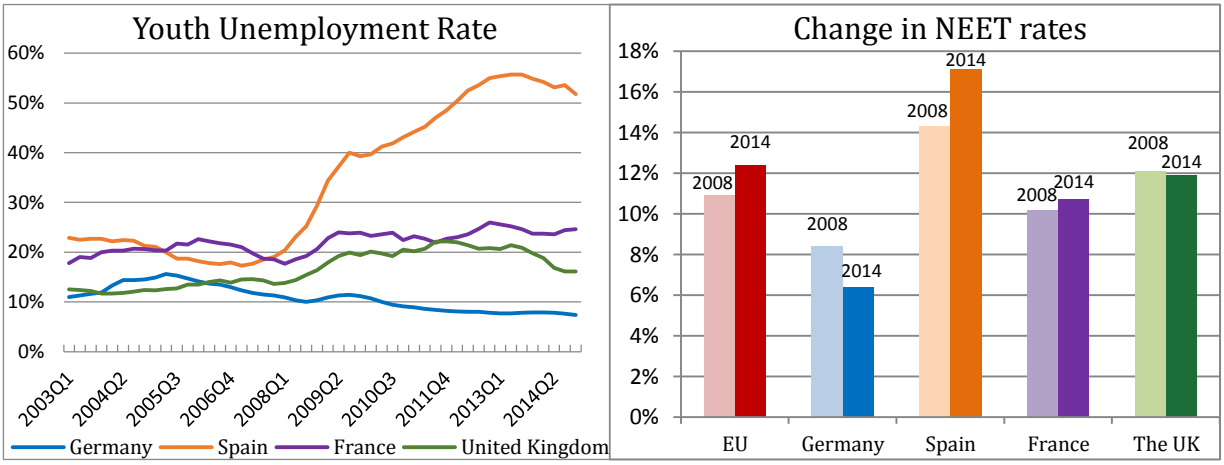

Figure 28 - Both graphs indicate the labor market situation faced by the young has still not returned to the pre-crisis level for most countries, except for in Germany. The NEET rates experienced a significant drop between 2012 and 2014, and the UK was able to return to the rate of 2007. This improvement originated from a general economic improvement in the EU, and the policy initiatives discussed in section 6. *Source: Eurostat.*

5.1 History of Youth Unemployment

The issue of youth unemployment was not placed on the agenda until the 1970s, when the most industrialized countries experienced a massive increase in labor supply as the baby boomers entered the labor force. At the time it was believed that the labor market conditions for the young would improve as the cohort size declined, but instead it worsened in the 1980s and 1990s (Bell & Blanchflower, 2010). Currently, the situation is austere, but it seems to be going in a positive direction for Germany, the UK and France. However, the outlook for Spain is more ambiguous.

During the Great Depression few statistics are available, and the picture is not as clear as today. It seems that the unemployment rate was increasing in age for some countries, while other have the familiar U-shape with higher unemployment rates among the young and the old. The Russian economist Woytinsky (1942) explains this pattern as firms' tendency to fire their least productive laborers in times of economic hardship, the least productive being the inexperienced and old. He also concluded that the entrants to the labor market would always be disproportionately hit by a recession, and since the entrants were mostly the young, youth unemployment, naturally, will be higher than total unemployment. That this artefact is not obvious in the data can partly be a statistical error as the unemployed youth did usually not qualify for any benefits, and would therefore have low incentives to report their status to the government.[100]

Eichengreen (1987) has done extensive work on decomposing youth unemployment from 1930 to 1970. He found that youth unemployment has become increasingly sensitive to business cycle conditions, and that this sensitivity was not apparent earlier than the 1930s. He further argues that, similarly to today, the demographic subgroup most heavily affected by cyclicality during the depression was young and/or unskilled manual workers with low wages; the subgroup least able to afford unemployment. He also concludes that the rate of youth unemployment earlier than the 1930s was generally lower than the adult rate, due to the reasons already explained.[101] I would argue that, although, unemployment was a more common issue amongst adults, the labor market offered to the youth were not, necessarily, more attractive than the situation today. The nature of positions typically employed by the youth offered no prospects of adult employment; rather it reduced the possibilities (Burgess, 1998, pp. 138).[102]

Two issues of high importance, both today and during the Great Depression, are the duration of unemployment and the reduction of hours for the employed. For example in the UK; from 1929 to 1936 those registered as unemployed for more than one year increased from 4.7% to 25% of the total unemployed (Eichengreen & Hatton, 1988), and the increase from 2008 to 2013 was from 24,1% to 36,2% (Eurostat, 2014). Several

[100] Even today this is a reason for believing that youth unemployment is understated to a higher degree than adult unemployment.
[101] See page 16.
[102] Reduced possibilities because the work was exhausting on both the mind and the body, it offered no promotion opportunities, and did not provide any necessary skills for permanent adult employment.

studies conclude that an extended period of unemployment, particularly when young, can significantly depress lifetime income.[103] Reasons for this typically include that they will be forced to take positions below their qualification level or that employers will become reluctant to hire those deprived of experience. This does not only harm the youth and long run economic growth, but also the baby boom generation in need of productive youth to fund their retirement.[104] In addition to the general reasons for high cyclicality in youth employment, the Great Recession had a more damaging effect on industries where the employees were relatively young and commonly on temporary contracts (Bell & Blanchflower, 2011, pp. 17). Industries such as manufacturing and construction, typically have a relatively large share of young workers, and were also disproportionately affected by the crisis.

5.2 Separating the Young by Educational Attainment

When separating the young generation into categories of education it is evident which category is affected the most by the recession. Elsby, Bobjin, Sahin and Valletta (2011) found that the uneducated young people are the main group at risk of experiencing unemployment, both in terms of occurrence and duration.[105] Research done by the OECD in 2005 showed that young individuals, with low human capital and educational level, are more exposed to long-term unemployment, social exclusion, as well as low quality and unstable job positions (Choudhry, Marelli, & Signorelli, 2012). It has also been found that male youth are more vulnerable to unemployment spells because of the cyclical component of young male dominated occupations, such as in the industrial sector.[106] The nature of this crisis was particularly harsh on young and lower-skilled male workers, as a result of the extreme plummet in construction demand (Pissarides, 2013).

In France, there is also a clear division between the crisis impact and educational level. High youth unemployment, especially among those with lower education and from disadvantaged backgrounds, has persisted for 30 years, but was exacerbated by the crisis. The historically high deviation in unemployment between those with and without higher education has intensified since the onset of Great Recession. The need for stable employment opportunities, vocational education and job seeking support aimed at this group is of high importance (Cahuc & Carcillo, 2015).

[103] Kahn (2010) found that those graduating in a depressed economy in the US experience a long-lasting negative effect on wages. More precisely, for each percentage-point rise in the unemployment rate, those who graduated during the recession earned 6% to 7% less in their first year of employment than their more fortunate counterparts. Even 15 years out of school, the recession graduates earned 2.5% less than those who began working in more prosperous times.

[104] This is a particularly large problem in Europe as the Pay-as-you-go pension system is practiced. This system implies that the benefits received by retirees are funded by the current labor force. Because the baby boom generation is relatively numerous relative to the pension fund contributors this is bound to be troublesome, and as the crisis has further reduced the number of contributors this can potentially cause another crisis.

[105] 85% of those not employed, in education nor in training in OECD countries have no tertiary education (Carcillo et al., 2015).

[106] Traditionally it is found that the service sector have a higher concentration of female workers and display less vulnerability to the business cycle, whereas production industries are relatively more abundant in male workers (Pissarides, 2013).

This picture is shapely contrasting the situation in the 1930s. Based on the few statistics I have been able to collect, as well as available literature about this period, it is clear that the labor demand has drastically changed. Industries have turned from being highly labor-intensive, shifting towards being human-capital intensive.[107] During the depression, young workers were not disproportionally hit by the downturn to the extent of today. In particular, the lower-skilled workers displayed advantageous characteristics in terms of better physical shape, lower cost and higher degree of mobility compared to older workers. In a study on interwar employment by Burgess (1998, pp. 138), it is found that, among the young, those with higher academic qualifications were actually least successful in finding employment.[108]

During this recession, the growth in youth unemployment has been highest among those with tertiary education, but the rate is still considerably lower than for lower-skilled workers. The transition from school to work is increasingly difficult as the newly educated will be competing with a higher number of experienced workers for fewer vacant positions (Scarpetta et al., 2010). In Spain, the rate of employment among those finishing tertiary education during the past three years, fell from 87.5% in 2007 to 66% in 2013.

