Alexandra Horvath, BA

Impact of the TTIP on the Optimum Currency Area in Europe
Stabilizer or Destabilizer during the Process of Monetary Integration

Master’s Thesis
Submitted in Partial Fulfilment of the Requirements for the Degree of

Master of Science
Studies of International Management
Alpen-Adria Universität Klagenfurt
Faculty of Management and Economics

Supervisor: Dr. jur. Kurt A. Wagner
Presupervisor: Mag. Alexander Herbst

Department of Financial Management
Department of Finance and Accounting

July 2015
Declaration of honour

I hereby confirm on my honour that I personally prepared the present academic work and carried out the activities directly involved with it by myself. I also confirm that I have used no resources other than those declared. All formulations and concepts adopted literally or in their essential content from printed, unprinted or Internet sources have been cited according to the rules for academic work and identified by means of footnotes or other precise indications of source.

The support provided during the work, including significant assistance from my supervisor has been indicated in full.

The academic work has not been submitted to any other examination authority. The work is submitted in printed and electronic form. I confirm that the content of the digital version is completely identical to that of the printed version.

I am aware that a false declaration will have legal consequences.

(Alexandra Horvath) (Klagenfurt am Wörthersee, 29/7/2015)
Table of Contents

List of Figures .................................................................................................................................................. III
List of Tables .................................................................................................................................................... III
List of Abbreviations ...................................................................................................................................... IV

1. Introduction ................................................................................................................................................ 1

2. Optimum Currency Area (OCA) .................................................................................................................. 4
   2.1 The OCA Theory ................................................................................................................................... 4
   2.2 Main Benefits of a Currency Area ......................................................................................................... 6
       2.2.1 Transaction Costs and Goods Prices .............................................................................................. 6
       2.2.2 Moderation of Uncertainty ............................................................................................................. 7
       2.2.3 Quality of Monetary Policy ............................................................................................................ 8
   2.3 Main Costs of a Currency Area .............................................................................................................. 9
       2.3.2 Asymmetric Shocks ......................................................................................................................... 10
       2.3.3 Insurance Payments ......................................................................................................................... 10
       2.3.4 Policy Preferences and Legal Systems ............................................................................................ 11
   2.4 The Optimum Currency Area Criteria .................................................................................................. 12
       2.4.1 Labor Mobility (Mundell) .............................................................................................................. 13
       2.4.2 Openness of Countries (McKinnon) ............................................................................................... 14
       2.4.3 Production Diversification (Kenen) ................................................................................................. 15
       2.4.4 Fiscal Transfers ............................................................................................................................... 15
       2.4.5 Political Integration and Homogeneous Preferences ....................................................................... 16
       2.4.6 Solidarity ........................................................................................................................................ 17
   2.5 Is Europe an Optimum Currency Area? .................................................................................................... 18

3. The Economic and Monetary Union (EMU) ............................................................................................... 25
   3.1 The Levels of Economic Integration in Europe ....................................................................................... 25
       3.1.1 The current EMU member states .................................................................................................... 27
       3.1.2 The Impossible Trinity .................................................................................................................... 28
   3.2 The Eurozone Entry Conditions ............................................................................................................ 29
       3.2.1 Inflation ........................................................................................................................................... 30
       3.2.2 Long-term nominal interest rate ................................................................................................... 30
       3.2.3 ERM II membership ....................................................................................................................... 30
       3.2.4 Budget deficit .................................................................................................................................. 30
       3.2.5 Public debt ..................................................................................................................................... 31
   3.3 Euro Candidates ..................................................................................................................................... 31
   3.4 Eurozone Members .................................................................................................................................. 32
List of Figures

Figure 2.1 The logic of the OCA theory (Baldwin & Wyplosz, 2012) ........................................ 5
Figure 2.2 Consumer surplus (Economics Online, 2015) .......................................................... 7
Figure 2.3 Adverse Demand Shock (Baldwin & Wyplosz, 2012) ................................................. 9
Figure 2.4 Openness to trade 2011 (Baldwin & Wyplosz, 2012) ................................................. 20
Figure 2.5 Trade dissimilarity index (Baldwin & Wyplosz, 2012) ............................................. 21
Figure 2.6 Feeling European? (TNS, 2014) ............................................................................... 23
Figure 2.7 OCA criteria Europe (Baldwin & Wyplosz, 2012) ..................................................... 24
Figure 3.1 Levels of economic integration (Rodrigue, 2015) ....................................................... 27
Figure 3.2 Euro area 1999–2015 (ECB, 2015h) ....................................................................... 28
Figure 3.3 Impossible Trinity (Wikimedia Commons, 2014) .................................................... 29
Figure 3.4 Functions of Financial Systems (ECB, 2015f) ........................................................... 37
Figure 3.5 EONIA (Place du Luxembourg, 2013) ...................................................................... 38
Figure 3.6 Countries under EDP (European Commission, 2014e) ............................................ 41
Figure 4.1 Free Trade Agreements (European Commission, 2013c) ........................................... 44
Figure 4.2 Trade costs (Felbermayr et al., 2013) .............................................................. 53
Figure 4.3 Real income per capita (Felbermayr et al., 2013) .................................................. 55
Figure 4.4 Long-term real wages (Felbermayr et al., 2013) ..................................................... 56
Figure 4.5 Welfare Effects (Rant, 2015c) .................................................................................. 59
Figure 5.1 Changes in performance and relative innovation intensity (EC, 2014f) ............ 71
Figure 5.2 Change in real per capita income (Felbermayr et al., 2013) ..................................... 73

List of Tables

Table 3.1 EDP since 1999 (Balwin & Wyplosz, 2012) ............................................................. 40
Table 5.1 Change in employment, unemployment rate and real wages (Felbermayr et al., 2013) .................................................................................................................... 63
Table 5.2 Change in German foreign trade with traditional partner countries (Felbermayr et al., 2013) ........................................................................................................... 66
Table 5.3 Change in German foreign trade with GIIPS countries (Felbermayr et al., 2013) .............................................................................................................................. 67
Table 5.4 Top 10 countries for FDI positions (Eurostat, 2014) ............................................. 67
List of Abbreviations

ASEAN  Association of Southeast Asian Nations
BWS  Bretton Woods System
CC  Country Competitiveness
CGE  Computable General Equilibrium
EC  European Commission
ECB  European Central Bank
ECOFIN  Economic and Financial Affairs Council
ECSC  European Coal and Steel Community
EDP  Excessive Deficit Procedure
ECC  European Economic Community
EFTA  European Free Trade Association
ELA  Emergency Liquidity Assistance
EMS  European Monetary System
EMU  Economic and Monetary Union
EONIA  European Over Night Index Average
ERM  Exchange Rate Mechanism
ERP  European Recovery Program
ESCB  European System of Central Banks
ESM  European Stability Mechanism
EU  European Union
EURATOM  European Atomic and Energy Union
EZ  Eurozone
FDI  Foreign Direct Investment
FTA  Free Trade Agreement
GATS  General Agreement on Trade in Services
GATT  General Agreement on Tariffs and Trade
GDP  Gross Domestic Product
GIIPS  Greece, Ireland, Italy, Portugal, Spain
IUS  Innovation Union Scoreboard
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTO</td>
<td>Midium-Term Objective</td>
</tr>
<tr>
<td>NCB</td>
<td>National Central Banks</td>
</tr>
<tr>
<td>NTA</td>
<td>New Transatlantic Agenda</td>
</tr>
<tr>
<td>NTB</td>
<td>Non-Tariff Barriers</td>
</tr>
<tr>
<td>OCA</td>
<td>Optimum Currency Area</td>
</tr>
<tr>
<td>OECD</td>
<td>Organization for Economic Cooperation and Development</td>
</tr>
<tr>
<td>PTA</td>
<td>Preferential Liberalization</td>
</tr>
<tr>
<td>RCEP</td>
<td>Regional Comprehensive Economic Partnership</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>Research and Development</td>
</tr>
<tr>
<td>SGP</td>
<td>Stability and Growth Pact</td>
</tr>
<tr>
<td>SME</td>
<td>Small and Medium Enterprises</td>
</tr>
<tr>
<td>STO</td>
<td>Short-Term Objective</td>
</tr>
<tr>
<td>TEC</td>
<td>Transatlantic Economic Council</td>
</tr>
<tr>
<td>TEP</td>
<td>Transatlantic Economic Partnership</td>
</tr>
<tr>
<td>TFEU</td>
<td>Treaty on the Functioning of the European Union</td>
</tr>
<tr>
<td>TPP</td>
<td>Trans-Pacific Partnership</td>
</tr>
<tr>
<td>TRIPS</td>
<td>Trade-Related Intellectual Property Services</td>
</tr>
<tr>
<td>TTIP</td>
<td>Transatlantic Trade and Investment Partnership</td>
</tr>
<tr>
<td>USTR</td>
<td>United States Trade Representative</td>
</tr>
<tr>
<td>WTO</td>
<td>World Trade Organization</td>
</tr>
</tbody>
</table>
1. Introduction

The world’s largest economic experiment is said to be the introduction of the euro. The adoption of the common currency was a highly symbolic step to show further commitment for an integrated Europe. This experiment also contributes major advancements in understanding the effects of cross-national currency adoption and its impact on trade and foreign investment, corporate business strategies and wage-setting behavior. The consequences of economic and political activities in the process of European integration are therefore major sources for empirical studies on the delineation of an optimum currency area, supplementing the constant theoretical approach. When do the gains outweigh the costs of giving up a national currency? Which factors influence a common currency area in order to be beneficial for the member countries in terms of establishment and performance in the aftermath?

This master’s thesis investigates the effects on the development of the euro area, in terms of a large scale free trade agreement, in particular the current negotiation of the Transatlantic Trade and Investment Partnership, in short TTIP. The analysis aims to answer the following research question: How would the TTIP affect the monetary integration process in the Eurozone in case of a comprehensive free trade agreement?

Considering the euro area faces diverse challenges in both, economic and political integration, this question is crucial to pose. External and internal shocks, such as the economic and financial crisis starting in 2008, the oil shock and structural and financial imbalances among the member states, contribute as costs of the euro project. Recent discussions about a possible exit of Greece as a euro member, show the delicate position of the current Eurozone. Therefore, sources of potential opportunities and risks require careful examination in order to succeed in the currency implementation.

If the destabilizing effects on the common currency area through a comprehensive TTIP outweigh, a dissolution of the euro area would have painful consequences. While some nations would face a deep depreciation and subsequently unpayable debt, others would fight a strong appreciation and as a result a loss of competitiveness. Although it is unlikely that the national authorities decide to leave the monetary union for economic reasons, political inconsistencies might lead to a different result.
If the stabilizing effects outweigh and the expected economic growth in connection with the overall job creation and fiscal stabilization takes effect, the potential to close the gap between the well-functioning and badly wounded euro member states would increase.

The majority of literature considers the subject-matters covered separately. On one hand, the definition of an optimum currency area, in short OCA, and its criteria are under constant research. On the other hand, studies about the TTIP focus on the general impact on both Europe’s and the world’s economy respectively. This research paper combines the findings on important OCA criteria and the estimated effects through a TTIP, specifically on these determinants. Do free trade agreements of that size work to stabilize or destabilize the process of monetary integration in Europe?

**Structure of the Thesis**

After this introduction the second chapter is devoted to the delineation of an optimum currency area. For this purpose, the OCA theory is introduced and its criteria defined. First published by Robert A. Mundell, who questioned the traditional national boundaries for the use of a common currency, and further development by Ronald McKinnon and Peter B. Kenen, the traditional contributions are explained. An analysis of the costs and benefits associated with joining a currency union provides the necessary insight to understand potential gains and losses. Due to constant research and the establishment of the Economic and Monetary Union in Europe, expanded literature about optimum currency areas is now available. According to recent findings, the “new” OCA theory and its additional criteria are listed thereafter. Finally, investigations on Europe, in comparison to the traditional OCA theory and recent empirical studies, provide an answer to the first subquestion: *Is Europe an optimum currency area?*

Chapter 3 will discuss several topics relating to the Economic and Monetary Union (EMU), which aims to identify and answer the second subquestion: *Where does the Eurozone stand in the monetary integration process?* The level of economic integration is then demonstrated and the current member states are introduced. To understand the regulations of the Eurosystem and to further establish the connection to the OCA criteria, the entry conditions are listed. Subsequently, a distinction between euro member states and the candidates clarifies the current domain and further integration.
plans. Provided information about the Eurosystem, its fiscal policy and the new strategy of the EMU show constant adoption along the monetary integration process. This chapter also includes a discussion on the dissolution of currency areas in general and provides the most recent statements about a possible “Grexit”, an exit of Greece from the Eurozone. Additionally, this aims to illustrate both, the current position and its challenges.

The first part of Chapter 4 derives the negotiated Transatlantic Trade and Investment Partnership from the historical point of view based on the long-lasting trade relationship between the United States and Europe. Furthermore, the political framework, including the institutions and responsible negotiators are introduced.

The second part of the chapter examines two studies on the impact of TTIP on Europe’s economy in two possible scenarios. By filtering one scenario, this section aims to answer the third and final subquestion: What is a comprehensive free trade agreement in case of TTIP? In conclusion the results of both studies are compared, illustrating their similarities and differences in the expected impact of the introduction of this type of free trade agreement.

Chapter 5 then considers the impact of TTIP on the OCA in Europe. Combining the information and investigations from previous chapters, the expected influence on the OCA criteria is shown. The effects during the monetary integration process, considering it as both, a stabilizer and a destabilizer, are analyzed and show the outcome of this academic paper.

The final chapter summarizes the topics discussed and also lists the outcomes of the research, the impacts of the TTIP on the OCA in Europe. A concluding statement and the answer to the research question is provided.
2. Optimum Currency Area (OCA)

This chapter explains the OCA theory, which was first published by Nobelist Robert A. Mundell in his article “A Theory of Optimum Currency Areas” (1961). A method to identify whether or not a group of countries would benefit from a common currency, based on crucial factors which influence the monetary, economic and social stability within this area. The costs and benefits which arise, as well as the political and economic criteria which define a currency area, are discussed thereafter. Subsequently, investigations in the European countries will show if this area fulfills the requirements of this theory. Is Europe an optimum currency area?

2.1 The OCA Theory

After World War II, debates about fixed or flexible exchange rate regimes started as a consequence of the Bretton Woods System (BWS), the international monetary system from 1947 to 1973. During that time, many currencies were pegged to the US Dollar, which was directly converted to the gold price. The goal was the elimination of trade barriers for the process of world trade under tight fluctuation margins (+/-1%). Because the United States followed an inflationary policy resulting from high public debt and expansive monetary policy, other countries could no longer accept the rate of inflation. As a result, the BWS broke down in the 1970s (Gabler Wirtschaftslexikon, 2015).

Friedman discussed the pros and cons of a flexible exchange rate regime in his paper “The Case for Flexible Exchange Rates” previously in 1953 (Friedman, 1953). Mundell first used the expression “Optimum Currency Area” eight years later, in 1961. His article “A Theory of Optimum Currency Areas” questioned the use of national currencies within national boundaries.

Traditionally, currencies represent a symbol of statehood, produced with designs related to national pride, heroes and rulers. Therefore, currencies also stand for national sovereignty and usually aren’t easily abandoned. Mundell (1961), however, posed the
question: what if there is a beneficial and advantageous situation resulting from creating a common currency within a certain domain?

Trading with other countries means importing and exporting, which most certainly includes monetary transactions in exchange. These cross-border transactions between market players come with risk and possible costs as a consequence of exchange rate fluctuations. Also, simply exchanging currency for private purposes such as travelling increases costs. Based on these circumstances, various small areas which have their own currency are obviously not optimal.

On the other hand, one could ask if the world would be the optimal currency area. The theory states that the larger the currency area grows, the higher the costs become. These costs result from a growing diversity within the regions. Baldwin & Wyplosz (2012) use a simplified figure to show the trade-off in a growing currency area and the theoretical optimal size in their book “The Economics of European Integration”. The OCA theory describes the state when the marginal costs and benefits are balanced (See Figure 2.1).

![Figure 2.1 The logic of the OCA theory (Baldwin & Wyplosz, 2012)](image)

**Optimality**

How well a certain domain can handle economic shocks without its own exchange rate, is the main indicator for an OCA. Mundell detects this indicator as a result of a demand shift scenario between two countries. In his experiment, one assumes Country A and Country B were in equilibrium in terms of full employment and balanced trade before introducing a common currency. Each country could use appreciation or depreciation to
stabilize their internal prices and wages. As soon as they created a common currency area, this tool of national monetary policy is no longer available. If there is a significant shift in demand for a product from Country B to Country A, trade in Country B is no longer balanced and creates a so-called adverse demand shock. To re-establish the initial equilibrium, exchange rate adjustments are necessary. In that case, in the form of depreciation. If a nation is not able to manipulate the currency, prices and wages have to decline to reach the market equilibrium. Consequently, the economy in Country B would slow down, finally leading to a higher unemployment rate. On the other hand, the demand shift would cause inflationary pressure and a surplus in the balance-of-payments in Country A (Mundell, 1961).

