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THE LABOUR DYNAMICS IN THE EUROPEAN SINGLE MARKET:

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
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ABSTRACT

This study examines the impact that the introduction of the European single market has had on the unemployment rates and the level of wages in member countries of the European Union. The study seeks to obtain indicators of the labor situation of countries that are in the European Union's single market and using the synthetic counterfactuals method estimate how the levels of unemployment would have behaved for these countries had they not joined the European Union. The study looks at general unemployment of the European population. Data used in the study are those obtained through the use of claimant count which records those claiming unemployment benefits and job seekers allowance and can prove that they are actively looking for work. The study will also employ the use of data obtained using the labor force survey method in line with the International Labor Organization's criteria of comparing unemployment.



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LIST OF ABBREVIATIONS

FTA:	Free Trade Agreements
EU-28:	Countries that are part of the European Union single market
EU-27:	Countries that are part of the European Union single market excluding the United Kingdom
EU-19:	Countries that are part of the European Union single-currency
EU-6:	Founding member states of the European Communities
CEEC:	Committee of European Economic Co-operation
OECD:	Organisation for Economic Co-operation and Development



CHAPTER ONE: INTRODUCTION

1.1 Background to Economic Integration

Global economic integration has seen the rise of free trade areas (FTAs) between individual countries and the creation of custom unions between countries that would like to see the fall in the barriers to trade between them. Economists' claim that the reduction in these barriers results in the improvement of the quality of goods and services delivered to consumers as a result of competition and that the price benefits of this increased competition will trickle down to the consumer. The alternative to this is protectionalism which pushes for shielding of a country's domestic industries from foreign competition by taxing imports. A high tariff regime was no longer economically productive such as happened in Britain which was stuck in an economic depression in the early 1840s. In contrast, free trade produced abundance and employment. It was appropriate for Britain's economy where a large proportion of the population and property depended on commerce and industry alone to hence prefer free trade over protectionalism. (Magnus Lodefalk, 2016)

A free-trade area is the region encompassing a trade bloc whose member countries have signed a free-trade agreement (FTA). Such agreements involve cooperation between at least two countries to reduce trade barriers such as import quotas and tariffs – and to increase trade of goods and services with each other. If people are also free to move between the countries, in addition to a free-trade agreement, it would also be considered an open border. This is the second stage of economic integration. These FTA's are arrangements in which countries give each other preferential treatment in trade, such as eliminating tariffs and other barriers on goods. Each country continues its trade policies, such as tariffs with countries outside the FTA. For example, in the U.S.-Australian FTA that took effect in 2005, Australia lowered tariffs on most United States agricultural and manufactured goods, and the United States lowered tariffs on Australian beef, dairy and other items. (Kym Anderson, Peter Lloyd and Donald MacLaren,2007)

A customs union on the other hand is a type of trade bloc which is composed of a free trade area with a common external tariff. The participant countries set up common external trade policy, but in some cases they use different import quotas. Common competition policy is also helpful to avoid competition deficiency. Purposes for establishing a customs union normally include increasing economic efficiency and establishing closer political and cultural ties between the member countries. It is the third stage of economic integration.

Current global attempts at economic integration through formation of free trade agreement and custom unions include the Gulf Cooperation Council (GCC), the Caribbean Community Regional Integration (CARICOM), Association of Southeast Asian Nations (ASEAN), The European Union (EU), The North Atlantic Free Trade Agreement (NAFTA) and the Trans-Pacific Trade Partnership (TPP).

The European Union's single market is perhaps the most ambitious type of trade co-operation. This is because as well as eliminating tariffs and taxes on trade, it also includes the free movement of goods, services, capital and people. The single market strives to remove non-tariff barriers; different rules on packaging, safety and standards and many others are abolished and the same rules and regulations apply across the area. But to stay in the single market, countries have to allow the free movement of goods, services, capital and people. This also means that immigration is very hard to control. Membership of the single market also normally involves making annual payments towards the EU's budget and accepting the jurisdiction of the European Court of Justice.

Implementation of Single Market liberalisation measures is proceeding well. Without a doubt, the elimination of frontier controls and delays, the free circulation of capital and the liberalisation of financial services have been widely and warmly welcomed by economic operators. However, implementation of a certain number of measures has encountered problems.

Given the nature of Single Market measures, their implementation has resulted in essentially microeconomic effects and modifications to the structure of production and trade inside the EU. As a consequence, the analysis focuses on identifying and

measuring microeconomic phenomena. Nevertheless, an attempt is also made to evaluate the macroeconomic impact on income and employment

1.2 The European Union Single Market

The European Union (EU) is a political and economic union of 28-member states that are located in Europe. It has an area of 4,475,757 km² and an estimated population of over 510 million. The EU has developed an internal single market through a standardized system of laws that apply in all member states. EU policies aim to ensure the free movement of people, goods, services, and capital within the internal market, enact legislation in justice and home affairs, and maintain common policies on trade, agriculture, fisheries, and regional development. A monetary union was established in 1999 and came into full force in 2002, and is composed of 19-EU member states which use the euro currency.

The EU operates through a hybrid system of supranational and intergovernmental decision-making. A supranational union is a type of multinational political union where negotiated power is delegated to an authority by governments of member states. The concept of supranational union is sometimes used to describe the European Union (EU), as a new type of political entity (Kiljunen, 2004). The seven principal decision-making bodies known as the institutions of the European Union are the European Council, the Council of the European Union, the European Parliament, and the European Commission, the Court of Justice of the European Union, the European Central Bank, and the European Court of Auditors.

The EU traces its origins from the European Coal and Steel Community (ECSC) and the European Economic Community (EEC), formed by the Inner Six countries in 1951 and 1958, respectively. The community and its successors have grown in size by the accession of new member states and in power by the addition of policy areas to its remit. The Maastricht Treaty established the European Union in 1993 and introduced European citizenship. The latest major amendment to the constitutional basis of the EU, the Treaty of Lisbon, came into force in 2009. (Vincent Aussilloux, Agnès Bénassy-Quéré,

Clemens Fuest, 2017). The EU single market involves integration between nations and is built upon four key freedoms:

- i. **Free Trade in Goods:** Businesses can sell their products anywhere in the EU's member states and consumers can buy where they want with no penalty. Intra-EU trade of goods represents 75% of intra-EU trade flows. For countries such as the Czech Republic and Hungary, trade with the EU accounts for over 90% of their trade, showing how important the single market is to their economic fortunes (Eurostat, 2017).
- ii. **Mobility of Labor:** Citizens of EU member states can live, study and work in any other country. The aim is to improve the mobility of labour. Every year over 180,000 European students move to another member state for the Erasmus Programme or to attend a post-graduate degree. But overall, Europe is an area of low mobility with only 2% of Europeans living in a Member State different from that of their nationality. This figure is three times higher in the United States. An estimated 12 million European citizens live in an EU country other than their own.
- iii. **Free Movement of Capital:** Currencies and capital can flow freely between member states and EU citizens can use financial services in any member state.
- iv. **Free Trade in Services:** Professional services such as pensions, architecture, telecoms and advertising can be offered in any member state. Services account for over 70% of GDP in many EU countries. But progress in expanding intra-EU trade in services has been slow. At present, only 20% of the services provided in the EU have a cross-border dimension (Kemekliene et al., 2007).

The EU Single Market is designed to create a positive sum game for member states if trade and competition leads to higher productivity and brings about lower costs for producers and eventually cheaper prices for consumers. A positive sum game refers to the outcome of a decision or a policy or a negotiation involving at least one agent benefiting. Stronger competition encourages industrial restructuring because exposure to other markets causes businesses to re-organize their management so as to minimize costs (Papulova, & Papulova, 2006).

Lower prices should boost consumers' real living standards and an increase in competition will lead to improved allocation efficiency and less waste. This might mean for example lower fares for airlines, cheaper prices for mobile calls or reduced costs for car and home insurance if European markets are more contestable.

Firms selling in the Single Market have unrestricted access to over 500 million consumers in The European Union. The size of market allows businesses to exploit economies of scale leading to improvements in productive efficiency. For example UK retailers such as Tesco have successfully made in-roads into the retail markets of many EU countries earning profits that flow back into the UK. Foreign retailers have entered UK as a result too. In short the single market is designed to accelerate the gains from specialization and trade between participating nations.

1.2.1 Intra-European Trade

The EU is a customs union with a common market. This means that the EU levies duties on imported goods and services. But there is free trade within the market. This causes a rise in intra-EU trade. A recent EU report found that Intra-European trade currently accounts for 17% and 28% of world trade in goods and services respectively.

Taking services separately, over 30% of intra-European trade in services is in the travel industry, followed by transport at about 20% and insurance and finance at about 10%. Health care remains largely within national borders. There has been some increase in the demand for and willingness to pay for health tourism services especially treatments that are cheap in Eastern Europe but little investment by multinational health care businesses in different EU countries (Eurohealth, 2013).

1.3 Motivation

What is the contribution of customs unions to the labour situation of individual member countries?

During the formation of the European Union the expectation was that the single market would result in driving the member states to prosperity. The EU single market is

presented as a territory with no internal border regulatory obstacles to the movement of people, goods, services and capital. The results of this were to improve quality of goods and services; and improve employment for maximum economic benefit to member states.

This situation has however remained a myth of the European single market freedoms. (Single Market Observatory, 2012) This can be seen as recently as the United Kingdom's referendum of 2016 on BREXIT that saw Britain opt to leave the European Union. The decision to leave the single market; BREXIT, is expected to push joblessness significantly higher with institutions like the IMF and the Bank of England predicting that the United Kingdom unemployment will shoot up as a result of the vote to leave. (Bank of England Credit Suisse, 2016)

Which begs the question; has European Union single market membership been of benefit to the citizens' employment rates?

A narrative used by the proponents of the leaving single market in Britain's 2016 BREXIT referendum or not was that the mobility of labour had seen jobs go to foreigners and hence a United Kingdom that was outside the European Union would lead to better employment for native citizens. To leave campaigner Boris Johnson has dismissed as a "hoax" claims by the Treasury that 800,000 people would lose their jobs and that Britain would be plunged into a year-long recession following a vote to leave the EU in June 2016. This narrative has also been recently taken up in the United States of America with claims that NAFTA and TPP would take employment away from the US. The East African Community has also seen its intentions for the creation of a fully single market being met with resistance from individual states that have the perception that the single market will help citizens of more developed states in the union and do nothing to lower unemployment in the less developed countries party to the community. Therefore, on this basis, this study seeks to investigate the impact of the European single market economy on the employment situation in European Union member states.

1.4 General Objectives

The general objective of this study is to investigate the impact that the introduction of the European single market has had on the rates of employment among the union's member countries.

