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SPAIN VERSUS GERMANY, THE SECRET OF THE LABOUR MARKET

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ABSTRACT

This research focuses on European labour markets, specifically Germany and Spain. Spain currently has one of the highest unemployment rates in Europe, while Germany has the lowest, so we are interested in a descriptive analysis of each of these two markets. The data obtained, both quantitative and qualitative, on the factors and possible causes of this divergence, are obtained for a time period between 2002 and 2022. This period includes the Great Recession crisis, the Covid-19 crisis and the recent war between Russia and Ukraine. Finally, the conclusion shows possible solutions, based on the literature, to remedy the Spanish unemployment rate and try to bring it as close as possible to the German rate.

JEL classification: E24; J01; J21; J23; J31; J64; J65

Keywords: Unemployment Rate, Labour Market, Great Recession, Divergence.

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1.- Introduction

Based on the facts of recent years, information sources from the OECD (2023) and (INE - Instituto Nacional de Estadística, n. d.) report that Spain today has one of the highest unemployment levels in Europe (12.92%), while Germany has one of the lowest unemployment levels (3.07%) being one of the most powerful economies in the world. One of the reasons why I have decided to carry out this work is to gain an in-depth knowledge of the German and Spanish labour markets, comparing them and focusing on the main variables that describe them.

Therefore, the aim of this paper is to elaborate a detailed descriptive analysis of the labour market in Spain and Germany, and to find possible measures to improve the functioning of the Spanish labour market, based on the literature review.

In the following, I first explain briefly what the labour market is and its characteristics, as well as the most known types of unemployment and a small clarification of the active, inactive, unemployed and employed population.

Subsequently, I review the literature, where I cite authors of several important articles related to my work, which can help to appreciate this research from different points of view. For example, Blanchard (2004) and Blanchard and Jimeno (1995), authors from whom I have drawn many ideas about the Spanish labour market and its comparisons with other countries. A more recent article is Hilmar Schneider and Ulf Rinne (2019), who have provided me with a lot of information on the functioning and reforms that have taken place in the German labour market. Finally, Miguel Casares and Jesús Vázquez (2018) discuss the difference between the German and Spanish labour markets, which have been one of the main bases of my study.

Next, in the section on the data, I explain the source from which I have obtained the information on the Spanish and German labour market, as well as a large amount of data from the European Union (EU), which I have taken as a reference when comparing Spain and Germany. The source of the information is the OECD.

In the descriptive analysis section, I show tables and graphs obtained from the data sources, which I have mentioned above.

The last section contains the final conclusions together with a series of possible solutions, which I believe could be implemented to bring Spain to Germany's unemployment rate levels.

2.- What is the labour market?

First of all, in order to understand this work correctly, we must know what the labour market is. As the authors García-Perrote Escartín and Mercader Uguina, J. R. (2012) point out, the labour market is defined as a market where the supply of labour (a variable that is given by the active population that wants to work) and the demand for labour, which is established by companies that need labour to carry out their functions and activities, meet. The price of this market is the wage paid to the workers, which is set by negotiation between the companies and the employees.

The working age population (over 16 years of age) is divided into the active and inactive population. The active population, who are those who wish to work, is divided into the employed population, those who are working, and the unemployed population, the population who are looking for work but cannot find it. Finally, the inactive population are individuals who are of working age, but do not want to work, either because they are students, disabled, or work at home.

It is quite common in the literature to distinguish four different types of unemployment (see George J. Borjas 2019).

Seasonal unemployment is one of the most predictable forms of unemployment of all. It is due to the fact that there are times of the year when work is plentiful in some sectors and other seasons of the year when there is a shortage of work in these same jobs. An example is given by the hotel and catering industry in Spain, in which employment rises every year in the summer and once this season is over, drops considerably, leading to a rise in unemployment.

Frictional unemployment occurs because workers and companies need a period of time to make agreements and get information about the value of the job offer at that moment. This type of unemployment leads to very short periods of unemployment and can even be considered "good", because during this period of time, the method of labour search and resource allocations improve considerably. Giving information to workers about job offers and in addition, giving information to companies about people who are unemployed, would be one of the solutions to this unemployment.

On the other hand, the most dangerous type of unemployment is structural unemployment. This is caused by a market imbalance between labour supply and demand, i.e. when the qualifications of the unemployed do not match the qualifications needed in the labour market. In other words, the person who supplies work has different

qualifications and studies than the job that companies demand. Therefore, this type of unemployment can be of very long duration because it depends on education and knowledge. The state should offer active training policies to these workers, making them adapt to what companies demand, this would be one of the solutions to structural unemployment.

The sum of frictional and structural unemployment is often called “natural unemployment”, which is that estimated level of unemployment that would occur in the absence of economic fluctuations. In contrast, cyclical unemployment is defined as unemployment associated with the business cycle. It originates when there is an economic crisis and therefore organisations demand less work as consumers also reduce their demand for services and products, therefore, companies carry out many redundancies and an imbalance is generated in the labour market, as the supply of labour is much higher than the demand and cannot be adjusted due to wage rigidity. One of the measures to solve this unemployment is that the government can stimulate aggregate demand and restore market equilibrium.

The Macroeconomics textbook by Blanchard (2015) highlights the relevant factors that affect the labour market in the short and medium run. The business cycle affects unemployment by causing it to rise during recessions and fall during expansions. During a recession, firms lay off workers to reduce wages, which causes unemployment to rise in the short run. In addition to this, aggregate demand is related to an increase in unemployment, which is generated when demand for goods and services decreases, and firms reduce sales and production. In the short run, fiscal and monetary policies play a very important role, which have a different effect over time and affect the cyclical unemployment level. Another important aspect is labour market related policies, such as employment and dismissal laws, labour protection and social security that would eventually influence the level of unemployment. The expectations of economic agents, including employers and employees, if firms are worried about the future of demand, they will lower hiring or make layoffs, which will increase unemployment.

As Blanchard (2015) relates, in the medium term wages can be determined in several ways, one of them is through collective bargaining, such negotiation consists of reaching an agreement between companies and unions, and the higher the level of education to access the job, the more likely it is that collective bargaining will take place. This depends on two things, firstly on the costs for the entity to find other workers, in case they leave the bargaining partners, and secondly on the difficulty workers would have to find another job, in the case of a low bargaining power on the part of the workers, this would lead to

lower unemployment. On the other hand, less stringent competition legislation (the degree of monopoly power of firms) will allow firms to collude with each other and increase their market power, thereby increasing the rate of structural unemployment, it should be noted that a centralization of collective bargaining will increase the rate of unemployment. Next, an increase in employment protection, which makes it more expensive for companies to fire their workers, will increase collective bargaining and consequently the level of unemployment.

Another factor that would affect the level of unemployment is unemployment insurance, which consists of unemployment benefits, and the higher these are, the more unemployment there will be since fewer people will be willing to work because there will be little difference between what they receive in wages while working and what they receive in unemployment benefits. Finally, a high minimum wage also increases unemployment by reducing the employment of less qualified workers, and an aging population together with a fall in the proportion of young workers is also one of the demographic causes of lower unemployment.

3.- Literature

Let us now review the literature on which I have based this research. This information comes from numerous authors and journals that analyse the relevance of the labour market, its institutions and reforms in recent decades.

Anna Sanz-de-Galdeano and Anastasia Terskaya (2020) focuses on the analysis of the labour market in Spain. The main objective of his research is to study the impact of the unemployment crisis during and after the Great Recession (2008) on the Spanish economy and labour market. They emphasise the main problems of the Spanish labour market, such as high youth and long-term unemployment, the large wage gap between men and women and the high rate of temporary employment, which is a problem due to the nature of the dual market, which means low firing costs for temporary contracts and high firing costs for permanent contracts. This means that in times of recession a lot of temporary work is destroyed and affects to a large extent immigrants and young people who are abundant in this type of contract. They also give a brief description of the positive and negative points of the Spanish labour market after the recession. And finally, they insist on the need for labour market policies, such as active policies that serve to face the problems of our Spanish economy.

One of the methods used by Anna Sanz-de-Galdeano and Anastasia Terskaya (2020) to carry out this study is the collection of information about the Spanish labour market from 2002 to 2018, using data and statistical analysis, in order to properly examine the Spanish labour market before, during and after the Great Depression.

There were two recessions in a row that affected both Spain and the EU. The first one run from the beginning of 2008 to the end of 2009, due to the international financial crisis, and the second one was the Eurozone crisis, that occurred at the end of 2010 until the beginning of 2013. According to Sanza-de-Galdeano and Terskaya (2020), in the Spanish labour market, permanent contracts with very high firing costs and temporary contracts with low firing costs could help explain the strong fluctuations in youth unemployment. The gender gap in the unemployment rate, which reached a low of 0.5% in 2012, is explained by the fact that, once the Great Recession started, male labour participation decreased and female participation increased. This higher female participation may have been explained by the fall in household income inflows in times of crisis. It should be added that the unemployment rate has always been higher for women than for men. In addition, the Spanish labour system included strict collective bargaining and dual employment protection legislation. This set of factors made it possible to adjust to negative shocks through redundancies.