One can conclude, that in an area where the exchange rate regime causes unemployment in one part, and pushes the other part to accept inflation to reestablish the equilibrium is not an optimum currency area. This would pose high macroeconomic costs. Therefore, “optimality is here defined in terms of the ability to stabilize national employment and price levels” (Mundell, 1968, p. 179).

### 2.2 Main Benefits of a Currency Area

To further investigate the optimal size in this term, it is necessary to understand which main costs and benefits arise when introducing and enlarging a common currency. The following passage identifies and provides detailed information about these factors and their micro- and macroeconomic consequences.

#### 2.2.1 Transaction Costs and Goods Prices

“Transaction costs refer to the costs involved in a market exchange”, so the definition of the OECD Glossary (2003). In other words, transaction costs occur when participating in a market of another currency. These actions “include the costs of discovering market prices and the costs of writing and enforcing contracts” (OECD, 2003). When trading cross-border using different currencies, one market player has to bear the transaction costs when doing business abroad. Setting up a common currency in a certain domain, therefore means, the elimination of these costs, which at the same time represents the most visible and quantifiable gain. Baldwin & Wyplosz (2012) point out that the adoption of the euro has encouraged more small and medium sized companies to participate in cross-border trade.
Paul De Grauwe (2005) also mentions in his book about the “Economics of Monetary Union” the indirect gain of transparency. That is to say, that goods prices become directly comparable without transaction costs. Consequently, this price transparency leads to more competition within a monetary union and producers react by striving towards better offers for their customers by lowering their price level, for example. Figure 2.2 illustrates the consumer net gain based on the effect of a higher competition. Generally, consumers' consumption is defined by price x quantity and fills the area CQBP in this graph. If consumers pay less than they expect or are willing to pay for a product in the range of A to P, consumer surplus is generated in the amount of ABP.

![Figure 2.2 Consumer surplus (Economics Online, 2015)](image)

In summation, the elimination of transaction costs to financially facilitate cross-border trade for companies will especially be beneficial for countries with intense trade relations. This combined with a greater price transparency in favor of consumers represent two of the main benefits of a common currency.

### 2.2.2 Moderation of Uncertainty

The presence of exchange rate risk when dealing with different currencies may harm trade across boundaries. Due to the uncertainty of future exchange rates, export and import prices may change until the actual purchase of the agreed deal. Neither the importer, nor the exporter can rely on precise forecasts. Therefore, purchasing a forward contract, which works as a financial insurance, is an option to reduce this risk. Insurance costs plus the costs from converting currencies, represent increased financial
burden in turn. Some market players, mostly small and medium sized companies, may not be able to afford these expenses. Consequently, these companies stay within their currency boundaries and are restricted to a narrower consumer base. Furthermore, less competition and therefore less consumer surplus are forecasted as analyzed before. When joining a monetary union, exchange rate risk is no longer present. No additional costs arise, no risk has to be hedged and companies can rely upon the agreed amount of money when exporting or importing (Baldwin & Wyplosz, 2012).

Further moderation of uncertainty is predicted on the basis of international economic integration, namely for foreign direct investments (FDI). These investments “create long-lasting links between economies and encourage the transfer of technology and know-how between countries” (OECD, 2013). However, financial losses may hit the investor as a consequence of the exchange rate fluctuation over time with different currencies in place. Therefore, if this risk is eliminated due to the establishment of a common currency area, higher FDI quotes are expected and subsequently a positive impact on the economies and its development (OECD, 2013).

To conclude, the benefit of a common currency area where the exchange rate risk disappears, are the savings in transaction and hedging costs. Furthermore, “foreign” investors within a common currency area, without being exposed to exchange rate fluctuation, may have a higher interest of partially or completely acquiring firms (Baldwin & Wyplosz, 2012).

2.2.3 Quality of Monetary Policy

With the creation of a monetary union, the joining nations forfeit their national monetary policy autonomy, based on the fact that with one currency there can only be one monetary policy. On the one hand, this restructuring process of reorganizing national central banks and establishing a collectively run central bank implies costs, but simultaneously may be advantageous in terms of independence, transparency and accountability (Baldwin & Wyplosz, 2012). The European Central Bank, established in 1995, is an independent institution which is in charge, amongst others, of transparently defining and implementing the monetary policy within the Eurozone (ECB, 2015g). In Chapter 3, the European System of Central Banks and its tasks is described in more detail.
2.3 Main Costs of a Currency Area

As previously mentioned, shifts in demand cause inflation in one country, while the other suffers from price variability and higher unemployment. Explaining this scenario in more detail, Figure 2.3 helps to understand the effects of an adverse demand shock. The aggregate demand-aggregate supply, in short AD-AS, diagram is the standard model for examining this situation, showing demand of a country's goods considering their prices relative to those of the competing goods. Further, Baldwin and Wyplosz exemplify: "At the aggregate level, competitiveness is captured by the real exchange rate $EP/P^*$ and therefore "the vertical axis represents the real exchange rate, denoted \( \lambda \), rather than just the domestic price level $P$ (or inflation) used for closed economies” (Baldwin & Wyplosz, 2012, p. 406). The countries' equilibrium is at point A, while the "demand shock is represented by the leftward shift of the AD curve, from AD to AD'. If the nominal exchange rate is allowed to depreciate, or if prices are flexible, the short-run effect will be a shift from point A to point B: the real exchange rate depreciates from $\lambda$ to $\lambda'$." (Baldwin & Wyplosz, 2012, p. 406). These unavoidable business cycles happen throughout a country's changing economy. These shocks are painful and are usually regulated with a depreciation vis-à-vis the rest of the world, in other words with the adjustment of the flexible exchange rate. Once this move is determined by a fixed exchange rate and rigid prices, the AD-AS curves meet at point C, which is an even more painful move. Domestic supply will stay at the point A, while the demand lowers to point C. The amount of unsold goods, represented by the distance AC, will finally cause a recession leading to steadily cut prices, so that a new equilibrium point B will be reached.

![Figure 2.3 Adverse Demand Shock (Baldwin & Wyplosz, 2012)](image-url)
2.3.2 Asymmetric Shocks

Previous sections explained the negative effects and costs for a country’s closed economy when hit by an adverse demand shock. Imagine, two countries form a monetary union. In case of the same adverse shock in both countries, both consequently have to depreciate vis-à-vis the rest of the world, which is possible through the common monetary policy. Michele Ca’Zorzi and Roberto A. De Santis explain the contradiction to asymmetric shocks and conclude, when dealing with symmetric shocks in different countries that, “a monetary union is a more attractive monetary regime than a regime of independent monetary authorities” (De Grauwe & Méritz, 2005, p. 23)

In case of high diversity among the participating countries, the shocks can appear in different regions. A so called asymmetric shock can hit the monetary union. Exchange rates are pegged to one common currency, so the national regulatory instrument is no longer available. Traditional OCA contributors argue that this results in high costs for the union members.

De Grauwe (2005), however, mildens the view of the traditional OCA theory in terms of these costs. Further investigations showed, that the ability of exchange rate changes to absorb asymmetric shocks is weaker. He states that “exchange rate changes usually have no permanent effects on output and employment” and also observes that, “countries which maintain independent monetary and exchange rate policies often find out that the movement of exchange rates become a source of macroeconomic disturbances, instead of being instruments of macroeconomic stabilization” (De Grauwe, 2005, p. 61). According to this finding, it is costly to use the regulatory instrument of exchange rate changes. He also points out that the core of the traditional theory still holds given there are important differences of political and institutional origin between countries. These dissimilarities, he states, represent a risk to asymmetric shocks within a monetary union, and are correlated to high adjustment costs.

2.3.3 Insurance Payments

De Grauwe (2005) emphasizes on the necessity of a functioning insurance mechanism in case of an adverse shock in order to alleviate the effects. He therefore distinguishes between two main insurance mechanisms, one organized by governments and the other
by private markets. A public insurance system can be established when a part of the national government budget of the member states is centralized, including the levy of taxes, pensions and unemployment benefits. In case of an asymmetric disturbance in one country or region, the output declines and subsequently the tax revenues. While in the country with the opposite effect of the shock, output and tax revenues increase. The same principle applies to the unemployment benefits, which gets shifted to where it is needed more. This budgetary centralization helps temporarily to smoothen the consumption and to overcome the negative effects of a macroeconomic disturbance with less costs. If such a system is not in place, the costs of joining the monetary union might outweigh.

The second possible mechanism is a private insurance scheme, which operates through financial markets. In this case, one assumes that the member states and its financial markets are completely integrated. De Grauwe (2005) refers to Ingram, who was the first to emphasize the importance of a high level of integration in the financial markets within a monetary union in 1959. Therefore, if a shock hits a member state, firms suffer from losses and subsequently a devaluation of its stock prices. Stockholders of those firms are distributed within the currency union in case of the fully integrated equity market and pay part of the economic activity decline. Conversely, the stock prices of the country which is positively hit by the demand shift, mitigates the income deficit of negatively effected residents. The downside of this insurance mechanism is, that the negatively effected residents might not hold financial assets and may miss out on the needed transfers. De Grauwe concludes that both insurance mechanisms are important, but also points out that these instruments support only temporarily and not permanently against an asymmetric shock. However, without them in place, the costs will be substantial when the exchange rates are irrevocably fixed.

2.3.4 Policy Preferences and Legal Systems

Events throughout history led to different policy preferences and legal systems in countries. While some have developed a higher concern about inflation, others concentrate more on employment. Even if a symmetric shock hits, reactions are likely to differ on how to deal with it, depending on the established national legislation and preferences. De Grauwe (2005) illustrates this matter on the basis of the mortgage markets in Europe. Whereas, in some countries financial institutions offer loans with a floating interest, and in others loans with fixed rates for the whole maturity. Supposing
an increase in the interest rate, which resembles the same shock for all members in a monetary union, the effects will be transmitted differently. Also, when financing investments mainly through capital markets instead of banking systems the same effect is seen when the interest rate changes occur.
To conclude, for countries whose legal system strongly diverges from others within the common currency zone, an admission into this monetary union could also be costly when symmetric shocks occur.

2.4 The Optimum Currency Area Criteria

Before investigating if Europe is an OCA, criteria according to the theory are identified and discussed. Consistent research followed utilizing Mundell’s (1961), McKinnon’s (1963) and Kenen’s (1969) classic criteria of an OCA. The establishment of the Economic and Monetary Union (EMU), intensified research that when supplemented with empirical data enabled further development of the criteria.

Frankel & Rose (1997, 1998) significantly influenced the monetary integration process in Europe by publishing their findings in the paper “The Endogeneity of the Optimum Currency Area Criteria”. Their study based on thirty years of data from 20 OECD countries demonstrated that “countries with closer trade links tend to have more tightly correlated business cycles” and are therefore a good area for a common currency (Frankel & Rose, 1997, p. 1).
Further investigations examined these empirical findings and left considerable doubt. For instance, Kenen (2000) and Kose & Yi (2001) point out that the synchronization of business cycles is not only based on the intensity of trade links. In contrast, Krugman (1993) as well as Eichengreen (1992), believe that the integration process results in an increasing specialization of the member countries. This eventually disputes the discussion of the endogeneity vs. specialization hypothesis of optimum currency areas. Ongoing empirical research, not least in the example of Europe, will demonstrate a tendency for one prediction or the other.

The next section lists and discusses the traditional and modern criteria of an OCA based on the first contributors and also the recent founders of the “new” OCA theory. The first of the six criteria selected is Mundell’s criterion of labor mobility.
2.4.1 Labor Mobility (Mundell)

Mundell believes that, “if the world can be divided into regions within each of which there is factor mobility and between which there is factor immobility, then each of these regions should have a separate currency, which fluctuates relative to all other currencies.” (Mundell, 1968, p. 184) This statement strongly emphasizes the necessity of factor mobility, more specifically capital and labor mobility, between nations which form a currency union. In his paper, Mundell also refers to the two different opinions of Meade (1957) and Scitovsky (1958) about a common currency in Western Europe. Two well-known researchers who agree on the importance of labor mobility. Meade doesn’t believe that sufficient labor mobility exists in these countries and therefore, suggests a flexible exchange rate regime to effectively influence the market equilibrium and internal stability. In contrary, Scitovsky believes that through the establishing of a common currency capital mobility would rise and points out at the same time that changes in employment policies need to be undertaken in order to facilitate and increase labor mobility.

One can conclude the traditional view of the theory, that factor mobility is an important component to delineate an optimum currency region in terms of employment and price stability. According to Mundell (1961), a flexible exchange rate system becomes unnecessary and the costs of sharing the same currency would be eliminated, if there is sufficient factor mobility across borders. The question about the precise degree required, Mundell emphasizes, is more of an empirical issue rather than a theoretical one.

There is also justifiable criticism, that factor mobility is not the panacea an optimum currency area would need to successfully eliminate the main costs. Factor mobility induces costs as well, given the necessity of migration and retraining (Corden, 1972). Baldwin & Wyplosz (2012) summerize that, although if capital is mobile, “installed physical capital [...] such as plant and equipment [...] is not mobile”. Considering the time factor for establishing new production facilities in the area where it is needed, “the asymmetric shock may well have evaporated or even reversed” (Baldwin & Wyplosz, 2012, p. 413).
How easily people move within the Economic and Monetary Union in Europe, how far Mundell’s criterion is fulfilled within the Eurozone, and which criteria are still essential for the delineation of an optimum currency area under low cost, are discussed in the following sections. Another criterion defines the degree of openness from Ronald McKinnon, Stanford University.

2.4.2 Openness of Countries (McKinnon)

In 1963, McKinnon helped to further develop the traditional OCA theory by publishing an important contribution to Mundell’s theory. He distinguishes between factor mobility in terms of geography (Mundell) and intra-industry and discloses, that the degree of openness of a country influences the significance of national currency exchange rates. He justifies his assumption by the following explanation: If a country is heavily engaged in trade with another country, prices of standard domestic and foreign goods converge within this region. Therefore, the occurrence of asymmetric shocks is less likely. Removing the exchange rate would have minor consequences due to price level independence for tradeable goods. McKinnon suggests that countries, which trade intensively with each other, form a common currency area (McKinnon, 1963).

To be more precise on this criterion, McKinnon defines the openness as the ratio of tradeable and non-tradeable goods, whereby small economies are generally more open than large ones. This is due to the positive correlation between the size of a country and the diversification of its resources. Nations, which show high international trade linkages are more sensitive to foreign price changes on tradeable goods that subsequently leads to price level convergence for the same products. If an asymmetric shock hits, intra-industrial immobility in a less integrated country leads to higher price levels and as a result higher costs of living. This impact leads to a reduction of the money illusion and most likely in a command for higher wages. This usually creates an application of the exchange rate as a monetary instrument to stabilize prices and wages. Thus, greater price variability would rather occur in a larger country than a smaller one due to less price convergence (McKinnon, 1963).

De Grauwe concludes in the combination of the effectiveness of a depreciation, that “the loss of the capacity to use national monetary policies is likely to be less costly for the relatively open economy than for the relatively closed one.” (De Grauwe, 2005, p. 60).
How open European economies are in terms of international trade and predicted consequences in terms of possible adjustment costs will be discussed in section 2.5 Is Europe an Optimum Currency Area?. Following is Peter Kenen’s criterion of production diversification.

2.4.3 Production Diversification (Kenen)

Asymmetric shocks cause costs within an OCA. Mundell and McKinnon concentrated on factor mobility as an important criterion to soften these negative effects and to consequently keep the costs low. Peter B. Kenen, Princeton University, further concerned himself with the question of how frequent and substantial these asymmetric shocks occur and what the main sources are. Shifts in demand as a consequence of new technology, changing in tastes and/or trends are common in the market place. But which ones would create a severe shock to a country’s economy?

According to Kenen (1963), specialization in a narrow range of export goods represent a significant risk for a country to be affected by a severe shock. Balwin & Wyplosz (2012) illustrate this finding using the example of African countries participating in the CFA franc zone. Some of these nations export a single agricultural product. If the demand for this specific product, for example coffee, declines, only some countries within the CFA zone are affected by the asymmetric shock. Therefore, if a country shows diversified production on exporting goods, these demand shifts are hardly recognized by the overall production sector. These disturbances are neutralized by the variety and similarity of products vis-à-vis other members of the same currency area. In that case, the usage of the exchange rate as an adjustment instrument is not necessary and fixed exchange rates are possible (Kenen, 1963).

One can summarize Kenen’s criteria of production diversification as follows: in order to reduce the possibility of asymmetric shocks in a currency area, well-diversified export sectors of similar structure of the participating member states are required.

