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The Development of Macroeconomic Imbalances in the Eurozone

A comparative analysis between the North and the South

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Economic convergence has been an on-going issue throughout the process of European economic integration. European institutions have constantly stressed its importance as an essential prerequisite to secure sustained long-term growth and social coherence for the whole Union. This has been challenged by the on-going sovereign debt crisis and differential macroeconomic performance across the Eurozone, calling into question these predictions. This has even prompted arguments that the adoption of a common currency may have functioned as a catalyst for divergence and, specifically, a source of the increasing divide between the core and the periphery. The aim of this paper is to provide theoretical outlook, with supporting evidence, on the development of current core-periphery imbalances in accordance with Optimum Currency Area and World Systems theories. According to various arguments, the divergence was caused by either the introduction of the European Monetary Union or the irresponsibility of the PIIGS nations. These two opposing claims were formed into hypotheses and tested. After analysing several macroeconomic performance indicators, including GDP per capita and real effective exchange rates, the results showed minimal influence from the EMUs perspective. Nonetheless, it also seems that the PIIGS were not entirely at fault given the circumstances.

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List of Abbreviations

CA	**Current Account**
EA	**Euro Area**
ECB	**European Central Bank**
EMU	**European Monetary Union**
EU	**European Union**
EZ	**Eurozone**
GDP	**Gross Domestic Product**
MS	**Member State**
OCA	**Optimum Currency Area**
PIIGS	**Portugal, Italy, Ireland, Greece, and Spain**
REER	**Real effective exchange rate**
SGP	**Stability and Growth Pack**
ULC	**Unit Labour Cost**
WST	**World Systems Theory**

1   Introduction

In 2007, European Union economies seemed to perform rather well with their positive economic growth and low inflation levels. Although public debt was quite high, it appeared to be feasible assuming a positive trend in economic growth would continue. This was until the global financial crisis swept across the continent and left the economic environment unsettled. Southern Europe[1] (Portugal, Italy, Greece and Spain, with the addition of Ireland) suffered the most. Their increasingly unsustainable debt level and approaching solvency issues combined with strong evidence on substantial disparities within the European Monetary Union (EMU) have been widely debated lately (Roubini and Mihm, 2011). Although there were several aspects contributing to the European sovereign debt crisis, macroeconomic imbalances have been claimed to be at root of the problem. Macroeconomic imbalance, as defined by the EU Regulation No 1176/2011 of the on the prevention and correction of macroeconomic imbalances, is "*any trend giving rise to macroeconomic developments which are adversely affecting, or have the potential adversely to affect, the proper functioning of the economy of a Member State or of the Economic and Monetary Union*" (Council of the European Union, 2011).

Despite the research that has been conducted on the topic, there still seems to be a lack of consensus on whether this core-periphery dualism was cultivated by the aggregation of European economic integration or if it was prevailing condition prior to the common currency (Caporale et al, 2015). Several economists have presented quite differing views on the development of macroeconomic divergence and most of the research conducted has mainly focused on global imbalances. Unfortunately, these studies often overlook the immense integral economic imbalances and the loss of competitiveness the EMU has suffered for over a decade. Sinn and Valentinyi (2013) address the issue and point out that the significant increases in current account deficits, which from an economic standpoint cannot be sustained for indefinitely. Since the imbalances have played an essential role in the development and outbreak of the financial crisis, it is vital that the issue is addressed.

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[1] Southern Europe, semi-periphery and PIIGS are used synonymously in this paper for the sake of convenience despite geographical inaccuracy. Similarly, core countries are sometimes referred as Northern Europe.

As the global demand shattered and uncertainty forced firms to defer investments, the problems faced by the semi-periphery extended also to the export-oriented core countries such as Finland and Germany. This has been largely thought to be due to the EMU Member States (MS) contrasting development and growth patterns in the early 2000's (Priewe, 2011). Not only did these prompt the substantial current account deficits and surpluses across MS, they contributed to house prices (i.e. Spain's housing bubble) and structural sides in the secondary sector. Since these changes were unsustainable in the long-term, many regions became highly susceptible to asymmetric shocks and the crises that would follow. There have also been indications that the imbalances are the reason behind Euro Area's (EA) lethargic recovery from the crisis, and these have highlighted the flaws in intra-EU governance. Hence, macroeconomic divergence is now largely seen as a threat for the security, sustainability and cohesion of the monetary union.

In spite of various similarities between the EMU and US deficits, the imbalances in the Eurozone (EZ) have been more volatile, leaving the EMU on the verge of disintegration. Albeit this has often been seen as a PIIGS issue of profligacy with national budgets, it is a fundamental defect in the composition of EMU. Despite Ireland and Spain's great efforts to address their economic issues and return to the path of growth, there is still obscurity surrounding the origins and development of the imbalances that lead to debt crisis (Spratt and Goodman, 2017). Various hypotheses have been devised in hopes of resolving the issue, yet there have been no conclusive reporting done on the subject matter. Since this has been such a central aspect of the current sovereign debt crisis, this paper attempts to understand the development of this core-periphery divide by using Optimum Currency Area (OCA) and World Systems theories (WST) to interpret the refinement.

This paper has been divided into two distinct sections: literature review, and hypothesis testing through data analysis. Chapter 2 covers the general guidelines of the EMU and its approach towards achieving full economic convergence in the Euro Area. Furthermore, the possibility of the euro being a facilitator for the development of macroeconomic divergence will be discussed in relation to OCA theory and its criteria. Finally, Chapter 2 will consider the World Systems theory and the possibility that these imbalances have been a natural consequence of the recklessness and negligence of macroeconomic policies by the (semi-)peripheral countries. On the basis of the investigated theory, two hypotheses have been formed and are laid out in Chapter 3. Finally, Chapter 4 tests the hypotheses against data on macroeconomic developments in selected Eurozone countries.

1.1   Research questions

This project uses the OCA and WS theories as a framework for evaluating and analysing the causes and development of macroeconomic divergence between the Northern and Southern EMU Member States.

The objective is to answer the following research questions:

- How have the economic imbalances developed in the Eurozone? Were there any significant disparities before the conception of the euro?

- To what extent did the adoption of a common currency facilitate the imbalances?

- To what extent has the economic negligence of PIIGS nations affected the divide between the Member States?

- What ramifications does this have for the integrity of the European Monetary Union in the future?

Additional objectives for the research are:

- to understand the development of macroeconomic imbalances in the Eurozone and,

- to discern the changes that have altered and shaped the economy to the way we perceive it today.

2   Literature Review

Macroeconomic divergence has posed a significant problem for the future of the Eurozone. Understanding the underlying causes behind these imbalances will aim to assist in the confrontation of the issues they have generated and have the possibility to cause in the future.

2.1   European Monetary Union and Economic Convergence

The Maastricht Treaty, stating the euro convergence criteria, came into effect in 1993. Since then these principles have stirred debates among economists, especially the criterion concerning fiscal stabilisation (ECBb, 2017). The European Economic and Monetary Union reached its final stage in 1999 when 11 of the EU Member States adopted a common currency by irrevocable fixing of exchange rates. However, the bank notes and coins were not launched to circulation until January 2002 (ECBa, 2017). After this several other countries have joined the single currency area, totalling 19 countries to date (see timeline in Appendix A). The introduction of the euro granted all Member States an easier access to capital, which was reflected as increases in government debt. However, high debt levels were not considered to be a major issue before the unravelling of the financial crisis of 2007/08.

Convergence has been a recurring motif in European economic integration over the decades. The nominal convergence criteria, namely *inflation, interest rate, exchange rate, and public deficit and debt*, which objectively aimed not only to create a single currency, but a stable one (Buti and Turrini, 2015). The European Central Bank (ECB) has been responsible for administrating the monetary policy and price stability in the Euro Area. Currently, stipulation of these factors has been attained through an inflation rate close to, but not at, 2 per cent. Ideally, nominal convergence, through its policies on the elimination of exchange-rate risks and macroeconomic stability, endorses international trade and financial investment, prompting stronger economic growth in due time (Marelli and Signorelli, 2015). Yet, nominal convergence differs dramatically from real convergence, which emphasizes the processes of countries involved towards equality or parallels of real variables of the economies in question, instead of meeting a criteria reflecting macroeconomic stability. In order to achieve real convergence, a MS has to maintain rapid

yet sustainable growth to meet the EU average, which has turned out to be rather impossible given the current circumstances (Bongardt and Torres, 2013).

With rise in economic integration, European mixed economies, such as France and Ireland, have raised issues concerning the redefinition of economic order and regulation within the single market (Copelovitch et al., 2016). The functioning of a monetary union itself presents supplementary demands on *"the concept of economic union with respect to macroeconomic stabilisation"* (Bongardt and Torres, 2013). Although the Maastricht treaty attempts to outline the coordination between economic policies in an economic union, however, it does not adequately detail the requisites for a monetary union and has left several points uncovered. De Grauwe (2007) criticizes the strategy endorsed by the treaty as it inflicts negative effects on real economic growth created by the eroding effects of the protective fiscal and monetary policies several MS had implemented.

Furthermore, after the start of EMU all Member States are required to comply with a set of additional nominal criteria specified in the Growth and Stability Pact (SGP). The SGP was first laid down in the Maastricht treaty, and functions as a central element of the coordination of economic policy-making in European Union (EC, 2017). Additionally, the SGP encourages and aims to monitor fiscal discipline within the union while securing sustainable public finances. Originally, the SGP was designed to set tighter restrictions than the ones described in the Maastricht Treaty, i.e. limiting public deficit to a single percentage point of national GDP and applying monetary sanctions to countries that breached the pact. Although the SGP has defined the conditions for monitoring multilateral budgets and displayed the budgetary rules for institutions, the implementation and supervision of its provisions has been poor. Papadimoulis (2016) calls into question the effectiveness and validity of the SGP, as many traditionally thriving countries including Finland and Belgium have failed to meet the rules and requirements of the pack. This is evident from the fact that no MS has been sanctioned due to inordinate deficits in spite of various occurrences.

The euro was originally designed to unify Europe by increasing the motive for economic reciprocity, yet the single currency and a unified monetary union minimises the countries' control of restoring their own macroeconomic problems (Saunders, 2011). This has proven to be a major contributor to the PIIGS inability to control their current account balance and retaining an appropriate level of government debt. In spite of attempts to

initiate stimulus packages in core nations and austerity measures in heavily indebted countries, the financial tragedy is becoming increasingly implicit in the EMU (Cohen et al., 2012). Since financial institutions such as banks have acquired a great deal of PIIGS' government debt, many large banks have gained immense quantities of accounts receivables. The fear of potential insolvency is threatening the existence of the EMU if issue with sovereign debt is not promptly addressed and resolved.