As reported Sanz-de-Galdeano and Terskaya (2020), the maximum-recorded value of the unemployment rate was in 2013 and reached about 27%. This article reports that there were improvements starting in 2014, because in the Spanish labour market employment increased at an average annual rate of 2.4% per year since then, accompanied by a decrease in wage inequality and an increase in the share of immigrants in employment since 2014. Subsequently, in 2018, gender gaps in labour participation and time-limited employment narrowed compared to before the crisis.

On the other hand, the most negative aspects of the Spanish labour market are the large increase in youth unemployment, the high temporary employment rate and the high long-term unemployment during the Great Recession. This is closely related to the next aspect which is the decline in the male labour force participation rate, partly due to the large youth unemployment. One of the hardest hit groups during the crisis were immigrants, and young people who were abundant in temporary jobs. Finally, real wages fell sharply during the crisis and have not yet managed to recover.

Continuing with the study of labour markets, we now turn to the German labour market, which Hilmar Schneider and Ulf Rinne (2019) describe in their paper covering the years 2000 to 2018.

This article aims to analyse the main characteristics of the German labour market, in which it highlights the great importance of solidity during the crisis, followed by its effect on unemployment rates and the discussion of the dual apprenticeship system that Germany employed. The latter, the mechanism of awarding qualifications and competences on the basis of diplomas, which are then revised companies to improve the recruitment process from school to employment. This system was very relevant for young workers, as it facilitated youth employment. Finally, a clear specification between negative and positive outcomes occurs in this period.

This article employs a critical approach based on studies and data on the German labour market, as well as a clear mention and brief explanation of the Hartz reforms between 2003 and 2005.

As Hilmar Schneider and Ulf Rinne (2019) point out, the fall in output during the Great Recession was relatively remarkable in Germany. GDP in 2009 fell by 4.7% compared to 2008. While working hours have fallen by a similar amount, employment remained constant. This was called internal flexibility and is actually one of the keys to the success of the German labour market.

Subsequently, in the last 20 years, Germany suffered from growing wage inequality. This rise in inequality was balanced by welfare state benefits. Apart from this, Germany suffered from the impending decline of the labour force due to an ageing population and, to balance this effect, large rates of immigration had to be encouraged to increase the country's declining labour force. Finally, the social security system also required sustainable reform because of expected long-term changes in the labour force. Wage moderation also played an important role. Trade unions and employers used collective bargaining to make working conditions more flexible, for example through opening clauses in contracts between trade unions and associations during the crisis. These clauses became increasingly common and are associated with higher employment and wages.

Hilmar Schneider and Ulf Rinne (2019) point out that one of the key factors that reduced the level of unemployment in Germany was the fall in the separation rate immediately after the implementation of reforms. On the other hand, the large drop in unemployment was mainly due to the reduction of unemployment in East Germany due to demographic factors, while West Germany had a less pronounced reduction and even stagnated for a while. It should be added that, in contrast to other European countries, youth unemployment rates were lower than those of adults between 2000 and 2018.

This study indicates improvements in the German labour market in the last years, such as the increase in labour participation of older people, followed by a large decrease in unemployment, especially among young people, and thanks to the well-known dual apprenticeship system. Finally, one of Germany's strengths was the enormous stability of its labour market during the Great Recession.

However, one of the downsides of the German labour market in this period of time (2000-2018) is that the dual apprenticeship system is under pressure due to the favouring of academic education over vocational training.

As Olivier Blanchard (2004) points out, the objectives of this article are the description of the change of unemployment in Europe in the last decades and the comparison between the unemployment rates of European countries. Also, he investigates the economic crisis and its impact on unemployment, together with the evaluation of the importance of labour market institutions in the management of unemployment.

It uses the method of the structural approach and the reduced approach to achieve the objectives of the article. The reduced approach seeks to analyse specifically how fluctuations in unemployment affect the economy as a whole. On the other hand, the structural approach is more comprehensive as it analyses different variations related to

unemployment, output, wages. It aims to understand the different dynamics and internal relationships in the economy.

According to Olivier Blanchard (2004), the evolution of the unemployment rate in Europe in previous decades can be summarized as very low unemployment levels in the 1960s, which were perceived as a positive anomaly. However, this rate began to rise in 1970, as raw materials became more expensive and the high productivity rate slowed down. These changes probably pushed up the cost of labour and, consequently, the European unemployment rate. A key feature of the unemployment rate in Europe is that it has been highly differentiated from one country to another, i.e. the unemployment rate has grown at different rates in different countries. Later, in the 1980s, the shortage of money led to a period of high real interest rates and this, in turn, led to a large increase in the price of capital utilization. In turn, wage moderation prevailed, which had a greater impact in countries with a larger variation in unemployment. This has not contributed to improve employment as expected from the beginning, real wages have been balanced but unemployment was still very high. Another movement that occurred was the fall in the share of labour in the business sector by 10 percentage points of GDP in many European countries.

Moreover, according to Olivier Blanchard (2004), the real interest rate increased in all countries from the 1980s onwards, but the variation was different in each country. It should be added that all these changes and variations took into account the fact that all countries had suffered the same type of shocks to their economies. It should be noted that the cyclical movements of the 1960s and 1990s largely explain the variations in the natural rate of unemployment.

In summary, Blanchard (2004) concluded that the differences in unemployment levels between countries since the 1970s were not explained by inflation, but that inflation was a key determinant affecting unemployment. According to this study, the main causes of high levels of unemployment in Europe were the institutions (which also differed among European countries) that were in charge of managing unemployment benefits (passive policies) and social security. Institutions, together with shocks, explain the divergence in the evolution of unemployment across European countries. Moreover, shocks were more persistent over time and had a greater impact on the level of unemployment, thanks to these institutions and good industrial relations. Another important reason for the large increase in unemployment in the 1970s and 1980s was changes in labour supply, due to rising commodity prices and declining productivity growth.

Florence Jaumotte (2011), highlights the negative points of the Spanish labour market, such as high unemployment, wage rigidity and the high rate of temporary contracts. Also, the assessment of the institutions and policies of the Spanish labour market in comparison with other European Union countries and the explanation of the reforms of the Spanish labour market, especially the 2010 reform.

The main method employed is the use of econometric regressions, accompanied by a more general analysis and definition of the main factors of the Spanish labour market.

Florence Jaumotte (2011) points out that in Spain the unemployment rate has always been more volatile than in the rest of the EU countries, which may be due to the high wage rigidity, so that, in the face of a large adverse shock, companies remedy it by closing or laying off staff, rather than reducing working hours or lowering wages. Most of the temporary jobs were mainly held by young people and women, and the share of temporary jobs increased from 1984 onwards. The share of temporary jobs peaked in 2006 (33%), and from that year onwards it declined due to the crisis, as temporary jobs were the most affected. Even so, once the crisis was over in 2018, the share of temporary jobs has not returned to pre-crisis levels, nor have real wages.

In addition, Florence Jaumotte (2011) explains spending on active policies to facilitate labour market insertion, where higher spending on active policies, which consist of providing citizens with services to train future workers in accordance with what companies demand i.e. an incentive that will cause unemployment to fall. Likewise, the degree of regulation of the product market, where deregulation also leads to a reduction in unemployment. Next, we find the degree and duration of unemployment benefits, where we can differentiate in the limitations and rules that each country has when applying them. Based on the article by Florence Jaumotte (2011), when unemployment benefits are high, they increase the reservation wage of wage earners and discourage low-paid workers from taking lower-paying jobs.

Jaumotte (2011) describes the characteristics of wage bargaining in Spain as follows. First, there are guidelines for wage increases at the national level, followed by increases at the provincial and sectoral levels, resulting in higher wages. In addition, the fact that the coverage of wage agreements is high, which is common in Spain, is combined with low union density, which exacerbates the problem of insider information. In addition, the clauses that allow organizations to abandon agreements in the event that economic conditions become more complicated, also known as opt-out clauses, are very restrictive and are therefore not easily used.

Finally, Florence Jaumotte (2011) unveils the results of the study, which are the difference between Spain and the rest of the countries, due to its collective bargaining structure, which severely limits wage flexibility, and the payment of very high severance payments to permanent workers.

Also, to be specific he highlights, the measures that would bring down unemployment. We start from a good use of active policies, the decentralization of collective bargaining, thus reducing excessive wage demands and allowing for more flexible wages. Increasing firing costs together with reducing unemployment benefits and tax wedges would also help to reduce unemployment by reducing labour costs and the duality of the labour market, by increasing the number of permanent workers and decreasing the number of temporary workers. Another factor that would lower unemployment levels is further deregulation of the product market, stimulating activity and demand for labour. In addition, deregulation would also affect the proportion of temporary workers by increasing it. Finally, a higher proportion of part-time workers is positively correlated with a lower unemployment rate.