Separating the youth is also of high importance in order to remove a possible overestimation of "alarming" youth unemployment. As a reaction to the lowered opportunity cost related to the pursuit of higher education, enrollments include an increasingly large part of the, otherwise, unemployed youth.[109] Figure 28 display the NEET rates, which include those below 25 who are not in education, training nor employment. This rate is meaningful when evaluating the most harmful consequences of the crisis. Policy response should be aimed at reducing the NEET rate. However, the escalation of youth unemployment that resulted in an increased number individuals extending the years of formal schooling might push forward a necessary change in the skill complexion of the labor force, which in turn can foster long term growth.

5.3 Temporary Contracts

At least half of all young workers in Spain, France and Germany are employed on temporary contracts, while around 20% in the UK (Scarpetta et al., 2010).[110] Temporary contracts are one of the main reasons why young will suffer disproportionately during times of economic hardship. Temporary employees are the easiest to dismiss, and countries where a dual-labor market is promoted, commonly display a higher degree of volatility in terms on unemployment. Promotion of temporary contracts is a method of increasing labor market flexibility by lowering the restrictions related to hiring.

[107] This is a general argument, as there were several sectors who displayed both technological innovation and being intensive in the usage of skilled labor, such as engineering and chemical industries (Burgess, 1998, pp. 139).
[108] The fact that those least successful in education received the highest paying jobs is a sign of the dominance of the "Blind-Alley" positions available, which offered no security and few chances of adult employment.
[109] Enrollment in tertiary education has increased at an accelerating rate across Europe since the onset of the Great Recession. This could be an indicator that when facing few job opportunities education becomes a more attractive alternative.
[110] In Germany, the high number of temporary contracts is largely explained by their tradition of combining education and employment.

Furthermore, it can play a screening role for employers, who could find the optimal employee without any commitment. In Scandinavian countries, temporary contracts have been a successful stepping stone into a career, whereas in Spain and France the conversion from a temporary to a permanent contract is very low (Dolado, 2015, pp. 9).

It is interesting to compare Spain and France because the pre-crisis unemployment rates (around 8%) and labor market institutions were relatively similar. However, the reaction to the crisis was highly different.[111] Aiming at increasing labor market flexibility, both Spain and France, has promoted temporary contracts, but in Spain they are more common and less regulated. Furthermore, the dismissal cost gap between temporary and permanent workers are larger in Spain. In a paper by Bentolila, Cahuc, Dolado and Barbanchon (2010) it is found that the main contributor of the differences in today's unemployment level in these countries lies in the labor market regulations.[112] The paper is based on the seminal search and matching model by Mortensen-Pissarides (1994), were job destruction is endogenous; it is extended by allowing for different characteristics of temporary and permanent positions.[113] This allows them to explore the significance of differences in employment legislation policies on the relatively larger increase in Spain's unemployment, compared with in France. 38% of Spain's temporary workers were dismissed during the recession, whereas the comparable rate for permanent workers was only 8% (García Pérez & Castello, 2015).

Although the French outlook may seem positive when compared to the Spanish, there exist large labor market distortions, with a desperate need to be addressed. The strict features of the labor market are claimed to be the main issue impeding improvements.[114] Businesses are demanding relaxation of the current regime that is offering those with permanent employment strong protection, at the expense of those with temporary contracts (typically young and lower skilled). The employers face high minimum wages combined with the fear of not being able to let the number of employees follow the business cycle, this pushed temporary contract positions up to 90% of all new jobs in 2013 (Carnegy, 2013).

Policy makers have recognized this problem, and several policies have been initiated. As an example; in 2010, Spain implemented a reform aiming at promoting permanent employment contracts. This included tax incentives related to hiring permanent employees, as well as reduced firing costs and employee compensation (Pissarides, 2013). Felgueroso and Jansen (2015) argue that the main priority of governments in the peripheral regions of Europe should be to tackle the problems related to the dual labor market.

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[111] Institutions such as employment protection legislation, unemployment benefits and wage bargaining.
[112] The article find that 45% of the differences in unemployment rates after the crisis emerged can be explained by differences in employment protection legislation.
[113] These characteristics include that only permanent employees can negotiate wages and dismissal costs. Probabilities are attached to being temporary or permanently employed, as well as the chance of stepping into a permanent position and the rate at which firing permission arrives (due to protection legislation). Realistically, firms experience cost when dismissing permanent workers, but no costs are associated with termination of temporary contracts.
[114] The French labor regime is by many regarded as one of the most rigid in Europe.

5.4 Labor Migration

Several authors find that economies affected by negative shocks will experience increased unemployment and declines in the participation rate. Over time these effects will become smaller at the same time as unemployment falls. However, as an economy returns back to the pre-shock levels, this is not necessarily solely because employment picks up, but also because workers migrate (Blanchard & Katz, 1992; Martin, 2009). Blanchard and Katz (1992)conclude that changes in unemployment are the main driver of labor mobility, and that regional migration is an important mechanism to stabilize an aggregate shock. There are two main arguments for labor migration as an important adjustment mechanism. Firstly, foreign labor will absorb part of an adverse shock, because there is a tendency for them to return in times of economic distress. Particularly, in this recession this has been evident, as the most heavily affected sectors corresponds with the sectors with the largest share of immigrant workers (Beets & Willekens, 2009).[115] Secondly, the incentive of workers in the most heavily affected regions to emigrate will increase. The high youth unemployment rates have imaginable led to further increases in labor migration, as the younger generation display greater mobility than the older generation (Braunerhjelm et al., 2000, pp. 51).

The internal market of the European Union provides individuals with the option of migrating to other member countries. This has contributed to a convergence in income and unemployment levels across European countries. Increasing labor mobility has been one of the major goals for the European Union, as it is believed to improve economic welfare by allocating labor more efficiently (Zimmermann, 2004). The ultimate goal of a single European Labor market has not yet been achieved. Labor migration is still relatively low, and in combination with pervasive wage rigidities, protracted unemployment spells are to be expected (Krause et al., 2014). However, Europe has come a long way since the Great Depression. Then, the option of migrating in response to an adverse shock was not easily attainable as a consequence of the implementation of passports and VISAs at the onset of the First World War. In addition to this formal restriction, the cultural and language barriers have weakened since the 1930s (Dustman & Frattini, 2011).

In order to rationalize the outcome of a possible increase in labor migration, it is useful to draw upon conclusions from trade theory. Traditional trade theory explains labor migration, primarily, as advantageous. It is beneficial because internationally mobile workers can seek employment where they are most productive, and thus receive higher wages, raising the immigrants' welfare. As a result of labor migrating to where they are most productive, world output and aggregate welfare will increase. On the other hand, the welfare effects on production factors are unevenly distributed, and differ across time. The short term effect can be explained using the Ricardo-Viner framework, where some factors (e.g. land or capital) are assumed to be immobile in the short run, whereas labor

[115] An example is the Spanish construction and tourism industries. This sector was an important determinant of the economic expansion in the decade leading up to the crisis. Furthermore, this sector was responsible for a disproportionately large share of immigrant workers, employed on temporary contracts (Beets & Willekens, 2009).

is mobile. The Ricardo-Viner model vindicate that the immobile factor in the country experiencing an immigration wave will gain in terms of increased real income. However, the mobile factor in this country will retrieve a lower real income. The immobile factor in the country experiencing emigration will also obtain a lower real income.[116] The longer term perspective of migration within traditional trade theory is usually explained by the Rybczynski theorem, within the Heckscher-Ohlin framework. The major difference between the short- and long-term explained by these models is that in the longer term all factors of production will be mobile, and hence reallocate until their income is equalized across countries. The conclusion will then be that there is no change in real income as a consequence of labor migration. However, the countries will experience changes in their industry structure as a result of the change in relative factor abundance. The host country will become relatively more labor abundant, and this is predicted to cause a structural change towards labor intensive industries.