2.2   Optimum Currency Areas

Research carried on the practicality of the Optimum Currency Area has yielded quite controversial discussions recently with views ranging from "*something of a dead-end problem*" (Johnson, 1969) to "*major contribution*" (El-Agraa, 2007). First coined by Robert Mundell (1961), the OCA theory defines the criteria and identifies the risks and benefits of joining a single currency area. Despite Mundell's efforts to outline a selection of criteria, it should be noted that the OCA theory should be considered as a compilation of several theories that have developed over time as a result of further discussions[2]. Mundell's (1961) initial model states that each member of an OCA should satisfy four (4) distinct criteria. Firstly, there should be an increased labour mobility in the area, which includes free movement and lack of cultural barriers, for instance. Secondly, capital mobility, and price and wage flexibility that maintains a balanced economic system through distribution of capital where it is required. Thirdly, Mundell suggests that a risk-sharing system that calls for the distribution of capital to regions experiencing economic difficulties should be implemented. Finally, all members ought to have similar business cycles in order to accurately allocate risks and economic booms. This would allow the central banks to negate and disseminate economic recessions by stimulating growth and controlling inflation rates.

According to the criteria outlined above, theory suggests that a monetary union can be formed between independent states only if the fundamental economic structures between the applicant member states line up sufficiently (Mundell, 1961). Thus, the standards set should be satisfied ex ante to avoid excessive expenditure. On the contrary, the endogenous OCA theory proclaims that a monetary union is a competent propeller towards convergence in economic performance and policies, therefore suggesting that the MS might not need to meet the required conditions ex ante.

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[2] Subsequently, Mundell's theory was complemented by McKinnon (2004) and Kenen (1969).

Although economic heterogeneity can be viewed as a symbol of strong and thriving economies, this is not always the case. Recent studies (Punzi and Rabitsch, 2016; Ravenna and Walsh, 2011) have stressed that the development of non-simultaneous business cycle oscillations, which could hinder the sufficient monitoring of stabilisation policies in a currency area, might be enhanced by some factors of economic heterogeneity. Furthermore, the homogenous structural characteristics between OCA Member States have been highlighted as necessary for downsizing the possibility and frequency of asymmetric shocks, and reducing their ramifications (Bayoumi, 1997; Gibson, 2014). The endogenous capitalistic dynamics may have persisted at a national level; however, the formation of a monetary union did not transfer these policies into a EU-wide action. In his subsequent paper, Mundell (1973) demonstrates the possibility of mitigating asymmetric shocks by common monetary policy, which would contribute towards diversification and greater access to resources amongst the MS. Furthermore, McKinnon (2004) demonstrates, with a data sample from European bond markets, that the most efficient way of sharing risks in a monetary union is through asset diversification. With floating exchange rates, countries would have to endure domestic shocks independently. However, the presence of EMU allows states to share a portion of negative repercussions with other Member States (Kalemli-Ozcan et al., 2001).

Mundell (1961), MicKinnon (1963) and Kenen (1969) have all formed a consensus that the higher the specialisation degree of a particular region is the more susceptible it becomes to asymmetric shocks. Thus an area with a high level of regional specialisation would be ineligible to become a single currency area. A problem arises only if free movement of goods and capital are considered, as this has the potential to induce elevated regional specialisation. Pelagidis (1996) believes this to be probable and notes that economic theory indicates that the deeper the market integration is the higher the specialisation will be. This has a possibility to create a paradox in which factor mobility (a condition for an OCA) will corrode diversity, destroying the fundamental conditions for the EMU. Eichengreen (1993) offers a more optimistic view that the homogeneity in the economic systems is in fact reinforced by heightened competition and the integration of markets i.e. in the EMU this could be the result of the Single Market or the relaxation of capital flows, for instance. This is evident from the empirical studies conducted by Marelli and Signorelli (2015), which demonstrate an increase in synchronicity in both core and peripheral countries.

The OCA theory has been heavily criticised and challenged by several economists, claiming that the EMU contributed to the aggravation of economic imbalances (Buiter, 1995). Some have also argued that the initiation of a common currency should have been suspended until the union had fulfilled all the necessary OCA criteria (Goodhart, 1995). Goodhart (1995), for instance, calls into question the necessity of having economic criteria at all. He also argues that political deliberation, rather than an economic one, propelled the creation of the EMU. Furthermore, Tavlas (2009) points out that the foundation for the OCA theory was developed many decades ago, suggesting that the theory might not be entirely directly applicable in the present day. Gibson (2014), on the other hands, points out the unfeasibility ingrained within the monetary union. Although the monetary policy of the Eurozone is centralised, other macroeconomic policies have stayed under the control of their respective national governments causing idiosyncratic shifts uninhibited by the single currency (Gibson, 2014; De Grauwe, 2014).

Mundell's original concept is commonly used as supporting evidence for Eurozone's lack of compliance to some of the conditions, disqualifying the union as an OCA (Pasimeni, 2014; Scharpf, 2015). In the case of the EMU, the presence of a monetary union might have provoked the booms and busts cycle at a national level (De Grauwe, 2014). The rationale behind this the levels of single interest rate imposed by ECB on the MS: unduly high for countries in recession and too low for the booming economies. As the PIIGS economies began to prosper, their inflation levels followed. Thus the real interest rates fell and exacerbated the booms whereas their neighbouring countries encountering recession experienced the opposite. Moreover, Ederer and Reschenhofer (2013) argue that the wage and price flexibility EMU grants are not sufficient enough to assure readjustments after economic shocks. This, combined with limited labour migration and divergent price developments amongst nations, decreased the real interest rates in high-inflation and fast growing nations further aggravating domestic demand and the economic boom. In addition, McKinnon (2004) stresses that Mundell's original model did not recognise these prospects for mitigating asymmetric shocks since "*capital controls limited the possibilities for international risk-sharing*" in the time period. This implies that Mundell did not have logical reason to examine international portfolio diversification; hence even his revised design remains rather modest.

General consensus suggests that the inefficient balance of national economies is largely due to inadequate stabilisation of domestic marginal costs and "*the monetary movements unrelated to the fundamentals of a country*" (Pisani-Ferry, 2010). De Grauwe (2014)

believes that this is the result of poor transposition of stabilisers from the national level to the monetary union level; leaving the MS fragile and incapable to defend themselves against national upheavals. Furthermore, the adoption of a common currency also costs each Member State their ability to operate their own fiscal and monetary policy mediations to stabilise their national economies. According to Baldwin and Wyplosz (2006), the loss of economic monetary policy sovereignty becomes severely important for EMU Member States if poorly integrated member countries encounter asymmetric macroeconomic shocks. Mankiw (2007) insists that acclimation to these shocks needs to ensue from labour mobility, fiscal transfer payments and readjustments in price and wage levels.

Mongelli (2002) warned the EMU about the costs that could stem from negative external effects such as Member States running larger, protracted budget deficits that could seriously detrain international confidence in the common currency. Although the common currency has presented significant issues, Member States are quite unlikely to exit the union due to high economic costs. It has also been argued that the one of the greatest contributors to the economic divergence in the Eurozone was the poor governance on the implementation of regulations (Pisani-Ferry, 2010). The Greek crisis clearly indicates that the measures that were used to follow public finances did not function as originally planned. This has been emphasised futher by Pisani-Ferry's (2010) argument that the "*monitoring of budgetary situations within the framework of the … [SGP] has gradually evolved in the direction of putting emphasis on the structural, or cyclically adjusted, balance*".

2.3 World Systems Theory

In the late 1970's, Immanuel Wallerstein (2004) developed the most well known version of the World Systems Theory, categorising all nations into three categories: periphery, semi-periphery and core. The theory attempts to illustrate the relationship, and the dynamic and geopolitical position of different countries in relation to one another. Wallerstein (2004) suggests that the underlying structure in our modern, capitalist world-system allows the powerful core countries to exploit the weaker, peripheral countries while the semi-periphery stands somewhere in the middle. Although the world systems theory has drawn inspiration from dependency theory[3], as the focuses of these two

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[3] Dependency theory originated in 1949 when Hans Singer and Raúl Prebisch discovered that there is a flow of resources from the poor and undeveloped "peripheral" states to the richer "core" states whilst exploring the terms of trade between different countries (Trouvé et al., 2010).

theories differ tremendously. Wallerstein's theory has been credited to be one of the most significant step in determining the division between states of the world (Arrighi and Drangel, 1986). Not only has this been a substantial economic discovery, it has also disclosed the political parameters that have facilitated such a structure of exploitation. Nonetheless, the imperious position of the core countries has diminished slightly due to the admittance of an intermediate layer as it minimised the extent of direct appropriation of the periphery. However, this now creates pressure on the semi-peripheral countries that function as a buffer layer between the two extremes.

There has been some debate over the classification of certain countries, especially after the introduction of the semi-periphery. This is mainly due to the developments that have caused a shift from one category to another (Chase-Dunn, Kawana and Brewer, 2000). In addition, the differentiation of semi-periphery caused difficulties, especially in the beginning. Generally, technology has been identified as one of the main differentiators between the three aforementioned categories. Many have argued that the peripheral nations are fundamentally unable to reach the same level of development as the core countries, thus affirming their own auxiliary status (Skocpol, 1977; Chase-Dunn and Grimes, 1995). This contrast in power between states is pivotal for preserving equilibrium within the system, as stronger countries intensify and raise the flow of surplus capital towards the core. Wallerstein called this relocation of surplus capital from proletarian regions to the industrialised core an *unequal exchange,* which inevitably contributes to global capital accumulation and appropriation of periphery (Wallerstein, 2004; Sorinel, 2010).

The financial crisis has effectively reiterated the core-periphery friction in Europe, sustaining the 'hierarchy of nation-states' (Coakley, 2016). Johnson (2012) suggests that the key factor behind this issue was the expectation that all of the Member States' "*economies would converge in productivity*", which resulted in a backlash, further increasing the divide (Sonderman, 2012). It could be argued that from the perspective of unbalanced global relations, the notional source of debt is generated by the appropriation of the peripheral states by the core nations. Hence the absence of a prosperous and dynamic import-substitution policy causes semi-peripheral countries to an endless cycle of borrowing from the core to neutralise their shortcomings in infrastructure, technology and innovation (Fouskas and Dimoulas, 2013). Jones (2011), on the other hands, argues that export-lead growth countries have been a considerable contributor towards macroeconomic imbalances, which have for their part facilitated debt crises and asset

market bubbles. Furthermore, given the abovementioned attributes, the WST suggests that the social system is the preeminent component in the analysis. This can be examined in a national level or in a supranational level as in the case with the EMU (Reyes, 2001). For instance, many of the PIIGS nations regarded the engagement in European integration both as an opportunity to enhance living conditions and an affirmation of stability for these newly established democracies.