1.4.1 Specific objectives

Objectives of this study are to:

- To determine the contribution of European single market to the labour situation of individual member countries.
- To investigate whether membership in the EU has generated any benefits to the individual member states in terms of better wages.

1.4.2 Research Questions

- What is the contribution of European single market to the labour situation of individual member countries?
- What would have been the current levels of unemployment in these countries had they not become members of the European single market?
- Is there any significance in the change in level of wages for countries since joining the EU single market?
- How would these countries labour situation have been had the countries not joined the single market?

1.5 Justification

The findings from this study will provide a framework from which countries that have joined free trade areas, custom unions and common markets or intend to can draw upon a reference on how their employment rates will be impacted by their membership.

These findings can be used as precedent by the African Union, East African Union, ASEAN and others as they seek to create an economic block that has a complete single market between its member countries within their zones in order to provide empirical evidence as to the effects of membership to employment.

1.6 Scope of the Study

The study is to investigate the impact of the European single market on unemployment rate among the selected union member countries. The focus will be on the level of total unemployment in the country under observation. Statistical inference permits us to draw conclusions about a population based on a sample. The sample countries selected to be of focus will be the United Kingdom, France, Germany, Italy, Belgium, Netherlands, Luxembourg, Portugal and Denmark. This is because they have consistent data about unemployment and average level of wages.

1.7 Assumptions to the study

All relevant data will be available and accurate. That the European Union has complete data bases and accurate data collection for best representation of the actual situation is taken as given by the data from the selection of data sources.

The nine selected countries will represent a general similar trend of the effects as are being felt in other countries that are members to the European Union single market.

The synthetic control generated by the method of synthetic counterfactuals (Abadie et al. (2010, 2012)) presents the best representation of what the rate of unemployment would have been now in the event that the country had not joined the European Union single market.

1.8 Limitations to the study

The researcher will not reach the target population for data collection due to the nature of geographical diversity of European Union countries which will be costly in terms of time and money therefore the researcher will depend on secondary data already captured based on unemployment situation. Journals, magazines, previous, researchers on the same topic will also provide data.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The Economic recovery after World War 2 was quick in Europe and by the early 1950s, most European countries had per capita GDP that were equal or above their pre-war levels (Crafts and Toniolo, 2008). This recovery was followed by a period known as the Golden Age of European growth (Temin 2002) between 1950 and 1973 whereby both Western and Eastern Europe grew at unprecedented rates (Eichengreen, 2007). Economic and political integration are prominent among the various explanations, which emphasized that the rapid and comprehensive policy of trade liberalization generated growth payoffs in the context of European Free Trade Association (EFTA). These eventually led to the formation of the European Union single market that had four pillars among them the free movement of people across the Schengen area. Economists said that this would result in better employment and wages in the region within the single market.

2.2 Theoretical Review

A large number of policy makers believe that labor mobility offers a solution to reach full employment in the Union. When the European Union was created, the purpose was to create an optimum currency area (OCA), whose characteristics were:

- i. Labour mobility across area's regions (Mundell, 1961),
- ii. Openness with capital mobility and price and wage flexibility across the region (Mc Kinnon, 1963)
- iii. Production diversification (Kenen, 1969). In theory,
- iv. Labour mobility within the OCA. This was to enable European workers to move from a country to another in order to reduce unemployment in countries where high unemployment rates prevail, and offer a new labour force where there is a lack of workers.

Neoclassical economics views inequalities in the distribution of income as arising from differences in value added by labor, capital and land. Within labor income distribution is due to differences in value added by different classifications of workers. In this perspective, wages and profits are determined by the marginal value added of each economic actor. We can hence say that in a market economy, inequality is a reflection of the productivity gap between the highly-paid professions and the lower-paid professions.

Marxian economics attributes rising inequality to job automation and capital deepening within capitalism. The process of job automation conflicts with the capitalist property form and its attendant system of wage labor. In Marxian analysis, capitalist firms increasingly substitute capital equipment for labor inputs under competitive pressure to reduce costs and maximize profits. Over the long-term, this trend increases the organic composition of capital, meaning that fewer workers are required in proportion to capital inputs, increasing unemployment. This process exerts a downward pressure on wages. The substitution of capital equipment for labor raises the productivity of each worker, resulting in a situation of relatively stagnant wages for the working class amidst rising levels of property income for the capitalist class.

The best-known theory of international migration is the neoclassic one (macro and micro), which was originally developed to explain labour migration in the process of development (Ranis & Fei, 1961; Harris & Todaro, 1970). One of the main arguments for labour migration in the economic literature is the wage difference between the sending and the host country; the probability to migrate being positively correlated to the wage difference (Heinz & Ward-Warmedinger, 2006). However, the robustness of this determiner is not undeniable. A study carried out by the United Nations concludes that migrations provoked by wage differences are low. Moreover, it is not obvious which wage measure seems the most relevant to measure worker's incentive to migrate.

Another factor of labour mobility is the expected growth rate of real GDP per capita, since it relates the expected path of income and of the real convergence in the standards of living between the "old" and the "new" European Union's countries. A high level of unemployment in the sending country in comparison to the host country constitutes

another incentive to migrate, and this effect is stronger for the unskilled workers. Mazier et al. (2002) explain that employment prospects are fundamental to a migrant whether he wants to migrate or not.

The economic literature of migration suggests that the youngest workers are the most mobile. Brücker et al. (2003) point out that 70% of workers living in West-Europe (Native of the CEEC) are between 25 and 44 years old. International trade will affect the extent and the speed of income and wages convergence, and therefore, the potential flow of migrants. Substantially increased international trade should accelerate the real convergence of the new EU members to the old ones, and may dampen the labour migration effect.

Historically, the European construction was based on a will to encourage labour mobility. Several treaties and agreements content articles on labour mobility, like the treaty of Rome (1958), the Schengen agreement (1985), the Maastricht treaty (1992) or the treaty of Amsterdam (1997).

However, it is well known that labour mobility in Europe is weak, and does not allow a balancing between European countries (Heinz & Ward-Warmedinger, 2006). So, in order to encourage European workers to move to other countries, some measures were needed to be taken. One of them was to continue trade liberalization between the old and the new European Union's members. The new European Union members are countries that adhered to the Union by May 2004 and January 2007.

2.3 Empirical Review

2.3.1 Labor migration in the European Union

The argument is that there is a relationship between labour mobility and trade. Yet, economists are divided about this relationship. If the relationship between labour mobility and trade is positive which is to say they are complements, trade liberalization should be maintained and reinforced in order to favour labour mobility. But if the relationship between trade and labour mobility negative, to say that they are substitutes,

European policy makers should contract trade volume to incite workers to move. The aforementioned agreements concern all types of migrations.

Labour migration is made of four different flows: migrants who are looking for a job; foreigners that, after a status change, are looking for a job; people who were admitted for no economic motive but having the right to work eventually begin looking for a job; and seasonal workers

There is no single, coherent theory of international migration, only a fragmented set of theories that have developed largely in isolation from one another, sometimes but not always segmented by disciplinary boundaries. The best-known theory of international migration is the neoclassic one, which was originally developed to explain labour migration in the process of development [Lewis (1954), Ranis & Fei (1961), Harris & Todaro (1970), Todaro (1976)].

One of the main arguments for labour migration in the economic literature is the wage difference between the sending and the host country with the probability to migrate being positively correlated to the wage difference (Heinz & Ward-Warmedinger, 2006). However, the robustness of this determiner is not undeniable. A study carried out by the United Nations concludes that migrations provoked by wage differences are low. It is also not obvious which wage measure seems the most relevant to measure worker's incentive to migrate. (Massey & al. (1993), p 433 UN (1997), World population monitoring, New York.)

There are two main points of view concerning the relationship between labour mobility and trade. While some economists believe that labour mobility is a substitute to trade, as shown by Mundell (1957), others believe that trade and labour mobility are complements, as shown by Markusen (1983). In one hand, Mundell presented his model under a Heckscher-Ohlin framework and demonstrated that trade and factor mobility are substitutes. This point of view is widely acknowledged in the European Union. For instance, Straubhaar (2001) wrote that to an important degree, trade has replaced the economic demand for migration in the EU. On the other hand, Markusen showed that labour mobility and trade are complements. He exposed first the assumptions of the

Heckscher-Ohlin model and explained that if we consider different factor endowments, trade and labour mobility are substitutes. But if the other assumptions such as that countries have identical technologies, production is characterized by constant returns to scale, production is characterized by perfect competition and there are no domestic distortions in either countries are relaxed while the countries have identical factor endowments, then labour mobility and trade are complements. This point of view seems neglected in Europe. However, Collins & al. (1997) shaded Mundell and Markusen's conclusions by using series going back until the 1870s, these authors cannot confirm substitutability between labour mobility and trade, neither a complementarity. The nature of the relationship between trade and labour mobility has important implications in terms of economic policy. If trade and labour mobility are substitutes, trade should be restricted in the union in order to stimulate labour mobility. If they are complements, trade levels should be raised to stimulate labour mobility. All these explanations of labour mobility constitute what migration theories call push and pull factors. The push factors, or supply side factors, affect the incentive to migrate. The pull factors, or demand side factors, affect the demand for immigrants in the destination country. For instance, if there is a high gap between two countries unemployment rates, this gap constitutes a push factor. The case of German reunification clearly illustrates Push motivated migration (Delisle, 2002). The economic and opportunity costs of migration were low, the opportunity costs even lower, with the massive unemployment that arose in the former Eastern Germany just after reunification. This resulted in a massive and very fast flow of migration westward, amounting up to 7% of the German population over 10 years, and 2.8% during the first 6 months.

Distance is considered as a cost by the economic theory. This cost is positively correlated with distance so that distance and labour mobility are negatively correlated [Clark (1986), Crozet (2004)]. However, we will show that they are positively correlated. Last but not least, network effects have a strong effect on labour mobility. The number of migrants of the same nationality in a host country significantly decreases the monetary, social and psychological costs to migration and the risk of migration for potential migrants For instance, network effects suggest that Germany and Austria could expect to receive a large share of immigration from the CEEC due to their relatively

high population of foreign nationals from these countries, and that Poland may be the key source of migrants. The networks were identified as a form of social capital [Massey & al. (1987), after [Massey (2001)], referred to networks as the sum of resources, actual or virtual, that accrue to an individual or group by virtue of possessing a durable network or more less institutionalized relationship of mutual acquaintance and recognition[Bourdieu & Wacquant (1992), after Massey (2001)]. The networks are on one hand results of migration and a propeller of migration on the others. Empirical evidence suggests that migrants often rely on assistance of relatives or countrymen, while establishing a new life at the destination country (Zlotnik, 1998). Mouhoud & Oudinet (2004) show that labour mobility in Europe is only due to network effects, and that the aforementioned economic variables do not explain labor mobility.

