



VYSOKÉ UČENÍ TECHNICKÉ V BRNĚ

BRNO UNIVERSITY OF TECHNOLOGY



FAKULTA PODNIKATELSKÁ

ÚSTAV ECONOMIKY

**FACULTY OF BUSINESS AND MANAGEMENT
INSTITUTE OF ECONOMICS**

CRITICAL ANALYSIS OF MONETARY POLICY OF THE EU AND ITS IMPACT ON COUNTRIES IN THE EUROZONE

KRITICKÁ ANALÝZA MĚNOVÉ POLITIKY EU A JEJÍ DOPAD NA STÁTY V EUROZÓNĚ

DIPLOMOVÁ PRÁCE

MASTER'S THESIS

AUTOR PRÁCE

AUTHOR

Bc. ANDREA VAVŘÍKOVÁ

VEDOUCÍ PRÁCE

SUPERVISOR

doc. Ing. STANISLAV ŠKÁPA, Ph.D.

BRNO 2012

MASTER'S THESIS ASSIGNMENT

Vavříková Andrea, Bc.

European Business and Finance (6208T150)

Pursuant to Act. No. 111/1998 Coll., on Higher Education Institutions, and in accordance with the Rules for Studies and Examinations of the Brno University of Technology and Dean's Directive on Realization of Bachelor and Master Degree Programs, the director of the Institute of Economics is submitting you a master's thesis of the following title:

Critical Analysis of Monetary Policy of the EU and its Impact on Countries in the Eurozone

In the Czech language:

Kritická analýza měnové politiky EU a její dopad na státy v eurozóně

Instruction:

Introduction
Executive summary
Theoretical basis of the work
Problem analysis and current situation
Proposals and contribution of suggested solutions
Conclusions

List of literature:

- DE GRAUWE, P. Economics of monetary union. 7th ed. Oxford University Press, 2007. 281 p. ISBN 978-0199297801
- GRAHL, J. After Maastricht: a guide to European monetary union. London: Lawrence & Wishart, 1998. 270 p. ISBN 978-0853158226
- LEVITT, M.; LORD, Ch. The Political Economy of Monetary Union. Palgrave Macmillan, 2000. 288 p. ISBN 978-0333717103
- PITCHFORD, R.; COX, A. EMU explained: markets and monetary union. London: Kogan Page, 1997. 200 p. ISBN 978-0749423773
- WELFENS, P J. J. European Monetary Union: Transition, International Impact and Policy Options. 1 ed. Springer, 1997. 457 p. ISBN 3-540-63305-7

The supervisor of master's thesis: doc. Ing. Stanislav Škapa, Ph.D.

Deadline for submission master's thesis is given by the Schedule of the Academic year 2011/2012.

L.S.

doc. Ing. Tomáš Meluzín, Ph.D.
Director of the Institute

doc. RNDr. Anna Putnová, Ph.D., MBA
Dean of the Faculty

Brno, 24.08.2012

Abstrakt

Diplomová práce se zabývá problematikou měnové politiky v Evropské unii, respektive v Evropské měnové unie. Samotnému vzniku Evropské měnové unie předcházelo dlouhé období integračních procesů a je spojována s dvěma mezníky. Prvním byl vznik Evropské centrální banky představující nejdůležitější instituci, která je odpovědná za provádění jednotné měnové politiky v eurozóně. Druhý důležitým momentem bylo zavedení společné evropské měny, eura. Navzdory podstatným obchodním výhodám, které jsou spojené s přijetím eura se brzy ukázalo, že jednotná měnová politika nemusí vyhovovat všem zemím kvůli jejich odlišným ekonomickým potřebám a schopnostem, které vyžadují různou měnovou politiku. Tato práce se soustředí na současnou ekonomickou situaci v eurozóně se zvláštním důrazem na otázku dluhové krize.

Abstract

The Master's thesis deals with the issue of monetary policy in the European Union respectively in the European monetary union. The actual creation of the European monetary union was preceded by a long period of integration processes and is associated with two milestones. The first one was the formation of European Central bank as the most important institution that is responsible for conducting the single monetary policy in Eurozone. The second important moment was the introduction of a common European currency, the euro. Despite the important trade benefits associated with adoption of the euro currency, early on it has showed that the single monetary policy does not need to fit all countries because of their different economic needs and capacities which require different monetary policies. The thesis is concentrating on current economic situation in Eurozone with particular emphasis on the issue of sovereign Debt crisis.

Klíčová slova

Kritická analýza, Evropská měnová unie, společná evropská měna, Evropská centrální banka, měnová politika, eurozóna, Maastrichtská smlouva, Evropská unie

Keywords

Critical analysis, the European monetary union, common European currency, European Central Bank, monetary policy, Eurozone, Maastricht Treaty, the European Union

Bibliographic citation

VAVŘÍKOVÁ, A. *Kritická analýza měnové politiky EU a její dopad na státy v eurozóně*. Brno: Vysoké učení technické v Brně, Fakulta podnikatelská, 2012. 98 s.
Vedoucí diplomové práce doc. Ing. Stanislav Škapa, Ph.D.

Declaration of originality

I hereby declare that this master's thesis originated entirely from me. Information derived from the published work has been acknowledged in the text and references are given in the list of reference. I also declare that I did not breach of copyright in the sense of Act. No. 121/200 coll. on Copyright Law and Rights Related to Copyright and on the Amendment of Certain Legislative Acts.

Brno, 31st August 2011

.....

Bc. Andrea Vavříková

Acknowledgments

I would like to thank to doc. Ing. Stanislav Škapa, Ph.D., who was my supervisor and gave me a useful advice, guidance, comments and support during a creation of this thesis. Furthermore, I would like to say thanks to my entire family for their support.

Content

Introduction.....	11
Executive summary.....	13
1 Theoretical basis of the work	14
1.1 European single currency	14
1.2 Economic and Monetary Union	14
1.2.1 Stage one of EMU 1990 – 1994.....	16
1.2.2 Stage two of EMU 1994 – 1999	16
1.2.3 Stage Three of EMU 1999 onwards	17
1.3 The Maastricht convergence criteria	18
1.4 European Central Bank	19
1.5 Members of the Eurozone	21
1.6 The effects of the Euro	22
1.7 Possible reasons for Eurozone failure	23
1.8 Optimum Currency Area.....	24
1.9 The Economic situation of Eurozone	28
1.9.1 GDP Growth	28
1.9.2 Inflation.....	29
1.9.3 Unemployment Rate	30
2 Problem analysis and current situation.....	31
2.1 Greece	32
2.2 Italy	35
2.3 Spain.....	38
2.4 Ireland	41
2.5 Portugal	44

2.6	Germany	47
2.7	Belgium	50
2.8	France	53
2.9	The Netherlands	56
2.10	Luxembourg	59
2.11	Austria	62
2.12	Finland	65
2.13	Overview	68
2.14	Imbalances within the Eurozone	70
2.15	Critical overview	71
2.15.1	Imbalances in EMU in light of OCA	71
2.15.2	Comparison of the Eurozone and the USA	72
2.15.3	Possible scenarios for the future of the Eurozone	72
2.16	Corporate response	74
3	Proposals and contribution of suggested solutions	76
	Conclusions	79
	Reference list	81
	List of Figures	85
	List of Tables	86
	List of Graphs	87
	List of Appendices	90

Introduction

Since the late 1960s, the Economic and monetary union (EMU) has been an ambition of the EU. The creation of EMU promises the currency stability and a strong advance towards the integration of Europe.