Razin and Rosenfielde (2012) argue that real cooperation between EU Member States is a prerequisite for macroeconomic stability, which seems to have ceased to exist. Similarly, Coakley (2016) argues that the EU has converted from unified and harmonious coalition of states into becoming a more strained alliance. This is evident for instance from the political conflict in 2010 that divided the Eurozone: the struggling periphery needed urgent financial assistance from the core nations. This combined with the loss of confidence for the EU and its institutions incited left-wing anti-austerity groups to deter the prevailing power structures in the PIIGS nations. For example, the election of Syriza in Greece in 2015 effectively bid the core and semi-peripheral countries against one another (Lapavitsas, 2015). Another example of this is the lack of workforce mobility as the MS are desperately safeguarding jobs in their own countries. This has caused severe difficulties with unemployment in the peripheral countries that cannot be mitigated by migration of workforce to the core (Kroet, 2016; Bräuninger and Majowski, 2011). Kersan Škabić (2012) also raises concerns about the lack of institutional requirements necessitating the richer core nations to assist the poorer countries as it disconnects parts of the union from one another.

In Europe, the current account deficit and trade imbalances of the PIIGS nations compared to many core countries have caused some friction amongst academics in terms of the future of the euro. The most prominent theory behind this divide is the lack of participation and loss of competitiveness on the behalf of the PIIGS (Jones, 2011; Bernanke, 2015; di Mauro, 2016; Sinn, 2013). Unlike countries with their unique national currency, the PIIGS cannot devalue their currency in order to settle their current account deficits. The PIIGS nations have been entitled "selfish" and "reckless" on several occasions, but to what extent have they really neglected their responsibilities as part of the union?

2.4   **Literature Summary**

In review, the literature investigated has given valuable knowledge and insight into several different aspects of the research topic. Firstly, macroeconomic complications in the Eurozone have largely been caused by structural imbalances, which have effectively prevented macroeconomic stability. The convergence criteria established in the Maastricht treaty have been criticized for being insufficient and nominal, focusing only on a limited array of simple elements (Bongardt and Torres, 2013). Real convergence, on the other hand, was essentially expected to make the European Monetary Union partaking countries more homogenous in terms of their economic structures, thus bringing the Optimum Currency Area and EMU conditions closer together and alleviating the pressure off of the nominal criteria originally stated in the Maastricht treaty. It should be still noted that although the Maastricht convergence criteria are partly established on the OCA theory, these two still do not fully align with one another.

Sustainability and Growth Pact was created to fulfil the gaps in the treaty concerning fiscal policies (Papadimoulis, 2016). The efficiency and practicality of it has been called into question, since the monetary sanctions have not been imposed on countries breaching the contract despite that being one of the main objectives of the pact.

Wyplosz (2006) argues that the euro has been a triumph, however, the topic has raised many auxiliary problems with it. Poor governance over the monetary policy and a lack of fiscal policy with the absence of dynamic import-substitution policy causes peripheral countries to an endless cycle of borrowing.

Although economic heterogeneity has been most often view as good sign, some have suggested that under OCA theory diverse economies are a higher risk when it comes to asymmetric shocks (Ravenna and Walsh, 2011). Several economists have also concluded that increased specialisation predisposes countries to idiosyncratic shocks. The OCA theory has also been under scrutiny, many have claimed that the EMU was the main contributor to the aggravation of economic imbalances in Europe.

Despite the fact that WST has been built upon dependency theory, it should be noted that they are fundamentally different since they focus on different aspects of the core-

periphery divide. Some theorise that the dispersion could be a direct consequence of the reckless actions of the PIIGS, whilst others believe that it might have been due to the EMU. Nonetheless, the cooperation required for attaining macroeconomic stability is not present between the Member States at the moment (Razin and Rosenfielde, 2012).

3   Research Methodology

3.1   Research Approach

The research conducted in this dissertation is mainly based on positivist approach, and aims to mimic and adapt scientific methodology into economics. The paper will examine the underlying causes of economic divergence in the Eurozone through quantitative analysis and hypothesis testing, thus the data collection and analysis for this research project will mostly follow a deductive approach. Gulati (2009) states that "*deductive means reasoning from the particular to the general*" or forming conclusions from existing propositions, and is often used in researching case studies or theoretical subjects. In addition, Bryman and Bell (2011) agree that this approach is most frequently applied in business research where hypotheses are tested against the researched theory, thus helping the researcher to conclude on the existing relations between the theory and the research outcomes. This technique has also been recommended for beginners due to its straightforwardness and logical reasoning in linking premises with conclusions.

The research objectives for this paper were designed on the basis of mixed-method research, including both quantitative and qualitative research. On the basis of the reviewed theories, two distinct hypotheses were formed. The following hypotheses will be tested through a thorough analysis of existing data in order to conclusively respond to previously stated research questions:

1. The disparities between the PIIGS and the core nations were caused by the adoption of a common currency.

2. The negligence of semi-peripheral countries assisted in the development of macroeconomic imbalances in the Eurozone.

3.2   **Data Collection and Analysis**

This dissertation is composed as a secondary research as it is mostly based on current literature on an on-going event. This is due to the implausibility of sufficient primary data collection for such a small-scale research. Applied, relevant material has been gathered from academic journals and articles, reports, books, working papers and statistical databases. In places where academic literature has not been present or provided encompassing information, newspaper articles and Internet-based sources have been employed to broaden the perspectives.

Through an analysis of various key indicators, ranging from unemployment to interest rates and inflation, the advancements in macroeconomic imbalances in the Euro Area can be explored thoroughly. This review will focus largely on the development and changes in aforementioned metrics over a 30-year period in order to have a comparison before and after the induction of a common currency. In cases where data has been lacking, professional estimates, or a further explanation, have been provided to complete the set.

The countries chosen for this study are: Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Portugal and Spain. The PIIGS nations were selected due to their clear difficulties in complying with the EMU requisites, and their significant deficits. In comparison Finland, France, Germany, and the Netherlands have been predominantly well-performing core countries that have had current account surpluses in recent years. Moreover, all of the abovementioned countries were also part of the original 11 countries, with the addition of Greece, adopting the common currency.

3.3   Limitations

This research focuses solely on the economic aspects of the issue. However, due to the nature and scope of this project, only certain main influences have been researched in greater detail.

In addition, this review focuses only on the PIIGS nations and carefully selected core nations with extensive current account surpluses. Although the research is using a more scientific approach to undertake the hypotheses, the sample size of 9 countries is still quite narrow. In terms of generating a larger scale research on the matter, it would be advisable to include more EZ countries in the comparison in order to fully understand the extent and development of the issue. Furthermore, due to the scale of this study, the analysis only covers the time period from 1987-2016.

Since the research mainly relies on second hand data collection, the creditability of the data could have been compromised. This could be due to the lack of primary research conducted in these areas, an inaccurate or faulty data collection and presentation, or distortion of measurements provided by governments.

4   Discussion, Analysis and Discussion

Several variables measuring the real convergence in the euro area, including unemployment rate, GDP per capita and real effective exchange rate (REER), will be analysed in order to evaluate the hypotheses.

4.1   Unemployment

One of the major measures of macroeconomic divergence is the dispersion of unemployment amongst EZ Member States. The collected data suggests that most of the EZ countries have maintained their unemployment rates between approximately 5 – 10 per cent (hereafter denoted as %). During the early 1990s European recession, most countries experienced some increases in their domestic unemployment rates; however, there are three, two of them being PIIGS nations (see Fig. 1.).

Ireland's unemployment peak in the turn of the decade was the aftermath of large-scale emigration, poor governmental monetary policies and global economic instability (Walsh, 2003). Nonetheless the increase in foreign direct investment and the implementation of several national economic programmes devised to reduce i.e. inflation in the mid-1990s increased domestic employment (Barry, 2003). Spain had experienced comparable issues after a long recessional period (1976-85) after the Franco dictatorship ended and transitioned into a democracy, as did Portugal. Joining to the EU created a tremendous increase in temporary positions, however, in the 1991-94 European recession Spain was hit exceptionally hard due to the overvalued exchange rate of the *peseta* (Bentolila and Jimeno, 2006). Finland was the only core nation that experienced a major surge in unemployment as the Soviet Union, one of their main export destination countries, disintegrated (Honkapohja et al., 1999).

After the euro was launched at the turn of the century, there seems to be a brief period convergence in unemployment rates before the debt crisis. Throughout the EMU enlargement period (2000-2007) a declining pattern in the unemployment rates can be observed, with the omission of Portugal. This has also been followed by a noticeable contraction in the dissemination of these rates until the financial crisis. The economic crisis has definitely affirmed the heterogeneity of employment between the MS, as can be determined from the significant gap between the lowest (Greece) and highest (Germany)

performing country. The difference in the unemployment rates between the two extremes was over 20 percentage points in 2013, giving a standard deviation of 8.1%.

It could also be argued that the decline of the rates has been marginally faster after the formation of the EMU until 2007. The extent of the reduction of this variable is directly proportional to the level of initial unemployment, a classic example being Spain. Nonetheless, divergence in the rate of unemployment has dramatically increased since 2007, exceeding levels that have predominated for the last three decades.