2.4.4 Fiscal Transfers

Another important aspect which has to be considered is the willingness of fiscal transfers given the potential threat of macroeconomic disturbances. If a region or country of the common currency area is hit by an adverse shock, a functional fiscal transfer system is necessary to work through the effects and to bypass adjustments through exchange rates (Kenen, 1969). One can see this property as an insurance against
adverse shocks within an OCA. Thus, high political integration and willingness to share risk, which often involves moral hazards, is needed. Francesco Mongelli, Senior Adviser in the ECB Directorate General Research, summarizes in his paper “New” Views on the Optimum Currency Area Theory” that, if a country is certain of the supporting system, this might lead to less precautions to avoid frequent shocks (Mongelli, 2002). De Grauwe (2005, p. 221) refers to Kenen (1969) and emphasizes, that this tool “should only be used to deal with temporary shocks, or if the shock is permanent, it should only be applied in a temporary way so as to make time for fundamental adjustments”. Furthermore, he adds that: “If the shocks are permanent, it is important that there should be a sufficient degree of wage and price flexibility and/or labor mobility. In the absence of such flexibility the insurance mechanism may become unsustainable as it implies permanent transfers from one country to the other (in the centralized system) or exploding government debt levels (in the decentralized system)” (De Grauwe, 2005, p. 222).

To conclude, the classic contributions to the OCA theory discloses the importance of factor mobility, openness of countries, production diversification and fiscal transfers within a common currency domain. As a consequence of losing the national exchange rate mechanism as an adjustment instrument to stabilize internal wage and price variabilities, effects of asymmetric shocks have to be mitigated through other instruments. To be able to reduce asymmetric shocks and to assimilate business cycles throughout the belonging regions, one need to be aware of the interdependency of these criteria. Constant research to further develop the OCA theory, including empirical data and experiences of emerging currency areas such as the EMU, lead to more discussions and specialized properties to provide adequate cost-benefit analysis and improvements for future processes.

Within the “new” OCA theory, the next criterion was identified, which discusses the level of political integration within an OCA.

2.4.5 Political Integration and Homogeneous Preferences

Mongelli (2002) refers to Habeler (1970) and states that a strong political will to similarity of policy preferences lead to a more successful currency area. It is of great importance that nations react in a similar response to shocks, as it is crucial for the
continuity of a currency area. Further, he names the increasing functional political integration, the transferred sovereignty over several elements of economic policy and the increased need for policy coordination as the three main aspects of political integration.

De Grauwe (2005) explains, why there are differences in monetary policies of countries. He refers to the historical developments of inflation, which influenced the attitude of investors towards long- and short-term bonds. In countries with low inflation the tendency to long-term bond supply is higher compared to countries with high inflation. Subsequently, the government’s reaction to interest rate changes are different, since the budget is immediately affected in the high inflation country. By establishing a monetary union, a convergence of the maturity structure of the bonds is given over time due to the absence of national financial systems. Additionally, De Grauwe emphasizes, that “deeper differences, i.e. those that are the result of different legal systems, will only disappear by a convergence of national legal systems. This can only be brought about by further political integration” (De Grauwe, 2005, p. 32) This is also one of the entry criteria for the Eurozone, further explained in Chapter 3.

To summarize the OCA criterion of political integration and homogeneous preferences, one must consider the historical development of a nations method in dealing with inflation as well as the national legal and political system. Some of the differences will be eliminated by the monetary union itself, but a successful currency area still needs a certain common preference in reaction to shocks in order to sufficiently politically integrate and raise the benefits of the single currency area.

2.4.6 Solidarity

Solidarity is sought when shocks occur and disagreements will arise between nations on how to deal with these asymmetric shocks. Therefore, it is even more challenging for nations within a monetary union to find consensus and a constructive reaction in order to successfully deal with macroeconomic disturbances. The people of the union need to “extend their solidarity to the whole union” and “accept the costs in the name of a common destiny” (Baldwin & Wyplosz, 2012, p. 417).
2.5 Is Europe an Optimum Currency Area?

The final part of this chapter discusses and attempts to answer the first subquestion "Is Europe an Optimum Currency Area?". Based on previously defined criteria of an OCA, these findings are allocated to Europe and its suitability for a common currency domain. One can deduce from the different hypothesis of the OCA properties, its further development and new empirical findings, that the answer is not definitive.

Labor Mobility

When do the benefits of moving from one country to another overweigh the risks, costs and the social loss involved? Within Europe, the cultural - especially linguistic - differences play an important role. Different taxation systems, unemployment potential, separation of family and friends, health insurance and retirement pension systems are further issues which migrants have to deliberate. Whether moving improves their standard of living and contributes to achieving their personal and/or professional goals requires consideration.

According to Mundell, sufficient factor mobility across borders lowers the costs of sharing the same currency. Also, he points out, that the degree which defines "sufficient" in that term, is more of an empirical question.

Gabriele Tondl, professor at the University of Economics and Business in Vienna, observed and analyzed the migration tendencies of the European member states. In her book “Convergence after Divergence? Regional Growth in Europe” she illustrates large differences in the level of labor mobility within national boundaries. Furthermore, Tondl’s analysis results in a tendency of a North-South decline in Europe, whereby poor countries have lower regional labor mobility compared to wealthier nations. Subsequently, distribution of resources as well as income convergence occur within wealthier nations (Tondl, 2001).

The report on Geographic mobility in the European Union (2008) supports Tondl’s findings and comprises statistical data of regional and cross-border mobility and commuting. Additionally, it provides an analysis of the optimum mobility in Europe. To illustrate international differences in labor mobility, the report compares figures from the US and the EU. It says: “Annual interstate mobility in the US is in the range of 2% to 2.5% in the 2005 and 2006. Comparing interstate moves in the US with cross-border
moves in the EU (of only about 0.1%) suggests that mobility in the EU is very low.” (Bonin et al., 2008, p. 28). The report also indicates that a direct comparison between these two currency domains is problematic due to the cultural and linguistic aspects in Europe as well as the just recently, boosted internal market towards improvement of the four freedoms. Since the Single European Act (SEA) in 1986, legal provisions were provided for the free movement of goods, services, persons and capital. Regions within the internal market of the European Union still deal with financial market imperfection, social-democratic differences, political feasibility and socio-cultural integration. It must be considered that the process of economic and political integration given the challenges involved will take up time.

Nevertheless, actions towards higher geographic mobility are set, but currently the level still remains low within EU member states. Therefore, the OCA criterion of labor mobility is yet to be satisfied in the common currency area of Europe.

Openness
According to McKinnon’s findings, the degree of openness is a crucial criteria for countries to benefit from a single currency. The higher the degree of openness, the less useful an independent exchange rate as an adjustment tool becomes. Figure 2.4 shows the openness index of 26 European countries in 2011, which are differentiated into Eurozone members and non-members. The index represents the sum of the proportion of domestic production and spending on exports and imports.
Member states of the Economic and Monetary Union (EMU) are doing very well on this criterion. Prior to their recent joining countries such as Estonia (2011) and Latvia (2014), showed a high level of international trade. One can conclude, that most of the 19 Eurozone members, including the very recent adoption from Lithuania (2015), are very well integrated within Europe and fulfill McKinnon’s criterion.

**Production Diversification**

Kenen’s OCA criterion defines a domain with diversified trade and similar production structures as beneficial. Most European countries show high diversification in production and also very similar production patterns. Figure 2.5 visualizes the index of dissimilarity of European trade referred to the trade structure of its partners, Germany as the reference market for the old members (old EU-15) and the Eurozone for the new members (new EU-12).

Balwin and Wyplosz (2012) highlight the high dissimilarity index of the Netherlands as a Eurozone member as it is a natural gas exporter and has little production diversification.
Therefore, it is suggested the Netherlands should further integrate into the European economy. Latvia and Lithuania, both members of the Eurozone by now, show equally large differences in trade structure demonstrating that their governments must believe in an overweight of benefits by joining the currency union.

![Figure 2.5 Trade dissimilarity index (Baldwin & Wyplosz, 2012)](image)

Euro candidates like the Czech Republic, Hungary and Poland show a very low dissimilarity index. As a result the possibility of costly asymmetric shocks in these countries is very low. According to Kenen’s criterion, these nations would keep the costs low when joining the Eurozone. Overall, and through the proceeding integration process, one can conclude that this criterion is fulfilled.

**Fiscal Transfers**

A fiscal transfer system didn’t exist within the Eurozone until 2009, although it is one of the most important criteria for an OCA. For regions or even countries which get hit by an adverse shock, these transfers are crucial for economic stabilization to avoid high inflation on one hand and price and wage reduction on the other hand. Since the European debt crisis in 2009, when member states were unable to repay their public...
debt, the European Stability Mechanism (ESM) was created to specifically deal with severe shocks within the currency union. Beside other initiatives on national and EU level, the ESM “has the capacity and resources to act as a financial backstop and apply a lending instrument that will stabilise the financing needs of that country” (ESM, 2015a).

To conclude previous to 2009 there was no fiscal transfer system in use. Recent steps can be seen as a recognition of the importance of such a tool to successfully establish an OCA in Europe. Whether these actions are sufficient to deal with disturbances is discussed in the following chapter. Currently fiscal transfers represent high costs for the euro area member states and as such this criterion is not fulfilled.

**Political Integration and Homogeneous Preferences**

Mundell initially emphasizes the viewpoint, visualizes the foreseen challenges and directs the focus by stating: “The European countries could agree on a common piece of paper, [...] they could then set up a European monetary authority or central bank. [...] This is a possible solution, perhaps it is even an ideal solution. But it is politically very complicated, almost utopian.” (Mundell, 1973).

Warner Max Corden refers to Mundell’s statement and evaluates this issue in the case of the European Union in the section “Lessons from Europe” by stating: “The kind of problem that has always been foreseen by the analysts of monetary integration, namely that short-term macroeconomic policy requirements may differ between countries, can indeed be seen now”. (Corden, 2005, p. 152). Based on historical inflation rates, monetary policy was applied in different ways, but upon joining the EMU, external competitiveness must be secured by keeping prices and costs low. Low-inflation Germany and formerly high-inflation Italy or Greece showed disparities in dealing with shocks within the currency union. The result was a strong surplus in Germany’s current account and a deficit in Italy’s (Baldwin & Wyplosz, 2012). One can conclude, that heterogeneous preferences still hinder the required level of political integration in the Eurozone. Therefore, this criterion for a beneficial OCA is only partially fulfilled.

**Solidarity**

According to the report “Eurobarometer 82” (TNS, 2014), 25 of the current 28 member states of the EU, show over 50% rate of feeling as an EU citizen. The report of 2013 states, that the feeling towards EU membership is continuously stronger within the euro
area (62%), than outside (54%), “but it has decreased in both areas (-2 and -3 percentage points respectively)” (TNS, 2013, p. 34). In comparison to the report of 2014, currency member states like Austria, Germany, Greece, the Netherlands and Ireland demonstrate on average a 4 percent reduction in feeling as a European.

![Image](https://via.placeholder.com/150)

Figure 2.6 Feeling European? (TNS, 2014)

The aforementioned European debt crisis in 2009 and sentiments towards the bailout of Greece, Ireland and Portugal, have shown nationalistic directions as the crisis deepened. Therefore, although the EU average of feeling a citizen of the EU 28 lies at 63%, solidarity might need to be strengthened in the future.

In summary and addressing the first subquestion “Is Europe an Optimum Currency Area?”, Europe is successful in both trade openness and export product diversity but fails in labor mobility and fiscal transfers. Therefore, based on the OCA theory and the empirical studies on the size of the optimized European domain for a currency area show, that Europe is not yet an OCA.
According to the theory, this unsatisfactory fulfillment of the criteria induces costs within the single currency domain. The question remains whether, if given the opportunity Europe will become an OCA. It must be considered that finding a successful path towards an OCA in Europe requires time, constant evaluation and adjustments.
3. The Economic and Monetary Union (EMU)

The analysis in the previous chapter has given the theoretical input to define an OCA and provided recent empirical studies on the development of the Eurozone. Being aware that, Europe is not yet an OCA, requests a closer look at the status of the monetary integration process. To further investigate the possible impact of TTIP on the OCA in Europe, one needs to define what and who influences the OCA criteria within the Union. Following discussions aim to answer the second subquestion: *Where does the Eurozone stand in the monetary integration process?*

This chapter about the Economic and Monetary Union (EMU) discusses various topics and highlights different perspectives on the monetary integration process. Firstly, this chapter provides an overview of the identified levels of economic integration. With the focus of the Economic Union (current level), all EU member states are introduced. The entry conditions for the common currency area are explained thereafter, as well as the size and regulation of the Eurosystem. Followed by the identification of an essential macroeconomic tool, the principle of the Impossible Trinity. Its compliance is crucial to successfully form a common currency area and therefore important to list here. Possible reasons for a dissolution of a currency area, or an exit of a member nation respectively, is discussed after. Based on empirical findings, crucial indicators for a breakup are defined. Subsequently, a view on current euro member states and the candidates provides an insight on further monetary integration plans. The illustration of the Eurosystem and its repeatedly adapted monetary policy shows the estimated road towards an OCA in Europe, including the functioning of its instruments and its set up goals. Lastly, a review summarizes the development on the Eurozone and its objectives. The current Europe 2020 strategy is discussed and the linkage to the TTIP introduced.

3.1 The Levels of Economic Integration in Europe

Jean Monnet (1888 – 1979), a French political and economic advisor is regarded as the “founding father” of the European Union. During World War I and II, he influenced the coordination of industrial production in the United Kingdom and France by holding high-level positions. Monnet is introduced by the European Commission as follows: “He
was the main inspiration behind the famous ‘Schuman Declaration’ of 9 May 1950, which led to the creation of the European Coal and Steel Community and, as such, is considered to be the birth of the European Union” (European Commission, 2015d, p. 1).

Later, the Six, namely France, Germany, Italy, Belgium, the Netherlands and Luxembourg signed the Treaties of Rome, which came into force in 1958. The European Atomic and Energy Union (Euratom) and the European Economic Community (EEC6) were born. The idea was, to establish a unified economic area, a common market with common transport and agriculture policies. See Figure 3.1 to follow the levels of economic integration and its complexity. Two years later, in 1960, Austria, Denmark, Norway, Portugal, Sweden, Switzerland and the United Kingdom, established the European Free Trade Association (EFTA7). Throughout the following years, the free trade area (FTA) was extended and further integrated between the independent cycles of EEC and EFTA. By 1968, a customs union with common external tariffs was completed. During the Euro-pessimism (1973 – 1986) European economic integration stagnated. But since The Single European Act, which entered into force in 1987, an upward movement was induced by adopting the four freedoms - free movement of goods, labor, services and capital.

The next level of integration was officially reached with the Maastricht Treaty, which created the Economic and Monetary Union (EMU) in 1993. Since then, the European Union has passed through several stages within this integration level. Now, the Lisbon Treaty represents the current agreement, which came into force in 2007 (European Union, 2015).
3.1.1 The current EMU member states

So far the Union has enlarged seven times and currently includes 28 member states. The Euro currency was introduced in 1999 as book money and in 2002 as cash. As of now, 19 member states gave up their national currency and adopted the euro. These countries are: Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Italy, Ireland, Latvia, Lithuania, Luxembourg, Malta, The Netherlands, Portugal, Slovenia, Slovakia and Spain. Member states, which do not use the euro are: Bulgaria, Croatia, Czech Republic, Denmark, Hungary, Poland, Romania, Sweden and the United Kingdom (ECB, 2015h).

Based on Figure 3.2 one can easily notice that mainly the western European countries have adopted the common currency, while the eastern nations are still pending. Before those countries will be able to join the Eurosystem, they are obliged to meet certain convergence criteria, explained in section 3.2 The Eurozone Entry Conditions. The Eurozone members themselves are the most integrated within the European Union. A common monetary and fiscal policy as well as harmonized tax rates are the goal and therefore in constant convergence. Because of the high complexity of this integration level and due to deficiencies in the process, new arrangements and rules were set. One important lesson learned throughout history was, that the Impossible Trinity cannot be violated.
3.1.2 The Impossible Trinity

To refresh, monetary policy has limited effects to price inflation and nominal exchange rate in the long-term perspective. However, in the short run it has effects on the real economy, such as growth and employment. The nations and their authorities are confronted with the loss of their national adjustment tool and therefore, with the principle of the Impossible Trinity when deciding on joining the Eurozone.

Independently, John M. Flemming (1962) and Robert A. Mundell (1963) developed the macroeconomic tool of the Impossible Trinity. Figure 3.3 describes the trilemma of the exchange rate regimes and its trade-offs that governments are exposed to when deciding on monetary policy. The model can be simplified in the figure of a triangle, whereat the vertices of the triangle represent the three exchange rate policy objectives: exchange rate stability, monetary policy autonomy and free movement of capital. The trilemma shows, that only two goals can be achieved simultaneously at the maximum, achieving all three objectives simultaneously is impossible.

André Szász, former Executive Director of the Dutch Central Bank, explains in his book “The Road to European Monetary Union” the European Monetary System (EMS) crisis in
1992/93. The first attempt to introduce a common currency failed because the authorities didn’t want to give up monetary autonomy. This event shows, that the Impossible Trinity can’t be violated. It is central to the European integration process and its common currency, the euro (Szász, 1999).