The introduction of European single currency represents an important milestone in EMU creation. In EMU, the European Central Bank conducts a single monetary policy in compliance with its main objective to ensure the price stability.

Currently, seventeen of the European Union's 27 member states use the Euro. The remaining states benefit from a provisional derogation until they are ready to join the final stage of EMU.

The main goal of the thesis is to critically analyse monetary policy of the European Union and its impact on countries in the Eurozone that participate in the common European currency.

The whole thesis is divided into three sections and has the following structure. The first section of the thesis provides the theoretical background to get an insight into the European monetary policy. The Economic and Monetary union is described as well as the European single currency which introduction represents a major step in European integration. The Euro adoption depends on how the Member states of EU are able to fulfil five criteria called Maastricht convergence criteria. Therefore, there is a part concentrating on prescription of these criteria and a part of the European Central Bank to which hands the monetary policy of states from Eurozone is transferred. In addition, there is a part about the Members of the Eurozone and also about the possible reasons for Eurozone failure. The whole theoretical section is completed with the summarization of economic situation of Eurozone.

It is followed by the second section where the attention is given on critical analysis and comparison of European Member States. Twelve Member States are selected and subsequently divided into two groups. The first group includes the states like Greece, Italy, Spain, Portugal and Ireland. The second group is represented by Belgium,

German, France, the Netherlands, Luxembourg, Austria and Finland. The countries are specified and the impact of European monetary policy on these countries is evaluated within this section.

The analysis is furthermore supplemented by proposals and some recommendations that are suggested under the third section of this thesis. Finally, the whole thesis is finished by conclusion.

The whole thesis is built on secondary data obtained from various literatures that has been published on this topic, as well as from articles, academic journals, EU's web sites and other web sites related to EMU.

Executive summary

In 1999, eleven European countries leave its autonomous monetary policies and its national currencies in favour the European single currency. In 2001, Greece joined the EMU and became the twelfth member. In this thesis it will be critically analysed the impact of monetary policy of EU on these twelve states. At the first part of this thesis, the brief theoretical background is provided. It is followed by overview of economic performance and competitiveness of countries in the period 1999 - 2011. In order to satisfy the main goal of the thesis, it was looked at development of GDP, government debt, government deficit as a percentage of GDP and on unemployment rate of each single country. From the analysis was detected the rising imbalance among these countries, mainly in term of their unemployment rates and GDP growth. Even the countries that actually create the Eurozone are not the net gainers from a monetary union. The situation became more visible in time of recession and large shocks that occurred in the year 2008. The Member states find it difficult to adjust by having relinquished their national currencies. Therefore, current form of the Eurozone has to undergo some reforms including coordination of fiscal policies because it is considered that the fiscal rules are the step in the right direction.

1 Theoretical basis of the work

It was obvious that the full benefit of the common market would be difficult to achieve with the high business costs formed by the existence of different national currencies and unstable exchange rates. Therefore, the adoption of European single currency represents the major step in European integration. (18)

1.1 European single currency

The history of the Euro development comes from the preamble of the Treaty of Rome. The Treaty aimed to create a unified European single market. That goal was encouraged by the Single European Act in 1986 and by accepting of the European Union Maastricht Treaty that introduced the Economic and Monetary Union with the fundamental aim of introducing a European single currency. (21) To see a detailed scenario of euro introduction (see Appendix 1).

In 1999, the European single currency was launched as an accounting or electronic currency that was mainly used for the business transactions where a credit card or debit card must have been used (17). The Euro became legal tender in 2002, when the coins and notes of euro currency came into force and replaced the old national currencies of several Member States (32).

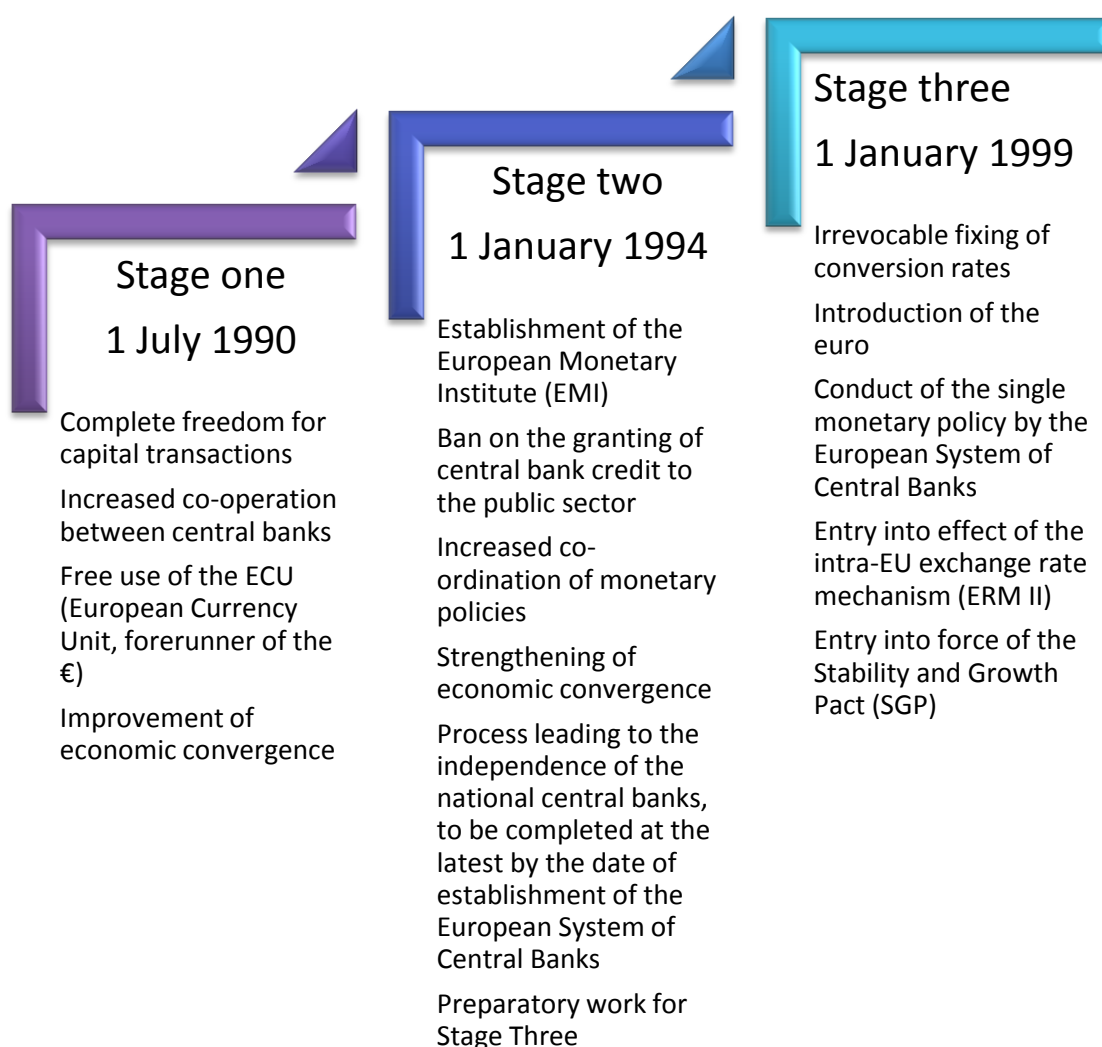
1.2 Economic and Monetary Union

The abbreviation EMU officially stands for Economic and Monetary Union, but it is routinely referred to as the European Monetary Union (1). The Economic and Monetary Union is an agreement among participation countries of the EU. These countries agreed to share a single currency and a single economic policy with set conditions of fiscal responsibility. There are currently 27 European nations participating in the EMU with varying degrees of integration. Seventeen member states have adopted the euro and the rest is in various stages of euro adoption. (12)

In April 1989, the objectives of Monetary Union were defined in report submitted by the Committee for the Study of Economic and Monetary Union. The objectives included a complete liberalisation of capital movements, irreversible convertibility of currencies and fixing of exchange rates, full integration of financial markets and the possible replacement of national currencies with the European single currency. (17)

The report stated that the objectives of Economic and Monetary Union should be achieved in three stages. These stages are shown in figure 1 below.