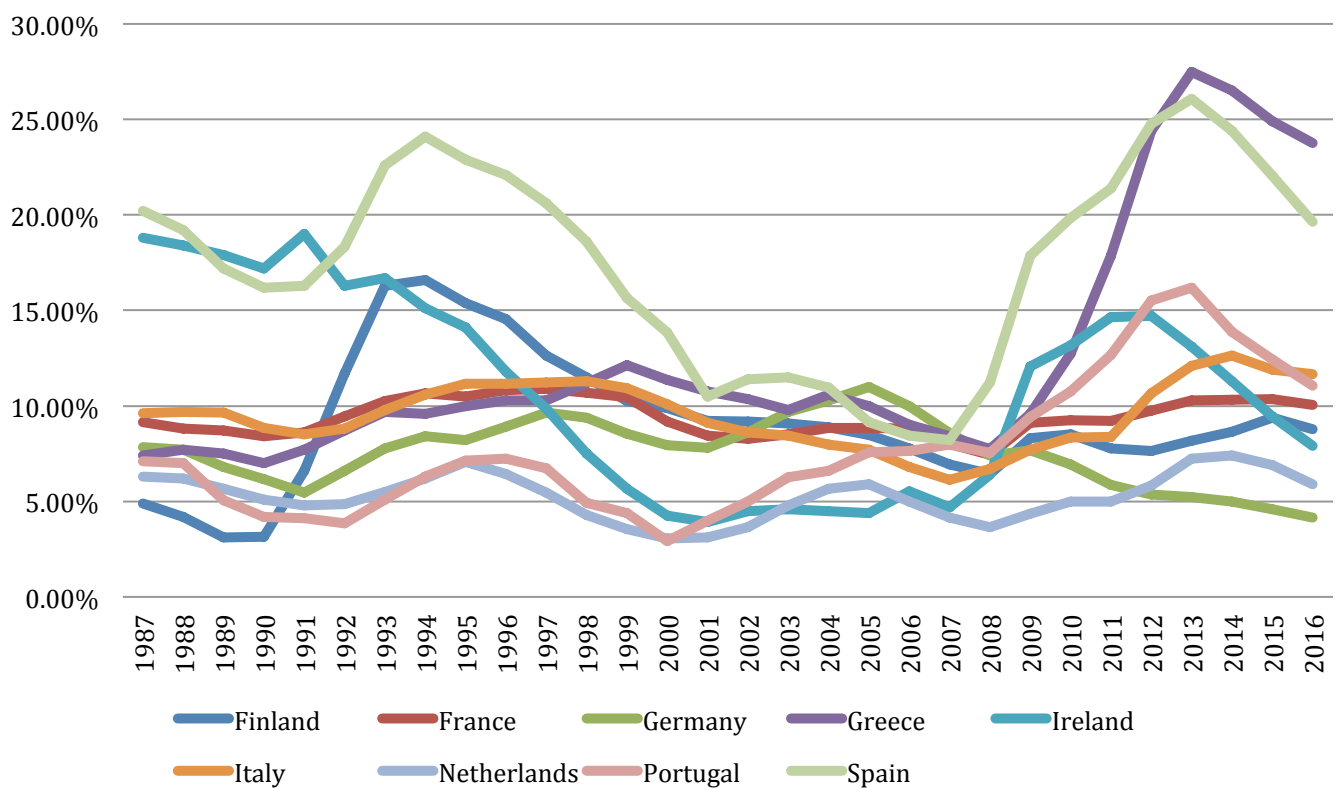## Unemployment Rates per country (1987 - 2016)

Fig. 1. Unemployment rates (1987-2016) per country (IMF World Economic Outlook Database, 2017).

These shifts in unemployment rates could be due to changes in business cycles or the presence of asymmetric economic shocks, notwithstanding the correlation between inflation and unemployment (see Appendix B). Furthermore, the limited labour mobility within the EA and the absence of a stabilising fiscal union that could function as a risk-sharing component against many country-specific shocks. Boeri and Jimeno (2015) go as far as to claim that European unemployment gaps are mostly a direct consequence of

variations in labour market institutions and their responses to economic shocks. These factors also concur with the theory on the EZ not fulfilling the OCA criteria.

The paradox with the current situation is that without higher aggregate demand the Euro Area could encounter an increase in structural unemployment, however, the structural reforms might not be entirely sustainable for many countries. Whereas without the reforms, the measures on aggregate demand will swiftly become exhausted and possibly lose their effectiveness in the long run (Draghi, 2014).

4.2   **GDP per capita**

As mentioned before, in order to attain real convergence the lower-income member states need have to uphold rapid yet sustainable growth to align with high-income states.
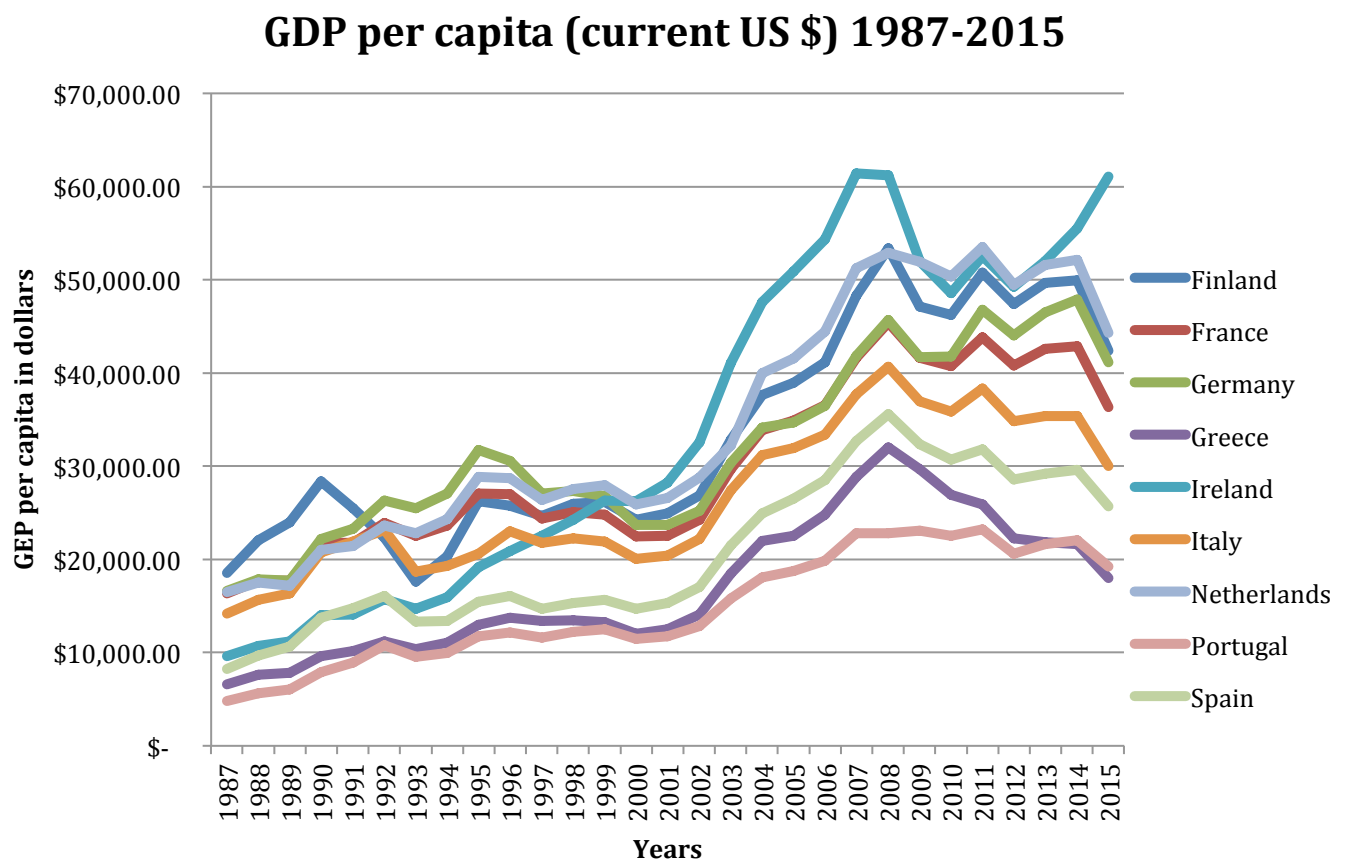

Fig.2. GDP per capita (US $) from 1987 to 2015 (World Bank, 2017).

The GDP per capita has been diverging and not converging as expected after the EMU. As Fig.2. above suggests the PIIGS nations, with the exception of Ireland, have performed significantly worse than their Northern counterparts. This could have been a result of limited competition in sectors, which have not been subjected to global markets. Although there were some serious attempts to limit the deficit and reduce public debt in the 1990s, resulting in nearly balanced public finances in 2000, net lending increased again after the introduction of the euro, despite falling interest costs. In addition, large tax rates, followed by enduring deficits, and a intense public debt level could be argued to have been a significant factor for stagnating economic growth.

According to the *beta-convergence* approach[4] GDP per capita of different countries can be evaluated and investigated in terms of whether they are converging to a singular level. The regression on pre-crisis interval detects a clear convergence between states; however, this soon disappears after the start of the financial crisis. The most feasible explanation for this trend is that nominal convergence, after the successful adoption of the euro and fulfilment of the Maastricht criteria, contributed towards a legitimate integration of the EZ countries coinciding with endogeneity of the OCA theory criteria.

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[4] Calculations have been conducted by Marelli and Signorelli (2015) and can be found from Appendix C.

4.3   **Government debt**

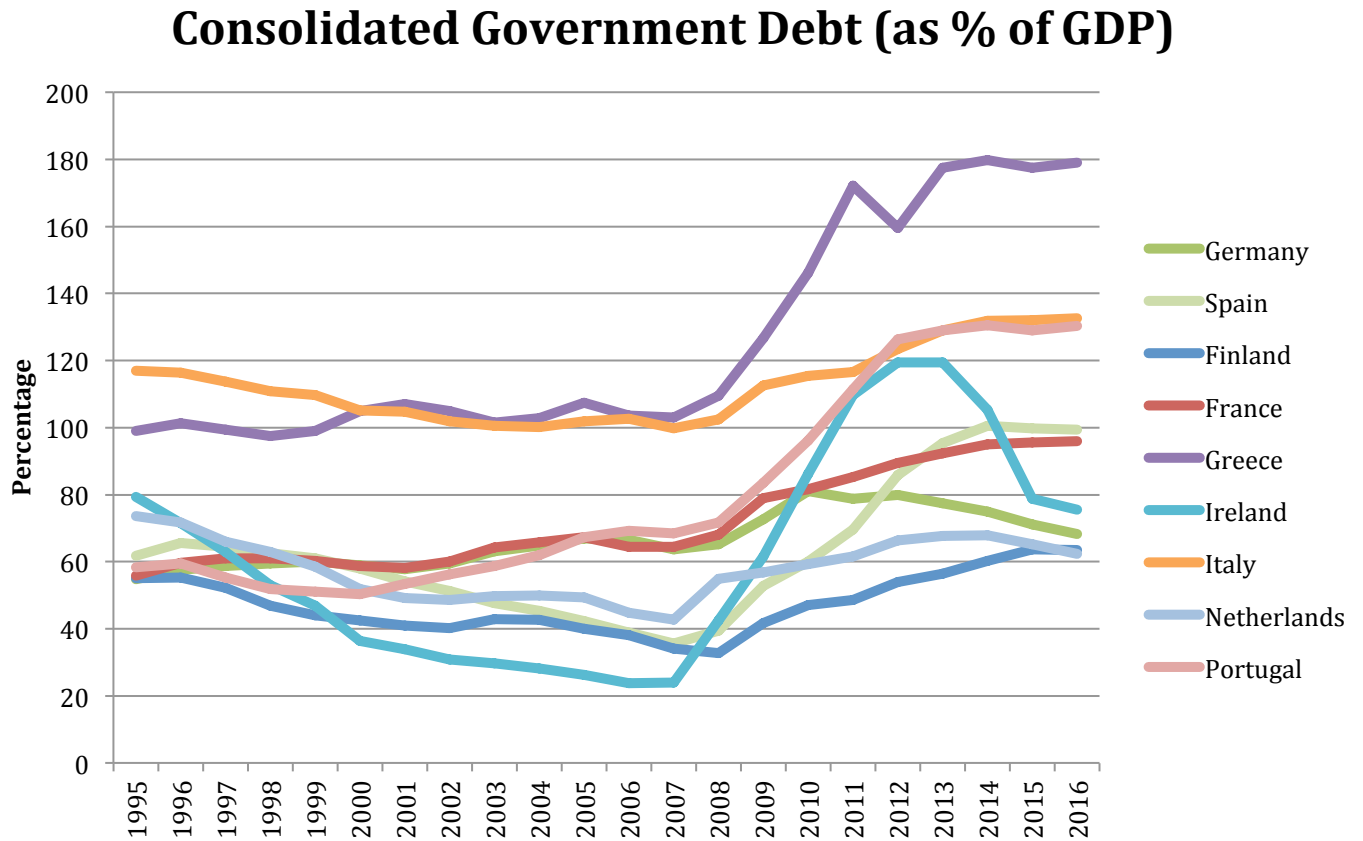# Consolidated Government Debt (as % of GDP)

Fig. 3. Consolidated government debt as a percentage of GDP (Statistical Data Warehouse, 2017)

In order to keep the data manageable, national government debts are presented on a consolidated basis[5]. Nearly all EMU countries acquired more debt after 2008, mostly due to a mix of increased borrowing costs and larger expenditures. Thus, by 2015, most of the countries that were struck hardest by the financial crisis, namely the PIIGS, displayed paramount debt-to-GDP ratios. Despite the fact that excessive debt levels have mostly been an issue for the periphery, it seems to have seeped through to the core possibly as a result of bank bailouts and financial aid packages (Mody and Sandri, 2011).