2.3.2 Labor market policy framework

Labor market institutions are deemed to have a great influence on the level and structure of

Employment through management of the number and the type and quality of jobs available. This holds for institutional features such as the regulation of employment protection through use of dismissal protection, fixed-term contracts, minimum wages, the tax/benefit system as well as active labour market policies (ALMP). This is why policy makers implement labour market reforms in order to stimulate job creation. The hope linked to labour market reforms is a sustainable reduction of structural and cyclical unemployment

This sub-section reviews major approaches and findings on the evaluation of the impact of different labour market institutions but pays particular attention to active labour market policies that play an important role in the portfolio of economic policy makers in many OECD countries for several decades. Most notably, in the aftermath of the Great Recession there was renewed interest in the potential for active labour market policies (ALMP's) to help ease a wide range of labour market problems, including youth unemployment and persistent joblessness among displaced adults. But do active labour market policy interventions deliver? Rigorous evaluation in this field has grown rapidly

since the early 2000s so that we can now rely on a huge body of evidence across countries, programmes, subgroups of participants and time horizons.

Since about two decades labor market institutions have received increasing attention as means to explain long-lasting differences in the employment performance between developed countries, most notably the persistence in divergence of employment and unemployment rates. Institutions are seen as mechanisms that influence the speed and scope of adjustment to economic shocks with institutions translating economic fluctuations into employment responses through more or less flexibility of wages (see Eichhorst, Feil and Braun 2008). Influential studies such as Layard, Nickell and Jackman(1991), Nickell (1997),Blanchard and Wolfers(2000), and, most important, the OECD Jobs Study (1994) have aimed at establishing links between employment and unemployment rates and structures and institutional arrangements. Core institutions addressed include the wage setting system as regards bargaining coverage and centralization, the generosity of unemployment benefits, spending on active labour market policies, the taxes and contributions raised on labor and, last but not least, the regulation of the labor market via employment protection.

The general argument made was that over protective labor market institutions distort the functioning of price and wage setting mechanisms, thereby leading to higher unemployment and a delayed adaptation after economic shocks. While generous unemployment benefits and high union density were argued to be associated with higher unemployment, the role of active labour market policy spending and bargaining coordination were identified as factors contributing positively to a decline in unemployment. The effect of employment protection was perceived as more ambiguous.

Despite the strong influence of these contributions on the broader discourse about labour market institutions and reforms, also promoted through the OECD Jobs Strategy, the evidence presented received some criticism, in particular referring as regards the robustness of some findings.(Baccaro and ReI 2007) Since these early studies on institutions and employment performance, improved indicators representing country-level institutions have been developed which allow for a more fine-grained picture of national institutional arrangements. In addition, more countries and years will be included in later studies, thereby mitigating the problem of a very limited number of

observations. Furthermore, in response to the notable difference in employment performance observed and analyzed over the 1990s, most labour markets in Europe underwent major reforms over the last decades, mostly intended to stimulate additional job creation and limit benefit dependency. Typical reform elements are increased wage flexibility facilitated by declining and more decentralized bargaining, a partial change of employment protection legislation in countries with relatively strict dismissal protection leading to more deregulated segment of so called non-standard types of employment such as fixed-term contracts and temporary agency work and stronger efforts to make benefit receipt formally and in practice more conditional upon participation in active labour market measures and effective job search efforts. Both academics and policy makers have developed a strong interest in evaluating the specific and combined impacts of such reforms on labour market performance. With respect to this a highly influential and comprehensive assessment of employment performance related to institutional determinants was presented by Bassanini and Duval in 2006 in the context of the reassessment of the OECD Jobs Strategy.(Bassanini and Duval (2006)) They use new indicators, different lengths of time series and alternative specifications for their reassessment of the role of policies and institutions in explaining employment and unemployment patterns in developed countries.

Their work also takes up the criticism of lacking robustness in estimations. Their checks include different choices of the estimation samples, alternative model specifications and estimation techniques. Regarding their regressions on the institutional determinants of unemployment in a panel of 21 OECD countries over the years from 1982 to 2003, they find a positive effect of generous unemployment benefits, a large tax wedge and strict product market regulation on unemployment while bargaining centralization or coordination tends to lower unemployment.

This basically mirrors the findings of earlier studies. These factors also influence the specific employment rates of particular groups that tend to exhibit a lower employment level if not supported by suitable institutions. Bassanini and Duval also stress the particular importance of interactions between institutions and reforms in explaining employment performance. With respect to the core set of labour market institution, they

use the a set of institutional indicators , many of them developed by that can now be considered a widely used standard, including the unemployment benefit replacement rates for different types of workers, the labour-tax wedge and marginal tax rates for specific groups, the OECD summary indicator for employment protection legislation, an aggregate indicator on collective bargaining and public expenditures on active labour market policies. Despite these achievements, however, still a large extent to abstraction from specific sub-national variations is required in order to allow for cross-country comparisons. Over the last year empirical investigations focused for example on the role employment protection outside national legislation such as the de facto enforcement of dismissal protection by court rulings, specific provisions laid down in collective bargaining and particular exemptions (Venn 2009) , thereby complementing the information from the widely used OECD employment protection legislation indicator. Still comprehensive country coverage and time series data continue to rely on the legislative information only. The same holds for most recent attempts at measuring formal national availability criteria as a way to link unemployment benefit generosity to the implementation of activation policies that cannot easily be identified through spending on active labour market policies.(Venn 2012 and Langenbucher, 2015). Furthermore, complementing these broad comparative studies a large bulk of literature has emerged around particular areas of institutional elements. This can be illustrated by the example of employment protection legislation. The deregulation of employment protection focusing on a more liberal access to fixed term contracts has changed the functioning of labour markets as different types of contracts have become available to both employers and employees or jobseekers. The empirical question that has attracted most attention both by policy makers and by researchers is to what extent the deregulation of temporary employment has created additional opportunities to enter the labor market and to move to permanent positions after an initial fixed Term contract compared to a situation without or with more restrictive temporary employment options. Advocates of fixed term employment opportunities tend to stress the need to increase the flexibility of the labor market in order to facilitate the creation of additional jobs as well as the stepping stone character of these jobs, particularly for young people and other labor market entrants. In contrast, critics would argue that fixed term contracts run the

risk of protracted sequences of precarious employment without a realistic chance of promotion, but putting pressure on the quality of jobs even in other segments of the labour market (Eichhorst, 2014)

2.3.3 Economic disparity

Economists generally consider three metrics of economic dispersion: wealth, income, and consumption. A skilled professional may have low wealth and low income as student, low wealth and high earnings in the beginning of the career, and high wealth and low earnings after the career. People's preferences determine whether they consume earnings immediately or defer consumption to the future. The distinction is also important at the level of economy:

- i. There are economies with high income inequality and relatively low wealth inequality such as Japan and Italy.
- ii. There are economies with relatively low income inequality and high wealth inequality such as Switzerland and Denmark

There are different ways to measure income inequality and wealth inequality. Different choices lead to different results. The Organization for Economic Co-operation and Development (OECD) provides data on the following eight types of income inequality:

- i. Dispersion of hourly wages among full-time workers
- ii. Wage dispersion among workers such as through annual wages, including wages from part-time work or work during only part of the year.
- iii. Individual earnings inequality among all workers. This includes the self-employed.
- iv. Individual earnings inequality among the entire working-age population. Includes those who are inactive such as students, unemployed and early pensioners.
- v. Household earnings inequality which includes the earnings of all household members.

- vi. Household market income inequality that include incomes from capital, savings and private transfers.
- vii. Household disposable income inequality that includes public cash transfers received and direct taxes paid.
- viii. Household adjusted disposable income inequality which includes publicly provided services.

There are many challenges in comparing data between economies or in a single economy in different years. Examples of challenges include:

- i. Data can be based on joint taxation of couples as is the case in France, Germany, Ireland, Netherlands, Portugal and Switzerland or individual taxation as is the case in Australia, Canada, Italy, Japan, New Zealand, Spain, the UK
- ii. The tax authorities generally only collect information on income that is potentially taxable.
- iii. The precise definition of gross income varies from country to country. There are differences when it comes to inclusion of pension entitlements and other savings, and benefits such as employer provided health insurance.
- iv. Differences when it comes under-declaration of income and/or wealth in tax filings.
- v. A special event like an exit from business may lead to a very high income in one year, but much lower income in other years of the person's lifetime.
- vi. Much income and wealth in non-western countries is obtained or held extra-legally through black market and underground activities such as unregistered businesses, informal property ownership arrangements.

A 2011 study called “Divided we Stand: Why Inequality Keeps Rising” by the Organization for Economic Co-operation and Development (OECD) investigated economic inequality in OECD countries, including the number of factors. Changes in the structure of households can play an important role. Single-headed households in OECD countries have risen from an average of 15% in the late 1980s to 20% in the mid-2000s, resulting in higher inequality. Assortative mating refers to the phenomenon of people

marrying people with similar background, for example doctors marrying doctors rather than nurses. OECD found out that 40% of couples where both partners work belonged to the same or neighboring earnings deciles compared with 33% some 20 years before. In the bottom percentiles number of hours worked has decreased. The main reason for increasing inequality seems to be the difference between the demand for and supply of skills. Income inequality in OECD countries is at its highest level for the past half century. The ratio between the bottom 10% and the top 10% has increased from 1:7, to 1:9 in 25 years. There are tentative signs of a possible convergence of inequality levels towards a common and higher average level across OECD countries. With very few exceptions of France, Japan, and Spain, the wages of the 10% best-paid workers have risen relative to those of the 10% lowest paid.

A 2011 OECD study investigated economic inequality in Argentina, Brazil, China, India, Indonesia, Russia and South Africa. It concluded that key sources of inequality in these countries included a large, persistent informal sector, widespread regional divides between urban and rural, gaps in access to education and barriers to employment and career progression for women.

Researchers claim that global income inequality is decreasing, due to strong economic growth in developing countries. However, the OECD reported in 2015 that income inequality is higher than it has ever been within OECD member nations and is at increased levels in many emerging economies. According to a June 2015 report by the Fund: Widening income inequality is the defining challenge of our time. In advanced economies, the gap between the rich and poor is at its highest level in decades. Inequality trends have been more mixed in emerging markets and developing countries (EMDCs), with some countries experiencing declining inequality, but pervasive inequities in access to education, health care, and finance remain.