If the decision falls on free capital flow and fixed exchange rate (a), this would lead to a renunciation of monetary autonomy. Currently the 19 member states of the Economic and Monetary Union in Europe, which share the Euro, gave up their monetary policy autonomy by transferring this task to the ECB – the European Central Bank. The United Kingdom, as well as Denmark, still represent an exception within the European Union, for the reason that the United Kingdom retains full monetary policy autonomy, while Denmark committed informally to the Eurozone preconditions of fixing their exchange rate to the euro. Section 3.3 Euro Candidates explains these exceptions in more detail.

If the decision falls on free capital flow and sovereign monetary policy (b), this would lead to a flexible exchange rate regime. The Eurozone as a whole to the outside world, the USA, Japan, the UK, Switzerland and Sweden follow this approach.

If the decision falls on fixed exchange rate and sovereign monetary policy (c), this would lead to restrictions on capital movements (Baldwin & Wyplosz, 2012).

3.2 The Eurozone Entry Conditions

As mentioned above, nine out of the 28 EU member states are not using the euro yet: Bulgaria, Croatia, Czech Republic, Denmark, Hungary, Poland, Romania, Sweden and the United Kingdom. To avoid the risk of asymmetries, those countries first need to meet certain convergence criteria, in order to become a member of the common currency
area. Which criteria have to be fulfilled in dependence on the OCA theory and how the candidates, as well as the members, plan to reach and maintain their membership is discussed next.

3.2.1 Inflation

Baldwin & Wyplosz (2012, p. 436) summarize these entry conditions and list the first criterion: inflation. The requirement for the future candidate is not to „exceed the average of the three lowest inflation rates achieved by EU member states by more than 1.5 percentage points.” Consequences of the highly differentiated inflation among Germany and Italy illustrated the importance of this regulation and convergence criterion.

3.2.2 Long-term nominal interest rate

Another condition is to keep the long-term nominal interest rate within a two percentage point variation opposite the three lowest inflation-rate members. Again, a criterion which requires low inflation to stay competitive.

3.2.3 ERM II membership

The third convergence criterion requires participation in a two year observation mechanism, called the Exchange Rate Mechanism II (ERM II). To eventually pass the entry requirement, the candidate has to prove the „ability to keep its exchange rate tied to its future monetary union partner currencies” (Baldwin & Wyplosz, 2012, p. 437). A devaluation of its currency within these two years is considered a failure. This regulation refers to the Impossible Trinity and the necessity to give up the national monetary policy in order to successfully participate in the common currency area. To avoid costs, the Eurozone members have to make sure, that there is no need, on the part of the candidate, to use its monetary policy.

3.2.4 Budget deficit

The fourth presetting is a limit on the national budget deficit. The Maastricht Treaty requires an upper limit of three per cent of GDP. This is the same amount, which is set in the Stability and Growth Pact (SGP). This limit has to be maintained after the adoption of the euro (Baldwin & Wyplosz, 2012).
3.2.5 Public debt

The last Maastricht criterion sets a maximum level of a nation’s public debt. The correlation between the budget deficit of three per cent and the amount of public debt results in an appropriate amount of 60 percent debt limit (Baldwin & Wyplosz, 2012). In order to avoid the necessity of high fiscal transfers within the currency member states, the budget deficit and public debt are restricted beforehand.

3.3 Euro Candidates

Sweden (since 1995), Hungary, Czech Republic, Poland (since 2004), Bulgaria, Romania (since 2007) and Croatia (since 2013) are all EU member states, but they haven’t yet adopted the euro. Those countries have committed to do so as soon as they fulfill the Maastricht convergence criteria listed above. One cannot expect a euro enlargement within the next two years, because none of these candidates are within the ERM II yet. The reasons for that are listed in the Convergence Report 2014, prepared by the Directorate General for Economic and Financial Affairs, which investigated the candidate’s level of fulfillment (European Commission, 2014d). According to the report, all of the candidates fulfill the criterion on the convergence of long-term interest rates. Equally, almost all of them meet the goal concerning price stability with the exception of Poland. Czech Republic, Croatia and Poland don’t reach the public debt limit yet and as mentioned before, none have qualified to enter the ERM II so far. The report furthermore investigates the legislation condition and their consistency with the European System of Central Banks’ objectives and tasks. All fail on the level of independence except Croatia.

The two EU member countries that remain are Denmark and the United Kingdom (since 1973) both negotiated an opt-out from the euro. In other words, they are not obliged to introduce the common currency. While the Danish krone is within the ERM II with a narrow fluctuation margin of ±2.25 percentage points, the pound sterling (UK) is not included in the mechanism (European Commission, 2015e).

Therefore, the amount of EU members which eventually will join the Eurozone, goes down to seven. As stated before, an adoption of the euro in those countries is not foreseen in the next two years. For this reason mainly the focus is on the current
Eurozone members and its status within the monetary integration process under consideration of the OCA criteria.

3.4 Eurozone Members

The construction of the monetary union was elaborated in the Maastricht Treaty, with an operation started for the single currency in 1999. According to plan, the new currency was then introduced. Meanwhile, 19 member states adopted the euro as the coronation of a convergence process.

One needs to consider that with one currency there is just one monetary policy. Therefore, the Eurosystem works with the Eurozone as a whole rather than with single member states. However, one can analyze the different developments and challenges faced by single member states during the monetary integration process. Since the euro adoption and enlargement, the Eurozone has faced inflation differentials and asymmetric monetary policy effects.

The periodical „Wirtschaftsdienst“ released a report based on data from Eurostat on inflation differentials in 2011. It states that the inflation of the Euro members has increasingly drifted apart. Never before was the inflation differential in the euro area as high as then, ranging from 0.9 percentage points in Ireland to 5.5 percentage points in Estonia, a spread of 4.6 percentage points. Compared with the data from 1997, the year of the convergence test for Euro membership, this amount was only 0.7 percentage points. According to this data, the difference in the inflation was almost seven times higher than at the beginning of the monetary union (Steinbach, 2011). Baldwin and Wyplosz (2012) summerize some possible reasons, such as incorrect initial conversion rates, wage and price pressure, policy mistakes and asymmetric shocks. Hence, Germany’s conversion rate was most certainly overvalued when the national currency was converted into euros at the ERM parity. To the contrary, Greece possibly used an undervalued rate. Those misfits led to differentials opposite the average Eurozone development. In another example the oil shocks which hit the member states in different degrees and caused asymmetric shocks within the common currency area. This leads to the core of the OCA theory and explains the costly challenges within the imperfect domain of Europe.
Although the convergence criteria were set in the Maastricht Treaty and fulfilled by all current member states at the beginning, weak commitment and a lack of monitoring after the euro adoption are among the reasons for the divergence in the progress.

### 3.5 Dissolutions of Currency Unions

Now more relevant than ever since the euro introduction, the discussion about possible exits from currency unions erupts. Specifically, the current situation in Greece and the possible exit („Grexit“), led to the inclusion of this section. Subsequently, indicators for a dissolution are listed, followed by statements by Hans-Werner Sinn and Gottfried Haber, both economists, about a possible „Grexit“.

Looking for the major sources for dissolutions, one poses the question: „When do monetary unions fall apart?“. Volker Nitsch, in his correspondent chapter in the course of the evaluation of the „Prospect for Monetary Unions after the Euro“ by De Grauwe and Méxitl, states that to his knowledge „there is no study that focuses on the breakups of currency unions“ (De Grauwe and Mélix, 2005, p. 320). Nitsch did a study on the time of exit of a member state using data from 245 country pairs which used the same currency from 1948 through 1997. Apart from other investigated indicators, high inflation differentials reached statistical significance. The numbers he lists range from 7.1 to 11 percentage points before the breakup and 4.5 percentage points in periods of stability (De Grauwe and Mélix, 2005). Compared to the evaluation of inflation differentials in 2011 within the Eurozone, this does not indicate an acute potential for dissolution, according to Nitsch’s research (Steinbach, 2011). Still, as mentioned previously the inflation differentials in the Eurozone have increased since the currency adoption.

Jürgen Matthes evaluates in his article “Ten Years EMU – Reality Test for the OCA Endogeneity Hypothesis, Economic Divergences and Future Challenges“ as follows: „However, growth and particularly inflation differentials have been remarkably persistent in the medium run. This has led to widely diverging developments in international competitiveness and strong imbalances in the euro area. In contrast to Germany, particularly in southern European countries real appreciations and large current account deficits ensued“ (Matthes, 2009, p. 116). Reasons for this development and contradiction for the endogeneity hypothesis at the same time, he further states that the impact of financial market integration was relatively strong compared to trade
integration. Although a convergence of business cycles can be observed, “other (stronger) forces have obviously contributed to the divergences and their persistence” (Matthes, 2009, p. 116).

Furthermore, both authors agree, that fiscal variables don’t show significance for a typical break. But Matthes points out that: “Wage policy, however, contributed – particularly when southern European countries are compared to Germany. In southern Europe nominal wage increases exceeded productivity growth and led to rising nominal unit wage costs, thus contributing to persistently higher inflation” (Matthes, 2009, p. 117).

Another relevant finding of Nitsch for dissolution and for further discussion on the impact of the TTIP on the OCA in Europe, concerns trade openness. He found out that „countries in dissolved currency unions tend to be less open […], and they also experience a considerable decline in trade prior the break […]. This decline in trade, however, is mostly confined to one of the currency union members“ (De Grauwe & Mélit, 2005, p. 331).

„Grexit“

Hans-Werner Sinn, professor of political economy and president of the IFO Institute in Munich gave an interview regarding the possible exit of Greece, which was published by the periodical „Format“ in April 2015. There, he criticizes the European Central Bank for the constant support provided for Greece through so called ELA credits (Emergency Liquidity Assistance) and argues that the amount of grant money for this year constitutes €68.5 billion. This exceeds by far the maximum liability amount of the Greece national bank of €42 billion. He points out that the Eurozone is liable for the difference. Sinn suggests a „Grexit“ to be the best solution, not just for the euro partner countries but also for the Greeks population (Bystron, 2015).

In contrary, professor and economist Gottfried Haber, suggests that it would be better if Greece stays within the Eurozone. His justification for this statement is that, it would result in turbulences in the financial markets. Therefore, an increase in the interest rate as a possible consequence of a „Grexit“ could be costly for the Eurozone (Jungwirth, 2015).
At the time of this research a referendum took place in Greece. The population voted on the issue of the savings and reform course provided. The result on the votum from Sunday, 5th of July 2015, showed a refusal of 61.31 percentage points of the population (Zeit Online, 2015). This event is broadly denoted as a Pyrrhic victory of the current prime minister Alexis Tsipras, who won this referendum on the one hand, but on the other hand didn’t achieve a profitable situation either. Future arrangements with the euro member Greece and the challenges involved, will be discussed within a Eurozone summit in the very near future.

The next section introduces the institutions and the system behind the process of monetary integration in Europe on the one hand, and the instruments, its consistent adoption and the plan towards a successful common currency area on the other hand.

3.6 The Eurosystem

The monetary policy of the EMU is divided into the Eurosystem, which now consists of 19 members using the same currency, and the European System of Central Banks (ESCB), which include every member state, currently 28. The following two sections introduce this policy, including its objectives, instruments and strategy and the potential to fulfill the OCA criteria in the Eurozone.

3.6.1 European System of Central Banks - ECB and NCBs

„With a single currency there can be only one interest rate, one exchange rate vis-à-vis the rest of the world, and therefore one monetary policy“ (Baldwin & Wyplosz, 2012, p. 441). But the set up of the European system is different. Instead of having a single central bank, each member state additionally maintains their own national central bank. This organization resembles a federal state similar to the USA but because the EU isn’t a federation, this structure is intricate.

The supranational institution of the European Central Bank (ECB), which was founded on 1st of January 1999, coexists with the National Central Banks (NCB). The ECB plus the 19 euro member states represent the Eurosystem, while the ESCB comprises all of the ECB and NCB’s. These two groups also represent the EMU (ECB, 2015a).

Since November 2014, the ECB has operated from Frankfurt with Mario Draghi as its current president who holds the office from 2011 to 2019. He is an Italian bank manager
and economist and was the president of the Italian National Bank before his current position (ECB, 2015a).

### 3.6.2 Strategy, Objectives and Instruments

Under the assumption that eventually all EU member states will adopt the euro, the Treaty on the Functioning of the European Union (TFEU) generally refers to the ESCB. The tasks of both groups, ESCB and Eurosystem, are laid down in this Treaty.

#### Strategy and Objectives

One of the two main objectives is to deliver price stability as it is stated in Article 127 (1): "The primary objective of the European System of Central Banks [...] shall be to maintain price stability. Without prejudice to the objective of price stability, the ESCB shall support the general economic policies in the Union with a view to contributing to the achievement of the objectives of the Union as laid down in Article 3 of the Treaty on European Union" (ECB, 2015a). Article 3 provides a wider definition of the objectives and includes the “sustainable development of Europe based on balanced economic growth and price stability, and a highly competitive social market economy, aiming at full employment and social progress” (ECB, 2015a).

In other words, the main objectives of the ECB are to maintain price stability, a high level of employment and sustainable and non-inflationary growth in Europe. These targets are rather imprecise and therefore offer leeway for the Eurosystem. Through cross checking between economic and monetary analysis, the ECB ensures that the objectives are not at risk. The short to medium term determinants of inflation (close to 2%) on the one hand, provide indications for the medium to long term analysis to subsequently “exploit the long-run link between money and prices” (ECB, 2015d). In order to prevent a crisis, the ECB task is to secure financial stability in the established financial system and its economy. The monitoring of cyclical and structural developments in the EU and specifically in the banking sector provides a system to identify potential vulnerabilities. Figure 3.4 shows the functioning of financial systems in general, which is monitored by the Eurosystem. Direct finance channels funds on financial markets, such as money and capital markets. Indirect finance brings the lender and borrower together through so called financial intermediaries, such as banks or insurance companies. Typical risks for the financial system are, for instance, economic slowdown, abrupt changes in asset
prices, large loans to a vulnerable industry and vulnerable stock or bond investments of banks. The ECB/Eurosystem has to make sure that financial markets and financial intermediaries work properly, without them taking too much risk in order to meet the objective of financial stability (ECB, 2015f).

![Functions of financial systems](image)

**Figure 3.4 Functions of Financial Systems (ECB, 2015f)**

**Instruments**

The ECB disposes of certain instruments to meet the agreed development and understands the inflation is to be kept between 1.5 and 2 percent in the medium run of two to three years. Open market operations, standing facilities and minimum reserves set the operational framework of the ECB (ECB, 2015c). The Eurosystem's intention is to influence prices through changes in the transmission channels, such as long term interest rates, cost of credit, asset prices, exchange rates and inflation expectations. Because there is no direct control possible, the system influences these channels indirectly by controlling the very short-term interest rate called EONIA – European Overnight Index Average. Through the establishment of a “ceiling” and a “floor” for short term interest rates the ECB steers the market in-between. The floor represents the deposit facility rate, which is the rate the ECB accepts overnight deposits. The ceiling shows the marginal lending facility rate at which the ECB provides overnight liquidity to the banks. In-between is the key ECB interest rate (Rant, 2015a). Figure 3.5 illustrates the development of EONIA and the changing “floor” and “ceiling” since the euro
introduction until 2011. It also shows the effects of the collapse of the “dotcom” bubble in March 2000 and the Lehman Brothers bankruptcy in September 2008. More current data shows that the “ECB took the decision to cut the interest rate on the deposit facility to -0.10%” in June 2014 (ECB, 2014b). For the first time since the euro has become effective, banks have to pay in the case of deposits at the ECB. The intention is to boost inter-banking lending within the euro area again, which has decreased significantly since the crisis (Rant, 2015a).

![Graph showing Reserve Requirements & Interest Rates over time](image)

Source: ECB and EBF

Figure 3.5 EONIA (Place du Luxembourg, 2013)

### 3.7 Fiscal Policy - The Stability and Growth Pact (SGP)

Europe faced several shocks during the financial and economic crisis starting in 2008. Firstly, the global financial crisis as an external shock. Furthermore, the internal economic problems which resulted from structural and financial imbalances among member states. In combination with institutional weaknesses of the EMU, like weak economic governance, lack of central fiscal function, fragmented bank regulation and supervision, these led to a „perfect storm“. The financial part of the crisis based on private debt (banking crisis), external debt (balance-of-payment crisis) and government
debt (sovereign crisis) were and still are of great challenge for the monetary policy (Rant, 2015a). Within the Maastricht Treaty, requirements and limits were set up for Eurozone membership. The „Resolution of the European Council on the Stability and Growth Pact“ of 1997, provided the political basis to further establish tightly arranged policy guidelines (EUR-Lex, 2005). The rules now constitute the Stability and Growth Pact (SGP), which has adapted several times since coming into force (European Commission, 2015f). It currently consists of two parts, a surveillance part (preventive arm) and a dissuasive part (corrective arm). Besides serving as an entry test for new euro candidates, constant monitoring rules after the euro adoption were implemented. Now, the SGP additionally demands the preservation of fiscal discipline after the euro adoption, the reduction of risks for long-term price stability and serves as a fiscal stabilizer. The preventive arm observes the medium term objectives of its members to keep their budget close to balanced. Warnings can be pronounced. The corrective arm observes the short term objectives of a budget deficit less than 3 percent of GDP per year. The Economic and Financial Affairs Council (ECOFIN) votes on the existence of an excessive deficit. If a euro member exceeds that limit, a binding recommendation and deadline for correction is pronounced, as well as sanctions that can be applied (Rant, 2015b).