4.4   **Current account balances**

Figure 5 on the following page depicts the development of current account balances as a percentage of national GDP in the selected EA countries.

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[5] The calculations do not take into account transactions that have been conducted across a single sector, i.e. loan swaps between non-financial institutions (OECD, 2014).

The current account imbalances were at a moderate level in the pre-EMU era, despite few countries were displaying sizeable disproportions: Portugal and Greece on deficit, and Finland on surplus. It should also be noted that the 2000-2007 period in the EMU consists of two phases: economic expansion and crisis. The former is often associated with a significant broadening of current account imbalances, until being almost entirely dismantled by the latter. This seems to indicate a serious cyclical pattern that regulates the economic system[6].
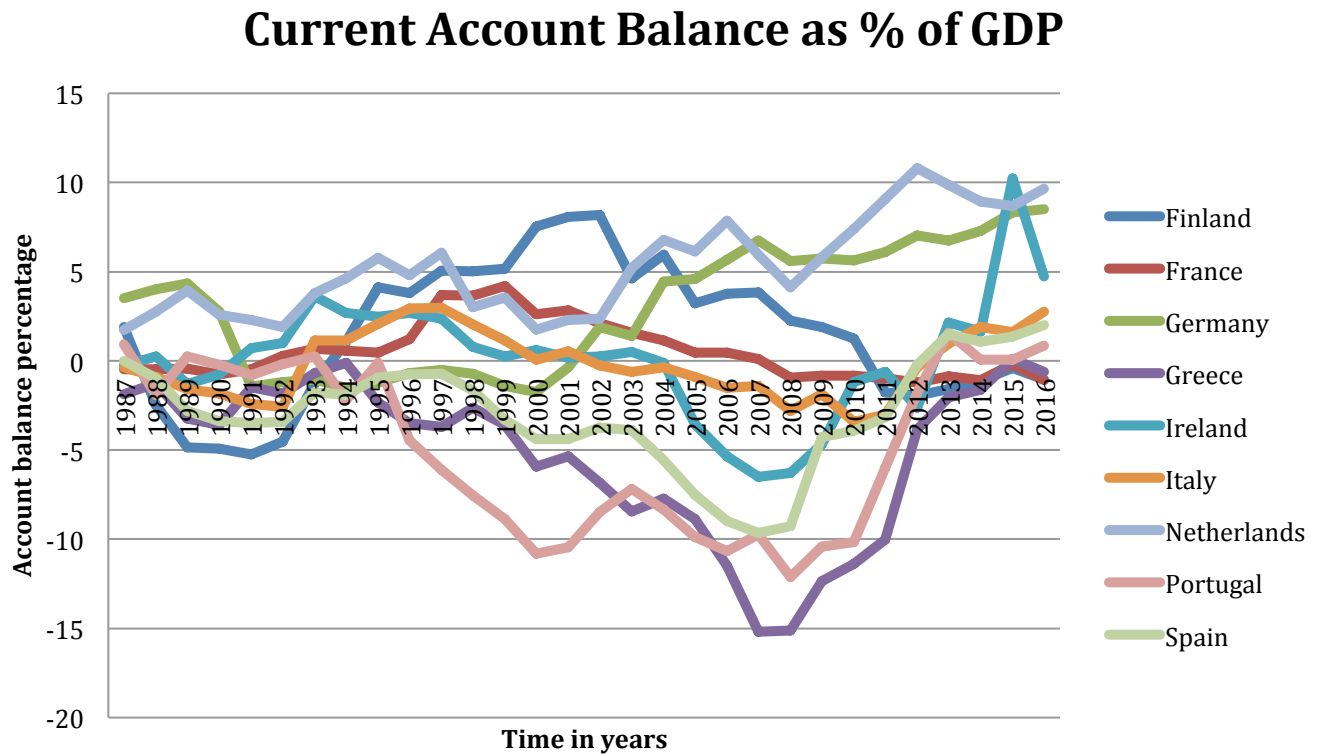
Current Account Balance as % of GDP

Fig. 4. Current account balance as a percentage of GDP (IMF World Economic Outlook Database, 2017)

Exaggerated, optimistic domestic booms deriving from fiscal exuberance and cheap credit is one of the explanations for the large current account deficits that are evident after the euro began circulation. It also appears that during periods of higher consumer spending and consumer-led economic growth, the amount spent on imported goods will increase (see Appendix B). From this, it could be concluded that GDP growth has had a substantial negative impact on the current accounts. Since 2000, this cycle seems to have become more robust. Calculations have also revealed a negative relationship between the current

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[6] Empirical evidence suggests that this seems to have become more apparent post-EMU (Estrada, Galí and López-Salido, 2013).

accounts and price competitiveness (Appendix C). These relative rises in prices are often correlated with the surge of current account deficits post-2007.

As current EMU (semi-)peripheral countries, which share a resemblance with the newer MS, demonstrate how joining the euro with a feeble current account can lead to steadfast CA imbalances. These could induce a serious slow down in the recovering process, similarly to Portugal's experience.

4.5   **Real Effective Exchange Rate**

Before assessing convergence of interest rates, it is crucial to differentiate between nominal and real interest rates[7]. Assuming the nominal interest rates' convergence in the EMU was established, REER still may not be overlooked. Persistent features of inflation can prompt radically diverse real interest rates, in which low REER are often associated with higher inflation rates (Drastichová, 2013).
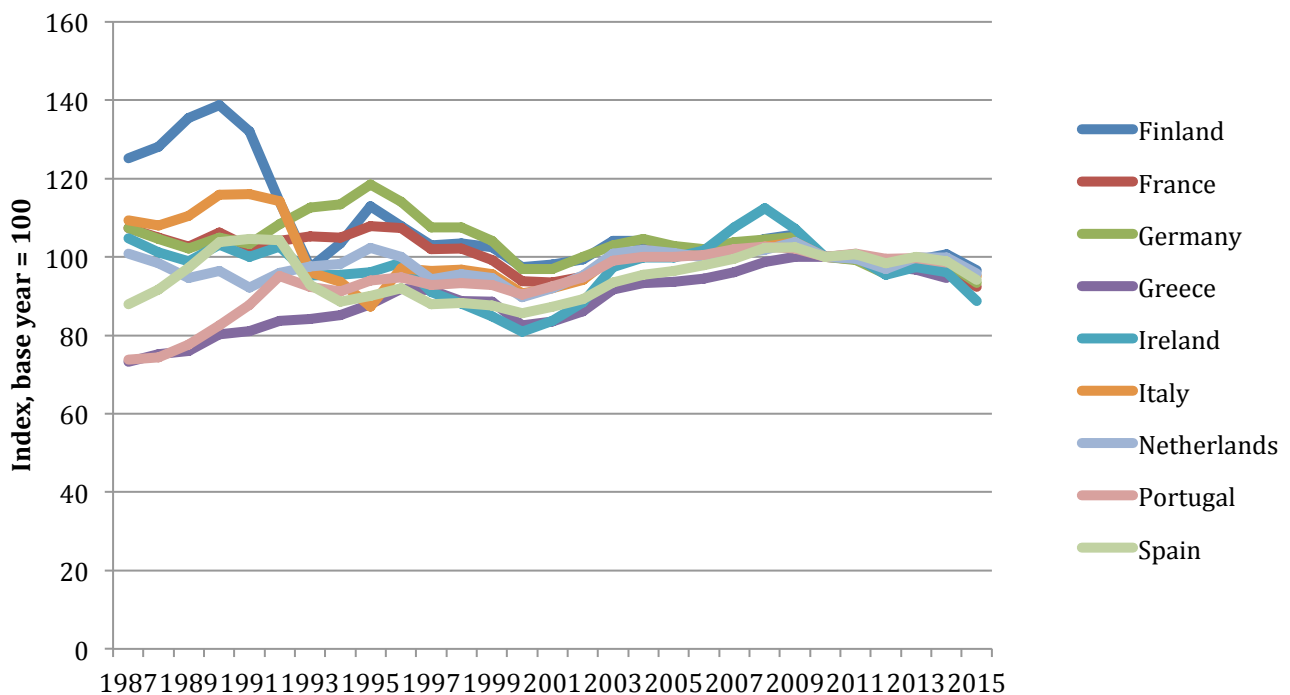
Real Effective Exchange Rate 1987-2015

Fig 5. REER 1987-2015 (Bluenomics, 2017).

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[7] For more in-depth evaluation see Mongelli (2002).

As depicted in Fig 5., the REER fluctuation experienced a significant offset for both the Southern and the Northern Member States after the debut of the Maastricht criteria in 1997. Surprisingly, this also coincides with the onset of the increases in current account imbalances within the EMU. Between 1999 and 2008, Germany was one of the only EA members with a falling real exchange rate. During the same period, the average competitiveness in the periphery diminished by an annual 1.8 percentage points whilst in the core it remained quite stagnant. Significant adjustments arose during the sovereign debt crises, which helped to reduce the macroeconomic imbalances. This improvement is clearly visible in the negative relationship between the changes in REER and CA balances from the pre-crisis and post-crisis period (see Table 2, Appendix C). It should also be noted that the core countries devalued their REER, through steadily improving their unit labour costs, whilst the peripheral countries fell farther behind. Hence, it could be argued that an adjustment device could have been halted by the introduction of a common currency.