Immigrant workers contribute to increased government revenues, aggregate demand and addressing the skill shortage many countries face. Nonetheless, there are arguments against free labor mobility. Firstly, these include distributional effects emerging from the increased competition domestic workers will encounter in the labor market. Secondly, losses such as deprivation of their most productive workers are faced by the sending country. Therefore the skill, employment status and age of migrants are important. Unfortunately, an emerging trend, are young highly educated workers emigrating from countries where they are; either unemployed or poorly paid, to countries where they work in lower-skilled industries for higher wages. The share of intra-EU mobile workers with tertiary education increased from 27% to 44%, between 2007 and 2012 (Andor, 2014). This can result in raised competition faced by the domestic labor force causing a divergence in income, and a negative social tension.[117] Meanwhile, the sending countries in the European periphery are forced to endure erosion of their skilled workers, hindering long term growth (Galgòczi, Leschke, & Watt, 2011).[118]

More recently, the field of New Economic Geography has pointed out that factor mobility, in the presence of economies of scale, is associated with agglomeration of economic activity.[119] Localized concentration of production factors tends to increase the difference in income levels between the economic center and the periphery. Peripheral regions have a propensity to become more vulnerable to adverse shocks, and be disadvantaged in terms of factor attraction. The increased dispersion in income incentivizes further

[116] The marginal productivity of labor will increase in the country experiencing an outflow of workers as the remaining ones will become more productive under the assumption of decreasing marginal productivity. The marginal productivity of the immobile factor will fall. In the country experiencing an inflow of workers the marginal productivity, and hence wages will fall. This contributes to a convergence of wages across countries.
[117] There has been an increase in doubt about the benefits of labor mobility in the past year, so significant that Germany, Austria, the UK and the Netherlands wrote a letter to the President of the European Council for Justice and Home Affairs concerning a fear that immigration might be a treat to inhabitants' welfare. http://docs.dpaq.de/3604-130415_letter_to_presidency_final_1_2.pdf
[118] The higher competition faced by domestic workers might not be present in, for example, Germany as there has been a shortage of skilled labor. The "brain-drain" in the countries losing their well educated population can be transitory.
[119] New Economic Geography builds on international trade theory, aiming at providing insight into the formation of spatial clustering of economic activity.

centralization in the presence of high mobility, and as a worst case scenario some areas can become desolate (Braunerhjelm et al., 2000, pp. 17-30).

Figure 29 illustrate how some possible equilibrium scenarios depend on both on the degree of factor mobility and the strength of agglomeration forces (Hagen, Heum, Haaland, Midelfart, & Norman, 2002). In the presence of low factor mobility or limited benefits from clustering, theory predict that industries will be geographically dispersed and comparative advantages will be exploited. Another extreme case can occur in the presence of high mobility of factors and strong agglomeration gains. This theoretical scenario will result in one black hole, implying that all economic activity concentrate in one area. If we instead, more realistically, assume that agglomeration forces are strong, either within or across industries, but one factor is more mobile than the other, we could end up in a polarizing equilibrium where income dispersion between the core and periphery is amplified. The last scenario outlined in the matrix below is the case where agglomeration forces are strong within industries, but not across. If the factors are mobile, we can end up in a scenario of industry black holes, namely self-perpetuating industry clusters, geographically dispersed, benefiting from external economies of scale (Fujita, Krugman, & Venables, 1999).

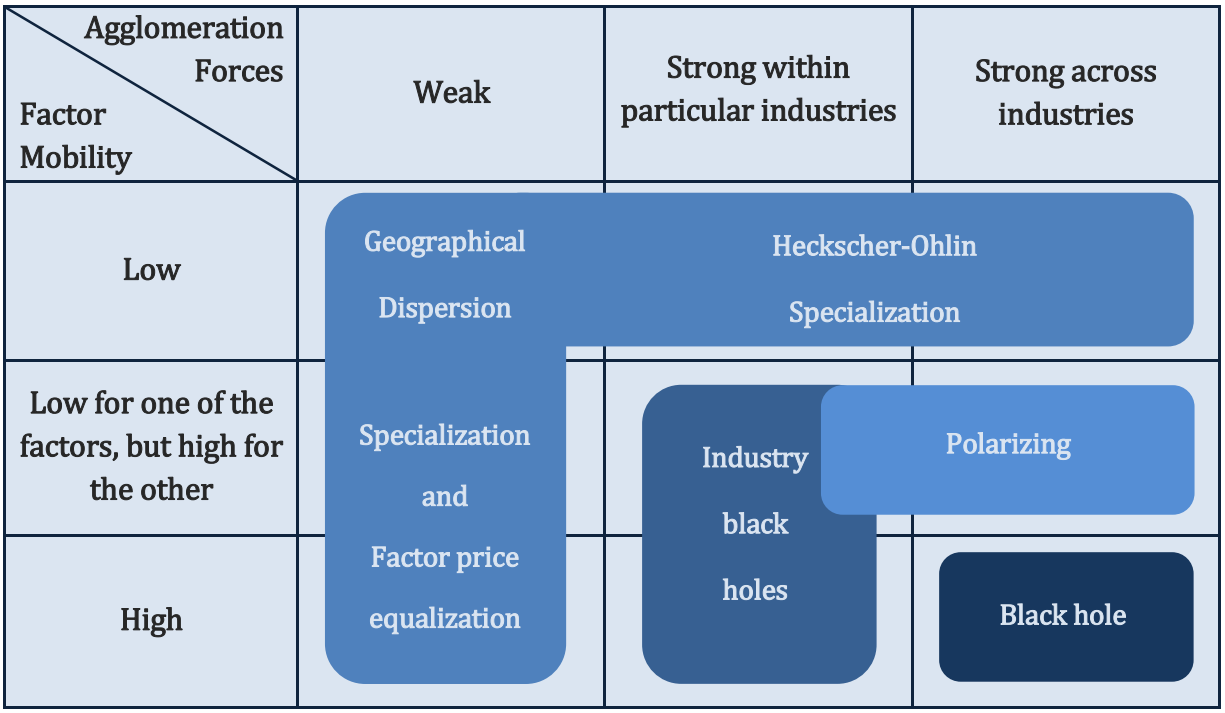

Figure 29 – Model explaining how possible outcomes of increased factor mobility in EU depend on agglomeration forces (Hagen, Heum, Haaland, Midelfart, & Norman, 2002, pp. 26).

In the case of the crisis in the European Monetary Union (EMU), the theory of New Economic Geography predict that a possible outcome of currency integration, asymmetric shocks and factor mobility, is a strengthening of the existing agglomeration of economic activity and growth in the northern center, intensifying regional economic disparities (Fingleton et al., 2015). One could argue that the recession will strengthen the core-periphery pattern, because labor might be inclined to pool towards areas were

firms are clustered, as this reduces the risk of unemployment.[120] This will have a negative impact on those left in the periphery. It might instead be the case that firms wish to take advantage of the relatively lower cost of labor in the periphery, which will have a centrifugal effect.

Jauer, Liebig, Martin and Puhani (2014) found that migration within Europe has increased as a consequence of the recession. However, it is still not high enough to combat the adverse shock to unemployment in Europe. According to statistics from a report on migration published by the OECD (2014) we see migration flows to less affected countries such as Germany, Sweden, Finland and France and outflows from harder hit countries such as Spain, Italy and the UK.[121] OECD report that emigration, primarily from southern European countries, has increased massively since the crisis commenced.[122] A large South-North migration wave can contribute to structural changes on the aggregate level as the Northern countries will become relatively more labor abundant.[123]

The economic geography of Europe is inclined to alter in response to the recession. There are deep fundamental issues in urgent need to be addressed. The final section of this paper will analyze the policy response of the crisis, and explore the future opportunities. Which policies have been implemented to improve the grim state of the labor market? Which policies have been effective in reaching their goal? Have policymakers been able to draw lessons from the past, or experiences of others in making efficient policies?

[120] New Economic Geography incorporates extremal economies of scale and thus explains that labor market pooling will reinforce industry concentration as firms will be inclined to locate closer to areas where labor is clustered. Furthermore, these areas will also provide better access to intermediaries, reduced trade costs and higher demand. The forward and backward linkages provide cumulative causation as workers wish to live/work where firms are and firms wish to be where consumers are.

[121] EU as a whole has experienced falling immigration since 2007.

[122] This emigration is mainly to northern European countries experiencing lower unemployment; however there is also evidence of increasingly many Europeans moving to their earlier colonies. The case of Portugal is one of the cases where 12.3% emigrated in 2013, many of them high skilled workers moving to Angola and Mozambique.

[123] According to traditional trade theory (Ricardo-Viner, Heckscher-Ohlin), will an increase in a sector-specific mobile factor (e.g. construction workers or engineers from Spain) have a negative short-run impact on this factors marginal productivity and therefore on its wages. However, in the long run there will be a structural change as resources will allocate towards production in the sector which uses the abundant factor most intensively.