Figure 1.1: The three stages to Economic and Monetary Union (Source: ECB)



1.2.1 Stage one of EMU 1990 – 1994

It was decided by the European Council in June 1989 that a realisation of the first stage of the EMU should begin on 1 June 1990. By this date, there were also the restrictions on the movement of capital abolished between Member States. Based on that, the central banks' committee of Governors of the Member States got additional responsibilities regarding to promotion and coordination of the monetary policies of the Member states for better achievement of price stability. (10)

It was necessary to transform the Treaty establishing the European Economic Community, known as The Treaty of Rome, for the realisation of following stages to European and Monetary Union. In 1991 was held the intergovernmental Conference on EMU and also the Intergovernmental Conference on political union. As the result, the Treaty on European Union was agreed in 1991 and signed in Maastricht on 7 February 1992. (10)

1.2.2 Stage two of EMU 1994 – 1999

The start of the second stage was marked by the establishment of the European Monetary Institute (EMI) in January 1994 and by the abolishment of the Committee of Governors. The main task for EMI was to strengthen cooperation between the national central banks and to make the necessary preparations for the establishment of the European System of Central Banks (ESCB) that allows to carrying out the preparations for the introduction of the single currency. In 1996, the EMI presented the report based on which the principles and fundamental elements of the new exchange rate mechanism was formed and adopted in June 1997. (10)

To specify the Treaty provisions on EMU, the Stability and Growth Pact was adopted in June 1997 by European Council. The Stability and Growth Pack obliges all EU countries to keep the budgets balanced or nearly balanced. If it is not and members breaks the rules of the Stability and Growth Pack without reasonable cause then the member will be warned to correct it quickly. The European Commission and the other EU countries have the right to impose corrective measures because the deficit in one EU country can have a big negative impact on the other. (17)

On 2 May 1998, it was decided that 11 Member States had fulfilled the conditions and can get to the third stage of EMU. They adopted the euro on 1 January 1999. To those states whose national currencies were replaced as first belonged Germany, France, Belgium, Luxembourg, the Netherlands, Austria, Spain, Italy, Portugal, Finland and Ireland. For the Member States, that started to use the single currency, was in May 1998 agreed to apply the Current ERM bilateral central rates of the currencies to determine the irrevocable conversion rates for the euro. (10)

The governments of these participating member states appointed the President, the Vice-president and the four other ECB's members of the Executive Board. It led to the establishment of the ECB which together with the national central banks formulate the single monetary policy in Stage three. (10)

With the creation of the European Central Bank, the role of EMI ended up. According to Article 123 that used to be Article 109 of the Treaty establishing the European Community, it brought the EMI to the end. (10)

1.2.3 Stage Three of EMU 1999 onwards

In December 1995, the European Council agreed to introduce the European currency unit at the start of Stage Three and the single monetary policy has started to be in hands of the ECB. The final stage of EMU begun on 1 January 1999 and was initiated with the irrevocable fixing of the exchange rates of countries joined the euro area. (10) To see the fixed euro conversion rates (see Appendix 2).

1.3 The Maastricht convergence criteria

All member states of the EU, except the United Kingdom and Denmark, are committed to adopting the euro and joining the euro area. These two countries have an exception from joining Eurozone for reasons of economic sovereignty and have a chance to join and adopt the euro in the future. To qualify for Eurozone entry, the EU member states must meet certain conditions that are known as convergence criteria or Maastricht criteria. The conditions are designed to ensure that an economy of the Member States is at a sufficient level. In 1992, it was agreed that five criteria would determine if a Member State is ready to adopt the euro. The criteria provide a common baseline for the sustainability and soundness of public finance for the Eurozone candidates. (14)

The following table is prescribing these criteria:

Table 1.1: The Maastricht convergence criteria (Source: EUROPEAN COMMISSION)

What is measured	How it is measured	Convergence criteria
Price stability	Harmonised consumer price inflation rate	Not more than 1.5 percentage points above the rate of the three best performing Member States
Sound public finances	Government deficit as % of GDP	Reference value: not more than 3%
Sustainable public finances	Government debt as % of GDP	Reference value: not more than 60%
Durability of convergence	Long-term interest rate	Not more than 2 percentage points above the rate of the three best performing Member States in terms of price stability
Exchange rate stability	Deviation from a central rate	Participation in ERM for two years without severe tensions

The Maastricht convergence criteria contain three monetary and two fiscal criteria. When the EU member states do not meet the convergence criteria, they need to do the necessary adjustments to meet these conditions. These Member states are called as states with a “derogation”. In case the member state will fulfil the entry conditions the derogation is abrogated by the Council’s decision and the state can adopt the euro. (14)

1.4 European Central Bank

The single currency adoption is a crucial step in a Member State's economy. The Member States' exchange rate is irrevocably fixed and their monetary policy is transferred to the hands of the European Central Bank. (14)

The European Central Bank (ECB) took over the responsibility for monetary policy decision-making in the Eurozone on 1 January 1999. The euro area represents the second largest economic area in the world. The ECB has assumed responsibility from 17 national central banks and creates a milestone in a process of integration among European countries. (11)

The main goal of the ECB is to maintain the price stability by keeping the inflation below 2%. The price developments are carefully monitored by the Board and ECB's President.

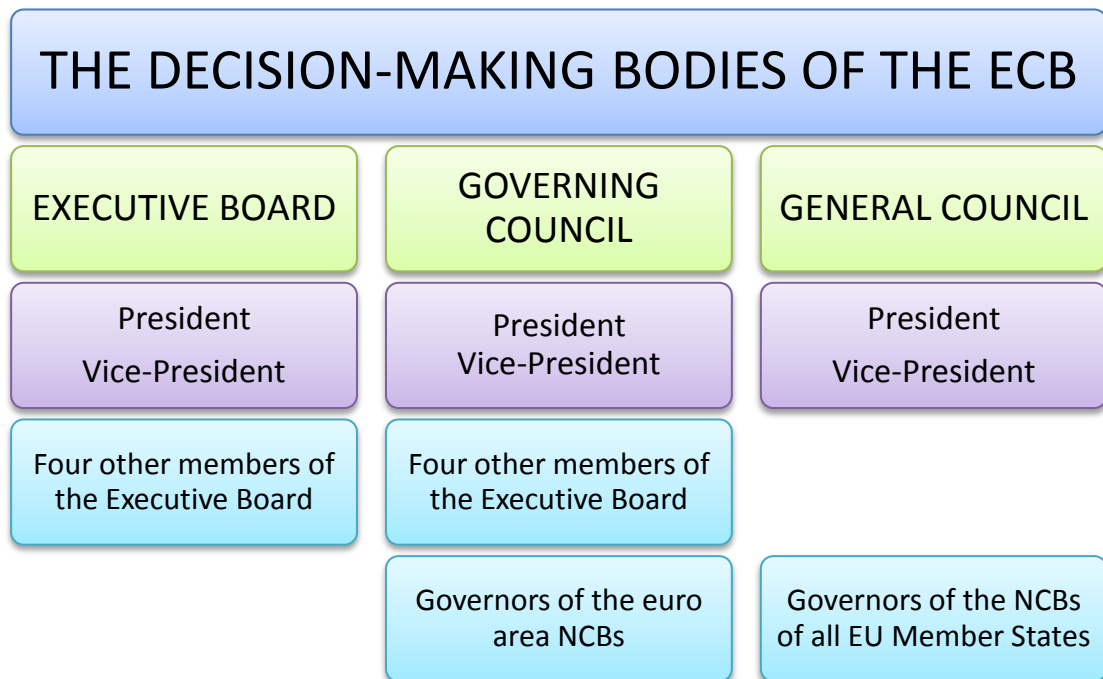
According to the Treaty establishing the EC the basic task of ECB are (9):