2.3.4 Causes of Economic disparity

There are various reasons for economic inequality within societies. Recent growth in overall income inequality, at least within the OECD countries, has been driven mostly by increasing inequality in wages and salaries. Economist Thomas Piketty argues that

widening economic disparity is an inevitable phenomenon of free market capitalism when the rate of return of capital is greater than the rate of growth of the economy.

Common factors thought to impact economic inequality include:

- i. Labor market outcomes
- ii. Globalization. This was through:
 - a) Suppressing wages in low-skill jobs due to a surplus of low-skill labor in developing countries.
 - b) Increasing the market size and the rewards for people and firms succeeding in a particular niche.
 - c) Providing more investment opportunities for already-wealthy people.
 - d) Increasing international influence.
 - e) Decreasing domestic influence.
- iii. Policy reforms
- iv. Extra-legal ownership of property.
- v. More regressive taxation computerization, automation and increased technology, which means more skills are required to obtain a moderate or high wage
- vi. ethnic discrimination
- vii. gender discrimination
- viii. nepotism
- ix. variation in natural ability
- x. neo-liberalism
- xi. Growing acceptance of very high CEO salaries, e.g. in the United States since the 1960s.
- xii. Land speculation – Followers of Henry George believe that landlords and land speculators derive excess wealth and income from the tendency of land to increase exponentially with development and at a much higher rate than population growth. Their solution is to tax land value, though not necessarily structures or other improvements.

A major cause of economic inequality within modern market economies is the determination of wages by the market. Where competition is imperfect; information

unevenly distributed; opportunities to acquire education and skills unequal market failure results. Since many such imperfect conditions exist in virtually every market, there is in fact little presumption that markets are in general efficient. This means that there is an enormous potential role for government to correct such market failures. In a purely capitalist mode of production where professional and labor organizations cannot limit the number of workers the workers' wages will not be controlled by these organizations, or by the employer, but rather by the market. Wages work in the same way as prices for any other good. Thus, wages can be considered as a function of market price of skill. And therefore, inequality is driven by this price. Under the law of supply and demand, the price of skill is determined by a race between the demand for the skilled worker and the supply of the skilled worker. "

On the other hand, markets can also concentrate wealth; pass environmental costs on to society, and abuse workers and consumers. Markets, by themselves, even when they are stable, often lead to high levels of inequality, outcomes that are widely viewed as unfair. Employers who offer a below market wage will find that their business is chronically understaffed. Their competitors will take advantage of the situation by offering a higher wage the best of their labor. For a businessman who has the profit motive as the prime interest, it is a losing proposition to offer below or above market wages to workers.

A job where there are many workers willing to work a large amount of time competing for a job that few require will result in a low wage for that job. This is because competition between workers drives down the wage. An example of this would be jobs such as dish-washing or customer service. Competition amongst workers tends to drive down wages due to the expendable nature of the worker in relation to his or her particular job. A job where there are few able or willing workers, but a large need for the positions will result in high wages for that job. This is because competition between employers for employees will drive up the wage. Examples of this would include jobs that require highly developed skills, rare abilities, or a high level of risk. Competition amongst employers tends to drive up wages due to the nature of the job, since there is a relative shortage of workers for the particular position. Professional and labor organizations may limit the supply of workers which results in higher demand and

greater incomes for members. Members may also receive higher wages through collective bargaining, political influence, or corruption.

These supply and demand interactions result in a gradation of wage levels within society that significantly influence economic inequality. Polarization of wages does not explain the accumulation of wealth and very high incomes among the top income percentage of society. Joseph Stiglitz believes that it is plain that markets must be tamed and tempered to make sure they work to the benefit of most citizens.

On the other hand, higher economic inequality tends to increase entrepreneurship rates at the individual level through self-employment. Most of this of this is often based however on necessity rather than opportunity. Necessity-based entrepreneurship is motivated by survival needs such as income for food and shelter whereas opportunity-based entrepreneurship is driven by achievement-oriented motivations such as vocation and more likely to involve the pursuit of new products, services, or underserved market needs. The economic impact of the former type of entrepreneurialism tends to be redistributive while the latter is expected to foster technological progress and thus have a more positive impact on economic growth.

An important factor in the creation of inequality is variation in an individuals' access to education. Education, especially in an area where there is a high demand for workers, creates high wages for those with this education, however, increases in education first increase and then decrease growth as well as income inequality. As a result, those who are unable to afford an education, or choose not to pursue optional education, generally receive much lower wages. The justification for this is that a lack of education leads directly to lower incomes, and thus lower aggregate savings and investment. Conversely, education raises incomes and promotes growth because it helps to unleash the productive potential of the poor.

During the mass high school education movement from 1910–40, there was an increase in skilled workers, which led to a decrease in the price of skilled labor. High school education during the period was designed to equip students with necessary skill sets to

be able to perform at work. In fact, it differs from the present high school education, which is regarded as a stepping-stone to acquire college and advanced degrees. This decrease in wages caused a period of compression and decreased inequality between skilled and unskilled workers. Education is very important for the growth of the economy; however educational inequality in gender also influence towards the economy. Lagerlof and Galor stated that gender inequality in education can result to slow economic growth, and continued gender inequality in education, thus creating a poverty trap. It is suggested that a large gap in male and female education may indicate backwardness and so may be associated with lower economic growth, which can explain why there is economic inequality between countries.

More studies also find that female secondary education is positively associated with growth. His findings show that in countries with low female education; increasing it has little effect on economic growth; however in countries with high female education, increasing it significantly boosts economic growth. More and better education is a prerequisite for rapid economic development around the world. Education stimulates economic growth and improves people's lives through many channels.

By increasing the efficiency of the labour force; it creates better conditions for good governance, improving health and enhancing equality. Labor market success is linked to schooling achievement, the consequences of widening disparities in schooling is likely to be further increases in earnings inequality.

2.2.5 Economic liberalism, regulation and trade unions

John Schmitt and Ben Zipperer, (2006) of the CEPR point to economic liberalism and the reduction of business regulation along with the decline of union membership as the causes of economic inequality. In an analysis of the effects of intensive Anglo-American liberal policies in comparison to continental European liberalism, where unions have remained strong, they concluded that the U.S. economic and social model is associated with substantial levels of social exclusion, including high levels of income inequality, high relative and absolute poverty rates, poor and unequal educational outcomes, poor health outcomes, and high rates of crime and incarceration. At the same time, the

available evidence provides little support for the view that U.S.-style labor market flexibility dramatically improves labor-market outcomes. Despite popular prejudices to the contrary, the U.S. economy consistently affords a lower level of economic mobility than all the continental European countries for which data is available."

Sociologist Jake Rosenfield of the University of Washington asserts that the decline of organized labor in the United States has played a more significant role in expanding the income gap than technological changes and globalization, which were also experienced by other industrialized nations that didn't experience steep surges in inequality. He points out that nations with high rates of unionization, particularly in Scandinavia, have very low levels of inequality, and concludes "the historical pattern is clear; the cross-national pattern is clear: high inequality goes hand-in-hand with weak labor movements and vice-versa."

A 2015 study by the International Monetary Fund found that the decline of unionization in many advanced economies starting in the 1980s has fueled rising income inequality. In 2016, researchers at the IMF concluded that neoliberal policies imposed by economic elites have exacerbated inequality to such an extent that it is slowing economic growth and jeopardizing durable expansion. Their report highlights that:

- i. The benefits in terms of increased growth seem fairly difficult to establish when looking at a broad group of countries.
- ii. The costs in terms of increased inequality are prominent. Such costs epitomize the trade-off between the growth and equity effects of some aspects of the neoliberal agenda.
- iii. Increased inequality in turn hurts the level and sustainability of growth. Even if growth is the sole or main purpose of the neoliberal agenda, advocates of that agenda still need to pay attention to the distributional effects.

2.3.6 Trade Liberalisation

Trade liberalization may shift economic inequality from a global to a domestic scale. When rich countries trade with poor countries, the low-skilled workers in the rich

countries may see reduced wages as a result of the competition, while low-skilled workers in the poor countries may see increased wages. Trade economist Paul Krugman estimates that trade liberalisation has had a measurable effect on the rising inequality in the United States. He attributes this trend to increased trade with poor countries and the fragmentation of the means of production, resulting in low skilled jobs becoming more tradeable. However, he concedes that the effect of trade on inequality in America is minor when compared to other causes, such as technological innovation. Empirical economists such as Max Roser and Jesus Crespo-Cuaresma find support in the data that international trade is increasing income inequality. They empirically confirm the predictions of the Stolper–Samuelson theorem regarding the effects of international trade on the distribution of incomes. Lawrence Katz estimates that trade has only accounted for 5-15% of rising income inequality. Robert Lawrence argues that technological innovation and automation has meant that low-skilled jobs have been replaced by machine labor in wealthier nations, and that wealthier countries no longer have significant numbers of low-skilled manufacturing workers that could be affected by competition from poor countries.

Economist Branko Milanovic analyzed global income inequality, comparing 1988 and 2008. His analysis indicated that the global top 1% and the middle classes of the emerging economies in China, India, Indonesia, Brazil and Egypt were the main winners of globalization during that time. The inflation adjusted income of the global top 1% increased approximately 60%, while the middle classes of the emerging economies gained by 70-80%. On the other hand, those in the middle class of the developed world experienced little real income gains.).

2.3.7 Gender income inequality

A look into the gender gap in median earnings of full-time employees according to the OECD 2015 found that in many countries, there is a Gender pay gap in favor of males in the labor market. Several factors other than discrimination may contribute to this gap. On average, women are more likely than men to consider factors other than pay when looking for work, and may be less willing to travel or relocate. Thomas Sowell, in his book *Knowledge and Decisions*, claims that this difference is due to women not taking

jobs due to marriage or pregnancy, but income studies show that that does not explain the entire difference. A U.S. Census's report stated that in US once other factors are accounted for there is still a difference in earnings between women and men

Gender inequality and discrimination is argued to cause and perpetuate poverty and vulnerability in society as a whole. Gender Equity Indices seek to provide the tools to demonstrate this feature of equity. 19th century socialists like Robert Owen, William Thompson, Anna Wheeler and August Bebel argued that the economic inequality between genders was the leading cause of economic inequality; however Karl Marx and Fredrick Engels believed that the in quality between social classes was the larger cause of inequality.

2.3.8 Employment protection

The effects of employment protection regulation and its reforms can be analyzed in a multivariate manner at the macro level, using indicators such as the youth unemployment or employment rate or the share of fixed term contracts in different country and different points in time as dependent variables and the changes of employment regulation as the main explanatory factor. In fact, this has typically been done in the studies discussed above. However, this approach does not allow for empirical conclusions regarding the consequences of employment protection regulation or re-regulation on individual labour market careers. To achieve that, the labour market status of individuals needs to be observed over a certain period of time. Hence, longitudinal data sets are required or at least cross sectional data that provide reliable retrospective information.