4.6   Competitiveness

The deterioration of competitiveness is also apparent from the declining and volatile export performance (see Appendix B). Also, traditional performance indicators demonstrate a significant decline in competitiveness, especially amongst the PIIGS nations, since the adoption of the euro. For example, the increases in unit labour costs (ULC) and considerable appreciation of REER (see section 4.5) have much larger in comparison to other euro area countries. The data are also in accordance with the assumption that the competitiveness of these states declined, assisting in the accumulation of government debt and current account deficits in the early 2000s.

In order to gain a more in depth understanding on the competitiveness within a euro area, the Global Competitiveness Index (GCI) formulated by the World Economic Forum and its set of exhaustive variables will be investigated. The GCI has often used as equipment when considering the macroeconomic features pivotal for growth and national competitiveness. It consists of twelve pillars[8], comprising of elements such as the condition of a state's public and private institutions, the state of communications and transportation infrastructure and the quality of education, that have been deemed crucial for economic

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[8] A compressed summary has been provided in Appendix D.

growth. Furthermore, the index also covers labour, development and the effectiveness of financial markets.

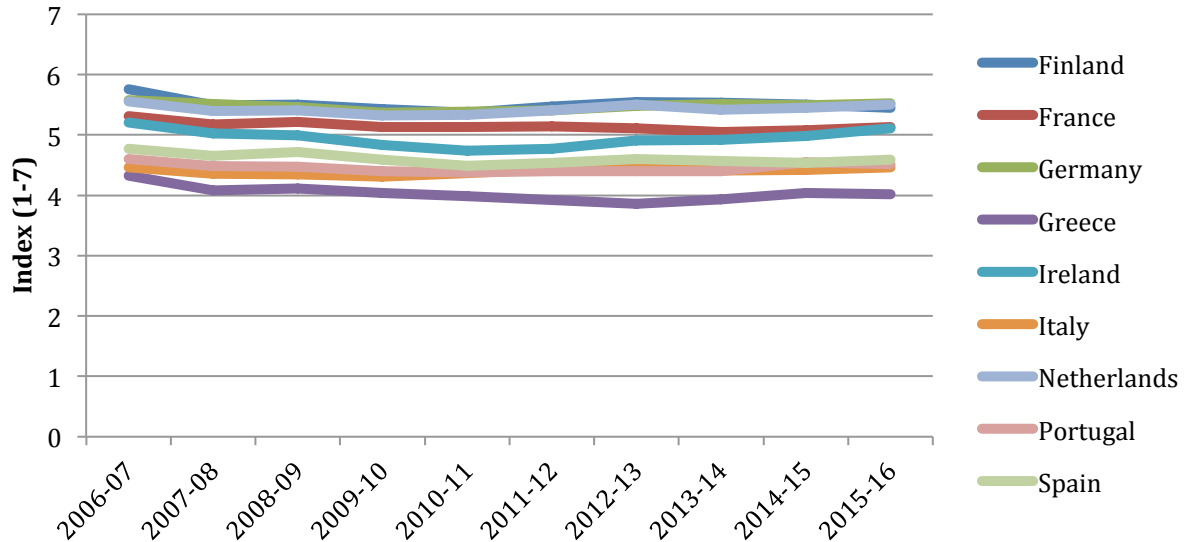## Global Competitiveness Index 2006-2016

Fig 6. GCI 2006-2016 (World Economic Forum Global Competitiveness Reports, 2006-2016)[9].

Peripheral countries have exhibited both large amounts of CA deficits and significantly lower competitiveness levels compared to the core nations. After the outburst of the financial crisis, there has been as significant reversal in current account deficits[10], however price and cost competitiveness have experienced only slight adjustments. This creates some uncertainty concerning the endurance of convergence when it comes to external balances and implying that rebalancing may be partially justified by cyclical factors, i.e. input from imports.

The EU has also begun to produce harmonised competitiveness indicators (HCI) to provide a consistent measure of the price competitiveness of euro area member states (ECB, 2007). Furthermore, the HCI is comparable with the REER of the euro and several other competitiveness indices. The divergence in HCI progressions could be a result of "*different price developments and … foreign trade specialisations*" (ECB, 2007). Empirical evidence[11] illustrates how tenacious inflation features across different Member States

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[9] Unfortunately due to lack of documentation in this stage, the GCI range is begins only from 2006.

[10] With the exception of Ireland and Spain.

[11] HCI table 1999-2006 available in Appendix C.

have had a substantial effect on the heterogeneity of HCI advancements. The states that seemed to have significant improvements in price competitiveness since the introduction of the euro also reported the smallest inflation rates. On the contrary, the recorded inflation levels of the PIIGS largely exceeded the euro area average. Nonetheless, some divergence may actually be substantiated as far as it reflects a "*longer-term catching-up process*" or price readjustments regarding asymmetric shocks (ECB, 2007).

5   Conclusion

The first decade of the European Monetary Union has been associated with converge in unemployment rates across the Eurozone, a trend that was disrupted and diverted by the financial crisis. Empirical evidence and the data collected suggest that macroeconomic imbalances in the Eurozone are not a new phenomena, but instead an on-going cycle that has developed over time.

Despite the outstanding disparities of unemployment in the Eurozone during the latest recession period, EMU has not forestalled the progression of these imbalances.
The absence of country-specific fiscal or monetary policies and the lack of risk-sharing mechanisms may have facilitated some of the great deviation in unemployment performances. Furthermore, the evidence suggests a significant convergence of inflation rates amongst Member States. But as with unemployment, the data implies that EMU itself has not been the main contributor towards that convergence. One of the reasons for this is that the event of inflation convergence was put in motion long before the EMU was established, and the phenomenon has not been limited to euro area members. Overall, the presence of the monetary union seems to have had little effect on the stability or acceleration of convergence in Europe. The first hypothesis that was tested suggested that the disparities between the PIIGS and the core nations were facilitated by the introduction of the euro. On the contrary to the hypothesis, empirical evidence shows that the divergence was not entirely a direct ramification of implementing a common currency.

Empirical data shows that competitiveness in the Southern countries is significantly lower than in their Northern counterparts. Similar progress was also visible in the inflation rates. Although the PIIGS generally had significantly larger current account deficits than the EZ average, it does not make them entirely responsible for the divergence. In the peripheral countries with closed capital accounts to protect their weaker currencies and large segments of the population that were credit-constrained pre-EMU. After the capital liberalisation credit became readily available and caused these states to experience severe indebtedness. Tight external regulations were followed by strict credit market restrictions, limiting the capacity for domestic credit extensions. Furthermore, the periphery generally had larger financial exposure and more relaxed credit market regulation than the core countries. These traits are due to the differences in currency regimes: the core economies could remain open as a result of hard currencies whilst simultaneously exonerating them from doing macroeconomic adjustments by using their

domestic credit policies. Furthermore, the overvaluation of the real effective exchange rates caused damage in export-oriented countries, helped in the creation of a housing bubble and large deficits in the current accounts. Nonetheless, many of the factors that contributed to the imbalances have now either significantly diluted or completely vanished. This could suggest that the reverse adjustments that were observed during and after the sovereign debt crisis are to remain in the near future. This suggests that the our secondary hypothesis on the irresponsibility of the PIIGS nations was only partially correct: some of the imbalance were a direct result of the behaviour of these countries, however, these only amalgamated on top of the pre-existing discrepancies.

Despite the ideal scenario of a fully integrated European economy being still quite unrealistic and unachievable in the upcoming year that does not mean that all hope is lost. The continent continues to be very economically interdependent, however, the growing gap between nations could cause permanent damages unless addressed.

It should be acknowledged that due to the partial data sets (as complete data covering the entire time period was unavailable or inaccessible with some variables) some of the analysis with these variables has been fragmentary. If this research were to be replicated, it would be advisable to confirm the access to relevant data sources beforehand. Also, a focus on one hypothesis instead of two would have provided a clearer foundation for the research.

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Appendix A: EMU Timeline

1970   The Werner Report, named after Luxembourg's then Prime Minister and Finance Minister, sets out a three-stage approach to EMU – which is shelved because of difficult economic conditions in the early 1970s.

1978   The European Monetary System is launched, consisting of an Exchange Rate Mechanism (ERM) and the European currency unit (ECU).

1989   The Delors Report (named after the then Commission President Jacques Delors) maps out the road to EMU in three stages.

1990   Launch of the first stage of EMU: closer economic policy coordination and the liberalisation of capital movements.

1992   Signature of the Maastricht Treaty setting out the timetable for Economic and Monetary Union and the convergence criteria that Member States will be required to meet to participate in EMU.

1994   Start of the second stage of EMU: creation of the European Monetary Institute (EMI). Member States are required to work to fulfil the five convergence criteria on inflation, interest rates, government deficit and debt, and exchange rate stability.

1995   Madrid EU summit: The single currency is named 'the euro', and the scenario for the third stage of EMU – the introduction of the euro – is set out, with a three year transition period between the introduction of the new currency and the launch of euro cash.

1997   The Stability and Growth Pact is agreed at the Amsterdam EU summit, to ensure that Member States maintain budgetary discipline in EMU. The European Council also agrees on the revised exchange rate mechanism (ERM II), which links the euro and currencies of non-participating Member States.

May 1998   The European Council agrees to launch the third stage of EMU on 1 January 1999 and that 11 of the 15 Member States meet the criteria to adopt the single currency. They are: Belgium, Germany, Spain, France, Ireland, Italy, Luxembourg, the Netherlands, Austria, Portugal and Finland. It establishes the European Central Bank, which replaces the EMI as of 1 June 1998.

June 1998   The European Central Bank starts operating with a mandate to decide and conduct monetary policy for the euro area. The primary objective of the ECB is to maintain price stability 31 December 1998. The exchange rates between the

euro and the currencies of the Member States that will adopt the euro are irrevocably fixed as from 1 January 1999.

Jan 1999   Start of the third stage of EMU: the euro is launched as the single currency for 11 Member States. However, the euro only exists as a virtual currency.

Jan 2001   Following compliance with the Maastricht criteria, Greece becomes the 12th country to join the euro area.

Jan 2002   Euro banknotes and coins are introduced in the 12 euro-area Member States.

Jan 2007   Slovenia becomes the 13th member of the euro area in 2007.

Jan 2008   Cyprus and Malta bring the number of euro-area members to 15.

Jan 2009   The euro celebrates its first 10 years, and welcomes its 16th member - Slovakia.

Jan 2010   EU condemns major irregularities in Greece's accounts, their deficit being 12.7 per cent, which is over four times the maximum limit.

May 2010   Member States agree on a € 110 bn bailout package for Greece.

Jan 2011   Estonia joins the euro. Eurozone and IMF approve bailout for Portugal, whilst second bailout for Greece is agreed upon.