6 Policy responses

The political and social consequences of the depression have largely formed the academic field of economics. We have now seen several similarities, in terms of both cause and effect, between the Great Depression and the Great Recession. However, the policy response then and now are severely different. Similarly to then, policy makers face two main challenges; enhance credit availability and restore confidence (Krugman, 2009). Understanding the effectiveness of the policies of the Great Depression is of high importance today, as the nature and cause of the crises are strikingly similar. These policies must also be evaluated in comparison with the policy response of today, in order to reveal which lessons are in fact learned. The persistence of the Great Recession has been weaker than the persistence of the Great Depression; can we thank policy responses for this? After a brief introduction, this section will provide a comparative overview of the policy responses of the different countries.

In the midst of the Great Depression John Maynard Keynes wrote;

"*The ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed the world is ruled by little else. Practical men, who believe themselves to be quite exempt from any intellectual influence, are usually the slaves of some defunct economist.*"[124]

A massive economic crisis developed under the nose of the economic profession. This could give the impression that nothing is learned from the past. These ideas, referred to by Keynes, seem to be highly persistent; even if history proves them wrong, they have a tendency of returning (Temin, 2010, pp. 123). According to Paul Krugman (2015) the real sin of economists is not the failure to predict the global crisis, but the tendency to cling to doctrines that are obviously not working, also after the crisis commenced.

The extent to which wrongly implemented policies caused a deeper and longer lasting depression has been widely debated, and in the light of the current crisis, it is again a hot topic. Keynes argued that the economy is largely demand driven, and that effective fiscal policy is the most important ingredient to restoring the economy. Today, conventional monetary policy is limited by low interest rates, and much is again depending on governmental use of expansionary fiscal policy initiatives (Quiggin, 2010). The massive public expenditure program which we do not have today, and that was largely responsible for ending the Great Depression was the Second World War. Remarkably, unemployment did not rise to prewar levels when the war ended, but kept remaining low in most industrialized countries until the early 1970s. The period that followed, the Great Moderation, lasted until 2007-08, and was characterized by lower volatility of inflation and output in Europe. This era was marked by major institutional changes, especially in the area of monetary policy. Inflation stability, costs of inflation, central bank independence and inflation targeting were topics of influence. Cabanillas and Ruscher (2008, pp. 12) found that countries relying more heavily on monetary policies,

[124] John Maynard Keynes, *The General Theory of Employment, Income and Money* (1936) chap. 24, "Concluding Notes", pp. 190.

such as counter-cyclical interest rates, also experienced the largest fall in output volatility.

Although, conventional monetary policy seems to have succeeded in stabilizing prices, it did not impede the build-up of financial instability. The immediate global response to the bankruptcy of Lehman Brothers required immediate policy responses. The fiscal and monetary policy responses that followed are among the most aggressive in history (Blinder & Zandi, 2010). Around the world interest rates were drastically cut, fiscal stimulus packages where implemented and unconventional monetary policy instruments, such as quantitative easing (QE), were used when interest rates hit the "zero lower bound".[125]

[125] Quantitative easing is an unconventional method of stimulating the economy though monetary policy, used when the interest rates cannot be lowered further. It involves purchasing of longer term assets using Central bank money. This will boost inflation by injecting money into the economy through an expansion of the central bank's balance sheet, in addition to having a restoring effect on the price of these assets and lowering the long term interest rates. Through QE, the central bank has the ability to affect longer term interest rates by purchasing longer maturity bonds driving up the price and down the yield. QE was first implemented in Japan in response to the real estate bubble and deflationary pressures experienced in the 1990s

6.1 Monetary Policy Response

The "science of monetary policy" has been going through a dramatic evolution since the Great Depression, both empirically and theoretically. One of the main differences has been the adaptation of the belief that economic agents possess rational expectations.[126] A central component of monetary policy today is management of these expectations. Central banks in industrialist countries have been relatively successful in committing to price stability by anchoring expectations. However, as a consequence of the Great Depression, it was not only found that price stability played a subordinated role in dampening business cycle volatility, over-indebtedness was also manifested as amplifying the business cycle (Fisher, 1933). The financial sector holds a prominent role in the macroeconomy. This implies that monetary policy and financial stability concerns are closely intertwined (Mishkin, 2011). In the aftermath of the recession it can be agreed upon that, in the period leading up to the bust, regulation of financial institutions was too weak.[127] After a brief historical introduction of monetary policy, this section will discuss the initiatives by the European Central Bank (ECB), and then by the BoE.

The monetary policy response of the Great Depression has been heavily criticized for being contractionary rather than expansionary. As already mentioned, countries that pegged their currency to gold were unable to pursue, much needed, expansionary monetary policy. Arguably, the fixed exchange rate system, connecting dissimilar economies, was a major transmission mechanism and reason for the depth of the depression. A common policy failure during the depression, which has not been repeated today, was the implementation of protectionist trade policies (Almunia et al., 2010). These policies eventually contributed to currency devaluation, a collapse of international trade, and a more severe depression. Irwin (2011) found that a major reason why countries chose to implement more protectionist policies was inhibited monetary policy options due to fixed exchange rate regime. Especially, the countries affected by a history of price instability were reluctant to let their currency devalue when facing the trilemma of: maintaining the fixed exchange rate, independent monetary policy and free trade.[128] In a desperate attempt to defend their currency Germany, the UK and the US raised rates in 1931-2 (Almunia et al., 2010).[129] These efforts were not successful in recovering the economy or maintaining the gold parity. The UK suffered major devaluation, Germany imposed foreign exchange controls, and US also abandoned the gold standard.

The BoE and the ECB are now using a flexible exchange rate system, targeting inflation while taking into account deviations in the output gap. This is creating more freedom to

[126] The theory of rational expectations is based on a series of seminal papers by Robert Lucas, written during the 1970s. The main conclusion is that individuals are using all available information, and are therefore able to optimally forecast the future.
[127] Furthermore, the US government encouraged their sponsored agencies, Fannie Mae and Freddie Mac, to expand their holding of mortgage backed securities. This governmental intervention contributed to amplify the financial instability in the US (Taylor, 2009).
[128] Aiming at reassuring the global monetary system the International Monetary Fund (IMF) was created in 1944.
[129] From figure 31 it is clear by the significant increase in interest rates, that, due to historic experience, Germany was most afraid of consequences of expansionary monetary policy, such as hyperinflation. Also France faced this fear, having experienced high inflation causing political instability, before 1927 (Eichengreen, 1992, pp. 230).

implement expansionary monetary policies, using conventional and unconventional instruments. From the interest rate illustrations below it is clear that the strategy of the Central Banks is different from what it was, responding to the Great Depression.

In the case of the Great Recession, it is the pre-crisis monetary policy that often is criticized. Clarida, Galí and Gertler (2000) argue that the low interest rate kept by the Federal Reserve in the years before the crisis contributed to the emergence, as well as the depth, of the crisis. In the years following the 2001 recession, the Federal Reserve deviated from the "Taylor rule" to an extent not matched since prior to the Great Moderation, in the 1970s.[130] This ease in monetary excess pushed up the debt levels, and reduced the room for action when the crisis hit as they were already close to the "zero lower bound" (Taylor, 2009).[131] As a consequence of the crisis, reaching the "zero lower bound" is now common across industrialized countries. Interest rates have dropped to historic lows, without an accompanying boost to aggregate demand due to a weakening in the monetary transmission mechanism, largely because of few willing lenders (Quiggin, 2010). To combat the unemployment epidemic in Europe growth needs to be simulated. Central banks, traditionally, target the short-term nominal interest rate by buying and selling short-term debt.[132] Deprived of this policy tool, they are forced towards adopting unconventional monetary policy instruments. Elements of these policies include large-scale liquidity support to banks, and intensified transparency and forward guidance of record-low interest rates for a considerable amount of time (Pattipeilohy et al., 2013). As illustrated in figure 30, maintaining price stability is highly difficult in times of economic crisis, as increased uncertainty has a tendency of reducing the confidence in the central bank.