Taking into account individual characteristics and contextual variables as well as information on the institutional constellation, most notable regarding the regulation of dismissal protection and access to different form of temporary employment allows for the analysis of the consequences of being in a fixed term contract at a certain point in time. Empirical studies can either compare most similar individuals passing through fixed term contracts with those not in a temporary job or analyze individual labor market trajectories before and after a reform of employment protection .Taking a classical study

as an example, Blanchard and Landier (2002) made a clear point that the introduction of fixed term contracts in a highly regulated labour market such as the French one can have ambiguous results in practice despite being aimed at reducing notoriously high youth unemployment. Using French survey and panel data from 1983 to 2000, they can show that the labor market for young labor market entrants was particularly affected. The share of fixed term contracts increased heavily whereas young people were less employed on a permanent basis, while unemployment remained. Rather constant over time. The transition from unemployment to employment became easier in the 1980s, but in the 1990s the situation was more difficult for young people so there was no clear effect on youth unemployment. In both periods permanent hiring's decreased rates of transition from fixed term to permanent contracts fell and more young people remained in temporary jobs.

The 1990 were also characterized by a longer transition period from fixed term to permanent

employment, albeit still a bit shorter than compared to the transition from unemployment to permanent jobs, and a growing wage gap between fixed term and permanent jobs, pointing at the unintended development of a segment of low productivity jobs. Complementary to this study, (Berton, Deficient and Pacelli (2011)) use employer Employee panel data. The authors can show that in Italy the type of temporary contract actually determines the stepping stone potential. They find that temporary jobs can improve the chance of transition to permanent jobs compared to being or staying unemployed, however, in the Italian context transition periods are rather long and exhibit repeated temporary employment spells. Training contracts appear as more conducive to a successful transition whereas freelance jobs and heavily subsidized fixed term contracts offer little opportunities. The subsequent section is partly based on this paper.

2.4 Summary and Knowledge Gap

Although many studies have been done to examine European labour market and immigration, the issue about the introduction of European single market and its effect on

labour market has not been explored. This study investigates the impact that the introduction of the European single market has had on the rates of employment among the union's member countries.



CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Data Collection and Procedures

Data for this study is obtained from secondary sources. The main sources are Eurostat open data, OECD open data and World Bank open data. These are online data sources that collect macroeconomic data from different countries across the world. The data collected panel data made up of the rate of unemployment among nine European countries before and after entering the European single market. Average level of wages was also collected on these countries for use in the analysis.

3.1 Population and Sampling

The main variable of concern for this study is the trend of employment rates in countries that have joined the European Union single market during each of the four expansions of the single market since its formation in 1993. The best proxy for the level of employment in a country is the rate of unemployment that is obtained through the use of the labour survey methods in line with regulation by the International Labour Organisation.

The change in average wages level in the countries' is also checked for presence of a significant increase in average wage since the countries under the research joined the European Union single market.

The countries selected for the research are; United Kingdom, France, Germany, Italy, Belgium, Netherlands, Luxembourg, Portugal and Denmark and these are primarily chosen due to consistency in data on these countries unemployment rate data.

3.2 Research Design

The research design employed seeks to determine the long run trend of the member states' unemployment rate since the country joined the single market and compare this to a control that shows how the country's unemployment rates would have looked like had

the country not joined the single market. In order to do that, we use a recently developed methodology, synthetic control methods for causal inference in comparative case studies; in short, synthetic counterfactuals, which was developed by Abadie and Gardeazabal (2003) and Abadie et al. (2010, 2012).

The significance of whether these countries have experienced a significant increase in the average level of wages is tested by means of t-tests.

3.3 Data Analysis

Analytical Framework

3.3.1. The synthetic counterfactuals methodology

This paper empirically investigates whether membership in the EU has generated any benefits to the individual member states in terms of better employment and wages. Here the researcher estimated what would have been the levels of unemployment and wages now in a given country if such country had not become a full-fledged member of the European Union. The synthetic control method estimates the effect of a given intervention, in this case, EU membership, by comparing the evolution of unemployment as an outcome variable for a country affected by the intervention against the evolution of the same aggregate outcome for a synthetic control group. The synthetic control method answers the question “what would have been the level of unemployment in a given country after the year that it joined the single market if the country had not become a full-fledged member of the EU?”

We answer such questions for our sample selection of countries that joined the European Union single market after its formation in 1993. The evolution of the outcome for the synthetic control is an estimate of the counterfactual. It shows what the behaviour of the outcome variable such as unemployment rate would have been for the affected country if the intervention had not taken place. More formally, the estimation of the average effect on the treated unit is represented by:

$$\tau_{it} = Y_{it}^I - Y_{it}^C \quad (1)$$

Where;

Y_{it}^I is the outcome of a treated unit i at time t ,

Y_{it}^C is country i 's outcome at time t had it not been subjected to treatment. In this case, had it not become a full-fledged member of the European Union.

We observe the outcome of the treated country Y_{it}^I after the treatment (with $t \geq T_0$), but do not observe what the outcome of this country would be in the absence of treatment (i.e., the counterfactual, Y_{it}^C , for $t \geq T_0$). Abadie et al. (2010) propose a method to identify and estimate the dynamic treatment effect τ_{it} considering the potential outcome for the country's $i \in I$ under the following general model:

$$Y_{it}^I = \sigma_t + \alpha_{it} D_{it} + v_{it} \quad (2)$$

$$Y_{it}^C = \sigma_t + v_{it} \quad (3)$$

$\alpha_{it} D_{it} = \tau_{it}$, where D_{it} is dummy variable which takes value 1 when the country $i \in I$ is exposed to the treatment and zero otherwise.

Suppose we observe the outcome Y_{it} where $i = 1$ is the treated country and $i = 2, \dots, N + 1$ are the untreated control countries originally from Bower and Turrini (2010). It contains the following non-EU countries: Argentina, Australia, Brazil, Canada, Chile, China, Hong Kong, Colombia, South Africa, Indonesia, Iceland, Israel, Japan, Korea, Morocco, Mexico, Malaysia, New Zealand, Singapore, Switzerland, the United States of America, Turkey and Uruguay; for each period t , with the intervention on country $i = 1$ beginning at time T_0 .

In order to construct a counterfactual, a weighted average of the countries contained in the donor pool (with $i = 2 \dots N + 1$, and $t < T_0$) is estimated to approximate Y_{1t} (for $t < T_0$). The set of weights is $W = w_2, \dots, w_{n+1}$ with $w_i \geq 0$ (for $i = 2 \dots N + 1$) and $1 = \sum_{i=2}^{N+1} w_i$

Thus pre-treatment:

$$Y_{1t} = \sum_{i=2}^{N+1} w_i Y_{it} \quad (4)$$

For the choice of the optimal set of weights W^* ; consider in matrix notation:

X_1 the $(K \times 1)$ vector of the treated country 1's unemployment rate characteristics in the pre-treatment period.

X_c is the $(K \times N)$ vector of the unemployment rate characteristics for the control countries in the donor pool.

V is a $(K \times K)$ symmetric and positive semi definite matrix¹, which measures the relative importance of the characteristics included in X , the unemployment rate. The optimal vector of weights W^* solves the following minimization problem:

$$\text{Min}(X_1 - X_c W)' V (X_1 - X_c W) \quad (7)$$

$$\text{s.t. } w_i \geq 0 \text{ (for } i = 2, \dots, N + 1) \text{ and } 1 = \sum_{i=2}^{N+1} w_i$$

That is, W^* is selected to minimize the pre-treatment distance between the vector of the treated country characteristics and the vector of the potential synthetic control characteristics. W^* is chosen to minimize the mean squared error of pre-treatment outcomes.

The synthetic counterfactual is constructed using the optimal weight W^* so that $Y_{1t} = \sum_{i=2}^{N+1} w_i Y_{it}$ is an approximate estimation of Y_{it}^C . The treatment effects are estimated as:

¹ A symmetric matrix $A \in \mathbb{R}^{n \times n}$ is called positive semidefinite if $x^T A x \geq 0$ for all $x \in \mathbb{R}^n$, and is called positive definite if $x^T A x > 0$ for all nonzero $x \in \mathbb{R}^n$. The set of positive semidefinite matrices is denoted S_{+}^n , and the set of positive definite matrices is denoted by S_{++}^n . The cone S_{+}^n is a proper cone (i.e., closed, convex, pointed, and solid). If A is positive semidefinite (resp. positive definite), we denote $A \geq 0$ (resp. $A > 0$).

$$m^* = Y_{1t} - \sum_{i=2}^{N+1} w^* Y_{it} \text{ For all } t \geq T_0 \quad (8)$$

The countries considered in the creation of the donor pool that is used to generate the synthetic counterfactuals is made up of OECD countries, G20 members and countries closely linked by trade to the European Union but that are not members of the European single market. The results reported in this paper are for an intermediary donor pool consist a pool of the counties originally from Bower and Turrini (2010). It contains the following non-EU countries: Argentina, Australia, Brazil, Canada, Chile, China, Hong Kong, Colombia, South Africa, Indonesia, Iceland, Israel, Japan, Korea, Morocco, Mexico, Malaysia, New Zealand, Singapore, Switzerland, the United States of America, Turkey and Uruguay.

The path of the weighted average of untreated countries hence matches or mimics the path of the treated country in the absence of treatment. The accuracy of the estimation depends on the pre-treatment distance of the synthetic control with respect to the treated country. All else equal, a longer pre-treatment period allows for a more accurate synthetic control.

The synthetic counterfactuals method entails two identification assumptions:

- (1) The choice of the pre-treatment characteristics should include variables that can approximate the path of the treated country, but should not include variables that anticipate the effects of the intervention
- (2) The countries used to obtain the synthetic control must not be affected by the treatment.

The first assumption implies that the treatment effects are not anticipated, that is, that they start in full at the date assigned for the treatment. Here, the absence of anticipation effects means that the growth effects of EU membership are to be observed only after each candidate country effectively becomes a full-fledged member. If agents form expectations that anticipate these effects the synthetic counterfactual method will

generate a lower-bound estimate of the true effect because part of it occurs before the start of the treatment which in this case is EU accession.

The second assumption requires that countries we selected to generate the synthetic control group should not be affected by the treatment. Although this assumption clearly holds when one defines the treatment as “full-fledged EU membership,” it must be recognized that integration is a continuum and not a dummy variable.