Looking back on ten years of the SGP, several euro member states had been subject to the excessive deficit procedure (EDP). In total, 22 times the EDP has been triggered since 1999, but sanctions have never been applied. On the one hand, this can be seen as a successful implementation of the SGP, which has worked effectively on the countries fiscal discipline. On the other hand, there is the assumption that ECOFIN has avoided sanctioning a fellow government due to moral hazards (Baldwin & Wyplosz, 2012). Table 3.1 shows the EDP since 1999.
The EMU has worked hard on its fiscal policy and improved the regulations constantly. The multilayered Eurozone debt crisis, however, exposed significant deficiencies of the existing system of economic and fiscal governance (Rant, 2015b).

Many euro member states broke the regulations of the SPG as discussed. Now, the new EU economic governance is aimed at a tighter coordination of structural reforms and fiscal policy goals between the Europe2020 strategy and the SGP. Firstly, a reform of the SGP and its rules was worked out. Fritz Breuss explains in the course of his book „The Stability and Growth Pact – Experiences and Future Aspects“, that in March 2005, an agreement was reached at the ECOFIN Council. Both, the preventive and the corrective arm and its medium term and short term objectives were adjusted and are now differentiated from one country to another. A list of exemptions and factors considered to identify excessive deficit made the new SGP somewhat less transparent. The three percent deficit threshold still remains limited and temporary (Breuss, 2007). Although the reform has been subject to much skepticism in academic as well as political circles, Breuss believes that a fiscal framework is essential in the monetary union and argues that „as soon as serious imbalances emerge in some countries, threatening the stability of the euro area, the other euro area members will step up the pressure for rigorous implementation of the rules“ (Breuss, 2007, p. 178). Secondly, since the crisis, further improvement of the economic governance was managed. The legislative packages, called the six-pack and two-pack, aim to introduce procedures in case of macroeconomic

<table>
<thead>
<tr>
<th>Country</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Belgium</td>
<td>2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyprus</td>
<td>2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>France</td>
<td>2003</td>
<td>2009</td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td>2003</td>
<td>2009</td>
<td></td>
</tr>
<tr>
<td>Greece</td>
<td>2004</td>
<td>2009</td>
<td></td>
</tr>
<tr>
<td>Ireland</td>
<td>2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Italy</td>
<td>2004</td>
<td>2005</td>
<td>2009</td>
</tr>
<tr>
<td>Malta</td>
<td>2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Netherlands</td>
<td>2004</td>
<td>2009</td>
<td></td>
</tr>
<tr>
<td>Portugal</td>
<td>2002</td>
<td>2005</td>
<td>2009</td>
</tr>
<tr>
<td>Slovakia</td>
<td>2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slovenia</td>
<td>2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spain</td>
<td>2009</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3.1 EDP since 1999 (Balwin & Wyplosz, 2012)
imbalances. The Economic Governance Review 2014 of the European Commission investigates the impact of the tighter coordination and shows that the numbers of countries under the EDP declined steadily since 2010 (See Figure 3.6).

![Figure 3.6 Countries under EDP (European Commission, 2014e)](image)

Ireland, Portugal and Spain had been part of a financial assistance program and as stated in the Economic Governance Review 2014: „All three countries have regained sovereign market access at sustainable interest rates. Overall, considerable achievements have been made in reducing fiscal deficits in current and former programme countries, and overall public debt is stabilising“ (European Commission, 2014e, p. 9). Greece and Cyprus are still within the ESM program.

Seeing the fiscal policy of the EU being improved and strengthened, seems to support the development towards fiscal and economic stability. Subsequently, an increasing independence on fiscal transfers can be expected. Nevertheless, the number of countries which still exceed the debt limit of 60 percent within the Eurozone is relatively high. The SGP Austria, for instance, reports a debt ratio of 84.5 percent of GDP in 2014 (European Commission, 2015h).

The Eurozone economies are still indebted and in need of the ESM, which has a maximum lending facility of €500 billion. The ESM states: „The current Forward Commitment Capacity reflects the financial assistance programmes to Spain and Cyprus and a zero adjustment amount to the ESM lending capacity, due to the absence of a current or planned direct bank recapitalisation operation“ (ESM, 2015b). In order to mitigate small crisis when they emerge and to avoid ballooning situations like the
Eurozone is now facing in Greece, budgetary reforms including the increase of budget volume are required.

3.8 Europe 2020 Strategy

Since the start of the monetary integration process, the Eurozone has faced several internal and external shocks as mentioned. Launched with low inflation, according to the Maastricht criteria, a sequence of events considerably shook the world economy and influenced it in different ways. Baldwin & Wyplosz (2012) list the oil shock in 2000, the misestimation of the IT revolution („dotcom“ bubble), the terrorist attacks in 2001 and the Wallstreet melt-down in 2008. Therefore, the inflation rate in the Eurozone has exceeded the two percent ceiling most of the time (ECB, 2015b). Still, reviewing history, the member countries didn’t show such a low inflation rate since World War II, which supports the Eurosystem. Many advanced economies documented a significant decline in macroeconomic volatility worldwide at this time, also defined as the Great Moderation (Hakkio, 2013). The foundation for this phenomenon was low inflation and price stability, two determinants which equal the ECB objectives. One can conclude that the ECB is achieving the primary objective of low inflation and therefore, maintaining price stability. For more details on the instruments and methods used by the ECB in pursuit of its price stability mandate, see the Economic Bulletin, regularly published by the ECB.

Concerning the growth objective, the European Commission pronounced the Europe 2020 strategy in 2010 and summerizes its aim as follows: „Europe 2020 is the EU’s growth strategy for the coming decade. In a changing world, we want the EU to become a smart, sustainable and inclusive economy. These three mutually reinforcing priorities should help the EU and the Member States deliver high levels of employment, productivity and social cohesion“ (European Commission, 2015g).

The latest Economic Bulletin published in April 2015 states that the real GDP in the euro area increased by 0.4 percent in the first three months of this year. This represents a slight increase over the last quarter of 2014, when an increase of 0.2 percent was observed and reported in the Monthly Bulletin of December 2014 (European Central Bank, 2014a). Growth has been very low in Europe and steps towards the second objective have now been made.
Firstly, the ECB and its actions as is stated in the latest Bulletin report: „ECB monetary policy measures are contributing to a substantial easing of broad financial conditions and facilitating access to credit, for SMEs as well as for larger firms. The progress made with fiscal consolidation and structural reforms has had a favourable effect on economic growth“ (European Central Bank, 2015e). Secondly, a free trade agreement with the United States is seen to have the potential to additionally boost Europe's economy and subsequently support growth.
4. Transatlantic Trade and Investment Partnership (TTIP)

The transatlantic economy, consisting of the European Union (EU) and the United States of America (USA), generates nearly half of global Gross Domestic Product (GDP). The EU is the world’s largest export player and also the largest trader in goods and services. Furthermore, it is the top supplier for around 80 countries and the top trading partner for the USA. The total trade volume of the 28 member states receives 16 percent of world’s imports and exports (European Commission, 2014a). The EU currently has 28 trade agreements in place and several ongoing and forthcoming negotiations. See Figure 4.1 for detailed information.

Figure 4.1 Free Trade Agreements (European Commission, 2013c)
However, the US as one of the biggest, single economies in the world is the driving force of global free trade. Aside from China, most American exports and imports involve trade with the EU. As a consequence, both partners depend on each other and are thus interested in sustainable trade relations. Since the global economic crisis has shattered the economies on both sides of the Atlantic, caused low economic growth rates, as well as increasing government debt, the 'Transatlantic Trade and Investment Partnership' (TTIP) is meant to be the magic word and one solution out of the crisis. History has shown, that trade liberalization between both partners has increased constantly and has consistently reduced trade barriers. That is why the TTIP could also be an important stimulus for economic growth.

At this stage, it is still unclear to which extent the TTIP will be introduced. The EU and the USA have just completed the 9th round of negotiations in New York in April 2015 (European Commission, 2015c). On one hand, the TTIP is expected to boost both parties’ economies, trade flows and labor markets. On the other hand, consumers are also skeptical and suspect several negative influences as a consequence of harmonization between both economies.

Is it just a tear down of tariffs or does it include much more than that? Who are the negotiators? What specifically are they negotiating? Are there any legal restrictions that protect the consumers, companies and member states? The question it comes down to is, whether the free trade area will be as growth promoting as it is supposed to be. All these questions are posed as issues in the following sections. This chapter focuses on answering the third subquestion of this academic paper: What is a comprehensive free trade agreement in the case of TTIP? The aim is to define what comprehensive in this term means, as well as to list the predicted economic impacts on the European economy.

First, the history of trade relations between the USA and Europe/EU is presented. An overview of both negotiating partners and their trade linkage is given. Subsequently, the section 4.2 Expectation and Development of the TTIP goes into more detail about the elements of the negotiated agreement, its content and advancement. In addition, a brief introduction follows on the people behind the scenes, the main negotiators of both parties.

Two studies will be examined to investigate if the TTIP would rather act to stabilize or destabilize the monetary integration process in Europe, to intentionally fully gain from
an OCA. Macroeconomic trade models are applied to show the possible effects, advantages and disadvantages of this specific free trade area. The studies demonstrate the impact on its members and non-members; on growth, trade flow and labor markets of two global players.

The section 4.3.3 Differences and Similarities compares the results forecast by both studies, which help to conclude the impact on an OCA creation in Europe.

4.1 Trade Relations: The Historical Way to the TTIP

As previously mentioned, the trade between Europe and the United States has persisted for hundreds of years and still is “the largest commercial relationship in the world” (Ahearn et al., 2008, Introduction). During the years, trade was constantly enlarged and grew, especially in the last 60 years. Historical agreements and relations between the United States and later EU member states, are shown, since the European Union became a costumers union, established in the 1990s.

The official document for further trade after the second World War was the Marshall Plan. This European Recovery Program (ERP) contained about $13.6 billion (2006 equivalent, $108 billion), and helped the weakened European countries to rebuild their industrial sector. But the program did not only help the industries, it was also meant to maintain peace and to introduce self-reliance. Unfortunately, this help was not accepted by countries which were within the Soviet Unions sphere of influence. Thus, only Western European countries were able to receive financial aid from the United States. After four years of financial aid, from April 1948 to September 1951, most countries had been able to build up their industrial sector and incurred new trade policies from the USA. All in all, the ERP “encouraged the basic structural reorganization that underlay the 25-year European boom from 1948 to 1973” (Padoan & Sorel, 2008, p. 80).

The following two paragraphs show how both partners are integrated in international trade agreements. Subsequently, their specific trade relations are shown. In order to illustrate the importance of this relation for international trade, one can quote Ellen L. Frost: “For the last 50 years, progress toward multilateral trade liberalization has depended heavily on agreement between the United States and the European Union” (Frost, 1998).
One of the main agreements that paved the way for more international trade and trade between European countries and the USA was the ‘General Agreement on Tariffs and Trade’, in short GATT. The agreement became effective at the beginning of 1948 and is one of the predecessors of the World Trade Organization, WTO. In the following years, the organization has grown from twenty-three founder countries to an organization of nearly 160 member states today. Instead of creating an unilateral trade relationship, GATT was a “multilateral trading system based on common rules” which attempted to lower tariffs (Bendini, 2014). Furthermore, it established a round table, where all members could talk and negotiate about common trade problems, new rules and agreements. A key rule from the GATT/WTO is still the ‘most favored nation’, meaning that if someone offers a special favor, such as a lower customs duty rate for one of their products, it counts for all other GATT/WTO members (WTO, 2014). This rule led to an international decrease of tariffs and other trade barriers. Exceptions to the most favored nation rule are customs unions and free trade zones such as the EU and the TTIP. Consequently, one can keep in mind that building a free trade area is reconcilable with the GATT/WTO principles.

As already mentioned, the GATT agreement was based on trade with goods. To also include other sectors, all members met in 1986 for the Uruguay Round of negotiations. The new agreement on services, the General Agreement on Trade in Services (GATS), and also an agreement on intellectual property, the Trade-Related Intellectual Property Services (TRIPS), entered into force in January 1995. When GATS and TRIPS were introduced in January 1995, they also became, beside GATT, the three main pillars, that the newly founded World Trade Organization was based on. From that time onwards, the EU in the stage of a customs union, and the USA, were partners in international trade (European Commission, 2012).

However, the EU and USA did not only participate in multinational negotiations, but have also been involved in bilateral talks for years. In 1954 the Europeans established the so called ‘European Delegation of the European Commission to the United States’ in Washington, D.C. and started to coordinate political and economic interests of European states in the USA. At that time, only members of the European Coal and Steel Community (ECSC) were represented. Two years later, in 1956, the United States opened the U.S. Mission to the ECSC in Luxembourg and in 1961 the United States Mission to the
European Union in Brussels. From that time onwards, the requirements for continuing bilateral negotiations were given.

In the Transatlantic Declaration from 1990, both partners stated, that their main goals in economic cooperation were to "develop their dialogue [...] on other matters such as technical and non-tariff barriers to industrial and agricultural trade, services, competition policy, transportation policy, standards, telecommunications, high technology and other relevant areas" (European Commission, 1990). This declaration was updated by the New Transatlantic Agenda (NTA) in 1995. Besides including multilateral trade, they also agreed to support the transatlantic business relationship by a bilateral dialogue (European Commission, 1995). Three years later, in 1998, the connection between multilateral and bilateral trade was specified further by the Transatlantic Economic Partnership (TEP). This agreement was meant to give a new impulse to the cooperation concerning trade and investment. As forerunners in the international trade liberalization, the TEP between both sides contained multilateral and bilateral elements, so that a closer EU/USA cooperation could prepare new multilateral negotiations in the WTO. Another innovative aspect of the TEP was to integrate labor, business, environmental and consumer issues into the process to achieve four basic goals: “regulatory cooperation, mutual recognition, alignment of standards and regulatory requirements and consumer product safety” (European Commission, 2000, p. 2). In order to make those economic negotiations easier for achieving positive results, the Transatlantic Economic Council (TEC) was established. This was signed in April 2007 between the former President of the European Council, Angela Merkel, and the President of the United States, George W. Bush. The aim was to advance economic integration between the European Union and the United States of America. During the following years, the representatives met several times and founded the main body for the TTIP negotiations, the EU-US High Level Working Group on Jobs and Growth. The group was looking for ways “to increase EU-US trade and investment to support mutually beneficial job creation, economic growth, and international competitiveness” (European Commission, 2011). The report stated the potential benefits and possible risks of the trade and investment agreement. The assessment not only examined the economic aspects, it also accounted for the environmental impacts. In general, it highlighted effects that may occur as a result of a change in the degree of the trade liberalization and suggested that a transatlantic trade and investment agreement had
the most potential to boost jobs, growth and competitiveness across the Atlantic in 2012 (European Commission, 2011). In February, 2013, President Barack Obama, European Council President Herman Van Rompuy and European Commission President José Manuel Barroso announced - on the basis of the High Level Working Group’s conclusions - that they would initiate internal preparations for the launch of such negotiations. Five months later, in July 2013, first negotiations for the TTIP started (European Commission, 2013a).

4.2 Expectations and Development of the TTIP

The TTIP is a wide-ranging trade agreement between the EU and the USA, that aims to remove trade barriers in order to stimulate purchases and sales of goods and services between the USA and the EU in several sectors, from agriculture to technical industries and manufacturing. It would on the one hand, lead to a general growth of the economies and on the other hand, reduce the unemployment rate due to an increasing number of jobs. The mentioned trade barriers exist, for example, in the form of tariffs, regulations and/or restrictions on investments.

The agreement in general has three vital elements, the first one is an improvement concerning market access. This means that removing customs duties enhances the admission to investments and to public markets. This should lead to a higher trade volume between the two partners because goods would get relatively cheaper. The second element counteracts redundant regulatory barriers. The duplication of bureaucratic efforts reflects a waste of resources that could be used more effectively in other areas. Therefore, the improvement in regulatory cooperation and coherence is an important aim of the trade agreement. Finally, the EU and the USA stand for high international standards in, for example, technology and the quality of goods. Consequently, a cooperation in defining international standards could be in favor for the whole economies’ level of quality and finally an increasing competitiveness in comparison to the rest of the world (European Commission, 2014c).