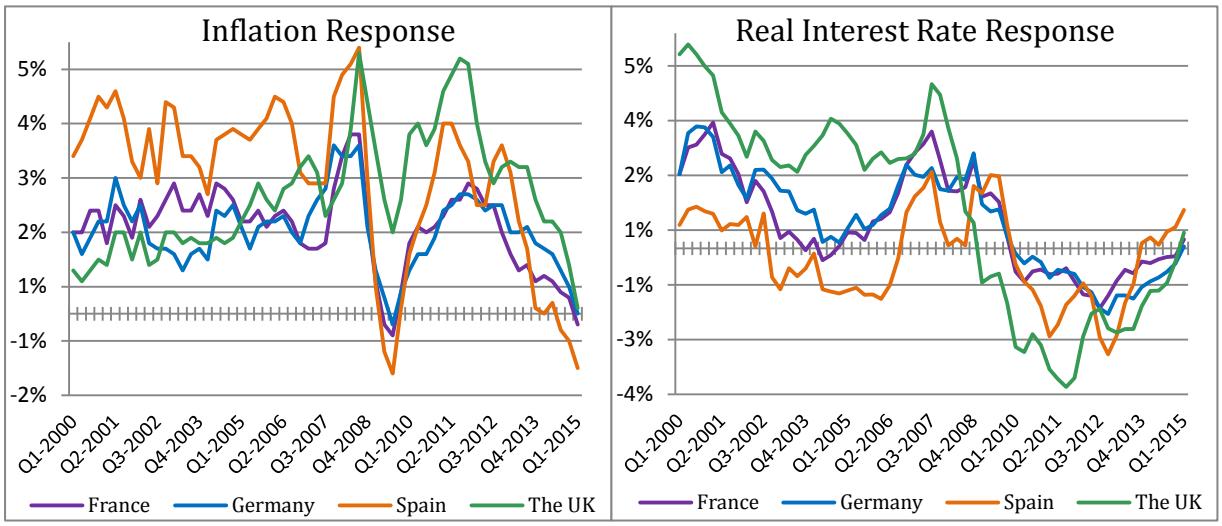

Figure 30 – This figure display inflation and real interest rates over the past 14 years. The recent development of falling inflation and increasing real interest rates, is related to the oil price shock. Both series are collected from OECD.

[130] The Taylor rule refers to an interest rate rule which was, to a large extent, followed during the Great Moderation in the US. It is used as a guideline in Central Banks across the world, and is believed to foster inflation stability. It explicitly recommends that; when facing a shock, interest rates should be changed more than one-to-one with the change in inflation.
[131] The "zero lower bound" refers to the inflexibility in policy options faced by a Central Bank when the interest rate is already set close to zero, because economic agents always have the possibility of holding non-interest bearing cash.
[132] Trade done by the central bank yield changes in the monetary base, and have an impact on the economy through the effect on real interest rates, the exchange rate as well as a variety of asset prices.

A flexible inflation targeting central bank aim to reach their inflation target, as well as, maintaining a closed output gap and unemployment close to the natural rate. As a consequence of the recent recession, central banks (and other regulators) have implemented macro- and micro-prudential considerations, aimed at mitigating the systematic risks related to financial stability.[133] Woodford (2012) explore the consequence on optimal monetary policy of incorporating concerns related to financial stability by expanding the standard New Keynesian framework. He incorporates heterogeneous agents, such that it includes financial frictions through differing marginal utilities of income.[134] He concludes that monetary policy should be used as a tool for financial stability, even if it implies short term deviation from the inflation target and the closed output gap. Therefore, a term devoted to the goal of soothing the chance of financial crisis should be included in the central bank's loss function.[135] Nonetheless, it is important to keep in mind that other regulators (e.g. the treasury) might be more efficient in implementing macro-prudential initiatives, such as counter-cyclical capital requirement.[136]

[133] Macro-prudential regulation addresses the interconnectedness of financial institutions and markets. Risk factors are taken as endogenous, and the ultimate objective of this policy is to limit the build-up of system-wide financial risk.
[134] The agents are heterogeneous in the sense that they are divided into two groups, one is credit constrained and the other is saving. This results in differing marginal utilities of income, and a credit spread as savers and borrowers will face different interest rates determined by financial intermediaries.
[135] The loss function suggested by Woodford (2012) aim, as usual, at minimising the loss associated with inflation and output gap deviation, but it also includes a term, Ω_t, representing the losses associated with the distortion of expenditure between those who are credit constrained and those who are not: $L_t = \frac{1}{2} E_0 \sum_{t=0}^{\infty} \beta^t \left[\pi_t^2 + \lambda_y y_t^2 + \lambda_\Omega \Omega_t^2\right]$
[136] Lars Svensson argues, in a comment on Woodford's paper, that monetary policy should be conducted separately from financial stability policy as the objectives differ, and because financial stability policy can use instruments to more directly affect leverage. This debate is often referred to as *lean versus clean*. Asking whether the central bank should lean against financial frictions, in addition to the output gap/wind, or whether the central bank should prioritize cleaning up. I argue that, although, other regulators might have a more direct impact, this does not imply that the central bank should not also consider financial stability.

6.1.1 The Policy Response of the European Central Bank

Germany, France and Spain are now governed under the ECB, and no longer have the ability to perform independent monetary policy. The implementation of common monetary policy for significantly different countries, while keeping fiscal policy at the national level, is an experiment unmatched in history. Blanchard and Katz (1992) were among those foreseeing that the adjustment process after an adverse-shock to the Eurozone might be painful and prolonged. The main arguments included low factor mobility and wage flexibility, heterogeneity between countries and a lack of fiscal integration (Mundell, 1961). This results in asymmetric responses in the presence of aggregate shocks, especially between the northern and southern Eurozone members (Fingleton et al., 2015). Preservation of a fragmented fiscal authority within a currency union creates macroeconomic imbalances, and responding policy by a central bank will give conflicting consequences to union members. The EMU is currently seen by many as a fundamental structural hindrance to improving the European situation (Krugman, Piketty, & Stiglitz, 2015). In terms of the impossibility of country independent monetary policy, similarities to the fixed exchange rate system of the depression can be drawn.

For almost a decade, European countries prospered with economic growth and converging unemployment rates; the EMU was largely believed to be successful.[137] During this decade, countries, especially in the Southern parts of the continent, were able to implement debt funded expansionary fiscal policies, and experience high wage growth, while interest rates remained low. These policies were not sustainable, and in the wake of the global financial crisis the period of prosperity ended with a massive systemic shock; the European sovereign debt crisis. It can be argued that the break-down of the financial system revealed an underlying structural weakness of the EMU (Wolf, 2014). Blanchard (2003) criticized the ECB for having a too low inflation target, relative to their policy rate. He foresaw that this could place the Eurozone in a liquidity trap, as it created little room for conventional expansionary monetary policy. The belief that the EMU would act as a catalyst fostering convergence is to a large extent shattered.

As illustrated in figure 31, the ECB responded to the crisis by steadily cutting the interest rates, stabilizing the plummet in inflation and output.[138] In mid-2011, the ECB reached, and surpassed, their inflation target of close to, but below, 2%. In response, ECB sent out a message of committing to their mandate, raising the interest rate in the fear of broad-based inflationary pressures over the medium term.[139] The increase was favorable to the stronger economies, such as Germany, who is still remembering their era of hyperinflation. However, the peripheral economies experienced further contraction of key indicators, their debt became more costly and the appreciated euro placed downward pressures on their international competitiveness.

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[137] The ECB began exercising monetary policy for the Economic and Monetary Union in January 1999. Historical Interest rates collected from A History of Interest Rates by Homer and Sylla (2005), and the current Euro area interest rate are collected from the European Central Bank.

[139] Then, ECB president Jean-Claude Trichet vouched that rates should be increased as upside risks to price stability was present (Trichet, 2011). The upsurge in inflation was largely contributed by increasing oil prices and strong demand in Germany.

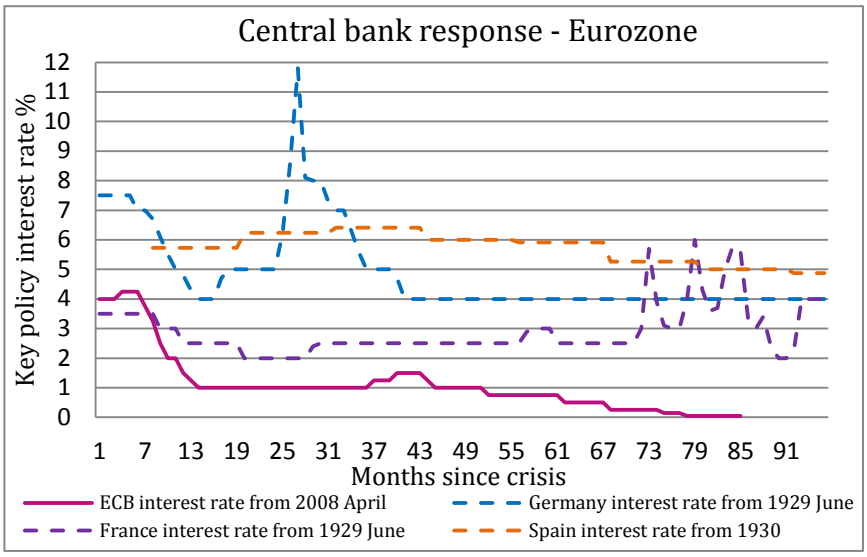

Figure 31- A comparison of the interest path followed by the Central Bank in response to these crises. Ending May 1937 and May 2015.