The synthetic control approach represents an extension of the differences-in-differences framework by allowing the effects on unobserved variables on the outcome to vary over time. This is similar to the policy-experiment approach discussed among others by Henry (2007). It also allows researchers to perform inferential exercises about the effects of the event or intervention of interest that are valid regardless of the number of available comparison units, the number of available time periods, and whether aggregate or individual data are used for the analysis (Abadie et al., 2010). This method addresses endogeneity and omitted variable concerns but has as its main drawback the fact that it does not allow assessing the significance of the results using standard large-sample inferential techniques, because the number of observations in the control pool and the number of periods covered by the sample are usually quite small in comparative case studies (Billmeier and Nannicini, 2013).

The average level of wages of the countries is tested for any significant change since the country in question joined the European Union single market. The choice of method to use is the t-test.

The test is chosen here instead of the synthetic counterfactual methodology due to the lack of longer dated average wages information needed for use when applying the synthetic counterfactual methodology.

The t-tests are obtained by testing of the hypothesis:

H_0 there is no significant increase in the average level of wages since the country under observation joined the EU single market

H_A there is a significant increase in the average level of wages since the country under observation joined the EU single market.

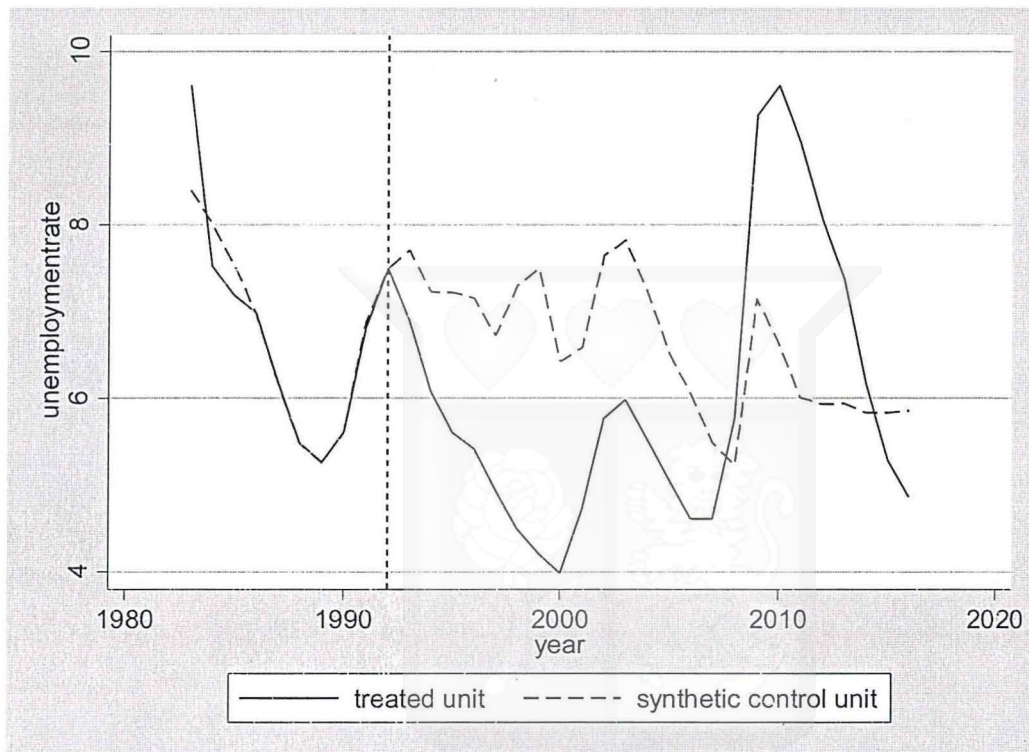
At 95% confidence interval.