Aug 2011   European Commission warns that the debt crisis might spread from the periphery to other countries.

Jan 2012   S&P downgrades the credit rating for eight EZ countries including France and Finland. Greece "fiscal pact" is agreed upon.

Feb 2012   Greek austerity bill passes; Eurozone service sector faces recession.

Jun 2012   After the general election in Greece, fears of the country exiting the EZ causes unease amongst other allying states.

Appendix B: Data Charts
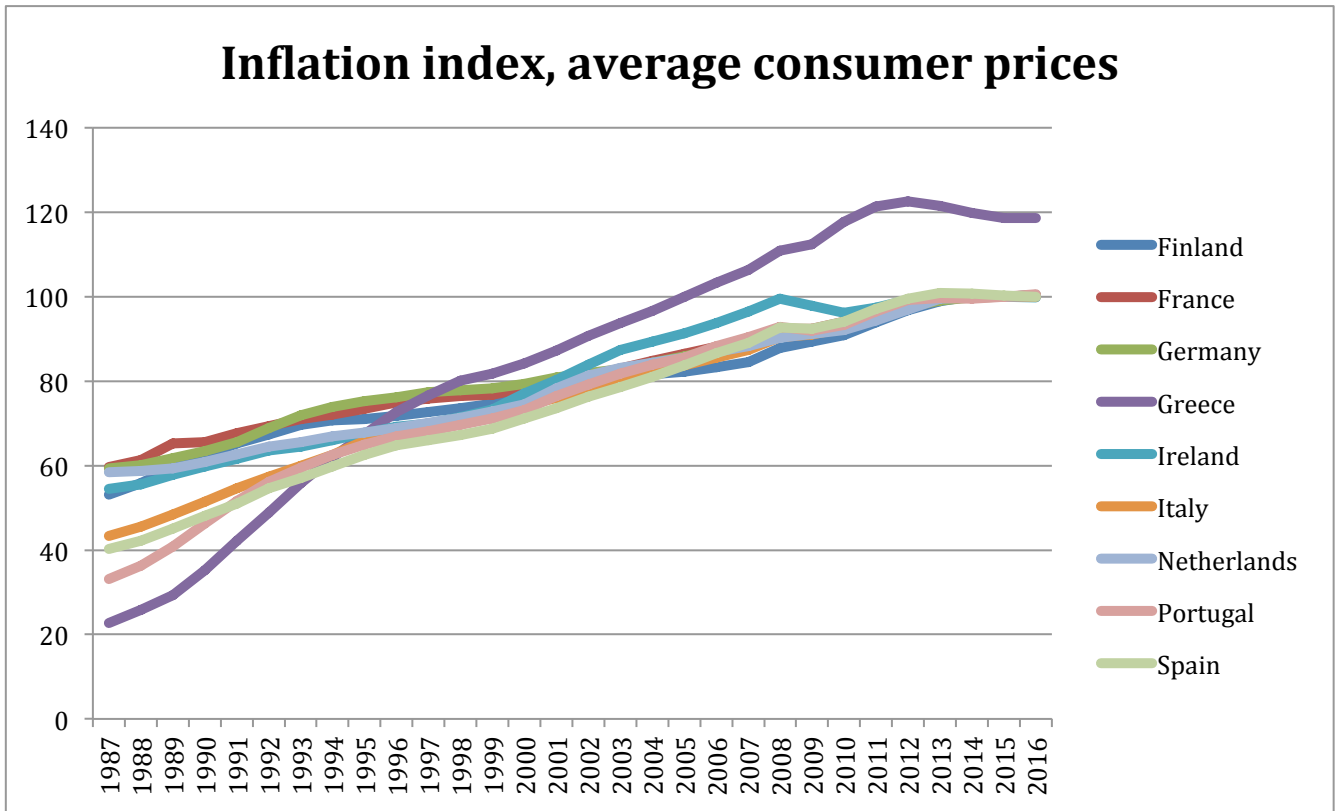
Inflation index, average consumer prices

(IMF World Economic Outlook Database, 2017)

Per cent changes in the volume of imports of goods and services
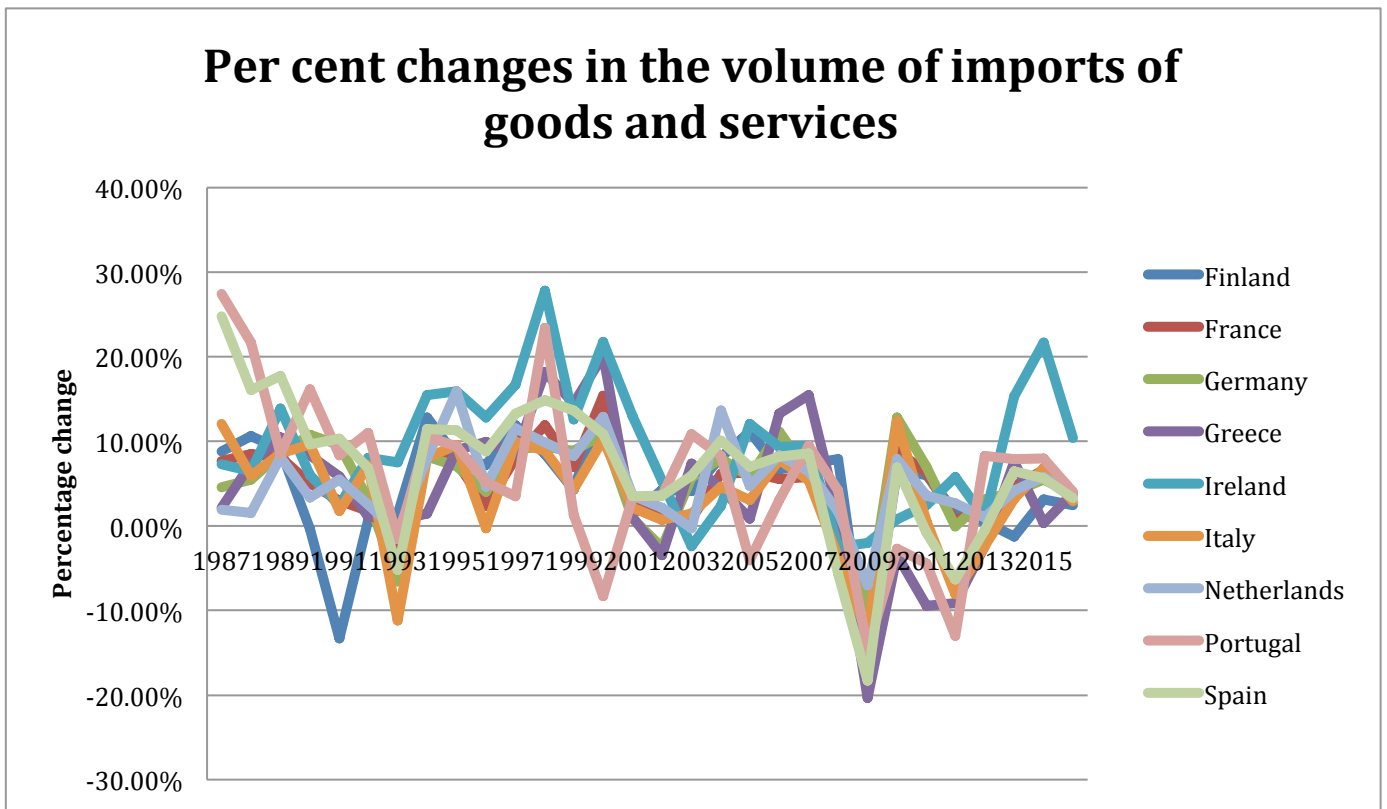
(IMF World Economic Outlook Database, 2017)

Per cent changes in the volume of exports of goods and services
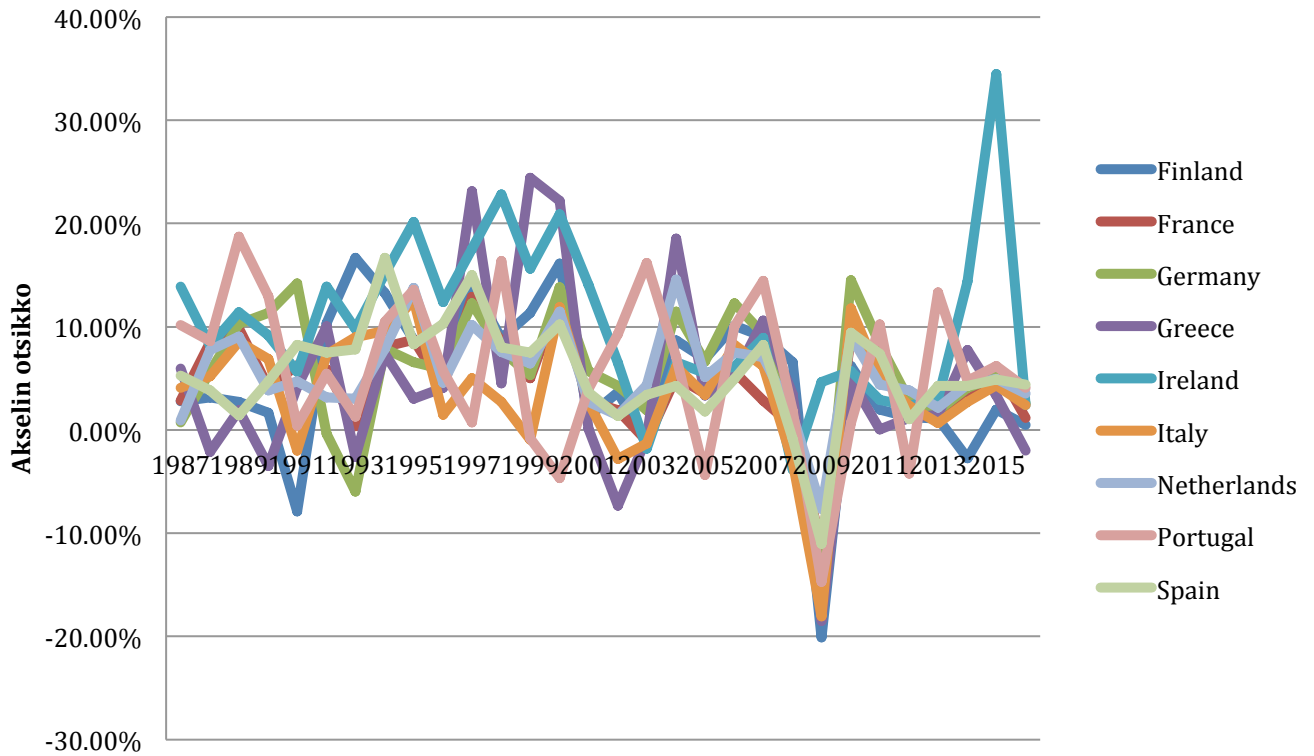
(IMF World Economic Outlook Database, 2017)