- *the definition and implementation of monetary policy for the euro area*
- *the conduct of foreign exchange operations*
- *the holding and management of the official foreign reserves of the euro area countries*
- *the promotion of the smooth operation of payment systems*

The ECB is an institution of the EU. However, this institution is absolutely independent from political influence to be able to keep its economic policy rational.

The monetary policy of the ECB is based on the decision-making bodies of the ECB. Two of them namely The Governing Council and the Executive Board are responsible for the preparation and implementation of the single monetary policy. A third and last decision-making body of the ECB is the General Council (see figure below). The General Council has no responsibility to formulate the monetary policy of the Eurozone. The Council is participate on coordination of the monetary policy of Member States whose currency is no the euro. (11)

Figure 1.2: The decision-making bodies of the ECB (Source: ECB)



The Executive board consists of a president, a vice-president and four other board members that are named by the Council of the EU. The General Council is made up of a president, a vice-president and the governors of all EU Member states' NCBs. The Council will exist until all Member States is adopting the euro. The third is Governing Council that consists of a president, a vice-president, the members of the Executive Board and the Governors of the euro area NCBs. (11)


















1.5 Members of the Eurozone

The euro area refers to the area formed by the EU Member states that have already adopted the euro. (25) Currently more than half of the EU Member States are part of the euro area. To see the map of EU Member States (see Appendix 3).

When the country enters to the Eurozone, there is no longer opportunity to use domestic interest rate and exchange rate policies as separate policy instruments. Therefore, EU Member States must fulfil the convergence criteria. (11)

The European single currency is used in the 17 member states that have signed up to full Economic and Monetary Union which means that member states should coordinate their economic policies for the benefit of the European Union as a whole. (14)

Table 1.2: Seventeen countries which agreed to launch the euro (Source: ECB)

States	EU member since	Euro since
 The Netherlands	1957 (EU founding member)	1999 (cash since 2002)
 Germany	1957 (EU founding member)	1999 (cash since 2002)
 France	1957 (EU founding member)	1999 (cash since 2002)
 Italy	1957 (EU founding member)	1999 (cash since 2002)
 Belgium	1957 (EU founding member)	1999 (cash since 2002)
 Luxembourg	1957 (EU founding member)	1999 (cash since 2002)
 Ireland	1973	1999 (cash since 2002)
 Spain	1986	1999 (cash since 2002)
 Portugal	1986	1999 (cash since 2002)
 Austria	1995	1999 (cash since 2002)
 Finland	1995	1999 (cash since 2002)
 Greece	1981	2001
 Slovenia	2004	2007
 Cyprus	2004	2008
 Malta	2004	2008
 Slovakia	2004	2009
 Estonia	2004	2011

1.6 The effects of the Euro

A number of arguments for and against a single currency are specified (35):

For

- The euro reduces costs associated with money conversion from one currency to another
- The euro eliminates the risk of unforeseen exchange rate revaluations or devaluations
- The euro represents strong international currency
- The euro single currency enables comparability of prices and wages among the states in euro area that leads to an increase competition across Europe
- The introduction of euro brings for states long-term benefits in growth and prosperity by ensuring a low-inflation environment

Against

- The Eurozone is created by the states with different economies that could let to bigger inflationary pressures in time of booms. On the other hand, during the recessions it could result in more severe unemployment
- A national currency is a symbol of identity of states; the member states by adopting the Euro practically give up their sovereignty
- The Euro is primarily a political not an economic project
- In time of recession, the countries in euro area cannot stimulate their economy by devaluing its currency and increasing exports
- Administration costs of changeover to the euro

The most noticeable and the most significant benefit of the single currency adoption is the reduction in exchange and transaction costs. As well as the single currency eliminate the risk connected with the exchange rate movements.

The businesses do not need to take out insurance to protect their contracts against the exchange rate risk and as the EU Member States do a business in more than 80% within the euro area, therefore, it can be said that the risk largely disappeared. (17)

For the travellers, it is much easier to travel as they do not have to change the money when they travelling within the Eurozone and the single currency make it easier to compare prices, too. (28)

The introduction of the euro allows to corporation better and more effectively plan their budget as the Euro currency is more stable and predictable. The EU Member States, whose primary currency is the euro, have opportunities to trade more smoothly as the trade restrictions and trade barriers have eliminated in euro area. (17)

However, the adoption of the European single currency limits the independence of the monetary policy. Moreover, the single currency makes it harder for Member states' government to stimulate business activities. (27)

1.7 Possible reasons for Eurozone failure

From the beginning, there existed the scepticism about the ability of the European single currency to remain stable and to be able to serve the interests of all the member states that use the euro as their currency. The main reason for single currency failure was indicated as member states' different structures of economies and heterogeneous culture in euro area. (27)

The creation of the euro also meant that the countries in Eurozone can no longer use monetary policy to blunt unfavourable shocks to the economies of individual states. If the shock hit just one country or a few of them, the CB will not be able to lower the interest rate in order to stimulate the economy (23), which resulting in Member States inability to use monetary and exchange rate policy tools for responding to changes in economic conditions.

A big weakness of this single currency project is the lack of a common fiscal policy to support it. Together with the loss of monetary and exchange rate tools, it creates

tensions and vulnerabilities because states are constrained in their respond to economic shocks. In monetary union, the European Central bank sets a common interest rate but as the country diverse, the interest rate can be too high for the high unemployment country, resulting in lost output and employment. On the other hand, the interest rate set by ECB may be too low for the low unemployment country which could result in excess spending and deterioration of the business cycle in both states. (1)

1.8 Optimum Currency Area

The theory about the Optimum Currency Area (OCA) provides important insights into the integration between different countries. (31)

Mundell in his work from 1961, suggest that a currency union's existence especially depends on how close it corresponds to the concept of an Optimum Currency Area. Regarding to the theory, a monetary union which can not be identified as OCA, will bring macroeconomic costs like lower output and higher unemployment, for some of its participants. These costs will weigh down the microeconomic benefits associated with a single currency, including lower transaction costs. It implies that the EMU could have devastating consequences when the participating countries are not sufficiently converged before the union establishment. (36)

According to theory of OCA, countries in monetary union can benefits from a common currency if the following criteria are met (36):

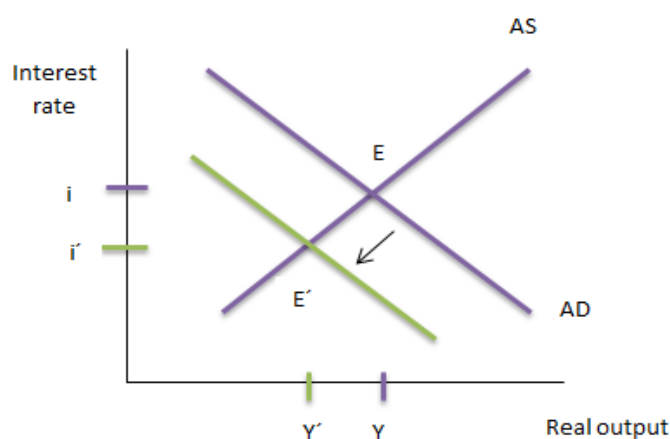
1. Degree of openness

The countries with open economies are more suitable for having a fixed exchange rate because there is a bigger probability that foreign prices of tradables will be transmitted to the domestic cost of living. The lower degree of openness is, the less changes in international prices would impact on domestic prices.