The ECB implemented a QE program in 2009, aimed at boosting the economy. In July 2014, the ECB became the first large central bank to set one of their key policy rates negative.[140] The negative deposit facility rate has a direct impact on the banks keeping deposits with the central bank. The main goal of this was to reduce the tendency of credit rationing. The negative deposit ratio reduces the attractiveness of keeping excess reserves at the central bank, leaving banks with two other options; lending out the funds, exceeding the minimum required reserves, to the market, or keep it in cash (European Central Bank, 2015).[141] The negative deposit facility rate has contributed to a significant reduction in the interbank rate, Euribor. The economic strain challenging the Eurozone has led to a substantial imbalance in their banking system; a drainage of euro deposits in the peripheral regions, meanwhile deposits in other Eurozone nations increased (especially in 2011-2012). This imbalance led ECB to design long-term refinancing operations aimed at easing this liquidity issue.[142]

The success of QE is difficult to quantify, mainly due to the various other initiatives implemented in the same timeframe, and the relatively short history disposable for research. Nonetheless, several authors have argued that this policy instrument has been effective in supporting the Eurozone economy, but not enough to offset the recession (Joyce, Miles, Scott, & Vayanos, 2012, pp. 286). Much of the empirical analysis evaluating the success of monetary policy during the recession has been conducted using structural vector autoregressive models (SVAR).[143] Baumeister and Benati (2010) use time-varying SVARs, in order to capture changes over time in the macroeconomic structure, and they find that QE had a significant effect on output growth and inflation through reducing the long-term interest rates.

[140] The ECB control three key policy rates; main refinancing operations (0,05%), marginal lending facility (0,3%) and deposit facility (-0,2%). Danmark was actually the first country to lower their key policy interest rate below zero, in July 2012, which was necessary to maintain their peg to the Euro as they are still in the European Exchange Rate Mechanism system.

[141] It is unlikely that banks choose to hold this money in cash. This would require a large and safe storage facility, which would probably be more costly than facing the cost of -0,2% at the central bank.

[142] Since 2008 long-term financing operations (LTRO) by the ECB has been expanded from maximum 3-month maturities to 36-month maturity. Most subscribers are banks in periphery countries of the Eurozone.

[143] SVARs are often used in estimating how the economy responds to a particular shock, and therefore for policy reasons, because it introduces enough restrictions to identify the shock. The major weakness of this method is the sensitivity to misspecifications.

6.1.2 The Policy Response of the Bank of England

The policy response of the BoE was more immediate and aggressive than the response by the ECB, arguably, also more consistent. Only 10 months into the recession, BoE had responded by reducing interest rates from 5% to 0.5%, where it has been kept since. This was, however, not enough to stop the increase in unemployment and fall in GDP. First and foremost, the large gap between lenders and borrowers dampened the effectiveness of monetary policy. In the spring of 2009, BoE decided to implement QE through the Asset Purchase program (APF). Initially, the BoE were authorized to only purchase public sector assets, but now also private assets up to a limited amount.[144] In addition to this, a more transparent policy framework has been implemented to increase the credibility of the Central Bank, and hence the effect of policy action (Rogers, Scotti, & Wright, 2014). Credibility of a central bank should act as one of the most important priorities, because without credibility it is impossible to steer inflation expectations, which reduces the effectiveness of monetary policies. The BoE's forward guidance were state contingent upon a 7% unemployment threshold, but as unemployment fell faster than expected, and the economy as a whole was still considered weak, there was no increase in the interest rate when the threshold was reached. Inflation is currently at 0%, and although the BoE still argues that the deflationary trap will be temporary, it is unlikely that the interest rate will increase anytime soon. When the increase commence it is promised to be gradual.

When the ECB decided to raise the key policy interest rate in 2011, there were large market pressures for BoE to follow in these footsteps, as inflation exceeded the target of 2%, reaching 4.7% in 2011. However, BoE decided to keep monetary policy rather passive, leaning more heavily against the output gap. Giving the economy more time to build up a stable recovery seems to have contributed to a raise in confidence and investment. In the aftermath, one can argue that the response not to raise interest rates was most prudent given the relatively premature economic recovery of that time.

Figure 32 illustrates that the average market rate, have been reduced by more than half the corresponding rate in 2008, in addition to displaying a stable tendency. This is indicating that the BOE have been relatively successful in pinning down the market expectations.

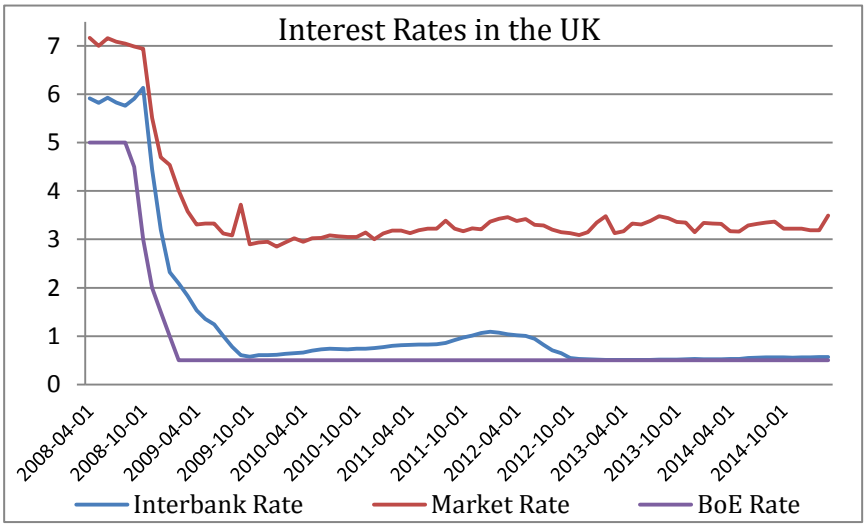

Figure 32 – Comparison of the interbank rate, the key policy rate and the average market rate facing consumers. *Source: BoE*

[144] The asset purchase program has increased from £75 billion of public sector assets in 2009, to £375 billion of public sector assets, in addition to up to £10 billion in private assets.

Furthermore, the evident stability of the average market rate argues success of credible forward guidance, calming the market. In terms of the BoE's success of the QE initiatives, the post-crisis macroeconomic developments in the UK suggest improvements since the implementation. The commencement of QE was followed by a sharp rise in equity prices and fall in bond yields. Economic growth also returned in the fall of 2009, although the recovery has remained sluggish (Joyce, Miles, Scott, & Vayanos, 2012). Casual evidence of the isolated effect of QE cannot be found as it is no knowledge of how the development would have been if QE were never implemented.

The BoE have also taken a much more aggressive approach in response to the current crisis compared to their depression policies. However, the goal of the central bank is not the same as during the depression. Figure 33 display a comparison of the key policy interest rate in the two crises. As already mentioned, the BoE pegged the pound sterling to gold until September 1931, which limited their policy freedom (Howson, 1980). During the Great Depression, the Treasury pushed for the government to reduce the budget deficit in order to restore the confidence in the currency, and in 1931, both unemployment benefits and public sector wages were cut. In September 1931, the BoE lead the way others would later follow, leaving the gold standard. As a result, the ability to provide expansionary monetary policy reappeared. This is illustrated by the major decrease in the key policy rate, immediately after the devaluation of the currency. This arguably marked the beginning of the real economic recovery, and all key indicators provided in section 3 do depict improvements after the interest rate fell.

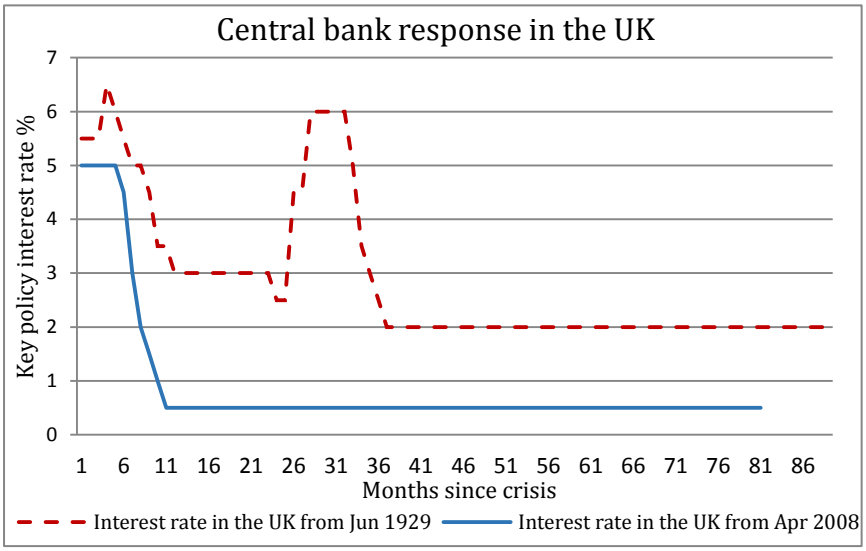

Figure 33 – The monetary policy response by the BoE has been much more aggressive than during the recession. Ending May 1937 and May 2015.