4.2.1 Expected Economic Effects

The previous section points out that the US represents an important export market and import possibilities for the EU. At the moment, customs duties exist in the US for
industries in which European firms may have a possible competitive advantage. Even if the current customs duties were relatively low, a removal of such duties would have a large impact on the economic leverage. This impact is therefore high due to the large trade flow. One should expect growth in both economies as a result of lowering the customs duties. In this case, the market forces of demand and supply would be the only determinants for a trade equilibrium. Hence the result would be more effective and no unnecessary resources would be wasted as duties always lead into welfare loss. With more than €1.6 trillion the EU reflects the biggest investor in the USA (European Commission, 2014c). Here, the requirement in the negotiations on the European side is given to improve the conditions for investment in the USA. Therefore, one part of the TTIP is the protection of foreign investments and the guarantee of equal opportunities for investments by foreigners. This could lead to a further increase in European investment in the US (and vice versa) and an increase of growth in the economic power. The increasing investments would lead to more capital in the US and consequently, the possibilities to build up the economy, would rise. More investments also reflect a good opportunity to react on exogenous economic shocks. The USA economy would be strengthened and become more robust which would indirectly support the European markets as well, because of the close connection (European Commission, 2014c).

A comparison of different sectors in the EU and the USA shows, that Europeans have an advantage in the area of services. One reason could be, that European firms have more knowledge in this area and they are consequently more competitive and efficient. In order to use this advantage, the European representatives try to provide better access to the USA service market for European companies in the negotiations. Another advantage of the agreement would be better access to procurement markets due to more transparent regulations for these markets. This reflects growing procurement markets and a resulting increase in the degree of competition for all producers. The bargaining position of the buying firms would be stronger and in combination with the rising competition in all markets, this would result in lower prices for the consumer (European Commission, 2014c).

4.2.2 Standards and Regulations

Examining standards and regulations one could state, that both partners have similar goals. Guarantee safety at the workplace, protection of the environment, ensure the
stability of firms and protect the society from health risks are some examples. But even when the goals seem to be the same, differences in the regulatory traditions and structures exist.

According to the European Commission (EC) it can be difficult for a foreign firm to enter the home market. To be more precise: The differences in regulations are equivalent to customs duties of 10 to 12 percent (European Commission, 2014b). Therefore, not all firms are able to carry extra costs that occur out of regulatory differences. Small and medium-sized firms are affected in particular, because they do not have the capacity to pass over these hurdles.

However, the European position in the current negotiations is that they only discuss standards and regulations on one rigid condition: the EU is not going to give up and/or reduce the degree of protection that are currently assured in Europe. A complete convergence of the new regulations with the current safety requirements and environmental standards in the EU is a necessary condition for mutual recognition and regulatory alignment (European Commission, 2014b).

4.2.3 Negotiations

As previously discussed negotiations concerning the TTIP started in July 2013 and now nine rounds of negotiation have taken place. The last one was held from the 20th to the 24th of April 2015 in New York and contained issues such as market access, regulatory cooperation and rules. Although the teams for services, competition, rules of origin and sustainable development didn’t meet there in person, they are constantly in digital exchange (European Commission, 2015c).

The negotiators are divided into overall coordinators and negotiators for the different areas such as machinery and electronics or investments. The EU has a common trade policy towards Non-EU countries and that is why the European Commission negotiates on behalf of the 28 Member States. The European Chief Negotiator is Ignacio Garcia Bercero, the EU Trade Commissioner (European Commission, 2015a). But not only the European Commission is involved, also the European Council, where representatives of the Member States’ governments sit, and the European Parliament, participate in the negotiating process. The European Commission has to consult and inform the Council
and the Parliament about the negotiations and in the end, it will be these two institutions that confirm or reject the agreement.

On the other side, the office of the United States Trade Representative (USTR) with its representatives leads the negotiations. The US Chief Negotiator is Dan Mullaney, who is the Assistant United States Trade Representative for Europe and the Middle East. His tasks are to develop, coordinate, and implement US trade policy towards the European Union and other European trading partners (USTR, 2014). At first, the negotiations and preparations were held in secret and both sides only published the results for each negotiation area. Since society asked for more transparency of the ongoing negotiations, contents and advancements are made public.

The USA is also in negotiations with several Asian countries about the Trans-Pacific Partnership (TPP) and will concentrate on finishing those TPP negotiations before getting concrete with the TTIP. If the parties do not come to an agreement until 2016, EU-Politicians assume that Europe will be in a weaker situation to strike a deal as the anti-TTIP parties would grow more powerful. That is why it is an exciting question whether or how the TTIP will be implemented (Financial Times, 11-23-2014).

4.3 Selected Studies and Applied Model

The following section introduces studies carried out to predict the global effects on a potential free trade agreement between the USA and the EU. First, selected studies are cited, including a description of the empirical model the scientists used for their analysis. Subsequently, the main part of this section is devoted to investigations on the expected impact on trade flows, exports/imports and the gains and losses in certain industries. Finally, a comparison of results according to the studies, illustrates the differences and similarities of the predicted impacts.

Two different studies were selected during the research. One which was carried out by the IFO Institute in 2013 and published by the Bertelsmann Foundation. This foundation is a liberal german think tank, which fosters reform processes and promotes the principles of corporate governance (Bertelsmann Stiftung, 2014). The study called: Transatlantic Trade and Investment Partnership (TTIP) Part 1: Macroeconomic Effects, which implies two scenarios of a possible TTIP (Felbermayr et al., 2013):
**Scenario 1:** The elimination of tariffs

**Scenario 2:** A comprehensive liberalization – the elimination of tariffs and non-tariff barriers

Figure 4.2 shows two types of trade barriers, which cause costs on international trade. Tariffs, on the one hand and the non-tariff barriers (NTBs), on the other hand. By removing just the tariffs, the impact on the general trade costs is rather small in comparison to further elimination of the additional NTBs.

![Trade costs graph](image)

Figure 4.2 Trade costs (Felbermayr et al, 2013)

The second scenario of a possible TTIP agreement, investigates the impact if both barriers are significantly reduced or even eliminated.

What are NTPs? Beside the general tariff costs, the IFO institute lists some NTPs and states: “classic instruments as import quotas, but also administrative and regulatory hurdles that discriminate against foreign firms. It can also include the necessity to obtain approval for products separately for both markets, done frequently by applying different approval conditions and procedures, different standards to environmental, health or consumer protection policy; different industry standards, packaging regulations and information requirements; regulating access to public procurement or economic policy development programs, such as government export credit insurance” (Felbermayr et al, 2013, p. 6). But also “instruments of infrastructure, education or labor market policy or industrial policy measures can be used to change trade costs” (Felbermayr et al., 2013, p.
Natural barriers “are due to geographic distance, lack (or presence) of a common language, shared colonial past, common legal traditions, shared currency, etc.” (Felbermayr et al., 2013, p. 7).

Because of the more significant changes, the second scenario was chosen for further investigation on the impact on the monetary integration process in Europe and is examined in section 4.3.1 Investigations – IFO Study. The second study which was published by the Centre for Economic Policy Research (CEPR), also focuses mainly on an ambitious agreement. This study with the title: “Reducing Transatlantic Barriers to Trade and Investment - An Economic Assessment” was funded by the European Commission in 2013 and is discussed in section 4.3.2 Investigations – CEPR study (Francois et al., 2013). Both studies use a type of computable general equilibrium (CGE) model to analyze the free trade agreement. These CGE models are standard tools in the economists’ analysis of trade policy. For this investigation, the IFO Institute developed its own model, which combines econometric and simulation-based methods. According to the IFO Institute, this innovation ensures a proper estimation of trade costs and welfare changes (Felbermayr et al., 2013).

For the comparison of both studies, three categories were chosen: the overall impact, trade flow – import / export and labor market. A summary provides an overview of the topics discussed in this chapter, as well as the findings of the studies presented.

**4.3.1 Investigations – IFO Study**

**4.3.1.1 Overall Impact**

In the case of a broad free trade agreement that not only eliminates tariffs, but also minimizes NTBs, the study predicts an overall increase in USA GDP of 13.4 percent and for the EU’s GDP (27 member states) an increase of 5 percent. For non-TTIP economies, real per capita income declines (Petersen, 2013).
4.3.1.2 Trade Flow - Import / Export

According to the IFO study effects on EU and USA trade with neighboring countries predominate. Predictions say that imports and exports would decline in a deep liberalization scenario. More specifically it means that EU trade with the Maghreb countries (Morocco, Tunisia, Algeria, Egypt, Russia, Belarus) and Eastern Europe is predicted to decline as well as USA trade with Canada and Mexico (Felbermayr et al., 2013). For the NAFTA area, shrinking exports would cause long-term real per capita income declines of 7.2 percentage points in Mexico, and as much as 9.5 percentage points in Canada. For Japan, a decline of 6 percentage points is predicted. For developing nations, such as countries in North and West Africa, that previously held strong trade relations with the EU, a comprehensive agreement would mean, that these nations might struggle to find alternative markets for their exports (Petersen, 2013).

4.3.1.3 Labor Markets

The data used in the investigations of the labor market are the unemployment rates from 2010. With 10 percent in the USA, the unemployment rate was at a historical peak, in the OECD average the unemployment rate falls by about 0.5 percentage points.
Comparing these percentages when implementing an ambitious TTIP, the long-term effects on employment are positive throughout the global economy. For the EU member states and the US, as well as for third countries not participating in the TTIP, welfare gains are predicted. According to the IFO study, 2 million new jobs within the OECD are estimated. Furthermore, the study concludes an estimation of +2.34 percent of real wages increase in the OECD countries on average (Felbermayr et al., 2013).

4.3.2 Investigations – CEPR Study

4.3.2.1 Overall Impact

In the case of an ambitious agreement, the size of the European economy would increase by around €120 billion or 0.5 percent of GDP, according to the CEPR Study. For the US economy an amount of around €95 billion or 0.4 percent of GDP is yielded. This increase of wealth in both economies could be produced every year, respectively, by 2027 relative to their levels without the TTIP in place. It is important to state that these numbers are predicted in the case of full implementation and adjustment of the agreement. In addition, this study shows that 80 percent of these gains result from
reducing NTBs, which has to be emphasized and kept in mind (European Commission, 2013b).

4.3.2.2 Trade Flow - Import / Export

According to the analysis of the Francois et al. (2013), EU exports of goods and services to the US market would rise by 28 percentage points, equivalent to an additional €187 billion. Also, the EU imports are predicted to increase by €159 billion. Figures show that, because of increased trade and efficiency, the trade flow between the two economic powers would grow. Moreover, the trade flow with the rest of the world is predicted to increase as well, due to spillover effects. EU exports by an estimated €33 billion and US exports by €80 billion (Total Export 6% / Import 5% in the EU, Total Export 8% / Import 5% in the US).

The study points out that, from the point of view of the EU member states, a certain amount of trade would divert towards the US (Francois et al. 2013).

4.3.2.3 Labor Markets

The study looks at two ways that the TTIP could affect the labor market: changes in wages that people get paid, and the reallocation of jobs across the economy in response to the restructuring triggered by the agreement. The findings show, that the wages would rise about 0.5 percentage points when implementing the TTIP. This increase is roughly the same for skilled and less-skilled people. Concerning the movement of jobs between different sectors, the study assesses the impact to be very low. At the same time it is explained, that this reallocation happens all the time and that the potential impact prompted by the TTIP should be easily absorbed by these normal processes of adjustment. Concerning job creation, the authors refer to an estimation of the Commission itself. According to that, the equation of one billion euros of trade in goods and services supports around 15 000 jobs in the EU was used. With an increase of several million, the number of jobs dependent on exports in the EU with the assumption of labor productivity remains constant over time (Francois et al., 2013).
4.3.3 Differences and Similarities – A comparison

4.3.3.1 Overall Effects

The IFO study predicts an overall increase of USA GDP of 13.4 percent and 5 percent for the EU's GDP, while the CEPR forecasts a yearly European growth of about 0.5 percent of GDP and for the USA 0.4 percent growth of GDP.

Examining that comparison more closely, one needs to emphasize that the IFO study estimates a single overall effect on the GDP, while the CEPR study forecasts a year on year effect. Which study forecasts a higher GDP growth depends on the time period assumed in the CEPR study. Because of this lack of information it is not possible to conduct a proper comparison on this aspect.

What is predicted in both studies is an overall growth in GDP for both economies, the USA and the EU. A main difference is that the IFO study predicts GDP declines for certain countries, which are not part of the agreement, while the CEPR study, by contrast, predicts a collective gain for the rest of the world. Reasons for these two outcomes are, that the IFO study omits direct and indirect spillover effects that result from greater regulatory compatibility between the EU and the US (European Commission, 2013b). According to the lecture of “Preferential Liberalization”, held by Mr. Rant at the Faculty of Economics in Ljubljana (2015), a negative effect on the rest of the world’s welfare is shown under certain assumptions. This would match with the results of the IFO study. He refers to the three elemental effects of trade liberalization, which comprise the Smith’s certitude, Haberler’s spillover and Viner’s ambiguity. Figure 4.5 shows the welfare effects of a preferential liberalization (PTA) and explains the first two of these elements. While Smith’s certitude asserts that the exporting nation (Partner country) gains in prices and sales, if the importing nation (Home country) removes tariffs on imports from the Partner country, Habeler’s spillover effect asserts that third nations (Rest of the world) must lose (Baldwin and Wyplosz, 2013).
In Home country the change in consumer and producer surplus equals to \(+ (A_1 + A)\), while Partner country shows a surplus corresponding to \(+D\). The PTA, which just favors the Partner country, has a negative impact on The Rest of the world, \(-E\) (Rant, 2015c).

4.3.3.2 Trade Flow – Import / Export

Additionally, both studies forecast a raise in trade flows between both Atlantic sides. Despite the created welfare within the TTIP, the studies differ in the expectations that could happen to third countries outside the agreement as explained. In conclusion the general trade flow within the TTIP members is predicted to increase significantly. With differing views on the spillover effects, the CEPR study predicts an increase of trade flows even with third countries. Whereas the IFO study estimates a decrease in trade flow with third countries, especially with neighboring states.

4.3.3.3 Labor markets

In general both studies predict overall job creation within a comprehensive TTIP. But it is important to keep in mind that in certain other countries, there could be a decrease in the amount of jobs. The IFO expects that about two million jobs would be created within the OECD countries, while the CEPR estimates several million jobs to be created. But the labor market will not only profit from arising jobs, it will also profit from increasing real wages. The forecast wage growth rate ranges from 0.5 percentage points (CEPR) to 2.3 percentage points (IFO) and applies to all groups of workers. Predictions suggest that the necessity for people to change jobs or move from one sector to another is relatively
small. According to the CEPR, the estimation lays from 0.2 to 0.5 percent of the EU labor force (Francois et al., 2013, p. vii).

4.4 Summary

Viewing the TTIP through the eyes of history, it is a logical step to establish a free trade agreement between both sides of the Atlantic. This is the case, especially given both have been forerunners in international trade liberalization in the past. Thus, the TTIP as a bilateral agreement could lead to the next multilateral trade agreement. The three main elements of the TTIP represent the central aims of the EC in the negotiations. An improvement in market access due to removing customs duties should increase the trade and the investments between the partners. Removing unnecessary bureaucratic efforts, which represents a waste of resources, reflects a potential for economic growth. Lastly, an increasing cooperation in setting standards should benefit the whole economy because of a greater demand for high-quality goods. Taking a look at the outcome of the macroeconomic models, there are several positive welfare effects within the TTIP area, which fit the mentioned main objectives of the EC. Both selected models verify the European expectations of economic growth. Because of reducing tariffs, NTBs and a resulting increase in trade flow, growth in GDP would increase. More transparent conditions for foreign investments should lead to a further increase of European investments in the USA and resulting growth. The trade models used predict job creation, but at the same time the authors point out that an accurate estimate of the labor market is difficult to perform. It is plausible that intensification in the trade between the EU and the USA would harm the trade flow with third countries. Although there have to be certain adjustments and harmonizations in standards and regulations, the EC does not communicate a downside.

There are several economic advantages expected and forecast within the TTIP members. How these changes may influence the process of monetary integration to establish an OCA in Europe is discussed in the next chapter. It combines the information about the OCA theory, the monetary integration process in the EMU and the TTIP. Subsequently the outcome is presented by answering the research question: How would the TTIP affect the monetary integration process in the Eurozone in case of a comprehensive free trade agreement?
5. Impact of the TTIP on the OCA in Europe

The analysis of the current euro area in dependence on the OCA criteria shows that this domain doesn’t yet represent an OCA. The member and candidate states find themselves in a process of economic and political convergence in order to eventually reach a state where gains outweigh costs for every member by sharing a common currency.