2. *The similarities of shocks and business cycles*

Symmetric shocks and business cycles reduce the importance of country-specific monetary policy and the single-currency area is possible.

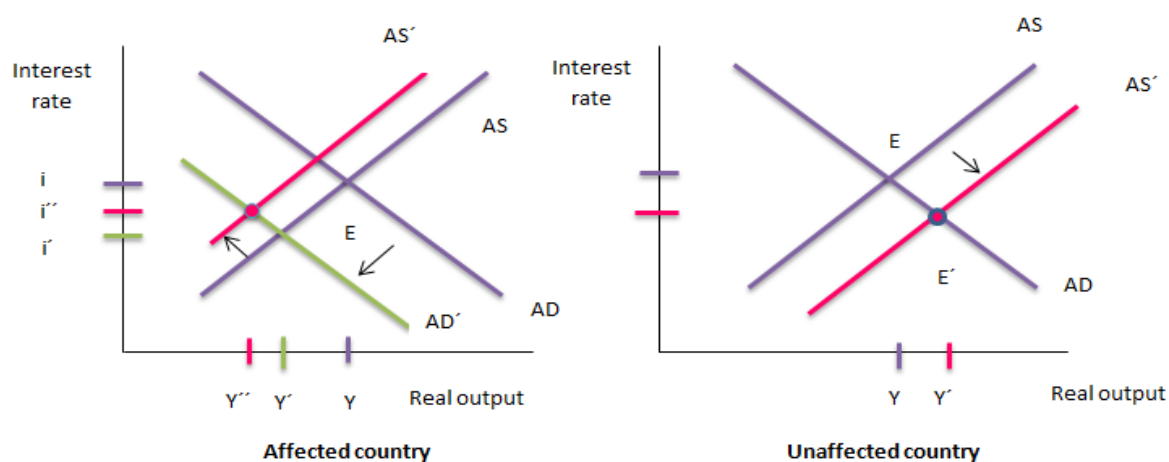
Figure 1.3: Asymmetric shock (Source: Baldwin and Wyplosz, 2004)



In case the countries in the monetary union are affected by the decline in demand for goods by the rest of the world, the interest rates will fall down. If the countries out of the monetary union are hit with a symmetric shock then there will be used a depreciation of the common currency for increase of net export and thus, demand.

However, if the countries in the monetary union are hit with the asymmetric shock then one country can be significantly affected and its export will be reduced. On the other hand, the rest of the participants in currency union can keep the export on the same level.

Figure 1.4: Asymmetric shock in a MU (Source: Baldwin and Wyplosz, 2004)



When the net export falls down in asymmetric country, the demand will fall as the interest rates. Since it is only country with lower interest rates, the money will outflow into other countries in the union. However, all the countries share the same currency, so this results in a fall in the money supply and decrease in the economy.

Therefore, the bigger is the probability that a country is going to be affected by asymmetric shock, the less suitable is having a common currency.

3. International factor mobility

The factor mobility is fundamental criterion in forming an OCA. If there is a high labour mobility between the regions, the inflation pressures and unemployment disappears and common monetary policy became beneficial. (5)

4. Product diversification

The countries exporting diversified products are less vulnerable to sector-specific shocks and thus, they have less need for exchange rate adjustments.

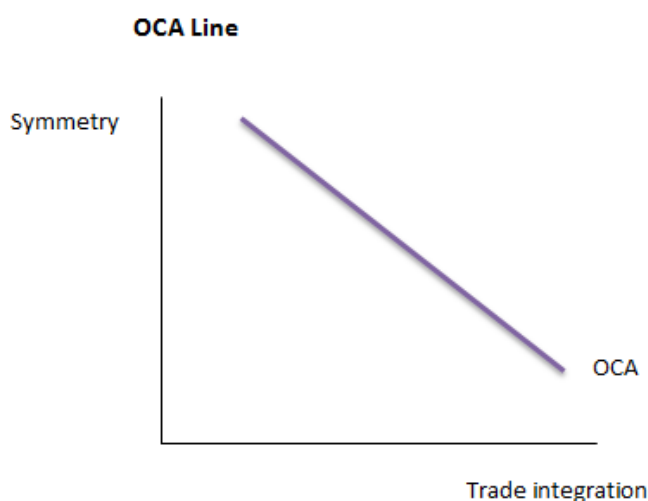
5. *Fiscal transfers*

The central fiscal authority should be responsible for redistributing money across the countries in the monetary union. When the countries are hit by asymmetric shocks then the authority could have transferred the tax revenue collected from all countries and redistribute it to countries that are doing badly.

6. *The degree of fiscal policy integration and similarities between rates of inflation*

The similarities between rates of inflation among the countries lead to increase of competitiveness in countries with low inflation.

Figure 1.5: OCA line (Source: Grauwe, 2007)



The downward-sloping line illustrates the minimal combinations of trade integration and symmetry. The line represents a break-even operation, the zone where the costs are equal to benefits and thus, there is zero net gain. All the points on the right side of the OCA line means benefits of monetary union. On the other hand, points on the left represents situation in which the costs exceed the benefits of monetary union. (22)

1.9 The Economic situation of Eurozone

The economy of the Eurozone is influenced by the impact of crisis that originated as a debt crisis in some of the Eurozone countries, including Greece, Portugal and Ireland. During the year 2012, the Eurozone will undergo a mild recession, with gradual recovery that is expected to occur in second half of the year. The Eurozone has been affected by the crisis through several channels. In the first place, banks lend less money to consumers and businesses. Secondly, the businesses dismiss employees and by that, worried consumers spend less money. In the third place, the euro area economy was affected by governments' reduction of their spending in order to diminish deficit and debt levels. (13)

The economic forecast from February 2012 made by the European Commission, predicts slightly negative growth of GDP in 2012. In terms of unemployment, it will stand at very high level of over 10.7%. For the year 2012 the inflation is expected to go down toward the ECB's preferred range that is below 2%. (13) For more details see the table below.