6.2 Fiscal Policy Response - Youth Labor Market Initiatives

The liquidity trap, that has captured many industrialized countries as a consequence of the crisis, reduced the expansionary policy effectiveness of the central bank, and amplified the reliance on efficient fiscal policy (Blanchard, 2003). As a general overview of the fiscal policy response is provided in section 3, this section will primarily emphasize on labor market policies. A brief overview of the situation of selected countries during the depression will be provided, before centralizing on the youth labor market initiatives of the Great Recession.

A resolution to the unemployment issues back in the Great Depression was undoubtedly the Second World War. With unsecure employment opportunities and rising poverty, there is a tendency to seek new political powers.[145] This is one reason for Hitler's hegemony. Hitler managed to gain trust from a diversified specter of voters, including those suffering most from the economic crisis. These included non-unionized workers, farmers, hourly paid personnel and property owners (Gourevitch, 1984, pp. 110).

In addition to the Second World War, governments did implement incentives to reduce the unemployment issue. The UK government created juvenile unemployment centers.[146] The objective of these centers was to combat the risk of physical and moral deterioration as a consequence of the though transition from war related occupations into peace time occupations. However, as the estimates of juvenile unemployment were severely underestimated, these centers did not receive enough funding, and contributed only modestly to improving the situation. Moreover, by the Unemployment Insurance Act of 1927, juveniles were only eligible for benefits if they had been employed for at least thirty weeks in insurable work after their 16th birthday, and only those who did receive benefits had to attend the program provided by the centers (Garside, 1977, pp. 324). A similar unemployment benefit regulation existed in most other European countries. France also established youth unemployment centers, but more effectively, they raised the school leaving age to fourteen (Hesse, 1998, pp.185). Burgess (1998, pp.141) argues that if the policy makers had provided more investment in updating and providing the education and training demanded by the labor market, it would have improved economic efficiency, and reduced the issues faced by the youth.[147]

This demand for political change is also present as we face the current crisis, and unfortunately a similar pattern as in the 1930s is visible. There has been a rise in support of the radical right across Europe (Palmer, 2013). Thomas Piketty (2015) argues that the accelerating inequality in Europe is amplified by the crisis, and this is one of the major dangers he identify in Europe at the moment. There is a tendency, throughout history, of turning to the extreme ends of the political specter as a response to failure in solving national social problems. Stiglitz (2015) argue that inequality is

[145] Prior to WWI, there were also economic recessions in several of the countries involved in the war.
[146] In 1930 the name was changed from Juvenile Unemployment Centre to Junior Instruction Centers.
[147] Among the criticizers of the education and training level of the youth was the Institution of Electrical Engineers. They accused industry and authorities of; not taking responsibility for their employees training and education, and providing too abstract or narrow courses for the majority of school leavers, respectfully.

restricting the economic recovery, and that the most destructive aspect of inequality is high unemployment, particularly when it is concentrated among the young. He further argues that if this group of unemployed is skewed towards an ethnic group, dysfunctional and disruptive movements are more likely. His conclusion is that unproductive youth, deprived of opportunities, is correlated with various negative externalities.

Of countries having understood the importance of providing these necessary opportunities, Germany is viewed as the success story in the Eurozone. As already elucidated, Germany grant their youth the availability of high quality education and vocational training. A figurehead example is their dual educational system which involves both relevant work experience and formal schooling. This system is in close cooperation with firms, who supply much of the training and financing. Since 2012, Germany has contributed to the implementation and advancement of vocational opportunities in several countries.[148] The goal of these agreements is to implement efficient vocational training around Europe so that it becomes easier to recognize the quality of vocational degrees across countries, this will ultimately enhance labor mobility (Krause et al., 2014). Another initiative implemented to increase labor mobility is the European Job Mobility Portal, EURES. It was originally created in 1993, but has recently gone through major changes to make it more accessible for both employees and employers. In addition to reinforce matching efficiency in the labor market, it provides an augmented statistical database on European labor mobility.

An important point to remember from Germany's experience, is that the success of a reform is not necessarily observable based on its popularity. The Hartz reforms in Germany experienced heavily resistance, although the reforms were successful in reaching the objectives. A necessary reform might cause a major dilemma for politicians wishing to be reelected. Furthermore, it is of high importance to keep in mind that there is no uniform recipe to reduce unemployment, especially when facing the heterogeneity of the European labor market. This was discussed by Krebs and Martin (2013) in a study on the possible impact of the implementation of the Hartz reforms in Spain and France. The finding was that the effect would be modest. This was largely because the unemployment benefits received by long term unemployed were already low, in contrast with the generous system in Germany before the reform. Any reduction in the already low benefits would probably not incentivize the desired efficiency gains.

The UK is headed in the same direction as Germany. During an interview with BBC in 2014, David Cameron stated that he wanted to abolish youth unemployment.[149] The UK has implemented three main policy responses to cope with high youth unemployment; these policies resemble the youth guarantee described below (Gregg, 2015).

[148] Countries in these agreements include France, Italy, Portugal, Spain, Latvia, Slovakia, the Netherlands and Greece.
[149] "At heart I want us effectively to abolish youth unemployment. I want us to end the idea that aged 18 you leave school, go and leave home, claim unemployment benefit and claim housing benefit. We should not be offering that choice to young people. We should be saying to people you should be earning or learning."

Firstly, action has been taken to raise the required educational participation in the 16-19 age bracket (RPA). This policy involved increasing the participation age to 17 in 2013, aiming at raising it to 18 in 2015, with the help from local authorities funding these opportunities.[150] Participation refers not only to formal schooling, but also to apprenticeship or vocational training. It is believed that this will; both reduce youth unemployment and ease the transition from school to work.[151] Cahuc and Carcillo (2015) argue that expanding the options for those with less interest in academic subjects will improve the labor situation facing the youth. The academic focus is hindering many young from obtaining a diploma. An initiative in France have been to open several state training centers, aiming at creating sustainable opportunities for young people who has dropped out of formal education.

Secondly, programs to enhance youth's work experience were implemented; these were primarily designed for disadvantaged youth. The initiative providing experience was introduced in the fall of 2009, and is called Future Jobs Fund (FJF).[152] The aim is to prevent the long-term negative impact upon young people who experience prolonged unemployment. Temporary wage subsidies for employers hiring young people are implemented to cope with this situation.[153] Any organization could apply for the necessary funding to create job placements as long as they meet the necessary criteria.[154]

Thirdly, efforts have been made to increase apprenticeship opportunities for young people. Until now, the success has been limited, but the government is planning to increase the support for apprenticeships for those under 24. When training and apprenticeship opportunities are available for everyone below 24, the government will implement a new young Job Seekers Allowance (JSA) claimant's scheme. This scheme will state that those claiming unemployment benefits with less than level two qualifications in English and Math would be required to attend up to 16 hours of education/training, in addition to the already required time spent on job search.[155]

The measures done in Spain to cope with the unemployment crisis includes a reform of savings banks, improved conditions for competition, educational reforms and reforms in labor-market institutions. The labor market reforms aim at promoting greater internal flexibility, reducing firm's incentives to hire temporary employees and subsidies to firms hiring young, low-skilled and women. Spain has also undergone a reform including

[150] The success of increasing the participation rate is largely contributed by the youth's own response to the crisis. As their employment opportunities fell many responded by extending their participation in education, even before RPA was implemented.
[151] This transition will not be effective until there is a strong upsurge in the labor market, as further increases in vacancies are needed for this to be fulfilled.
[152] It was later repackaged and slightly changed by the new government, to the Work Programme and Youth Contract.
[153] This has also been proven successful in France.
[154] The criteria includes; placement should be at least 25 hours a week with at least minimum wage, placement should be created for the purpose of giving experience and last for at least six months, the work underdone should benefit the local community and placement providers are required to provide support for participants when they are moving into sustained employment (Fishwick, Lane, & Gardiner, 2011).
[155] Adults with math skills below Level 2 may not be able to compare products and services for the best buy, or work out a household budget. The expected English speaking and listening skills of a 7-9 year old is entry level 2.

massive cuts in wages, aiming for an internal devaluation which can raise their international competitiveness (Evans-Pritchard, 2014).