Long-term interest rates 1993 - 2016

(Statistical Data Warehouse, 2017)

Unit Labour Costs 2000-2016
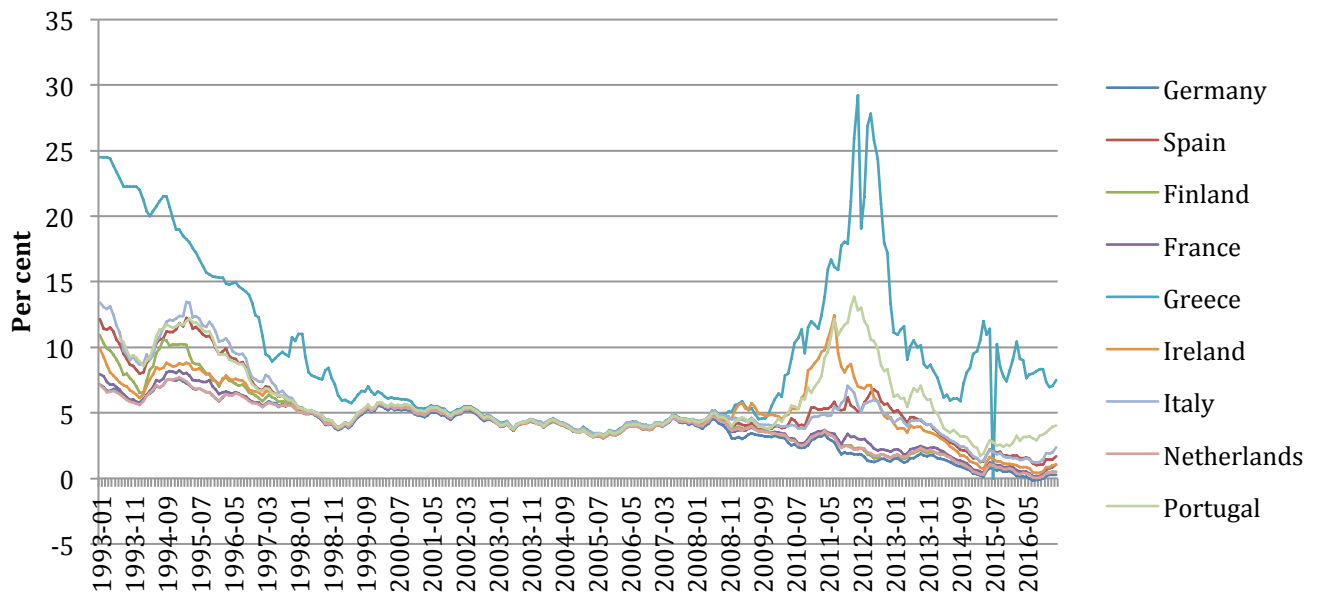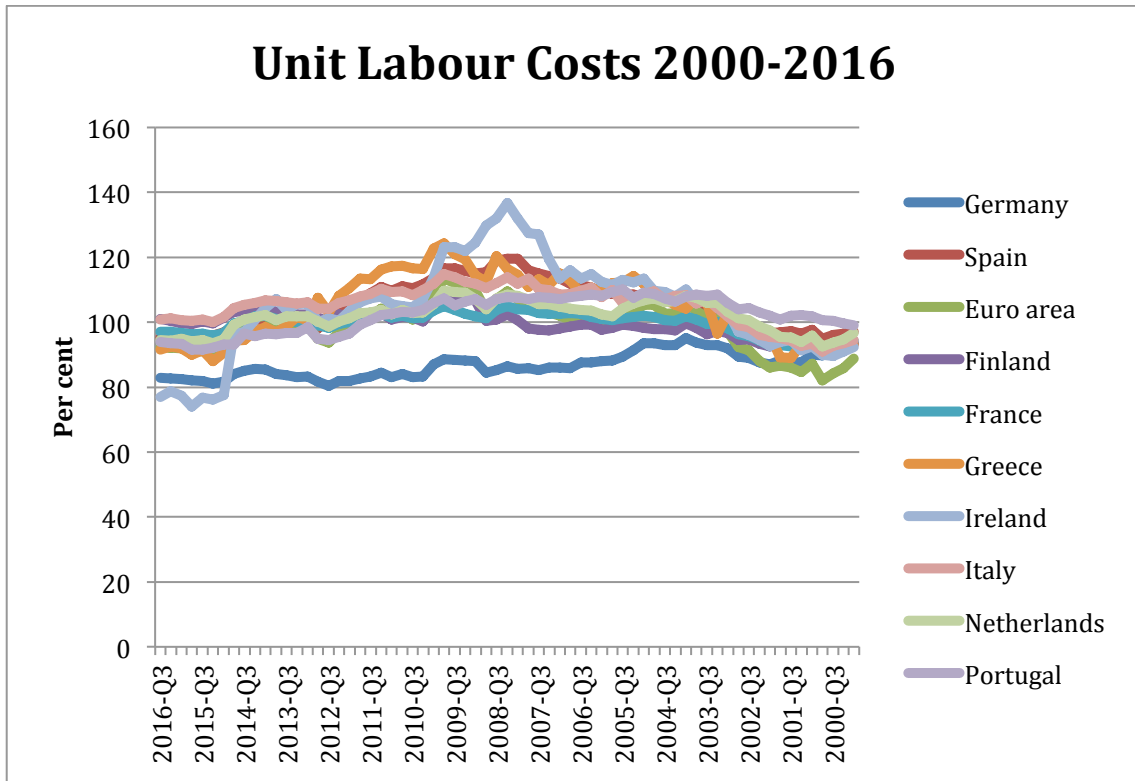
(Euro area statistics, 2017)

Appendix C: Data Tables

TABLE 1. CURRENT ACCOUNT DETERMINANTS. Dependent Variable: Change in Current Account (ΔCC). OLS (robust standard errors)

	1985-1998	1998-2007	2007-2012	1985-1998	1998-2007	2007-2012
Euro Area Countries						
Intercept	0.318 (0.119)	0.662 (0.104)	0.022 (0.288)	0.562 (0.080)	0.861 (0.334)	1.243 (0.120)
GDP growth	-0.118 (0.041)	-0.291 (0.117)	-0.619 (0.068)	-0.025 (0.021)	-0.098 (0.132)	-0.274 (0.051)
Tradable prices	-0.222 (0.034)	-0.162 (0.127)	-0.149 (0.072)	-	-	-
Unit labor costs	-	-	-	-0.177 (0.022)	-0.414 (0.099)	-0.628 (0.065)
Adj. R²	0.589	0.209	0.480	0.679	0.408	0.967

Table 1. Current Account Determinants (Estrada, Galí and López-Salido, 2013).

	REER (% pa)			CA balance (as % of GDP)		
	1999 - 2008	2009 - 2016	Change	1999 - 2008	2009 - 2016	Change
Finland	0.26	0.58	0.32	5.49	-0.57	-6.05
France	0.51	-0.57	-1.09	0.47	-1.87	-2.34
Germany	-1.35	0.47	1.82	2.80	6.94	4.14
Greece	1.44	-1.95	-3.39	-10.98	-5.79	5.19
Ireland	3.26	-3.57	-6.83	-2.52	1.78	4.30
Italy	1.36	-0.27	-0.27	-0.80	-0.14	0.66
Netherlands	0.90	-1.03	-1.03	5.99	7.75	1.77
Portugal	0.89	-1.44	-2.33	-9.85	-3.52	6.33
Spain	1.95	-2.05	-4.01	-6.01	-1.17	4.84

Table 2. Macroeconomic imbalances in the Euro area (IMF World Economic Outlook Database, 2017).

Developments in HCIs based on consumer price indices across euro area countries

(annual percentage changes; percentages)

	Change in HCI Q1 1999-Q4 2006[1]	Average annual HICP inflation (1999-2006)	Extra-euro area trade share[3]
Belgium	2.5	2.0	45.9
Germany	-2.7	1.5	57.6
Ireland	17.0	3.4	67.7
Greece	4.0	3.2	43.8
Spain	11.2	3.2	37.5
France	0.8	1.8	46.9
Italy	4.3	2.3	48.2
Luxembourg	8.5	2.7	39.2
Netherlands	6.9	2.5	52.0
Austria	-2.0	1.7	38.9
Portugal	7.5	3.0	30.9
Slovenia	1.1	5.7	36.4
Finland	-2.7	1.5	60.0
euro area[2]	4.3	2.0	

Sources: Eurostat, European Commission (Ameco database) and ECB calculations.
1) A negative (positive) number signifies an increase (decrease) in price competitiveness.
2) In the first column, the figure for the euro area refers to the REER based on consumer price indices. In the second column, the euro area HICP inflation rate refers to the countries participating in the euro area before 2007.
3) Shares are measured in overall trade terms, including third-market effects.

(ECB, 2007)

	Eurozone 18		EU 15	EU 27
Period	1999-2007	2008-2012	1995-2007	2008-2012
No. obs.	18	18	15	27
Beta coefficient	**-0.035*****	**-0.008**	**-0.007**	**-0.023****
Adj. R2	0.466	-0.035	0.052	0.185

Significance levels: 1 percent ***, 5 percent **, 10 percent *; constant not reported

(Marelli and Signorelli, 2015)

Appendix D: Global Competitiveness Index Pillars

Institutions
Concepts related to protection of property rights, efficiency and transparency of public administration, independence of the judiciary, physical security, business ethics and corporate governance
● Public institutions
● Private institutions

Innovation
Capacity for, and commitment to technological innovation

Business sophistication
Efficiency and sophistication of business processes in the country

Market size
Size of the domestic and export markets
● Domestic market size
● Foreign market size

Technological readiness
Adoption of the technologies by individuals and businesses.
● Technological adoption
● ICT use

Infrastructure
Quality and availability of transport, electricity and communication infrastructures
● Transport infrastructure
● Electricity & telephony infrastructure

Financial market development
Efficiency, stability and trustworthiness of the financial and banking system
● Efficiency
● Trustworthiness and confidence

Macroeconomic environment
Fiscal and monetary indicators, savings rate and sovereign debt rating

Health & primary education
State of public health, quality and quantity of basic education
● Health
● Primary education

Higher education & training
Quality and quantity of higher education, and quality and availability of on-the-job training
● Quantity of education
● Quality of education
● On-the-job training

Goods market efficiency
Factors that drive the intensity of domestic and foreign competition, and demand conditions
● Competition
● Quality of demand conditions

Labour market efficiency
Labour market efficiency and flexibility, meritocracy and gender parity in the workplace
● Flexibility
● Efficient use of talent

(Global Competitiveness Report, 2014)