Section 2.5 Is Europe an Optimum Currency Area? shows that the majority of costs arise in two fields: labor mobility and fiscal transfers. Level of labor mobility is mainly an economic issue while fiscal transfers are more of a political decision when asymmetric shocks hit. Considering Cohen’s study (1993) Mongelli refers to by stating (2002, p. 22) that “political criteria have dominated economic ones” in successful OCA’s and due to the interdependency of the OCA criteria, possible influences on both types are subject to the following analysis. Labor mobility, trade openness and production diversification on the one hand belong to economic criteria. Fiscal transfers, political integration and homogenous preferences on the other hand form the second group, those of political criteria. The possible impacts of the TTIP on the latter type although indirectly, are identified as a promoter or inhibitor for political integration and convergence.

A final OCA criterion of solidarity amongst common currency members to aid partner states in a crisis exists, as discussed. Whether or not a TTIP agreement between the EU and the USA would influence the desire of euro member states to do so is debatable. This debate is excluded as it falls outside the scope of this academic paper. However, recent challenges such as refugee migration and “Grexit” negotiations have seen the idea of solidarity broadly communicated by European politicians.

We now investigate the impact of the TTIP on labor mobility during the process of monetary integration. Remembering Mundell’s statement that the optimum level of mobility is more of an empirical issue than a theoretical one, this section analyzes empirical data and findings of the OCA in Europe, EMU developments and TTIP study predictions.
5.1 Impact on Labor Mobility

Firstly, we elaborate further on the estimated impact of the TTIP on the labor market itself in order to evaluate the impact on labor mobility in the next step. What effect does a deep liberalization scenario have on the unemployment rate in the long-term? How many jobs will be created? Both empirical studies introduced in Chapter 4 – the IFO and CEPR study – provide detailed information which is analyzed below.

Job Creation

As mentioned, the IFO institute used the labor market data from 2010 of 28 OECD countries. Because the analysis is based exclusively on industrialized nations, an accurate comparison is guaranteed. Table 5.1 shows the percentage rise in employment, the change in the unemployment rate and the percentage change in real wages (Felbermayr et al., 2013). Numerically this study predicts that 761,000 jobs would be generated within the selected Eurozone member states (12) in a broad transatlantic free trade agreement. Current unemployment rates in the euro area show an average of 11.1 percent in April 2015. Some members, however, show a considerably higher rate, especially nations affected by the debt and bank crisis such as Spain, Greece and Portugal. For Greece, which has the highest rate of 25.4 percent, Spain 22.7 percent and Hungary 17.5 percent, job creation would display a desirable impact of the TTIP (Eurostat, 2015). For four euro candidates, namely the Czech Republic, Hungary, Poland and Sweden, an increase of around 171,000 total jobs is calculated by that model. Additionally a further 415,000 jobs are estimated together in Denmark and the United Kingdom which have the opt-out. An equally important effect on the labor market for them, as well as the investigated Eurozone members.

According to the IFO study, one can conclude a beneficial scenario in the long-term perspective for the labor markets. This agrees with the CEPRE outcome which additionally emphasizes that there will be “new job opportunities for high and low skilled workers” (Francois et al., 2013, p. vii). Through a broad free trade agreement with the USA a significant amount of jobs arise in both economies. The Euro candidates might see this positive estimation as a safeguard. Thus, when joining the Eurozone and
simultaneously giving up its sovereign monetary policy, a possible negative impact on the employment rate is reduced.

Table 5.1 Change in employment, unemployment rate and real wages (Felbermayr et al., 2013)

<table>
<thead>
<tr>
<th>Country</th>
<th>Percentage rise in employment</th>
<th>Change in unemployment rate in percentage points</th>
<th>Percentage change in real wages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>-0.47</td>
<td>0.44</td>
<td>-2.14</td>
</tr>
<tr>
<td>Austria</td>
<td>0.28</td>
<td>-0.27</td>
<td>1.33</td>
</tr>
<tr>
<td>Belgium</td>
<td>0.09</td>
<td>-0.08</td>
<td>0.42</td>
</tr>
<tr>
<td>Canada</td>
<td>-0.60</td>
<td>0.56</td>
<td>-2.75</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>0.46</td>
<td>-0.42</td>
<td>2.14</td>
</tr>
<tr>
<td>Denmark</td>
<td>0.54</td>
<td>-0.50</td>
<td>2.54</td>
</tr>
<tr>
<td>Finland</td>
<td>0.81</td>
<td>-0.75</td>
<td>3.84</td>
</tr>
<tr>
<td>France</td>
<td>0.47</td>
<td>-0.43</td>
<td>2.22</td>
</tr>
<tr>
<td>Germany</td>
<td>0.47</td>
<td>-0.43</td>
<td>2.19</td>
</tr>
<tr>
<td>Greece</td>
<td>0.78</td>
<td>-0.68</td>
<td>3.68</td>
</tr>
<tr>
<td>Hungary</td>
<td>0.60</td>
<td>-0.53</td>
<td>2.81</td>
</tr>
<tr>
<td>Iceland</td>
<td>-0.46</td>
<td>0.42</td>
<td>-2.12</td>
</tr>
<tr>
<td>Ireland</td>
<td>0.97</td>
<td>-0.84</td>
<td>4.61</td>
</tr>
<tr>
<td>Italy</td>
<td>0.62</td>
<td>-0.57</td>
<td>2.90</td>
</tr>
<tr>
<td>Japan</td>
<td>-0.11</td>
<td>0.11</td>
<td>-0.53</td>
</tr>
<tr>
<td>Netherlands</td>
<td>0.35</td>
<td>-0.34</td>
<td>1.65</td>
</tr>
<tr>
<td>New Zealand</td>
<td>-0.33</td>
<td>0.28</td>
<td>-1.48</td>
</tr>
<tr>
<td>Norway</td>
<td>-0.46</td>
<td>0.44</td>
<td>-2.12</td>
</tr>
<tr>
<td>Poland</td>
<td>0.58</td>
<td>-0.55</td>
<td>2.75</td>
</tr>
<tr>
<td>Portugal</td>
<td>0.85</td>
<td>-0.76</td>
<td>4.03</td>
</tr>
<tr>
<td>Slovakia</td>
<td>0.56</td>
<td>-0.40</td>
<td>2.63</td>
</tr>
<tr>
<td>South Korea</td>
<td>-0.13</td>
<td>0.12</td>
<td>-0.58</td>
</tr>
<tr>
<td>Spain</td>
<td>0.78</td>
<td>-0.62</td>
<td>3.65</td>
</tr>
<tr>
<td>Sweden</td>
<td>0.72</td>
<td>-0.63</td>
<td>3.37</td>
</tr>
<tr>
<td>Switzerland</td>
<td>-0.43</td>
<td>0.41</td>
<td>-1.96</td>
</tr>
<tr>
<td>Turkey</td>
<td>-0.42</td>
<td>0.36</td>
<td>-1.94</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>1.38</td>
<td>-1.27</td>
<td>5.60</td>
</tr>
<tr>
<td>United States</td>
<td>0.78</td>
<td>-0.71</td>
<td>3.88</td>
</tr>
<tr>
<td>Average (GDP-weighted)</td>
<td>0.59</td>
<td>-0.45</td>
<td>2.34</td>
</tr>
</tbody>
</table>

Real wages and consumer welfare

Felbermayr et al. state: “Even with consideration of the quantitative (or employment) effects, the impact on prices, here real wages, and thus on consumer welfare, is substantially larger” in a deep liberalization scenario (Felbermayr et al., 2013, p. 38). The twelve investigated Eurozone members all gain from an increase in real wages, adjusted for inflation. Belgium experiences the lowest impact (0.42%) followed by Austria (1.33%), up to Ireland (4.61%) which experiences the greatest impact. Again, the countries affected most by the crisis, Greece, Portugal and Spain show a significant increase in the range of 3 to 4 percentage points. Not limited to just Eurzone members
the study also predicts a positive change in real wages for the pending candidates. In general, real wages are expected to increase for the TTIP participants, while the countries outside the partnership show a decline. Looking at the real GDP weighted wage of 2.34 percentage points, as analyzed in 4.3.1 Investigations – IFO Study, this theoretically indicates a compensation for the negatively affected OECD countries. The CEPR study also speaks for a deep liberalization scenario and states that “limiting the exercise to tariffs alone would lead to positive effects, but these would be much more limited leaving a huge potential for economic and welfare gains untapped.” (Francois et al., 2013, p. 96)

In summation, the TTIP is evaluated to have an overall positive impact on wages and consumer welfare, as well as supporting convergence on the labor markets, within the internal market in Europe in the event of a comprehensive agreement.

**Outcome**

When turning to the core of the OCA theory, especially labor mobility, one needs to remember that Europe shows a low level according to research findings. The CEPR study claims that: „Labour displacement will be well within normal labour market movements and economic trends. This means a relatively small number of people would have to change jobs and move from one sector to another (0.2 to 0.5 per cent of the EU labour force.)“ (Francois et al., 2013, p. vii). This finding in the course of their investigations on the TTIP doesn’t show significant support for the required increase in labor mobility within the Eurozone, but it is in the positive range. The unemployment rates analyzed above, show a high level in the Mediterranean region and combined with the findings of Tondl of low labor mobility in those nations, the required boost is not expected by the free trade agreement. The hurdles concerning the cross-border differences in Europe can’t be influenced from outside and therefore, have to be reduced by internal policies.

The case of significant job creation in the euro area as predicted, the necessity of higher labor mobility might become less important. Also, when regulatory barriers to market access are reduced in a comprehensive scenario, the changes on labor market policy or industrial policy measures might be an additional support. This is in line with the growth strategy „Europe 2020”, which aims to deliver „high levels of employment, productivity and social cohesion“ (European Commission, 2010, p. 5). If the increase in employment and real wages through a comprehensive agreement will outweigh the
demand of an increase of labor mobility to successfully establish an OCA, TTIP will positively influence this criterion. Furthermore, the resulting convergence in real wages is in accordance with the idea of a „Social Europe“. Subsequently, based on the predicted aggregate impact on the labor market, a strong tendency in favor for a partial compensation for the lack of labor mobility, within the Eurozone, can be concluded. Therefore, in terms of job creation, the resulting long term impact on the common currency area in Europe, as well as the slight increase in labor mobility, a comprehensive TTIP is expected to function as a stabilizer.

5.2 Impact on Trade Openness

The research to answer the first subquestion concludes that European countries are successful in trade openness. However, correlations between the negatively affected currency members and their level of openness can be drawn. The following analysis distinguishes trade flows and FDI relationships in terms of openness, followed by investigations on the possible impact on that OCA criterion through the TTIP.

**Trade Flow**

The estimated aggregate impact on trade due to the euro introduction since 1999 is about 5 percent (Baldwin et al., 2008). Most euro member states are very open and well integrated among their euro partner countries, as mentioned. Still, there are individual nations which show a lower fulfillment level on this criterion. Again, the countries mostly shaken by the crisis stick out and are evaluated to have a limited integration levels, below 60% within Europe and therefore, are less independent of price levels. Large countries such as France and Italy, also count amongst the less integrated ones (See Figure 2.4 Openness to trade 2011). This shows once again the correlation for trade openness in terms of the degree and the size of a country.

To explain from another perspective, the discussed positive impact on employment is the consequence of a mechanism which is interrelated with trade openness. Felbermayr et al. explain: “The increase in export demand triggered by the reduction of trade costs leads to more hiring by companies, which directly causes the unemployment rate to fall. At the same time, this causes consumption of goods to rise domestically, based on the higher number of people working, which again causes more demand for imports from other TTIP member countries. These positive spillover effects in the general equilibrium
with consideration for trade intertwining between countries reinforce the pure reduction of trade costs” (Felbermayr et al., 2013, p. 38).

As an example, the IFO study provides the following Table 5.2, which shows the change in foreign trade for Germany with its traditional trading partners. The predicted impact with the TTIP in place shows a significant influence on trade diversion away from Eurozone member states such as France and Italy, listed in this table.

Table 5.2 Change in German foreign trade with traditional partner countries (Felbermayr et al., 2013)

Furthermore, a significant decrease in trade with other euro partners due to the TTIP is predicted. Table 5.3 shows the decline among the GIIPS countries (Greece, Ireland, Italy, Portugal and Spain) referring to Germany’s shift in trade flow. Noticeably, this effect would have a negative impact on trade linkages among Eurozone members.
Table 5.3 Change in German foreign trade with GIIPS countries (Felbermayr et al., 2013)

<table>
<thead>
<tr>
<th>Exporter</th>
<th>Importer</th>
<th>2010* Trade volumes (in USD millions)</th>
<th>Comprehensive liberalization %</th>
<th>Tariff scenario %</th>
</tr>
</thead>
<tbody>
<tr>
<td>GER</td>
<td>GRC</td>
<td>6,655</td>
<td>-29.94</td>
<td>-0.14</td>
</tr>
<tr>
<td>GRC</td>
<td>GER</td>
<td>2,322</td>
<td>-29.93</td>
<td>-0.95</td>
</tr>
<tr>
<td>GER</td>
<td>IRL</td>
<td>5,195</td>
<td>-34.87</td>
<td>-0.64</td>
</tr>
<tr>
<td>IRL</td>
<td>GER</td>
<td>10,662</td>
<td>-34.85</td>
<td>-0.16</td>
</tr>
<tr>
<td>GER</td>
<td>ITA</td>
<td>74,245</td>
<td>-29.45</td>
<td>-0.37</td>
</tr>
<tr>
<td>ITA</td>
<td>GER</td>
<td>52,687</td>
<td>-29.45</td>
<td>-0.55</td>
</tr>
<tr>
<td>GER</td>
<td>PRT</td>
<td>10,306</td>
<td>-29.90</td>
<td>-0.31</td>
</tr>
<tr>
<td>PRT</td>
<td>GER</td>
<td>5,385</td>
<td>-29.88</td>
<td>-0.35</td>
</tr>
<tr>
<td>GER</td>
<td>ESP</td>
<td>39,590</td>
<td>-33.71</td>
<td>-0.47</td>
</tr>
<tr>
<td>ESP</td>
<td>GER</td>
<td>26,142</td>
<td>-33.71</td>
<td>-0.57</td>
</tr>
<tr>
<td>GER</td>
<td>GIIPS</td>
<td>135,991</td>
<td>-30.96</td>
<td>-0.39</td>
</tr>
<tr>
<td>GIIPS</td>
<td>GER</td>
<td>97,197</td>
<td>-31.22</td>
<td>-0.52</td>
</tr>
</tbody>
</table>

Table 5.3 Change in German foreign trade with GIIPS countries (Felbermayr et al., 2013)

**FDI**

Results of FDI investigations within and from outside the Eurozone are shown in the report “Study on the Impact of the Euro and Foreign Direct Investment” by Baldwin et al. (2008). It suggests that the introduction of the euro had positive effects on deals within sectors particularly manufacturing. This accounts for both small and large firms which were more engaged in domestic and cross-border activities. The report also registered a positive impact from outside the Eurozone but only half the size of that within the currency union. Table 5.4 shows the top 10 countries for FDI positions and the percentage growth rate during a three year period from 2010 to 2012, with the United States on top of the list.

Table 5.4 Top 10 countries for FDI positions (Eurostat, 2014)

Additionally, Baldwin et al. (2008) point out that investigations on FDI effects are less developed due to weak empirical methodology and insufficient data the authors argue
that: “This is not due to a lack of interest; in the world of modern business, cross-border investment is an integral part of firms’ international strategies – especially when it comes to large firms” (Baldwin et al., 2008, p. 6). According to research, it seems that since the introduction of the euro, the Eurozone has become a favored region to invest via FDI. But one needs to be careful as this outcome might be biased due to the special tax conditions in Luxembourg. Additionally, the data used for the investigations on FDI’s is strongly “dominated by financial market M&A activities which is clearly influenced by financial market trends such as the stock market booms and tax avoidance” (Baldwin et al., 2008, p. 6).

**Outcome**

A possible shift on trade flows of the less integrated euro countries towards the US, might be overly beneficial and the result would be a weakening of trade flows within the internal market. This outcome is supported by Felbermayr et al. by stating: “a weakening of the trade relationships among EU member states could be considered critical because it could diminish the interest of individual countries in the European unification project” (Felbermayr et al., 2013, p. 13).

It is recommended to foster internal trade flows and stronger linkages within the Eurozone to subsequently secure further market integration within the internal market as well as higher levels on trade openness, especially for the large countries. Also, if the endogeneity hypothesis holds, the TTIP is seen to have a negative impact on this OCA criterion.

Apart from the trade aspect of the negotiated agreement between the EU and the USA, there is also an investment partnership considered as stated. Reducing NTBs in the case of a comprehensive agreement, concludes less likelihood on horizontal FDI’s which mainly aim to avoid or reduce trade costs. However, vertical FDI’s stimulate exports of intermediate goods. According to the findings mentioned above, FDI’s from outside the Eurozone are increasing. Depending on the changes and adjustments on FDI regulations in the course of the TTIP negotiations, heterogeneity can be added to firms through vertical FDI’s, but also substituting trade can be fostered by horizontal FDI’s. The convergence of the regulations can have a positive impact on the internal market, especially on the free movement of capital, goods and services if restrictions are broken down. Steps are taken in that direction within the new internal market measures. For
instance, the harmonization of contracts is foreseen in the Europe 2020 Strategy, which should eventually lead to a European Contract Law (European Commission, 2010).