Olivier Blanchard and Juan F. Jimeno (1995) aim to make a comparison between Spain and Portugal. They focus their research on numerous points, which have helped me to understand the differential factors that have made the unemployment rates vary so much between the two countries, since they are very similar countries (geographically they are located next to each other, were under a dictatorship and joined the OECD at the same time) and yet they have very different levels of unemployment. It should be added that the increase in the working age population is very similar in these two countries.

The main method is to investigate the data in the official labour force surveys to assess the unemployment statistics of both countries. In addition to comparing the structure of their economies such as collective bargaining, fiscal policies, unemployment benefits and employment protection.

Unemployment rates have varied differently between Spain and Portugal from the 1970s to the early 1990s, which may be due to the fact that Spain focused on reducing its inflation and, as a consequence, its unemployment rate rose sharply to 20% in 1992. On the other hand, Portugal did not focus so much on inflation and reached 5% unemployment in 1992.

As expressed by Olivier Blanchard and Juan F. Jimeno (1995), fiscal policy, which affects revenues and expenditures through taxes and government spending, can influence a country's unemployment rate. In particular, the government can affect the tax wedge, which is explained as the difference between the labour cost of organizations and the

wage received after taxes are paid, high tax wedges would increase the unemployment rate. According to Phelps (1994), if the wage has an inverse relationship with the interest rate, then an increase in public spending, and therefore in the public deficit, will lead to an increase in interest rates, which in turn will lead to an increase in unemployment. Secondly, according to Olivier Blanchard and Juan F. Jimeno (1995), we have the degree of employment protection legislation, Spain introduced fixed-term contracts in 1984 and then had a reform in 1994. Firing costs reduce efficiency, and in the case of high firing costs the firm has to bear more costs if it wants to fire someone and hire a new worker, then this will make it more difficult for those who are out of work to get a job, so unemployment will increase. On the other hand, higher firing costs reduce unemployment. Thirdly, we find collective bargaining or also called union density, which is the negotiation between employers and workers to agree on a wage, the more decentralized it is the lower unemployment will be as I have expressed above, which shows the importance of labour market institutions for the unemployment rate.

This study shows as a result a big difference in unemployment rates between Spain and Portugal, we are talking about the year 1995. Spain had the highest unemployment rate in the EU (24.4%), while Portugal had one of the lowest unemployment rates (6.8%). Both Blanchard and F. Jimeno conclude that these differences in the unemployment rate may be due mainly to the above mentioned, in addition to unemployment benefits.

Despite the fact that these are very similar between these countries, unemployment benefits stand out, being much higher in Spain than in Portugal.

Miguel Casares and Jesús Vázquez (2018), is one of the papers that I found most interesting because of its close relationship with the subject of my research. The main purpose of this work is to compare the evolution of the unemployment rate in Spain and Germany, in addition to explaining in a didactic way the main differences in labour markets and how other variables have been able to influence unemployment rates. The reforms approved in these two countries have a multitude of laws and adjustments that managed to solve and improve the Spanish labour market. Spain passed its reforms in 1997, 2002, 2006, 2006, 2010, 2012 and 2021, while Germany passed its reforms (known as Hartz reforms) between 2003 and 2005.

Casares and Vázquez (2018), use a structural approach based on a dynamic stochastic macroeconomic general equilibrium (DSGE) model, with the presentation of unemployment as an excess labour supply due to wage rigidity, and additional sources of exogenous labour market variability (number of hours per worker) and monetary

policy. Quarterly data for Germany and Spain from 1996 to 2013 have been used to estimate this model.

According to Miguel Casares and Jesús Vázquez (2018), we can distinguish three periods: between 1996 and 2001, the fall in unemployment was given by demand and price shocks. The great flexibilization of contracts in our country contributed to reduce the adjustment costs of working hours and from 2002 onwards, thanks to these changes, the level of employment increased. In addition to the fact that between 2002 and 2005, this rate was boosted by labour shocks. The last period is between 2006 and 2013, in which unemployment fell considerably, reaching its minimum in 2013 (4.95%), all thanks to fiscal shocks and monetary policy.

As Miguel Casares and Jesús Vázquez (2018) rightly say, Spain as Germany have been very different in terms of unemployment in the last decades, as when Spain had some of its lowest unemployment rates, it was when Germany had the highest unemployment and vice versa. The average unemployment rate between 1996-2013 in Spain hovered around 15%, while in Germany it was only 8%, almost half that in Germany. These differences also carry over to wages, where the average wage inflation rate has been 3.3% in Spain and 2.1% in Germany between these years. Likewise, a larger increase in the Spanish labour force is also observed, as Arango (2013) points out, which may be due to the large influx of immigrants to Spain during these years. Subsequently, Dvorkin and Shell (2015) point to other factors that explain the growth of the working-age population, the large increase in the participation of women in the labour market and, finally, the demographic cause generated by the Baby Boom, which led to a considerable increase in the birth rate during these years. These effects also occurred in Germany, but to a lesser extent.

Continuing with the comparison, these two countries share a common monetary policy governed by the European Central Bank, which sets nominal interest rates and directs the monetary policy of all EU countries. In the case of Spain, the differences in unemployment variations are given by labour market shocks, i.e., those affecting the labour force and hours worked per employee. On the other hand, the Germans explain the variation in their unemployment rate by different factors such as investment shocks, monetary shocks, fiscal shocks and, finally, labour shocks.

The conclusions drawn from this significant article are that wage rigidity is much higher in Spain than in Germany, the huge variations in the Spanish unemployment rate are due to supply shocks, such as the cost of adjusting working hours, productive technology and labour. It is worth mentioning that, in Spain, the risk premium shock has shifted from

falling unemployment during the years of the housing bubble to rising unemployment during the Great Recession, the estimated elasticity of hours per employee to real wage fluctuations is lower in Spain than in Germany. Between the years 1996 and 2013, the unemployment rate in Germany increased due to the labour force crisis, investment crises and inflationary pressures. Finally, after 2006 the German unemployment rate started to decrease due to reforms and fiscal shocks.

4.- Reforms

In this section I explain the most important reforms that have taken place in the Spanish and German labour market.

Florence Jaumotte (2011) gives a list of the many reforms of the Spanish labour market that have taken place over the years, including: the 1997 reform, which created a new permanent contract with much lower compensation for unfair dismissal; this reform applies specifically to all new workers, except men aged 33-45 who have been unemployed for less than one year. This was followed by the 2003 reform, with the abolition of the obligation to pay interim wages to dismissed workers pending trial for unfair dismissal, if the employer recognises this type of dismissal. Likewise, the 2006 reform, one of the objectives of which was to encourage indefinite-term contracts, as well as the transition from temporary to indefinite-term contracts, motivating companies economically (Ruiz Galacho, E., 2006). In addition, several changes in unemployment protection were introduced that were more favourable for some groups. The reform worked well at first, but then slowed down the formalisation of permanent contracts, leading to a large number of temporary contracts.

The 2010 reform followed, which aimed to combat the high labour protection imposed on permanent contracts and the lack of flexibility in the wage bargaining system. The main points of this reform were: to incentivise the use of unfair dismissal with 33 days' compensation per year of service and to make this number of days the maximum that can be claimed, to pay 8 days' compensation through funds provided by the organisations and to soften the criteria for fair dismissal. This reform has contributed significantly to streamlining subsidies and improving training contracts for the young unemployed.

As Anna Sanz-de-Galdeano and Anastasia Terskaya (2020) underline, important reforms were carried out in Spain between 2010 and 2012, among which the 2012 reform explained by the UGT (2019) stands out. One of the main purposes of this reform was to incentivise job creation and grant good levels of flexibilisation to companies, however, a solution to the duality between employment protection legislation and the strong collective bargaining system of the Spanish labour market has not yet been found. This new labour regulation led to a serious precariousness of employment.

Finally, the most recent labour reform was that of 2021. The main regulations carried out in this reform were that more importance is given to permanent employment than to temporary employment and the reduction of the maximum duration of a temporary contract before it becomes permanent (Wolters Kluwer, 2022). In addition to this reform, there are two types of training contract: dual training and sandwich training. Finally, ERTES may not last longer than one year and the reduction in working hours will always precede the termination of the contract.

According to Jaumotte (2011), one of the objectives of the reforms is related to employment protection legislation, as it makes it too expensive to dismiss permanent workers, because it entails high severance payments. The interpretations of severance payments in Spain are very demanding and they are often considered unfair rather than justified. If the dismissal is fair, it is 20 days for each year you have been working in that company, and if it is unfair, it is usually between 33 and 45 days per year. Obviously, the compensation for temporary workers is much lower.