CHAPTER FOUR: RESULTS

4.1 Unemployment Rate Synthetic counterfactuals: Baseline results

FIG 1: FRANCE



VT OMNES VNVM SINT

FIG 2: LUXEMBOURG

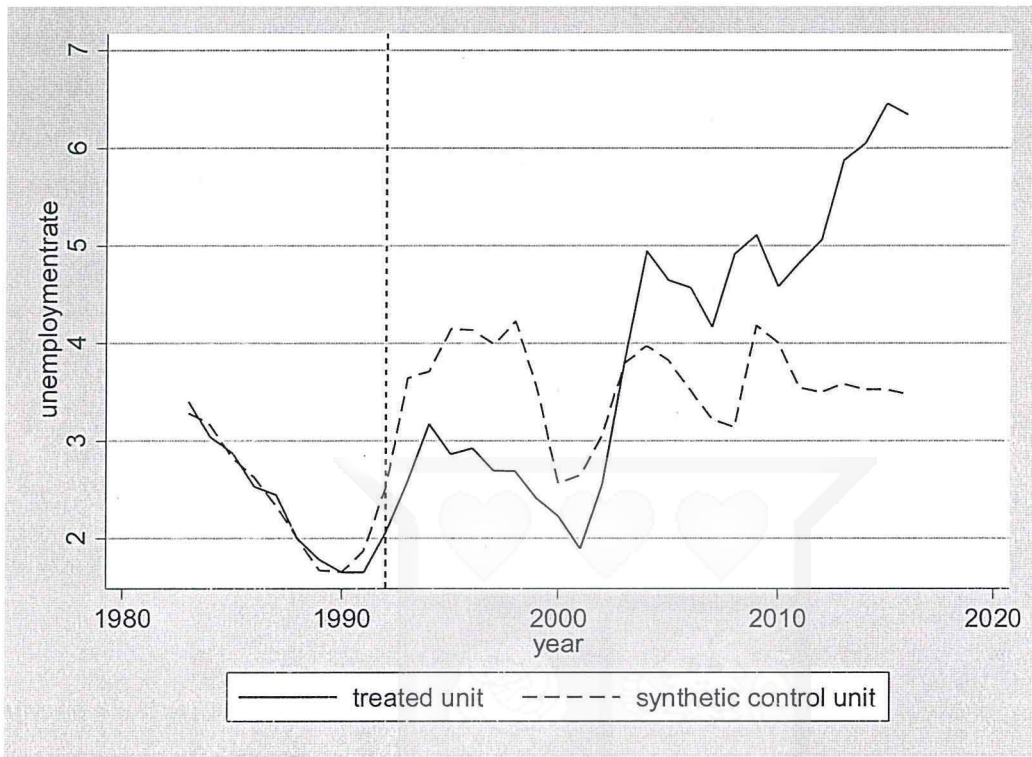


FIG 3: NETHERLANDS

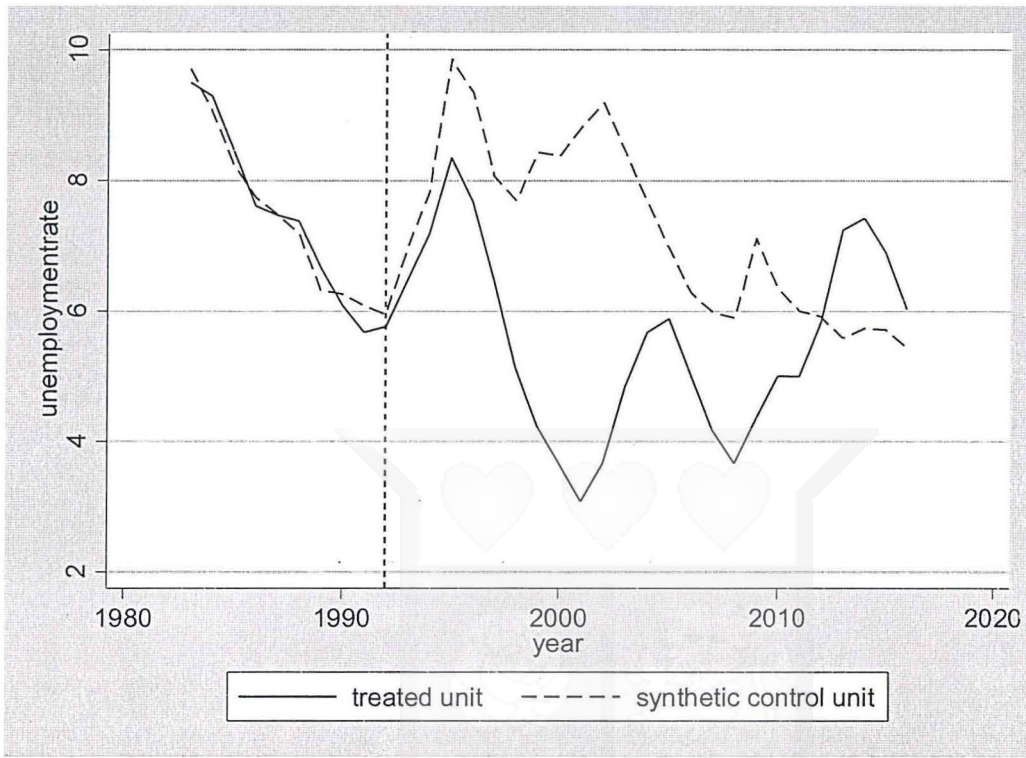


FIG 4: PORTUGAL

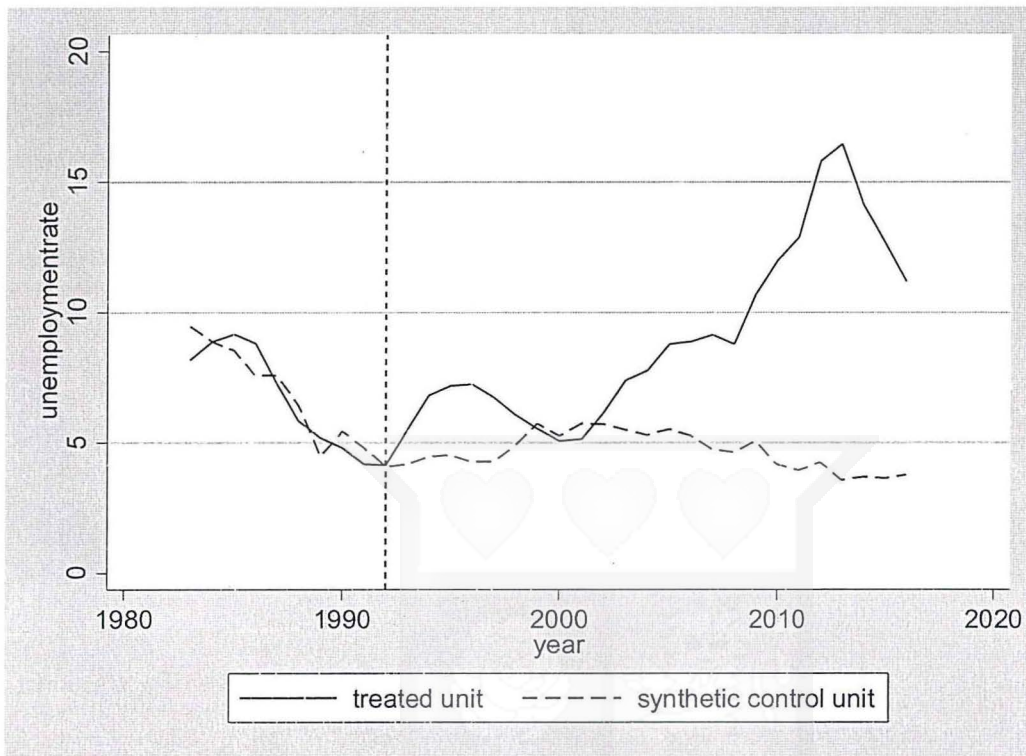


FIG 5: DENMARK

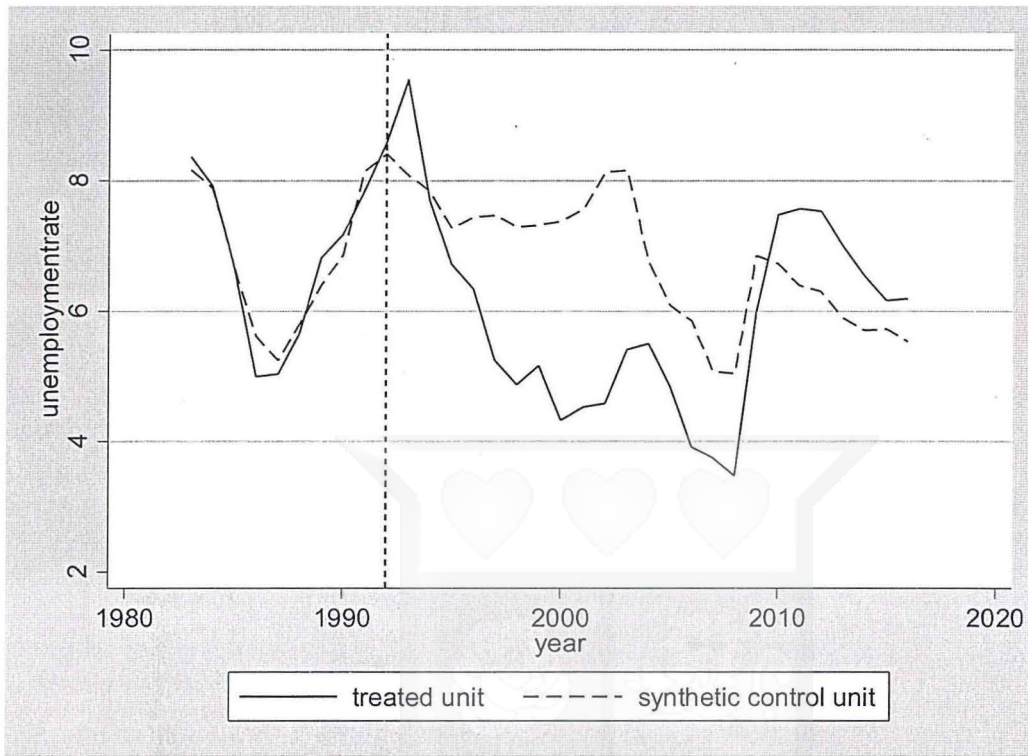


FIG 6: BELGIUM

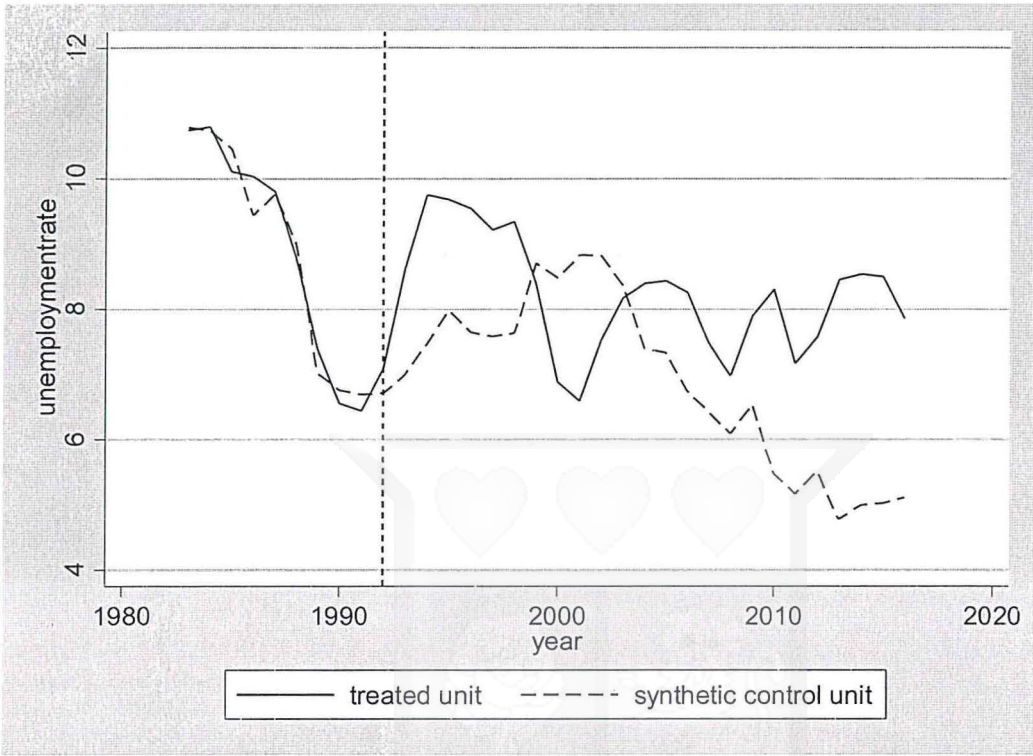


FIG 7: UNITED KINGDOM

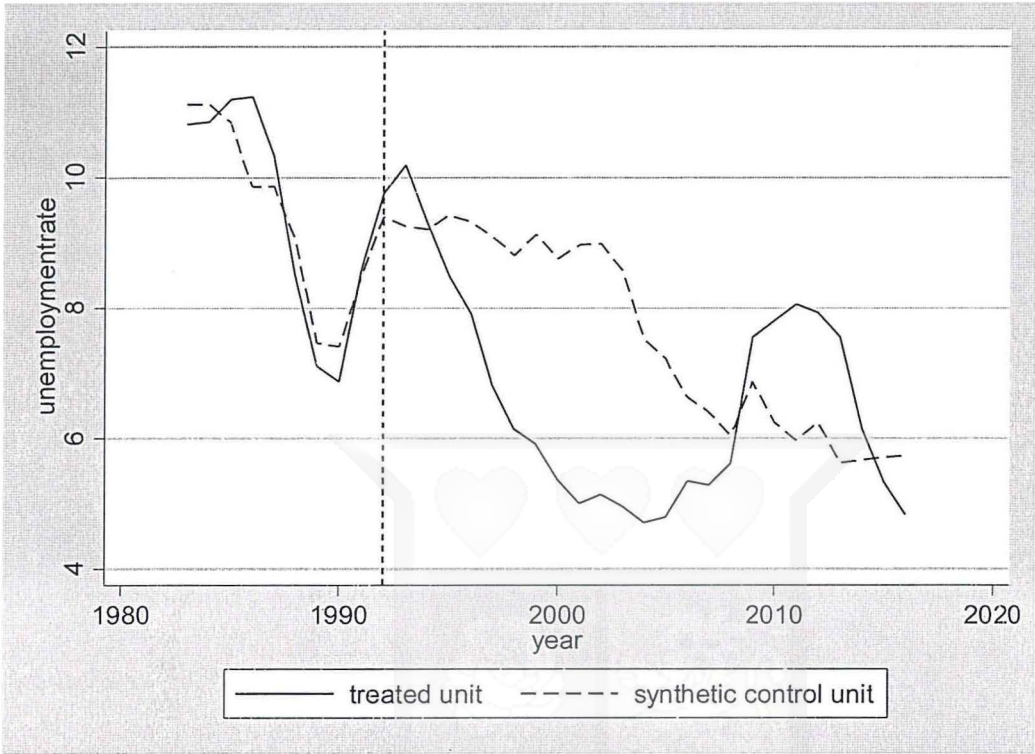


FIG 8: GERMANY

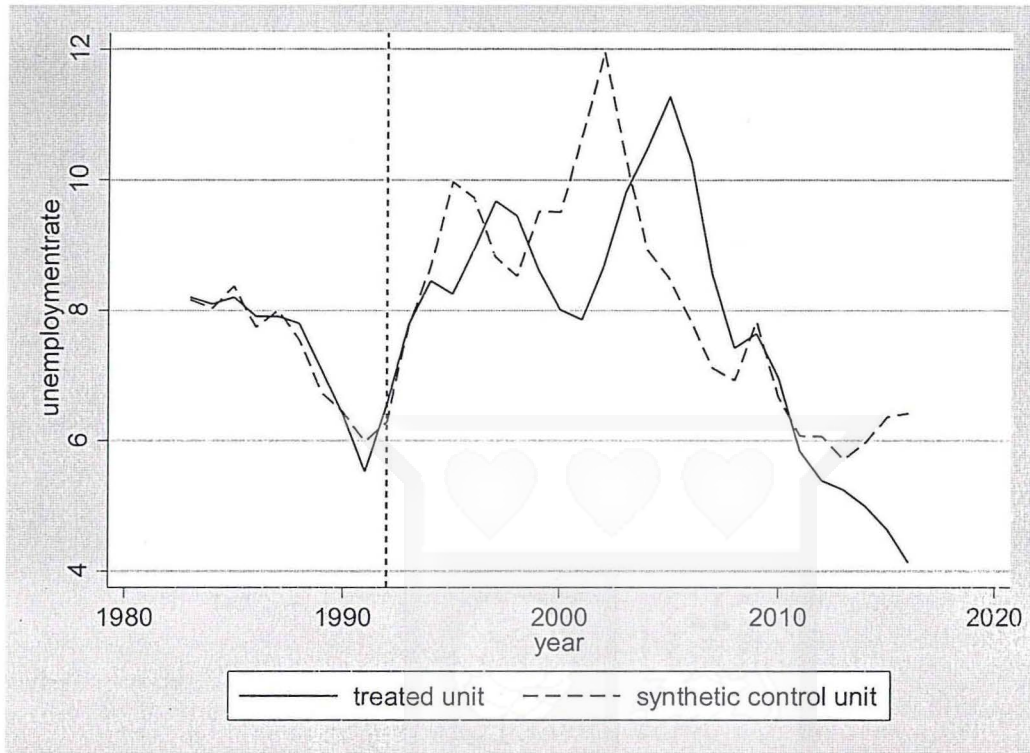
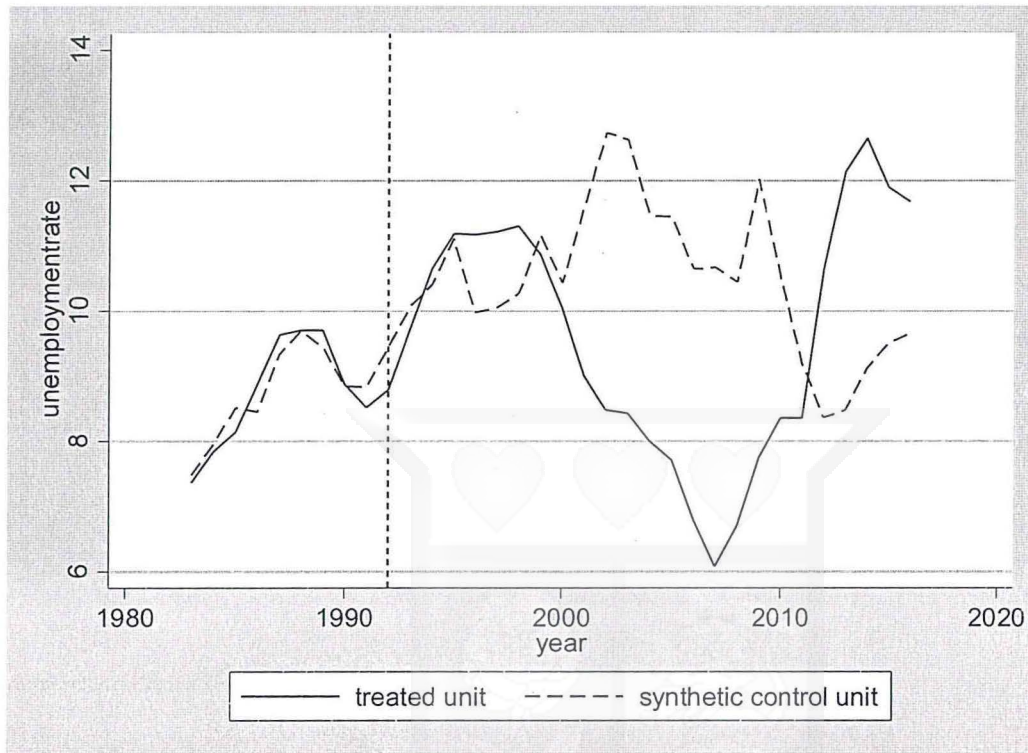


FIG 9: ITALY



The baseline synthetic counterfactual results using the methodology and data discussed above are presented in Figures 1 to 9. There are two series plotted in each. The series represented by the continuous line shows the actual unemployment rate of the country in question, while the series represented by a dashed line shows the estimated synthetic counterfactual.

4.2 Wages t-test: Baseline results

The average level of wages used are in US dollars.

Country	hypothesised mean	Mean	Standard deviation	Pr(T>t)
Belgium	38000	41488.76	1733.805	0.0000
Denmark	48712	55572.40	5318.465	0.0000
France	31404	35969.92	2980.428	0.0000
Germany	35289	38298.24	1792.389	0.0000
Netherlands	45267	47806.00	2473.695	0.0000
Luxembourg	51036	59797.76	4910.865	0.0000
Italy	31463	31606.00	757.872	0.1766

United Kingdom	33242	41990.32	5072.973	0.0000
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The results from the t-tests can be found at the appendix.

The t-tests on the average level of wages in Portugal were not carried out due to inconsistency in the data on wages on the country.



CHAPTER FIVE: CONCLUSIONS

Let us consider, as an example, the case of France. Figure 1 shows the evolution of unemployment rate in France between 1983 and 2016. France became a full-fledged member of the European single market in 1993 and hence this is the year the treatment was administered (as shown by the vertical dotted line). Indeed, they show it has been lower in every single year since 1994. The actual and the synthetic France series are reasonably close and move together before 1993, while they start to diverge in or around 1993. This indicates there was little anticipation or delay of the effects from EU single market membership. Furthermore, the gap between actual and synthetic France seems to be constant, suggesting that the benefits from EU membership in this case are more likely to be permanent than temporary. The occurrence of the financial crisis of 2007-2009 and its effect to the European banks led to a rise in unemployment rate for France and is a trend that is observed across all countries under observation. The graph in Figure 1 shows that the effect on the counterfactual would have been less as compared to what happened for this same period of 2007-2009 and this is attributed to the increased interconnectivity as a result of the single market that caused a contagion effect felt by all countries in the union. The counterfactuals shows that this effect on labour would have been less in the absence of a single market however the unemployment rate was able to recover quicker than the counterfactual and currently indicates that the rate of employment is higher currently than it would have been in the absence of a union for France.

The results for Portugal are different, with sizeable and permanent effects for unemployment rates. The same negative effect on unemployment rate is seen in Luxembourg, Netherlands, Denmark, Italy and Belgium. Overall, these results show substantial increases in rates of unemployment for all countries that joined the EU single market. The estimates show that for these countries the unemployment rates would have been lower if the country had not become an EU single market member. The difference between actual units and the synthetic units for these countries seems to diminish over time.

Some of the figures such as the one for Germany displays that there was a lagged effect in that the treated unit and the counterfactual still seem to travel together for a short time before divergence begins to occur, this lagged effect is mainly attributed to the effect of policy that is not necessarily felt in the same year of treatment due to infrastructural requirements and the nature of the implementation systems. The countries that have bureaucratic democracies that implement policy on the smallest unit of local governance took longer to affect this policy resulting in a lagged effect on the unemployment rates.

The results of France, United Kingdom and Germany show a drop in the rates of unemployment since they joined the EU single market in 1993.