Table 1.3: Euro Area Economic Indicators (Source: Eurostat)

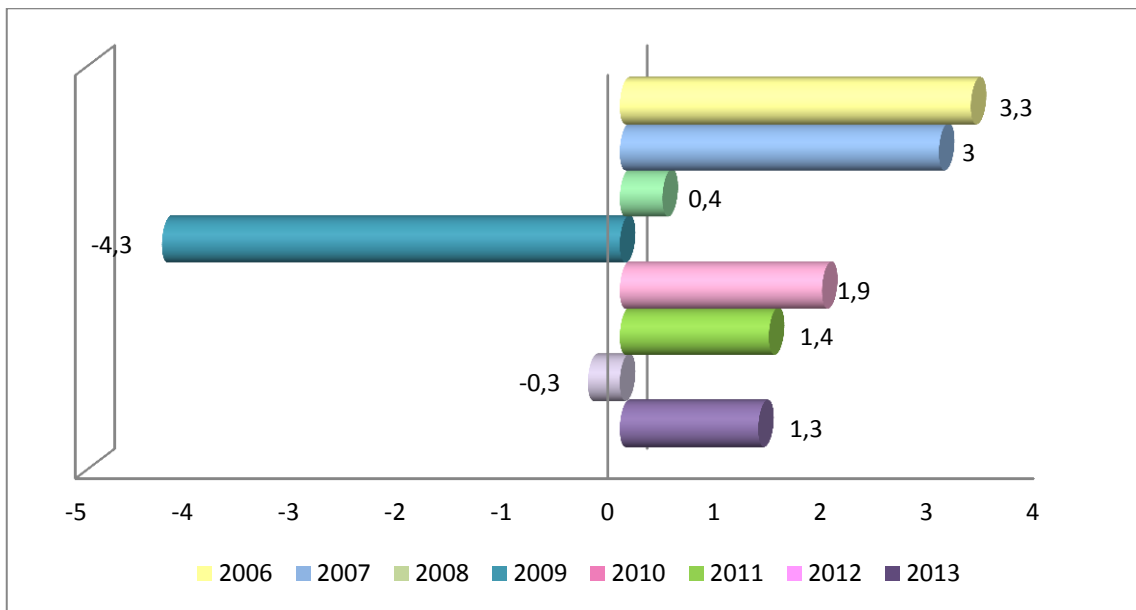
	2009	2010	2011	2012	2013
GDP growth (real)	-4,3%	1,9%	1,4%	-0,3% ¹	1,3%
Unemployment rate	9,6%	10,1%	10,1%	10,7%	10%
Inflation	0,3%	1,3%	2,7%	2,1%	1,6%

1.9.1 GDP Growth

Within the Eurozone, the participation on GDP creation is heavily in hands of a few large countries including Germany, France, Italy and Spain. These Member states generate more than 76% of the Eurozone's total GDP. In contrast to that, the countries like Slovakia, Slovenia, Cyprus, Malta and Luxembourg accounted for less than 2% of the Euro area's overall GDP. (1)

¹ Blue figures represent the economic forecast

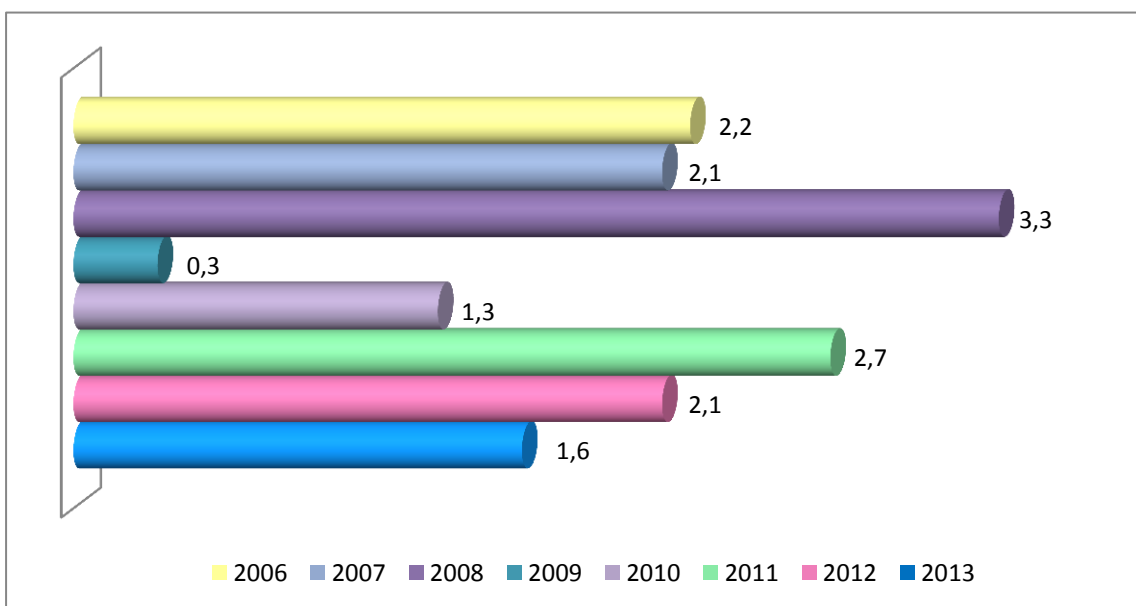
Graph 1.1: GDP in Euro area in % (Source: Eurostat)



1.9.2 Inflation

In average the inflation rate in Eurozone was 2.24%. The historically highest inflation was in July 1991 at 5% and a record low of -0.7% in July 2009. At the beginning of the year 2011, inflation rose steeply because of higher energy and commodity prices. However, it is expected that it will gradually decline in response to slower economic growth. (13)

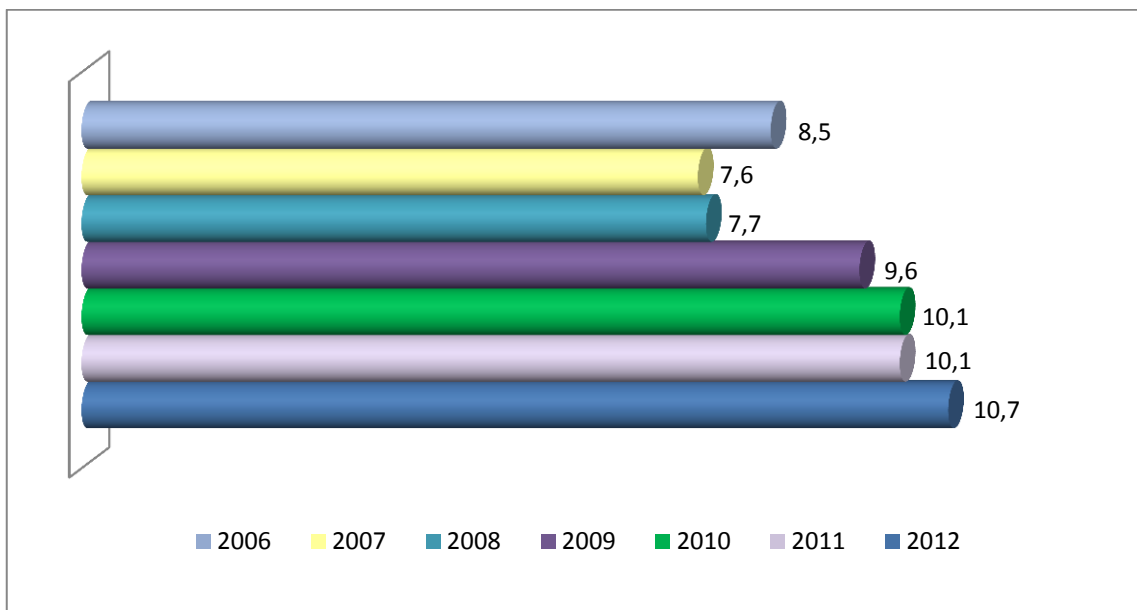
Graph 1.2: Inflation rate in Euro area in % (Source: Eurostat)



1.9.3 Unemployment Rate

Currently, unemployment rate went up in Eurozone because of worsening economic conditions and dramatic spending reduction in several Member States. In January 2012, the average unemployment rate was at the level of 10.7%. It can be said that one worker out of ten is without a job. (13)

Graph 1.3: Unemployment rate in Euro area in % (Source: Eurostat)