On the other hand, German labour market reforms were carried out in 2003 and 2005, (Schneider and Rinne, 2019). These resulted in developments such as the adaptation of the employment service and related activities, flexible forms of employment such as fixed-term contracts, temporary work and marginal jobs were made more attractive and, finally, the duration of unemployment benefits for older people was shortened. Long-term unemployment benefits were reduced, due to the abolition of income-related unemployment benefits, which could initially be claimed indefinitely until retirement. Over time, a monthly amount replaced these social benefits. In addition, a marked improvement in the functioning of the German labour market was achieved, increasing the effectiveness of active policies, which help to enter the labour market more easily and reducing the reservation wages of the unemployed.

5.- Data

In order to carry out the study, I will highlight the main labour market variables that I will include in my research. All these data and information have been taken from the OECD (Organisation for Economic Co-operation and Development) for both Germany and Spain, as well as taking the EU as a reference, and such information has been compiled from the Labour Force Survey (EPA).

I consider data from 2002 to 2022, if not otherwise specified. I have started with the analysis of the activity rate, the employment rate (separated by sex and making a distinction in age groups, between those under 25 and those over 55), then I have added the employed population by economic sector. I have also considered it relevant to add the temporality rate (in addition to the youth temporality rate) and the proportion of people who are self-employed. It is worth noting the unemployment rate (divided by sex and age groups such as under 25, the long-term unemployment rate, the unemployment rate by educational level and the average annual rate of change in unemployment over the last 20 years by sex and under 25). Finally, I have added the proportion of young people who neither work nor study (NEET).

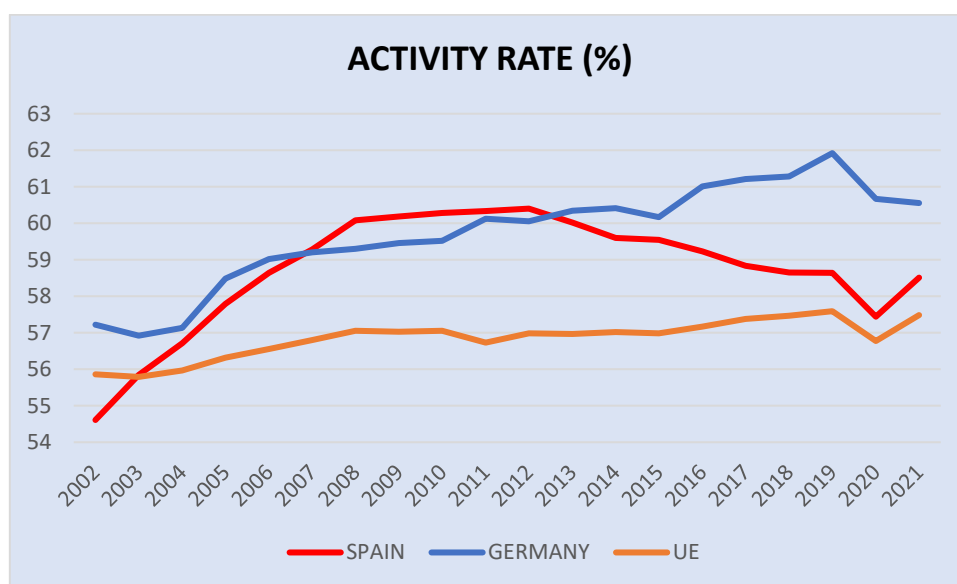
These variables are the ones on which I have based my research, and I have made graphs and tables with the evolution of these data to achieve a much more complete analysis.

6.- Descriptive analysis

6.1- Activity rate

The activity rate, also known as the labour force participation rate, is calculated by dividing the active population by the working-age population, that is, those aged 16 and over. In Figure 1 I have compared the activity rate of Spain and Germany over the last decades (2002-2021) and I have used the European Union as a reference.

Figure 1: Activity rate



Source: Own elaboration based on OECD data

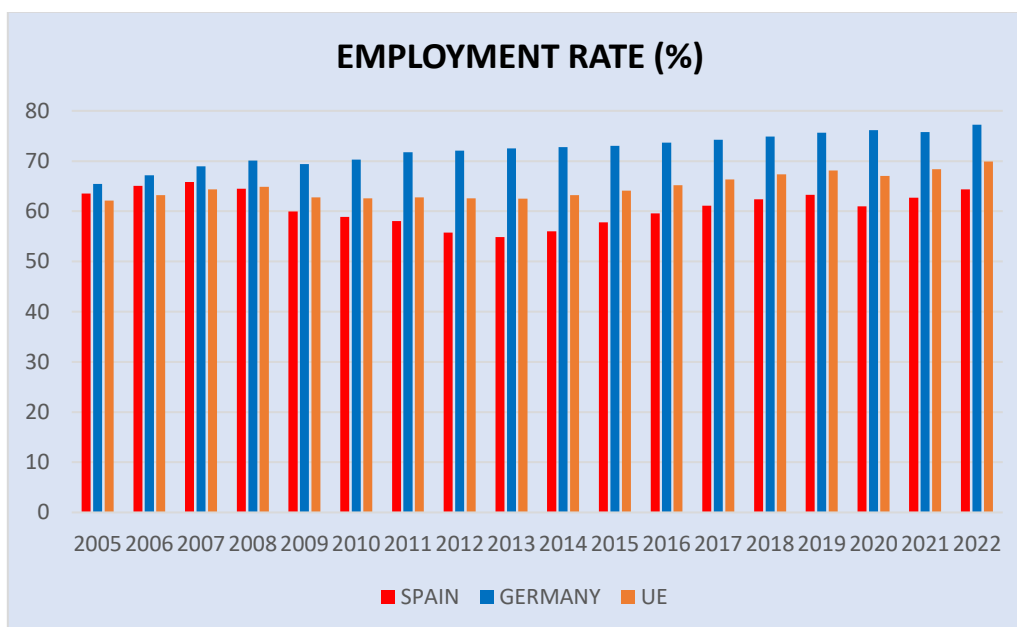
As we can see, Spain had an exponential growth in its activity rate between 2002 and 2008. This higher increase in Spain may be due to the economic boom that coincided with these years, in addition to the well-known Baby Boom, a greater influx of immigrants during these years and an increase in the incorporation of women into the labour market. These factors also occurred in Germany, but to a lesser extent. Although once the crisis started (2008), the share of immigrants in employment was decreasing and consequently from 2012 onwards the labour force started to decrease considerably in Spain, Germany did not have such an effect on its labour force participation rate due to its high resilience to these shocks. It is worth mentioning the subsequent fall in the activity rate in Spain, Germany and the European Union, this is due to the recent Covid-19 pandemic at the beginning of 2020, which caused a large loss of jobs and a large drop in the European population, then from 2020 the economies began to recover, causing a growing dynamic in these two countries.

6.2- Employment

Employment is one of the most relevant variables that describe the labour market. As defined by the (INE - Instituto Nacional de Estadística, s. f.), the employment rate is the proportion of people who are in work and is calculated by dividing the total number of

employed people by the number of people over 16 years of age. Figure 2 presents data for the years 2005-2022, and again I have incorporated the European Union as a benchmark.

Figure 2: Employment rate



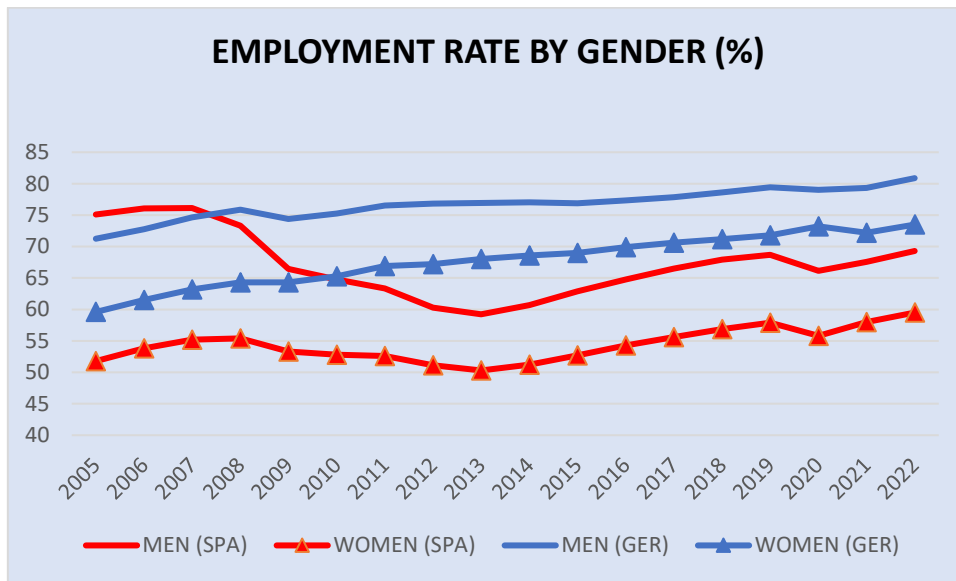
Source: Own elaboration based on OECD data

We can observe that the best years for the Spanish employment rate were those prior to the crisis, which reached a maximum of 65.8% (2007) of employed people, surpassing the European Union. Subsequently, after the crisis it began to fall considerably, reaching worrying levels such as in 2013 (54.83%). Although many years have passed since the crisis, Spain has not managed to return to its peak employment rate. On the contrary, Germany seems to have a counter-cyclical and desynchronised behaviour with Spain, since in the pre-crisis years it had its "worst" employment rates reaching 65.45% (2005) and in the crisis and post-crisis years it had its best levels as in 2022 (77.22%), just the opposite of Spain. In addition to this we can appreciate a clear constant growth of the German employment rate in the last 20 years. It should be added that Germany has always been above the European Union in employment rate in the last years.