For FDI’s the impact for the Eurozone is double-edged. Depending strongly on the negotiated and agreed changes on FDI’s rules, this part of trade determinant can stabilize and boost the monetary integration process through a positive impact on the regulations which would also foster deeper financial market integration within the Eurozone. Finding that mainly large companies undertake FDI’s, the benefits tend to be distributed unevenly and might destabilize small and medium sized firms. The evaluation on trade openness itself and the expected altering of trade diversion with a comprehensive TTIP in place, show a destabilizing impact on that OCA criterion and therefore adverse effects during the monetary integration process are predicted.

5.3. Impact on Production Diversification

The Eurozone member states are well-diversified in their production as analyzed in the second chapter and therefore fulfil this criterion. Both studies investigated in Chapter 4, fail to show data about the impact on that OCA criterion. Now, the question is: Would the TTIP further stabilize or destabilize production diversification.

Sectors

Well diversified export sectors of similar structure are required to satisfy Kenen’s criterion. How different sectors are estimated to be affected by the TTIP is shown in the study for the Industry, Research and Energy Committee (ITRE) called “TTIP Impacts on European Energy Markets and Manufacturing Industries”. Published by the European Parliament in January 2015, the authors summarize: “Regarding specific sectors, tariff reductions as a result of the TTIP could probably have a positive impact on particular sectors such as the motor industry and processed foods, whereas some sectors, such as electrical machinery could decrease their output due to the TTIP. In the energy-intensive industries, the metals industry would probably be negatively affected, whereas the chemicals industry in particular might benefit. In the SME sector mixed effects can be expected, with export oriented SMEs profiting and others suffering from increased US competition” (Rademaekers et al., 2015, p. 87).
Country's Competitiveness

An estimation of how member states will react to those changes is detailed in the „Member States Competitiveness Report 2014”, published by the European Commission. This report provides suitable information based on a country's competitiveness. In general, competitiveness is a concept used both on firms as well as on a country level. Where firms compete for market shares, country competitiveness (CC) is measured exclusively at the international level in association with the concept of comparative advantage. Negatively affected sectors and the possible need for industrial restructuring by shifting resources into new sectors, may arise in the marketplace depending on the forces of supply and demand (Mrak, 2015). For this reason, the level of competitiveness shows a country’s ability to compete with its domestically produced products on the international markets.

Based on data from Eurostat 2007 – 2012 and focusing on euro member states only, Slovenia, Malta and Cyprus show a stagnating or declining competitiveness, followed by Estonia, Lithuania, Spain, Latvia, Portugal, Slovakia and Greece which show a modest level over that period of time. These countries will need to increase their CC in order to maintain their export sectors.

Innovation

Another important determinant of CC and growth among the Eurozone member states is Research and Development (R&D), a promoter for innovation. The competitiveness report of 2014 shows „the changes in performance and relative innovation intensity” in the EMU member states (European Commission, 2014f, p. 21). Figure 5.1 shows the progress over a five-year period from 2008 to 2013 of each member nation, compared to their value of 2008.
In the course of the study of Rademaekers et al., the impact of the TTIP on that determinant is evaluated. Listing three of the driving factors for innovation, namely the „access to the largest possible markets, the degree of market-based competition and by ensuring strong IP protection“ the effect of these criteria is justified as positive with a TTIP agreement in force (Rademaekers et al., 2015, p. 88). Due to lower trading costs and the new market access, exports are facilitated and the increased customer base generates additional revenues enabling companies to re-invest in innovation. A harmonization of intellectual property regulations between the EU and the USA is foreseen in the course of the TTIP negotiations, which further fosters innovation.

**Outcome**

Filtering the Eurozone members, the analysis shows a strong and improving CC in the Netherlands, Germany and Ireland while Belgium, Austria, France, Italy, Luxembourg and Finland belong to the group with stagnating or declining competitiveness. Slovenia, Croatia, Malta and Cyprus also show very limited improvements (European Commission, 2014f). For those nations the positive effect on innovation through the TTIP works as a stabilizer for their products and subsequently export sectors.

Considering the estimated further growth due to the TTIP, production may be fostered and subsequently the variety of assets would rise. With the higher purchasing power of the consumers based on higher employment rates, increased demand for new goods is
predicted. If nations concentrate on their comparative advantage due to increasing trade and competition, this could lead to more specialization and Kenen’s criterion then becomes less fulfilled. If the Eurozone fosters internal intra-industry trade with exports and imports comprising similar goods, diversification can be secured. The TTIP can therefore be seen as an additional stabilizer in terms of a country’s competitiveness, especially in innovation. The fulfillment of Kenen’s criterion within the Eurozone suggests that the predicted negative impacts on some sectors can be mitigated through other positively affected sectors. Given the tendency towards diversification along with trade integration among euro member states, a weakening of internal trade is harmful. Declining internal trade flows within the Eurozone and the shift towards trade flows with the USA as analyzed in 5.2 Impact on Trade Openness, implies less trade integration and subsequently less convergence in production patterns. Although the TTIP is predicted to foster economic growth for the EMU, for the euro area itself in the process of monetary integration, the impact is seen to be destabilizing for production diversification.

5.4. Impact on Fiscal Transfers

The establishment of a fiscal transfer system is of great importance for a common currency area and works as an insurance system in times of regional instability. This requires high political integration within the union and serves to mitigate temporary shocks in order to reestablish the regional market equilibrium in the short term. Theo Hitiris argues in his book „European Union Economics“ that „the European Union would soon need a substantially larger budget. Whether it will be called federal or not, makes no difference“ (Hitiris, 2003, p. 102). Looking at the current situation in Greece, one can see the importance of a sufficient European insurance mechanism. Until now, the ESM has provided loans in order to enable indebted member states to regain fiscal stability, economic growth and improve employment rates. The TTIP does not influence the political decisions on a possible centralized budget or any preferential solution for internal crisis management. What can be investigated though are the impacts of a TTIP on set fiscal regulations within the Eurozone, which are believed to secure economic and fiscal stability, subsequently reducing the need for fiscal transfers. Therefore, the medium term objective (MTO) of 60 percent debt ratio of GDP and the short term objective (STO) of three percent budget deficit, according to the SGP, are consulted.
Growth

Both studies, IFO and CEPR, predict an overall growth in Europe as analyzed in Section 4.3.3.1 Overall Effects. The economic growth among the EU 27 amounts to 4.95 percentage points with a standard deviation of 1.58 percentage points. Filtering the Eurozone member states, one reaches an average of 4.71 percentage points on the change in per capita income. See Figure 5.2 for detailed information in each country.

Figure 5.2 Change in real per capita income (Felbermayr et al., 2013)

With the growth strategy, Europe2020 and the fiscal regulations in mind, a comprehensive agreement on the TTIP is anticipated to support these objectives. Also, the increase on national GDP’s, especially in the indebted countries, shows a positive impact to subsequently converge fiscal thresholds in the long-term. Further scenarios show, that the change in trade of the GIIPS countries with the USA is significant (See Table 5.5). Felbermayr et al. state that: “The growth rates, with the exception of Ireland where transatlantic trade is already highly developed, are on the same scale as for the bilateral relationship of the USA with Germany.” (Felbermayr et al., 2013, p. 17).
Tax Harmonization

Tax systems within the Eurozone still differ from one country to another. Therefore, the fiscal decisions of one euro member affect other member states in terms of trade, migration, capital movements and place of business (Hitiris, 2003). The current integration level of the EMU, an Economic Union, requires a common monetary and fiscal policy, as well as harmonized tax rates. This criterion is only partially fulfilled and needs further convergence among the member states. As analyzed in Section 5.2 Impact on Trade Openness, FDI’s function as an economic stimulus, but the positive effects might be distributed unevenly due to different tax systems influencing the choice of business locations in the Eurozone.

Outcome

Considering the outcome on trade diversion which leads away from the idea of European unification, the growth impact needs to be leveled with this effect. Considering the boost in trade and expected welfare gains isolated from other effects on the OCA in Europe, one can see a positive change towards increasing trade flows and subsequently economic growth. These changes are supportive for fiscal stabilization. The above estimations assume a fully implemented TTIP. Therefore, the indirect impact of the TTIP on this OCA criterion is considered to show promoting effects for fiscal stabilization and tax harmonization in the long-term. There is no direct impact on the OCA criteria of fiscal transfers itself.
5.5. Impact on Political Integration and Homogeneous Preferences

Wim Duisenberg, a Dutch politician and the first president of the ECB (1998 – 2003), states: “the euro is much more than just a currency [...] It is a symbol of European integration in every sense of the word.” (Hitiris, 2003, p. 136). Angela Merkel, chancellor of Germany since 2005, recently used similar words in connection with “Grexit”. She stated at a press conference: “We have a shared sovereignty, because we have one common currency.” (Die Bundesregierung, 2015 June 07). Political commitment is communicated towards a shared responsibility of the euro project and the required political will to integrate. Given the political will, we estimate the impact of a comprehensive TTIP on the Eurozone’s political integration and homogeneous preferences.

The existence of NTBs is based on economic and political inducement. The CEPR study states that: „Reducing non-tariff barriers will be a key part of transatlantic liberalisation. As much as 80% of the total potential gains come from cutting costs imposed by bureaucracy and regulations, as well as from liberalising trade in services and public procurement“ (Francois et al., 2013, p. vii). These changes have significant potential to promote harmonization in some parts of the legal systems among euro member states. Since the Lisbon Treaty, the EU has held extended powers in the area of trade, including trade in services, foreign direct investment and some aspects of intellectual property rights and is therefore responsible for finding a political consensus on those subjects in the course of the negotiations.

The predicted growth of the TTIP members among other factors, is the result of „lowering political barriers on other trade-creating variables, such as direct investments.“ (Felbermayr et al., 2013, p. 13). The process of cutting costs on trade through the elimination or reduction of tariffs and NTBs will require political steps towards harmonization. The CEPR study points out that „it is unlikely that all areas of regulatory divergence identified actually can be addressed“ and states that the reduction „may require constitutional changes, unrealistic legislative changes, or unrealistic technical changes“ (Francois et al., 2013, p. 19). Those restrictions were taken under consideration in the course of their study.
Furthermore, policy preferences have narrowed especially in euro member countries, due to the Maastricht convergence criteria as discussed in section 3.2. *The Eurozone Entry Conditions*. What is politically agreed and what is theoretically in place, however, seems to identify implementation deficiencies. Reports and analysis show that a divergent process occurred in terms of inflation differentials and public debt limits. Considering the impact of the TTIP on the OCA criterion of political integration and homogenous preferences, we reach the following conclusion.

**Outcome**

If a comprehensive TTIP comes into force, a political consensus is required for the changes in many areas. The time span of negotiations, two years now (since July 2013) shows the challenges involved. Nevertheless, once politically agreed at EU level, the authorities of the member states will adopt and implement the new regulations. Those changes are considered to be effective in fostering convergence within the internal standards and regulations. The alignment of the labor market and industrial measures with those of the partner countries requires policy coordination which subsequently supports further political integration. There is no impact expected, *whether promoting nor inhibiting*, on the euro member states’ preferences in dealing with adverse shocks. Depending on the changes to politically induced NTBs, and due to the required consensus on the new regulations, the impact of the TTIP on the OCA criterion of *political integration* is considered to be *promotive*. 
6. Conclusion

The decision to form the European Union was not solely about economic objectives, but mainly a political agreement, one to avoid further war and strife. In the course of the integration process from a customs union to the current stage of an economic union, the European nations increasingly shift their sovereign power towards the Union. The next step, the introduction of the common currency in 1999 was meant to foster trade and investments within the European single market by eliminating transaction and hedging costs, reducing uncertainty for investors and increasing transparency of monetary policy within the euro area. With partial fulfillment of the OCA criteria and the foreseen challenges authorities must have believed in the endogeneity hypothesis of the OCA theory before introduction. The requested political and economic convergence in order to succeed in the euro project shows significant challenges through external and internal crisis. Internally the weaknesses of the euro construction contribute among others, to highly indebted member states and consequently to a slowdown in economic growth. In order to stay competitive on the global market, the EMU needs to stimulate its economies. Access to a larger consumer base for the 28 EMU member states, fostering innovation and the creation of jobs are some of the benefits expected from new free trade agreements.

By distinguishing between the EMU and the Eurozone, the key findings listed below show the outcome of this academic paper aiming to answer the research question: How would the TTIP affect the monetary integration process in the Eurozone in case of a comprehensive free trade agreement?

Key Findings

**Labor Mobility:** In the event of significant job creation in the euro area as predicted, the necessity of higher labor mobility might become less important. Also, when regulatory barriers to market access are reduced in a comprehensive scenario, the changes on labor market and industrial policy measures might be an additional support. Therefore, in terms of job creation and the resulting impact on the common currency area in Europe
in the long term, as well as the slight increase in labor mobility (0.2 to 0.5 per cent of the EU labor force), the TTIP is assessed to function as a **stabilizer**.

**Trade Openness:** A shift on trade flows of the less integrated euro countries towards the USA might be more beneficial and the result would be a weakening of internal trade flows. It is recommended to foster internal trade flows and stronger linkages within the Eurozone to subsequently secure further market integration within the internal market as well as higher levels of trade openness, especially in large countries. If the endogeneity hypothesis holds, the TTIP is assessed to have a **destabilizing** impact on this OCA criterion.

**Production Diversification:** The fulfillment of Kenen’s criterion within the Eurozone suggests that the predicted negative impacts on some sectors can be mitigated through other positively affected sectors. Given the tendency towards diversification along with trade integration among euro member states, a weakening of internal trade is harmful. Declining internal trade flows within the Eurozone and the shift towards the USA as analyzed for **Trade Openness**, implies less trade integration and subsequently less convergence in production patterns. Although the TTIP is predicted to foster economic growth, which is in line with the EMU strategy, for the euro area itself in the process of monetary integration, the impact is seen to be **destabilizing** on the criterion of production diversification.

**Fiscal Transfers:** Considering the outcome on trade diversion, which leads away from the idea of European unification, the growth impact needs to be leveled with this effect. Seeing the boost in trade and expected welfare gains isolated from other effects on the OCA in Europe, one can filter a positive change towards increasing trade flows and subsequently, economic growth. These changes support fiscal stabilization. A comprehensive TTIP in place, shows a promoting effect for fiscal stabilization and tax harmonization in the long-term. There is **no direct impact** on the OCA criterion of fiscal transfers itself.

**Political Integration and Homogeneous Preferences:** If a comprehensive TTIP comes into force, the authorities of the member states will adopt and implement the new arrangements. Those changes are considered to be effective in fostering convergence.
within the internal standards and regulations. The alignment of the labor market and industrial measures with those of the partner countries requires policy coordination which subsequently promotes political integration. There is no impact expected, whether promoting nor inhibiting, on the euro member states’ preferences for reaction to adverse shocks.

To conclude, the TTIP is expected to have a positive impact on the EMU due to the economic growth and jobs it will create for both member and candidate states. However, its implementation must be carefully considered for the euro area as despite this, the positive effect on political integration and a stabilizing effect on labor mobility, it has a high potential to destabilize internal trade flows and production diversification. These economic determinants are crucial to an OCA. Fiscal transfers and reactionary preferences are unlikely to be impacted. Depending on what will be agreed upon in the end, but the TTIP in the comprehensive scenario tends to have a destabilizing effect on the monetary integration process in the Eurozone.
Bibliography


• European Commission (2014c). *The Transatlantic Trade and Investment Partnership (TTIP) - TTIP explained*.


• Mrak, M. (2015). Economic Policies of the EU (Jean Monnet Chair program of the EU), Lecture on *Competitiveness policy*. Faculty of Economics Ljubljana, study year 2014/15.


• Place du Luxembourg (2013, May 01). *Why I think the ECB is not about to cut the MRO rate*. Retrieved from https://placeduluxembourg.wordpress.com/2013/05/01/why-i-think-the-ecb-is-not-about-to-cut-the-mro-rate/


• Rant, V. (2015a). Economic Policies of the EU (Jean Monnet Chair program of the EU), Lecture on *Monetary Policy and EMU*. Faculty of Economics Ljubljana, study year 2014/15.

• Rant, V. (2015b). Economic Policies of the EU (Jean Monnet Chair program of the EU), Lecture on *Fiscal Policy and EU Economic Governance*. Faculty of Economics Ljubljana, study year 2014/15.

• Rant, V. (2015c). Economic Policies of the EU (Jean Monnet Chair program of the EU), Lecture on *Preferential Liberalization*. Faculty of Economics Ljubljana, study year 2014/15.