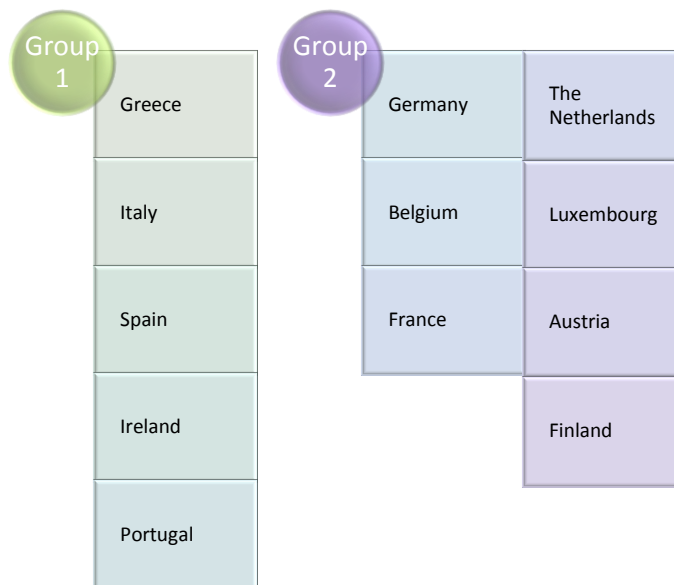


2 Problem analysis and current situation

In previous section, the theoretical background was given in field of Economic and Monetary Union. In order to obtain better insight into the monetary policy applied in Eurozone and its impact on participating countries, the critical analysis will be made in following part of the thesis. The scope of the analysis contains the original members of the Eurozone and Greece is added to them. The countries that have entered recently like Cyprus, Malta, Slovenia, Slovakia and Estonia are left out due to the relatively short time period of their membership.

The countries that will undergo the critical analysis will be grouped according to size of divergence. Therefore, two groups of countries will be presented. Group one will contain five Member states of Eurozone from the Southern European Countries (also referred as GIIPS). And the second group will be represented by seven countries that belongs to the Northern European Countries

Figure 2.1: Two groups of analysed countries





2.1 Greece



Official name: *Hellenic Republic*

Capital: *Athens*

Population: *11 million*

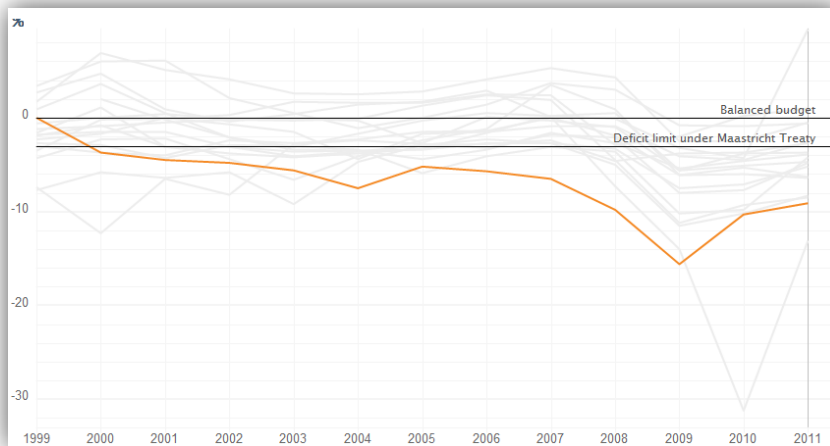
Currency: *Euro*

Official language: *Greek*

Prior to the euro's establishment, Greece belongs to the worst economic performers of eventual Euro area members. Greece's GDP growth was the slowest in Europe and annual inflation was considered as one of the highest in the region. The euro's adoption appeared to solve many of these deficiencies. After the introduction of euro, Greece seemed to be stabilized country and attractive for foreign capital. Inflation decreased from an average of 18 percent from 1980-1995 to around 3 percent from 2000-2007. Foreign net position of Greece that is measured by the assets hold abroad by Greece minus Greece assets hold by foreigners, has fallen from -5 percent of GDP in 1995 to -100 percent of GDP in 2007. Country was flooded with cheap capital that resulted in growth in domestic demand and the current account balance deterioration. (7)

Consumer prices in Greece have increased by 47 percent since 1997 which is about 57 percent more than in the euro area. As well per capita employee compensation has increased by 80 percent in Greece since 2000. That all resulted in substantial decline in competitiveness and IMF estimated that real effective exchange rate of Greece is overvalued by 20-30 percent. Facing the impact of financial crisis, Greece markedly changed its economic situation and was realized that Greece chronically failure to report accurate statistics. (7)

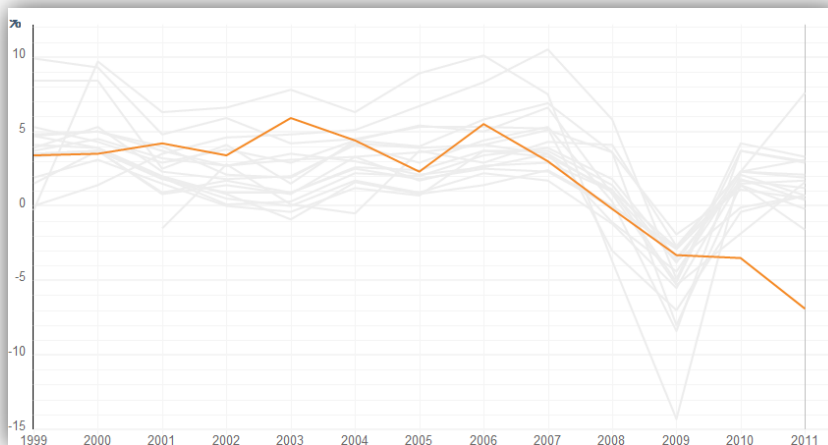
Graph 2.1: Greece government annual surplus or deficit



Source: Eurostat

Since 2000, Greece's government deficit is still slightly above 3 percent of GDP. Furthermore, it has increased over the years up to current level of 9,1 percent.

Graph 2.2: Greece annual GDP growth - percentage change from previous year

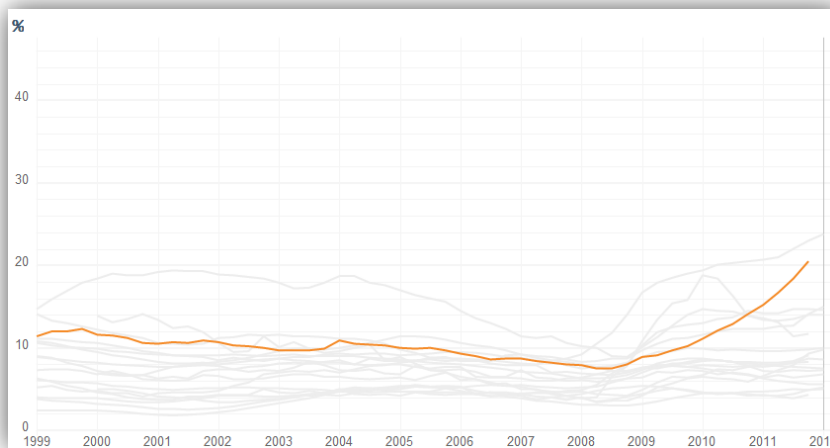


Source: Eurostat

After averaging annual Growth of GDP of 1,1 percent from the year 1980 to 1997 that was identified as one of the slowest growing in the Euro area, Greece's economy

expanded at an average rate of 4,1 percent from the 1999 to 2007, the fourth fastest rate in the Euro area. However, since the year 2008, the GDP has steadily declined up to -6,9 percent in 2011. GDP growth contracted by 0,2 percent in 2008 followed by the 3,3 percent reduction in 2009 and 3,5 percent in 2010.