Next, in Figure 3, the evolution of the employment rate by sex (2005-2022) shows a marked difference between the employment rate for men and women, with the employment rate for men being higher in both countries. There has been a clear decrease in this difference in Spain since the crisis, which may be due to women taking

up work because their husbands were unable to meet all the expenses during the crisis or because they were unemployed. Even so, Spain is still below Germany and although the employment rate of women has come closer to that of men, there is still a significant gender gap.

Figure 3: Employment rate by gender



Source: Own elaboration based on OECD data

In Table 1 we see the employment rate by age group. Young people were the most affected during the crisis, reaching 16.7% of employment (2013), since many temporary contracts (contracts where young people abound) ended in dismissal during that period. Young people have not returned to their original pre-crisis level in Spain, while in Germany it has not been as bad for young people and has even improved to 50.5% in 2022. On the other hand, the over 55s in Spain have not been as affected after the crisis and have even reached their highest level of employment in recent years, in 2022 (57.67%), however Germany has also had high levels in 2022 (73.6%). This makes us realise that permanent contracts and seniority have a great power because the more you accumulate the more severance pay you can get and the more difficult it is for you to become unemployed, this is known as employment protection.

Table 1: Employment rate by age group

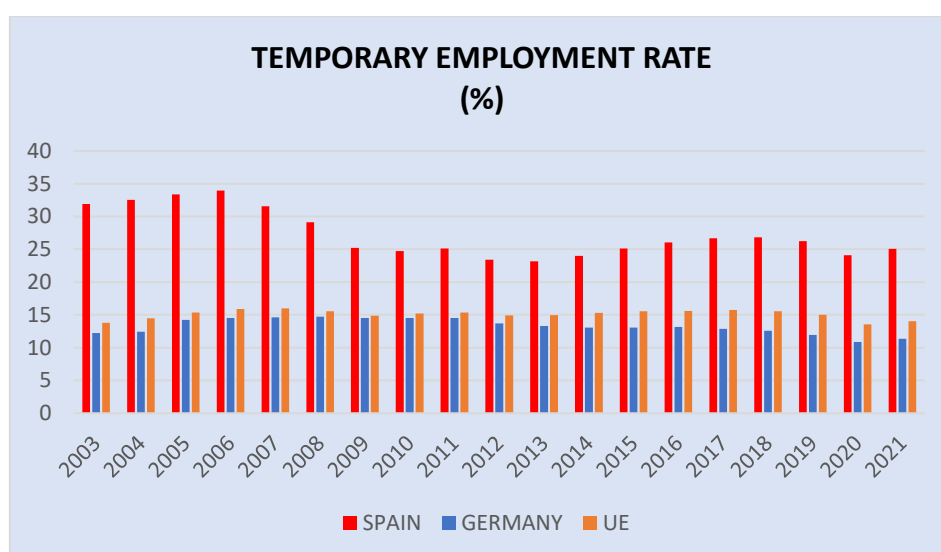
Employment rate by age group (%)				
AÑO	< 25 (SPA)	> 55 (SPA)	< 25 (GER)	> 55 (GER)
2005	38,5	43,08	41,9	45,48
2006	39,5	44,1	43,5	48,15
2007	39,2	44,52	45,4	51,3
2008	36	45,48	46,6	53,75
2009	28	43,98	45,4	55,27
2010	25	43,55	45,6	56,98
2011	22	44,48	47,3	59,15
2012	18,4	43,88	46	60,73
2013	16,8	43,25	46,3	62,7
2014	16,7	44,3	45,4	64,6
2015	17,9	46,9	44,7	65,2
2016	18,4	49,08	45,2	67,58
2017	20,5	50,5	45,9	69,15
2018	21,6	52,15	46,5	70,42
2019	22,3	53,83	47,8	71,63
2020	18,5	54,67	48,3	71,77
2021	20,6	55,75	48,7	71,85
2022	23	57,67	50,5	73,6

Source: Own elaboration based on OECD data

6.3- Temporary employment

Next, I have set out the temporary employment rate measured in percentages and again taking into account the European Union, covering the years 2003-2021, in Figure 4.

Figure 4: Total temporary employment rate

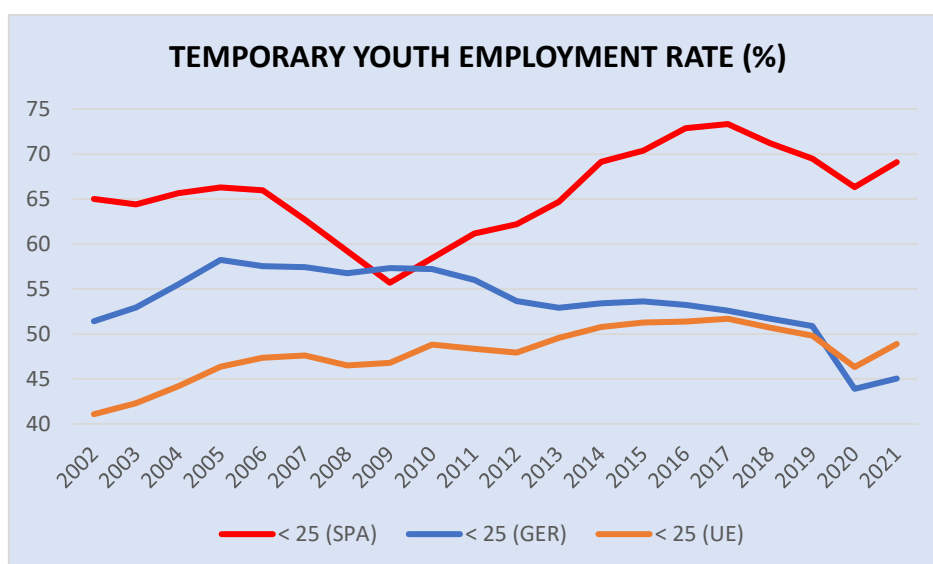


Source: Own elaboration based on OECD data

Spain, as can be seen in the graph, is characterised by a large number of temporary contracts, which tend to be mostly for young people and women. Its rate is much higher than that of the European Union and Germany. However, during the economic crisis, temporary jobs were the first to be affected, leading to a large destruction of temporary jobs from 2008 onwards. Today, their levels are considerably lower than in the pre-crisis years. Much of this is due to the reforms that have taken place in the Spanish market in recent decades. Despite this, the temporary employment rate remains high in Spain. In Germany and the European Union it has remained almost constant.

Next in Figure 5, the temporality rate of young people is very high in Spain. As Florence Jaumotte (2011) rightly points out, from 2007 onwards, the temporary employment rate of young people fell sharply due to the crisis, as temporary jobs were the hardest hit during the Great Recession, due to their low firing costs compared to permanent contracts in Spain. Reaching its lowest level in 2009 (55.69%), being surpassed by Germany in 2009 (57.31%), then it would rebound again in the following years.