In summary, the synthetic counterfactual methodology seems effective in identifying the dividends in terms improvement of labour conditions as a result of EU single market membership. Further, they indicate that these dividends are negative and that they often tend to be substantial and long lasting in spite of heterogeneity across countries.

Specifically, the unemployment rate significantly increases with EU single market membership in Denmark, Italy, Portugal, Netherlands, Belgium and Luxembourg. The effects are however seen to be positive for France, United Kingdom and Germany.

The results obtained from the t-tests run on the average level of wages in these countries however, are of the view that all these countries have benefited from an increase the level of wages since joining the European single market save for Italy which is shows that the increase in the amount of average wages is not significant. The lack of significant change here is attributable to the deep economic recession that the Italian economy has been in since the 2007-2008 Financial crisis.

POLICY RECOMMENDATION

The formation of custom unions is beneficial to the labour situation of a country as demonstrated by the significant increases in average wages and hence, countries promote the creation of such. I recommend future research into the methods by which the larger economies of Western Europe such as Germany and France have managed to maintain a lower rate of unemployment as compared to the rest of the European single market member states. The results of such a study can be used to implement policy that will improve the employment rates in the rest of the countries in the European Union's single market.



APPENDIX

T-test results obtained are as follows:

Belgium

```
. ttest var1 == 38000
```

One-sample t test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
var1	25	41488.76	346.761	1733.805	40773.08	42204.44

```
mean = mean(var1)                                t = 10.0610
Ho: mean = 38000                                degrees of freedom = 24
```

```
Ha: mean < 38000                                Ha: mean != 38000                                Ha: mean > 38000
Pr(T < t) = 1.0000                                Pr(|T| > |t|) = 0.0000                                Pr(T > t) = 0.0000
```

Denmark

```
. ttest var1 == 48712
```

One-sample t test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
var1	25	55572.4	1063.693	5318.465	53377.05	57767.75

```
mean = mean(var1)                                t = 6.4496
Ho: mean = 48712                                degrees of freedom = 24
```

```
Ha: mean < 48712                                Ha: mean != 48712                                Ha: mean > 48712
Pr(T < t) = 1.0000                                Pr(|T| > |t|) = 0.0000                                Pr(T > t) = 0.0000
```

France

. ttest var1 == 31404

One-sample t test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
var1	25	35969.92	596.0856	2980.428	34739.66	37200.18

mean = mean(var1)

t = 7.6598

Ho: mean = 31404

degrees of freedom = 24

Ha: mean < 31404

Pr(T < t) = 1.0000

Ha: mean != 31404

Pr(|T| > |t|) = 0.0000

Ha: mean > 31404

Pr(T > t) = 0.0000

Germany

!

. ttest var1 == 35289

One-sample t test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
var1	25	38298.24	358.4777	1792.389	37558.38	39038.1

mean = mean(var1)

t = 8.3945

Ho: mean = 35289

degrees of freedom = 24

Ha: mean < 35289

Pr(T < t) = 1.0000

Ha: mean != 35289

Pr(|T| > |t|) = 0.0000

Ha: mean > 35289

Pr(T > t) = 0.0000

Italy

```
. ttest var1 == 31463
```

One-sample t test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
var1	25	31606.52	151.5744	757.8721	31293.69	31919.35

mean = mean(var1) t = 0.9469
Ho: mean = 31463 degrees of freedom = 24

Ha: mean < 31463 Ha: mean != 31463 Ha: mean > 31463
Pr(T < t) = 0.8234 Pr(|T| > |t|) = 0.3531 Pr(T > t) = 0.1766

Netherlands

```
. ttest var1 == 45267
```

One-sample t test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
var1	25	47806	494.7389	2473.695	46784.91	48827.09

mean = mean(var1) t = 5.1320
Ho: mean = 45267 degrees of freedom = 24

Ha: mean < 45267 Ha: mean != 45267 Ha: mean > 45267
Pr(T < t) = 1.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 0.0000

Luxembourg

```
. ttest var1 == 51036
```

One-sample t test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
var1	25	59797.76	982.1731	4910.865	57770.65	61824.87

mean = mean(var1) t = 8.9208
Ho: mean = 51036 degrees of freedom = 24

Ha: mean < 51036 Ha: mean != 51036 Ha: mean > 51036
Pr(T < t) = 1.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 0.0000

United Kingdom

```
. ttest var1 == 33242
```

One-sample t test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
var1	25	41990.32	1014.595	5072.973	39896.3	44084.34

mean = mean(var1) t = 8.6225
Ho: mean = 33242 degrees of freedom = 24

Ha: mean < 33242 Ha: mean != 33242 Ha: mean > 33242
Pr(T < t) = 1.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 0.0000

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