In 2013, the European Commission implemented the Youth Guarantee scheme, in response to the fear of a lost generation in Europe. The specific aim is to entitle young people under 25 to relevant employment, further education, an apprenticeship or a traineeship, within the first four months of finishing education or becoming unemployed. The scheme aims at improving the transition from school to work and the labor market outcomes of the European youth. All EU members have commenced implementation, but at varying acceleration. The degree of success of this initiative is too early to evaluate, but chances are that it will succeed in improving the school-to-work transition (Dolado, 2015). Below is an outline of the Youth Guarantee progression in the selected countries.

France is encouraged to increase the availability of apprenticeships, particularly aimed at the low-skilled. Following the presentation of France' Youth Guarantee implementation plan in 2013, further increases in youth unemployment have been prevented. However, significant struggles related to communication, outreach and coordination strategies remain. As for Germany, historically low youth unemployment is achieved, and the current main objectives are related to ensuring long term stability in the labor market. However, young migrants across the country and youth located in the eastern regions are disproportionately disadvantaged, and enhanced integration is an objective. The Youth Guarantee implementation in the UK prioritizes improving the match between labor demand and the skillset provided by educational institutions. Their main strategy in guaranteeing opportunities for the younger generation is the reduction of low-skilled youth, and improvements have been evident. Spain has the most comprehensive list of recommended implementations. 944 million euros have been allocated to improve the outreach to young people by providing high quality employment and labor market relevant traineeships and apprenticeships. So far the coverage of the national Youth Guarantee system has been relatively limited (European Commission, 2015).

The Youth Guarantee initiative contains important elements, improving the future prospects of the European Youth. However, the goals are ambitious and extensive time for implementation is required. Furthermore, it is projected that gains from this initiative will be significantly reduced if stimulation of economic growth is absent (Dolado, 2015).

7 Conclusion

The turbulence experienced by the world since 2008 bear numerous similarities to the Great Depression. To conclude this comparative analysis, it is clear that the Western world is, once more, involved in a "*colossal muddle*", which will have a highly persistent negative impact on economies. The theoretical modelling tools used by economists have undergone significant changes since the Great Depression. Still, the mainstream macroeconomic theoretical framework failed to predict the Great Recession, as well as offering an optimal response (Quiggin, 2010). Common assumptions, such as rational expectations and representative agents, are used to simplify reality, but possibly too much. In the aftermath of the crisis, we find a great need for a new Keynesian framework with a more realistic micro-foundation, by for example incorporating financial frictions, trust and confidence as endogenous variables. This need is recognized, and the quality of research within this field is improving. Economics need to reallocate focus toward realism, equity and humility, away from rigorous mathematics, efficiency and hubris (Quiggin, 2010). This section outlines the main conclusions to be drawn from the sections of this thesis, including recommendations for further policy action.

It is seven years since the pre-crisis peak of industrial production, and none of the countries compared in this paper have been able to surpass this benchmark. The world has escaped a second great depression, but the overall fall in investment and production has contributed to a dangerously weak labor market. The youth have suffered a disproportionate share of job losses in the current crisis, relative to during the Great Depression. It is crucial to determine the nature of the labor market changes. I argue that these changes are structural, and without an abrupt positive turn in the economic outlook, the process of reform can become excruciating and prolonged.

The Beveridge curve analysis provides insight into the cyclical and structural components inherent in the unemployment statistics. The tendency for high unemployment to persist, meanwhile other economic indicators return to trend, suggests presence of permanent inefficiency in the matching process. The Beveridge curves in section 4, illustrates that only Germany has experienced an improvement in labor market efficiency since the crisis. This improvement is evidently a result of the Hertz labor market reforms, which were implemented earlier in the decade. I recommend other countries to follow the German example by enhancing vocational training and transferable occupational skills. This is proven to be highly effective, and countries with low unemployment rates, typically, do offer vocational training, adapted to firm's current needs. Boone and van Ours (2004) argue that increased spending on labor market training is the most effective form of intervention to improve the youth's situation. Dolado (2015) finds lack of vocational training as one of the main reasons behind high youth unemployment, and concludes by recommending that European governments devote substantial resources to active labor market policies for the youth.

The recovery of the labor market situation is contingent on strengthened economic growth. In achieving this, Europe will face severe challenges amplified by exhausted

governmental budgets and zero-bound interest rates, restraining fiscal and monetary policy, respectively. In his seminal paper on optimal currency areas, Robert Mundell (1961)concluded that one of the essential features needed in a single currency area is high factor mobility. This would enhance economic stability and absorb adverse shocks. I believe further encouragement of labor mobility is key to mitigating the crisis in the Eurozone. As explained in section 5, higher labor mobility will likely improve matching efficiency by balancing the supply of and demand for labor leading to increased economic growth (Krause et al., 2014). Without increased labor mobility it will be challenging for the ECB to maintain full employment and price stability across the Eurozone, particularly, because the geographical domain of the Eurozone does not coincide with a geographical fiscal authority domain. Therefore, improved adjustment mechanisms to combat regional asymmetries, such as enhanced fiscal integration, should be implemented. If long term stability is to be achieved, the heterogeneity of the Eurozone countries is advocating a need for increased political unification.

Nonetheless, the persistent effect on most variables has been weaker as a consequence of the Great Recession, in comparison with the Great Depression. According to Blinder and Zandi (2010) we can thank policy responses for this. He argues that the global economic situation would have looked a lot grimmer without these policy responses. However, this does not mean that all the policies implemented have been optimal, nor does it imply how the world would have been. It means that it was right for policymakers to act and abandon the laissez faire framework, which was leading in several industrialized countries. It is important to draw on lessons from both crises, and an important conclusion is that efficient regulatory governance of financial institutions is key to ensure economic stability (Aikins, 2009).

Being in a situation with high risk aversion and low market confidence, central banks are facing a considerable policy challenge in simulating growth. We are sluggishly recovering from a time of great difficulty; borrowers need liquidity to save their business, and lenders incentive to provide capital are lowered as they have experienced default of presumably stabile borrowers. Furthermore, productive projects are needed to boost the economy in order to confront the labor market crisis.[156] Bridging the gap between borrowers and lenders will be gradual, but the reduced spread between market rates and the key policy rate in the UK, as well as in the Eurozone, indicate that the monetary transmission mechanism have improved drastically.[157] What still remains to be learned, is whether the bond purchasing are contributing to the buildup of unsustainably high debt levels. It is important that macro- and micro-prudential

[156] "*But there cannot be a real recovery, in my judgement, until the ideas of lenders and the ideas of productive borrowers are brought together again; partly by lenders becoming ready to lend on easier terms and over a wider geographical field, partly by borrowers recovering their good spirits and so becoming readier to borrow."*
– John Maynard Keynes, Essays in Persuasion.

[157] The lowest lending rates in the UK have dropped from 7% to 3.5% since the onset of the crisis, see figure 32.

frameworks will be prioritized, also in the future.[158] This will mitigate possible future reliance on unconventional monetary policy (Joyce, Miles, Scott, & Vayanos, 2012).

In order to prevent a longer-lasting exclusion from the labor market there is an urgent need of efficient policy action. To relieve this situation, the workforce composition must be reformed in order to become suitable for the structural change of European economies (André, et al., 2013). Moreover, real economic growth must be further advocated, as this is required for long term utilization of available resources. The European Commission is confident that the Youth Guarantee implemented in 2013 has a prominent role in improving the labor market situation. The efficiency of the Youth Guarantee depend on policymakers ability to address the structural strain of the labor market, otherwise Europe might be deprived of a generation.

[158] This paper has not placed much focus on micro-prudential policies, but these are also significant for financial stability. Micro-prudential regulation has a firm-level perspective, and can be argued less relevant for discussion of this crisis, as it assumes that the risk of a systemic financial crisis is exogenous. However, ensuring solvency of private financial institutions is key in restoring consumer confidence. Basel III is possibly the most important regulatory framework implemented in response to the crisis, reducing systemic risk (Basel III includes, both macro-and micro-prudential consideration) (Osinski, Seal, & Hoogduin, 2013).

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