Figure 5: Temporary youth employment rate



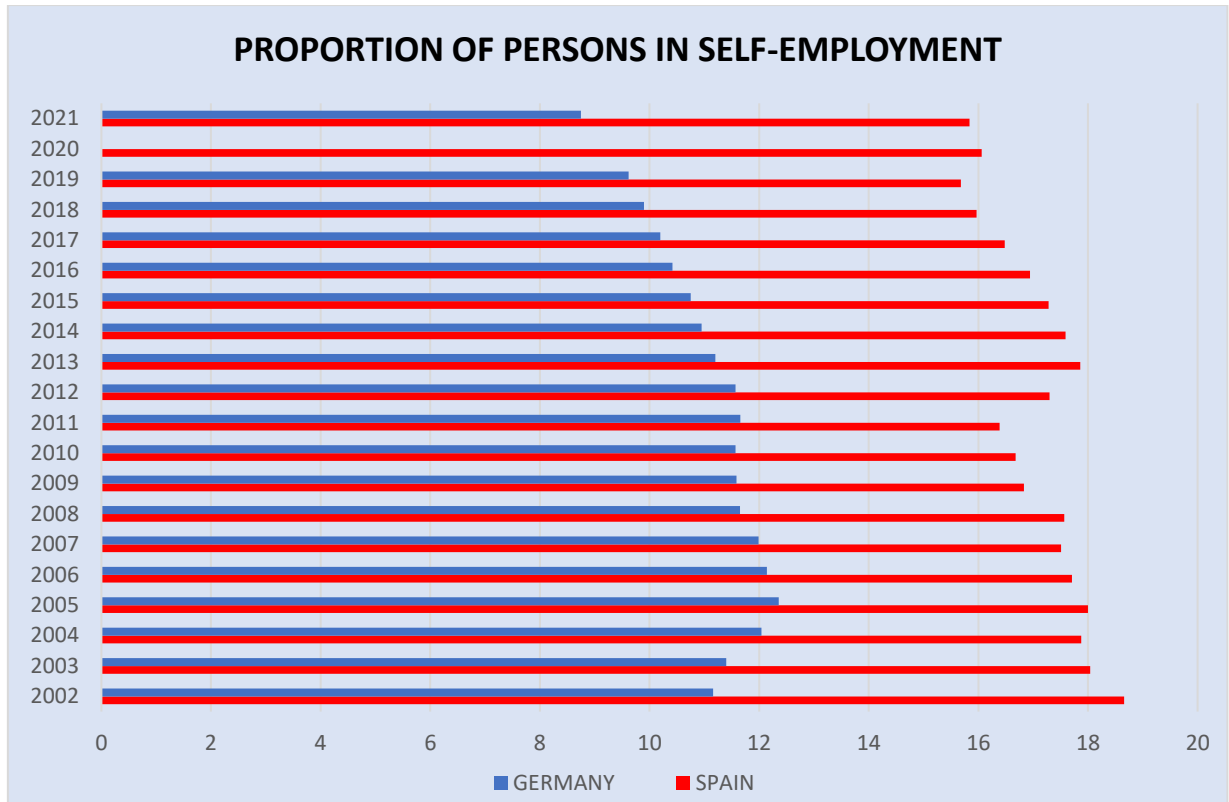
Source: Own elaboration based on OECD data

6.4- Self-employment

In this section we will look at the proportion of the working age population that is in self-employment in these two countries, presented in Figure 6. These data are for the years

2002 to 2021, it should be added that there are no data for Germany in the year 2020 for this variable.

Figure 6: Proportion of persons in self-employment



Source: Own elaboration based on OECD data

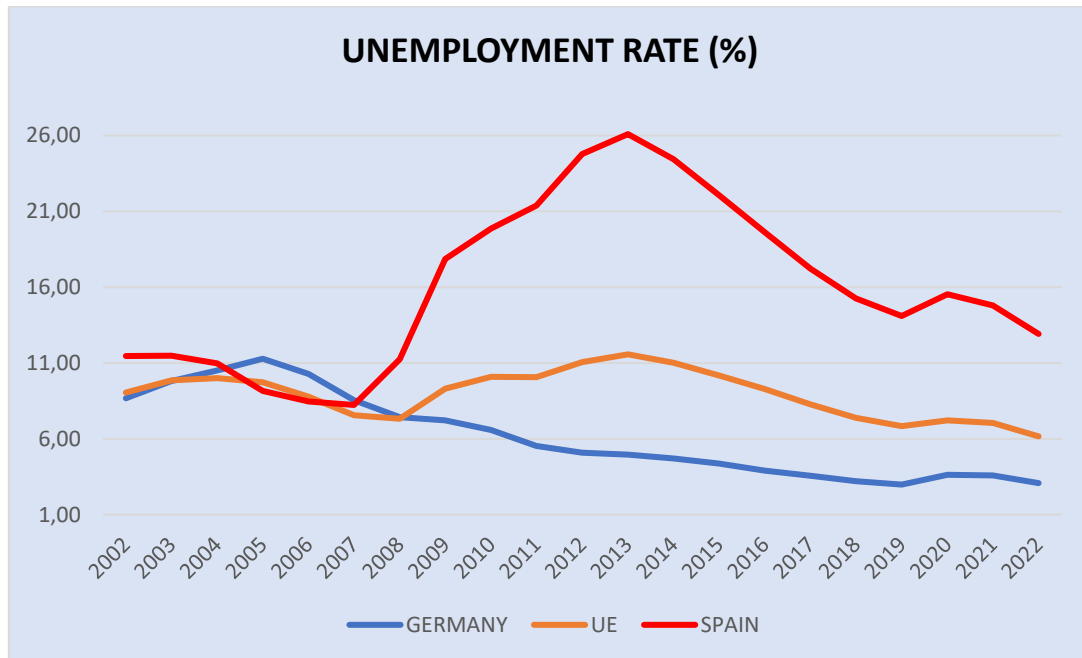
As reported by Sanz-de-Galdeano, A., Terskaya, A. (2020), self-employment is very important in Spain and this graph shows it, as the Spanish nation has a very large number of companies, most of them SMEs (small and medium-sized enterprises). Self-employment was highest in 2002, with 18.66% of the working age population being self-employed in the country. In Germany it does not stand out so much, being much lower and having its maximum in 2005 (12.36%), just in the year when it reaches its highest level of unemployment in the last decades (information that we will see in the next point).

6.5- Unemployment

As defined by the (INE - Instituto Nacional de Estadística, s. f.), the unemployment rate is the number of people of working age who are willing to work but are unemployed and

is calculated as the division between the number of unemployed and the number of active people. between 2002 and 2022.

Figure 7: Total unemployment rate



Source: Own elaboration based on OECD data

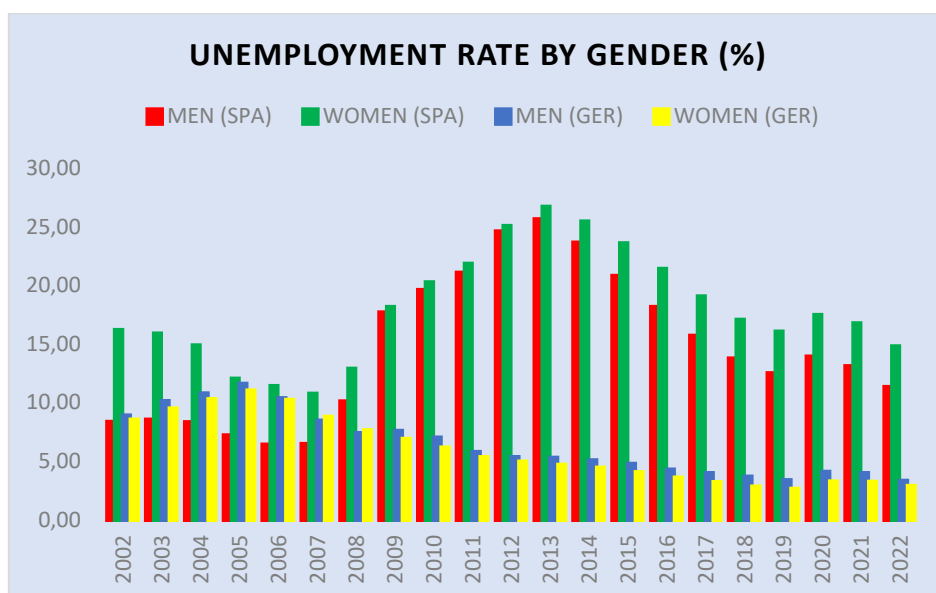
The unemployment rate is one of the main concerns of a country. As reported by Sanz-de-Galdeano, A., Terskaya, A. (2020), this graph shows the great convergence of Spain with Germany and the European Union in the years prior to the 2008 crisis, with Spain reaching an unemployment rate of 8.23% in 2007. In the meanwhile, Germany suffered its worst period in terms of unemployment rate, reaching 11.28% in 2005. Subsequently, since the Great Recession, Spain saw its unemployment rate rise considerably due to the bursting of the housing bubble. The Spanish unemployment rate reached 26.10% in 2013, while the German one was 4.95% in that year, being 2013 the year with that shows divergence in the unemployment rate between these two countries. Since the crisis, Germany is comfortably below the unemployment rate of the European Union and Spain is notably above. Until 2022, Germany is positioned as one of the countries with the lowest unemployment rate in Europe and Spain one of the highest.

Next, we can observe the unemployment rate by sex, presented in Figure 8. As the graph explains, during the years before the Great Recession both the unemployment rate of women and men in Germany was higher than the unemployment rate of men in Spain,

but not higher than the unemployment rate of women, but after the crisis the unemployment rate in Spain was much higher for both sexes. In Spain, women suffered a higher level of unemployment than men, the unemployment gap between women and men narrowed in the period 2009-2012 but increased again in the following years.

On the other hand, in contrast to Spain, Germany showed a certain equality between the unemployment rates of the two sexes, with the unemployment rate for men being slightly higher during all these years. Thus, we can see a greater tendency for women to be employed in Germany than in Spain compared to men.

Figure 8: Unemployment rate by gender

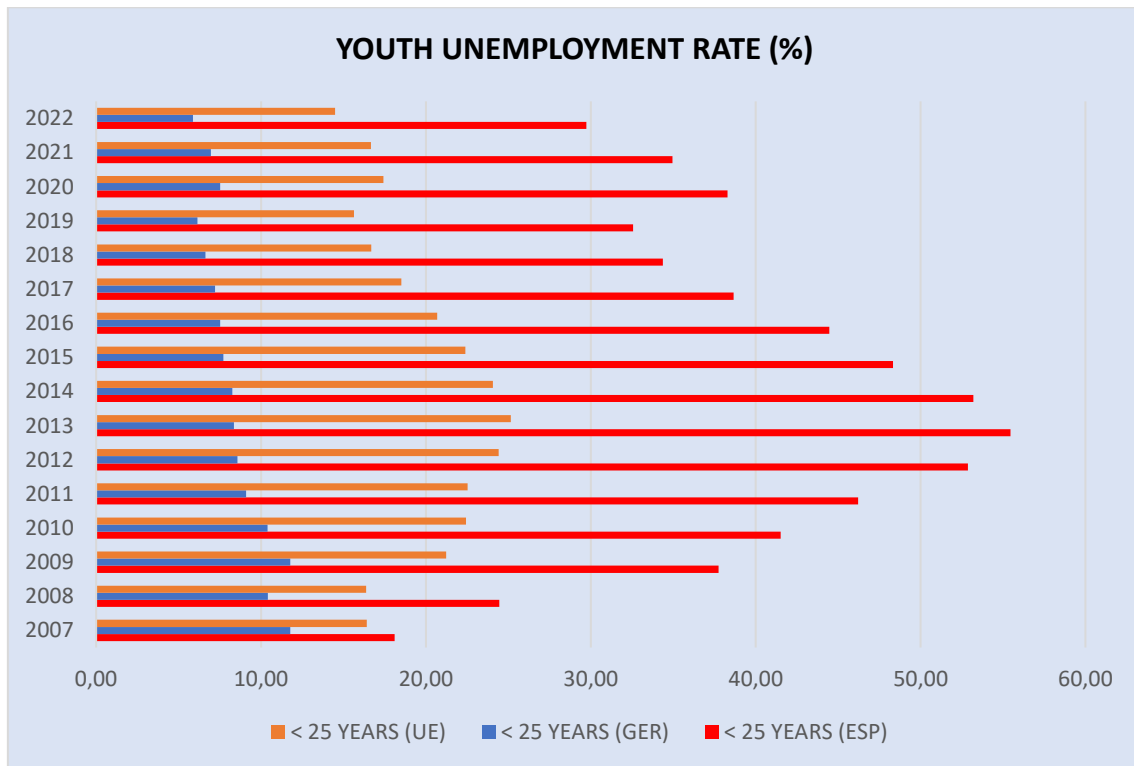


Source: Own elaboration based on OECD data

Figure 9 presents the youth unemployment rate. This aspect is defined by the (INE - Instituto Nacional de Estadística, s.f), and is calculated by dividing the young unemployed population (between 16 and 24 years old) and the young active population. Surprisingly, this rate has always been very high in Spain, reaching alarming levels as in 2013 (55.46% of young people were unemployed), which meant that a large number of young people in our country had to emigrate to other European countries in search of new opportunities and work. As can be seen in the figure, Germany has had much lower levels of unemployment for young people, which can be explained by the great dual learning system that Germany has, which served to encourage and promote the recruitment of young people, who went from school to employment with great ease

(Schneider and Rinne, 2019). As a result, German youth unemployment was much lower.

Figure 9: Youth unemployment rate



Source: Own elaboration based on OECD data

Table 2 informs us about the cumulative rate of change of unemployment (AR) over the last 20 years (2002-2022), i.e. the rate at which unemployment is growing annually to reach the level of 2022. These data are obtained from the following formula:

$$AR = \left(\left(\frac{n \text{ period}}{\text{base period}} \right)^{\frac{1}{n}} - 1 \right) \cdot 100$$

n period: The last period in time we analyse, in this case 2022.

Base period: It is the first period we analyse (the oldest), in this case 2002.

n: the number of periods I include in my calculations, in this case 21 (counting from 2002 to 2022).

In this table we can see that in the case of men this rate has decreased annually both in Germany (4,6%) and in the European Union (1,7%). On the other hand, in Spain the rate of male unemployment has increased by 1,5% from 2002 to 2022, going from a male unemployment rate of 8,30% in 2002 to 11,27% in 2022. In the case of women, it has decreased in all three cases and in the total except in Spain, which has increased (0,6%) each year, which explains the higher unemployment in the country compared to the pre-crisis period. Finally, young people have also been affected with an increase in unemployment of 1,4% per year, however, in Germany and the European Union they have decreased. As we have seen in previous graphs.

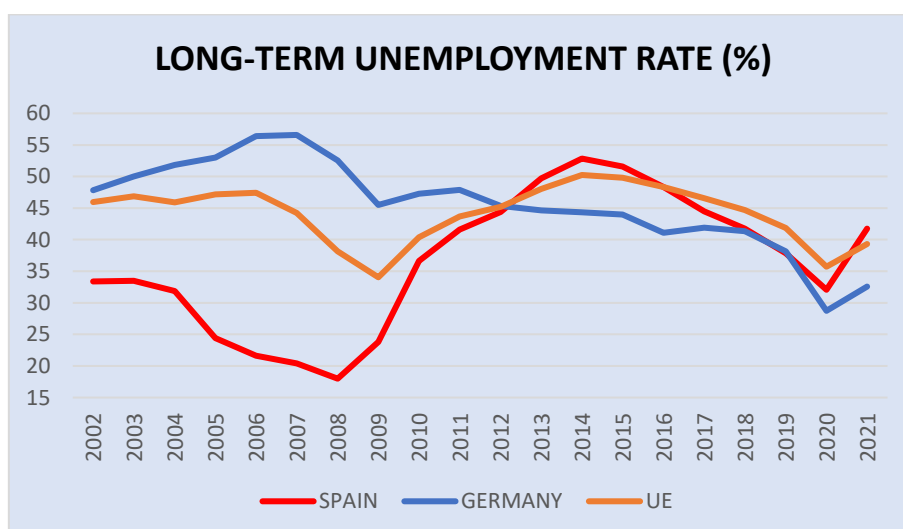
Table 2: Average annual rate of change of unemployment

AVERAGE ANNUAL RATE OF CHANGE OF UNEMPLOYMENT (2002-2022)			
	SPAIN	GERMANY	UE
MEN	0,015	-0,046	-0,017
WOMEN	-0,004	-0,051	-0,020
TOTAL	0,006	-0,048	-0,018
UNDER 25	0,014	-0,042	-0,010

Source: Own elaboration based on OECD data

In order to dig a little deeper into the study, Figure 10 shows the long-term unemployment rate (the fraction of the unemployed that have been unemployed for 12 months or more). I have added data for Spain, Germany and the European Union between 2002 and 2021.

Figure 10: Long-term unemployment rate



Source: Own elaboration based on OECD data

This graph illustrates low levels of long-term unemployment for Spain in the years before the Great Recession, reaching a minimum of 17.99% in 2008. In contrast, in those years, Germany does show much higher levels of long- run unemployment, reaching 56,58% (2008) and surpassing Spain and the European Union, so there was a large divergence between these countries during these years. But from 2008 onwards, Spain reached its highest figure in 2013, just at the time of highest Spanish unemployment, with a long-term unemployment rate of 52.84%, converging with the European Union and Germany, and even becoming higher than Germany during the stretch from 2013 to 2016 approximately. Following Blanchard's article (2004), these high figures during the crisis in Spain can be explained by its high employment protection and generous unemployment benefits among other things.

In Table 3, I have broken down the unemployment rate by level of education between 2002 and 2021. This graph shows a clear example of the fact that the less you study, the more likely you are to be unemployed and have difficulties in finding a job. In this way, as can be seen in these countries, if you study and train properly, your chances of becoming unemployed are reduced, which I consider to be fair and common sense, since companies are increasingly looking for more educated and versatile people who can perform their tasks correctly and without problems.

Table 3: Unemployment by educational level

UNEMPLOYMENT BY EDUCATIONAL LEVEL (%)						
YEAR	BELOW UPPER SECONDARY (SPA)	UPPER SECONDARY NON-TERTIARY (SPA)	TERTIARY (SPA)	BELOW UPPER SECONDARY (GER)	UPPER SECONDARY NON-TERTIARY (GER)	TERTIARY (GER)
2002	11,23	9,57	7,86	15,32	9,01	4,5
2003	11,35	9,74	7,82	18,01	10,24	5,19
2004	11,09	9,39	7,27	20,5	11,21	5,55
2005	9,33	7,26	6,03	20,15	11,02	5,57
2006	9	6,72	5,41	19,85	9,91	4,81
2007	8,97	6,86	4,78	18	8,28	3,84
2008	13,17	9,19	5,81	16,51	7,2	3,31
2009	21,82	15,02	8,89	16,73	7,51	3,41
2010	24,53	17,17	10,37	15,9	6,92	3,09
2011	26,24	18,97	11,53	13,9	5,81	2,44
2012	31,06	21,5	13,9	12,82	5,33	2,35
2013	32,71	23,23	14,9	12,47	5,14	2,43
2014	31,41	21,6	13,82	12,05	4,63	2,48
2015	28,94	19,23	12,36	11,35	4,28	2,33
2016	26,09	17,04	10,94	10	3,66	2,21
2017	23,37	15,08	9,35	9,17	3,27	1,98
2018	20,55	13,79	8,43	8,54	2,85	1,87
2019	18,87	12,69	8,08	7,74	2,63	1,82
2020	19,98	14,46	9,54	8,22	3,14	2,5
2021	19,82	14,08	8,58	7,12	3	2,35

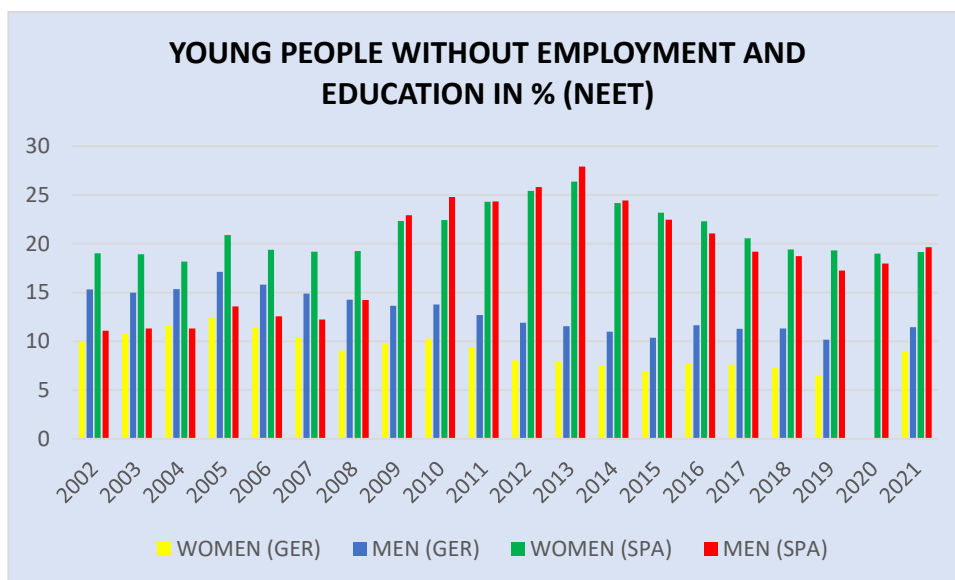
Source: Own elaboration based on OECD data

These rates are more noticeable in times of unemployment, where the unemployment rate for people with less than a high school education soars much higher than for people with more education, reaching 32.71% in 2013. In contrast, in Germany it did not have as much effect during the crisis, but it does show the highest rate for the less educated in its worst period of unemployment reaching 20.5% (2004).

Finally, in Figure 11 we can see the evolution of the proportion of young people aged 15-29 who neither work nor study (NEET), separated by gender. We analyse Germany, which does not have data for the year 2020. It is observed that their proportions are accentuated during the years of highest unemployment in Germany, reaching levels of 12.35% women and 17.11% men in 2005. Very different from those of today, which are 9.02% for German women and 19.15% for men, it should be added that men in general in Germany are more likely to be neither studying nor working than women. However, Germany has much lower values than Spain. On the other hand, in Spain between 2002 and 2008, women have much higher rates than men. This is due to the fact that women generally did not work in the past, and as the Great Recession takes place, a large influx of women into the labour market is observed, As Anna Sanz-de-Galdeano and Anastasia Terskaya (2020) tell us, the rate of women without studies or work is therefore reduced,

although it continues to struggle with that of men to this day, reaching 19.15% for women and 19.65% for men in Spain in 2021. It is necessary to neutralise these proportions through active employment policies, to encourage the development and training of young people, as they are one of the issues that can be of most concern to a nation.

Figure 11: Young people without employment and education



Source: Own elaboration based on OECD data

7.- Discussion and conclusions

In this section I will argue and summarise the key findings that I would like to highlight from this research.

Considering that Germany and Spain are under the same European monetary policy, they present a large divergence between their labour markets, and a large desynchronisation in terms of their employment and unemployment rates, with respect to the opposite country. Unemployment rates, long-term and temporary unemployment, increased exponentially in Spain from 2008 onwards, while in Germany they softened and declined during this period.

Germany stands out for its enormous resilience of the labour market, which means that the negative shocks of the crisis do not affect them so much, while Spain suffers greatly from these shocks, which have made its economy enormously worse. The explanation

of the causes and differences in the labour markets of the two countries are those seen in previous sections, which I have summarised below.

In the case of Spain, it all started with the speculation of the real estate bubble that eventually burst in 2008, the year in which Spain's decline began. In addition to this, there were many more variables involved, such as high unemployment benefits, the high level of wage rigidity, its level of unionisation, insufficient spending on active policies, fiscal policy, the high tax wedge and employment protection legislation, among others, all explained above.

Spain has not yet recovered and is still one of the countries with the highest unemployment in Europe due to these factors. The positive point we can take from this Great Recession is that there was a big reduction in the gender gap in the employment rate. This can be reasoned as a large number of women entered the labour market to help the household.

Some changes were made to improve the level of employment such as wage moderation, but this had no effect. Both Spain and Germany carried out numerous reforms, in the case of Spain reforms were approved in 1997, 2003, 2006, 2010, 2012 and 2021. As Florence Jaumotte (2011) specifies, it is necessary to highlight some of these, such as the 2003 reform, which abolished the obligation to pay interim wages to dismissed employees pending trial for unfair dismissal if the employer recognises this type of dismissal. In addition, the 2010 reform, aimed to combat high labour protection, and the 2012 reform where one of the main purposes of the reform was to incentivise job creation and grant good levels of flexibilization to companies. On the other hand, Germany also had reforms between 2003 and 2005, which stand out for adjusting the employment service and related activities, flexible forms of employment became more interesting, such as fixed-term contracts, temporary work and marginal jobs, and finally, the duration of unemployment benefits for older people was shortened.

I would like to add a small aside in that one of the results that struck me the most is the huge difference in the proportion of self-employed people and in the proportion of workers with temporary contracts between Spain and Germany. According to Sanz-de-Galdeano and, Terskaya (2020), the former is much higher in Spain because of the large number of SMEs in our country and in the case of temporary contracts, Spain stands out for its great duality of work. On the other hand, the accumulated variation rate of total unemployment, as we have seen, is positive, which means that it has been increasing year by year until reaching today's level, unlike Germany and the European Union, where it has been decreasing.

Afterwards, I would like to point out the importance of undeclared work. When it comes to the reasons why Spain continues to have high levels of unemployment, this may be due to the underground economy. Many people prefer not to be paying social security contributions or registering with the social security, just in order to charge a little more at work, to not have to pay so many taxes or that what they are really doing are illegal activities. These types of undeclared work are highly prosecuted by the tax authorities because they have a fraudulent purpose, but they are very difficult to study and to prove that someone is carrying out this type of work.

One of the questions I pose for possible future research is: How can technological advances influence the Spanish unemployment rate?

7.1 Solutions

Some of the possible solutions that the Spanish labour market can carry out to reduce its unemployment rate is to increase spending on active employment policies, which would help a lot of people to be trained properly, and to be able to have another job opportunity, with some strengths acquired through courses or training, i.e. to increase the courses that prepare for what companies really demand.

It could be similar to the good German apprenticeship system, increasing courses that prepare for what companies really demand, as well as on the other hand, reducing passive employment policies, which would encourage unemployed people to be constantly looking for a job and not to be satisfied with the benefits or aid that they receive for their situation. Next, decentralisation of collective bargaining, a reduction of the tax wedge, would lower the cost of labour and therefore increase employment. This would prevent such a high rate of unemployment, especially long-term unemployment, which is the most worrying.

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