Graph 2.3: Greece unemployment rate

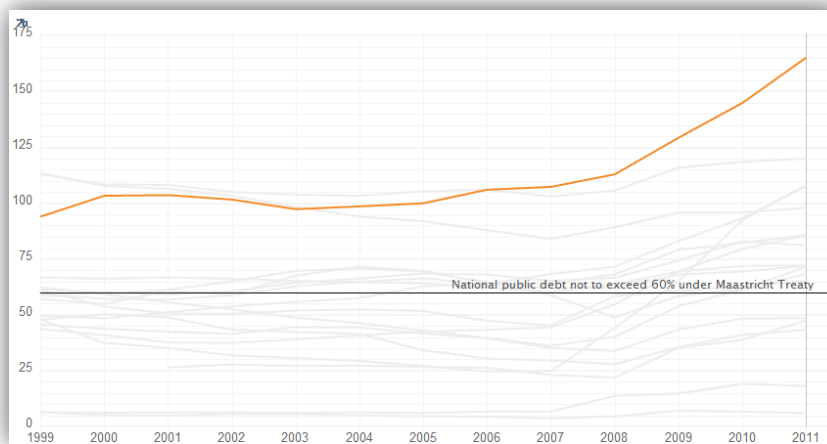


Source: Eurostat

In Greece the unemployment rate was about 12 percent in 1999 and since then, it has decreasing tendency. However, the

government was forced to cut its government spending which has involved public sector and unemployment was driven up from 8 percent in 2008 up to 20,5 percent in 2011.

Graph 2.4: Greece government debt as a proportion of GDP



Source: Eurostat

During the years of economy growth, tax revenues rose and government in Greece rapidly expanded its spending, mainly

on public sector wages and social transfers. Government debt was increasing steadily from the year 1999 with an average level of government debt of 113 percent. It exceeded by more than 50 percent level of national public debt defined by Maastricht Treaty. With debt of 165,3 percent of GDP in 2011, it is considered that Greece would not be able to repay its loans and the crisis would infect quickly other troubled European nations.



2.2 Italy



Official name: Italian Republic

Capital: Rome

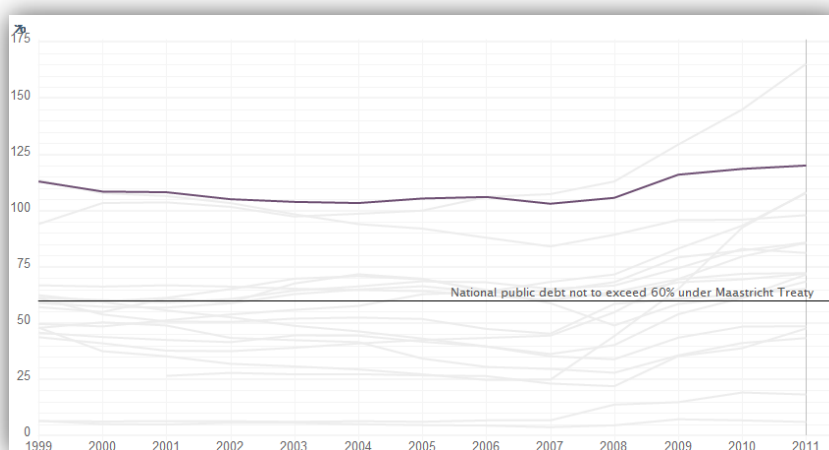
Population: 57.4 million

Currency: Euro

Official language: Italian

Since the euro adoption, the country's competitiveness has worsened sharply and Italy is facing huge public debt that is almost the same as in Greece. The combination of low growth, decreasing competitiveness and high debt means for the Italy economy that it will be vulnerable to adverse shocks. After Italy joined the Eurozone and adopted the euro in 1999, the interest rate was in the lowest level in the euro area. The low interest rate drove the consumer spending and house prices. Because of low borrowing costs, the spending was increased and Italian government was able to reduce its deficits and debt. (7)

Graph 2.5: Italy Government debt as a proportion of GDP



Source: Eurostat

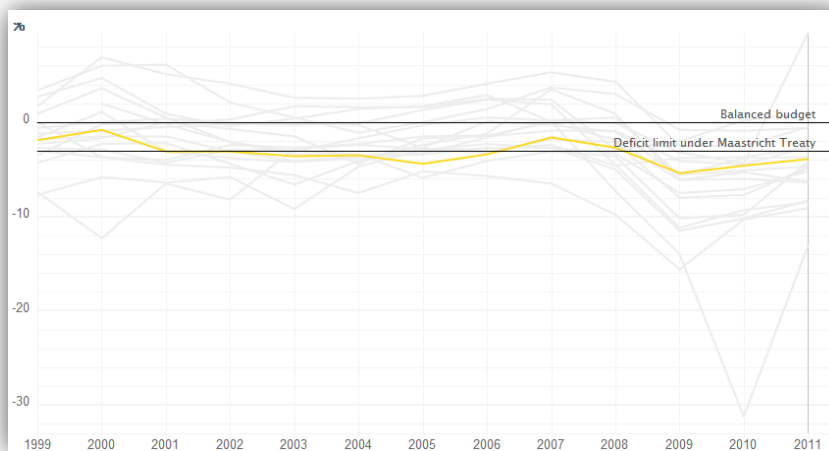
Debts in Italy declined steadily by 10 percent of GDP between the years 1999-2007. However, the impact of financial crisis caused the

debts in Italy has surged. From 2008, Italy ran its public deficits until today's level of debt that is similar

to that of Greece. With a public debt of about 115 percent of GDP and interest rates near 4 percent, Italy is forced to spend about 4,5 percent of GDP per year on interest.

This lead Italy to the situation that even if public revenues are as high to be able cover all expenditures, the country will still have to pay the interest. Therefore, costs on interest will make debt to grow larger each year unless the public revenues exceed expenditures and move the budget into surplus. (7)

Graph 2.6: Italy government annual surplus or deficit

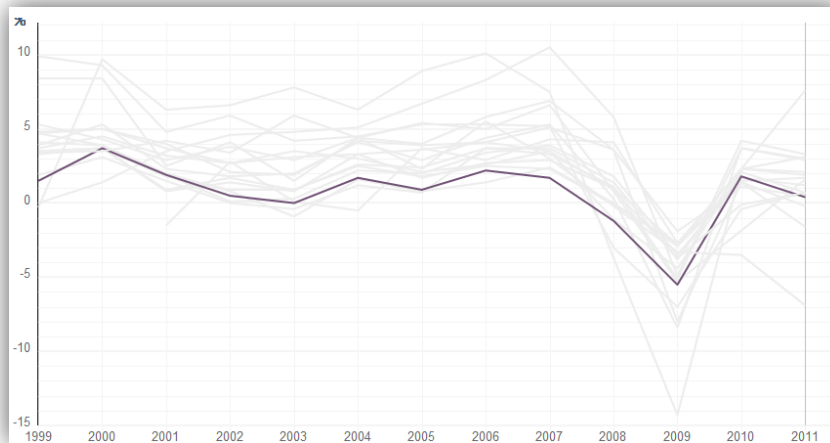


Source: Eurostat

The Italian budget was in surplus before the year 1999 but since that year, the country has maintained an average budget

deficit of 1,6 percent of GDP. The deficit varied nearly between defined limit under Maastricht Treaty of 3 percent of GDP except the year 2005, when the amount of budget deficit exceed the value of 4,4 percent. Since 2009 the budget is permanently below the limit on average by more than 1,6 percent of GDP.

Graph 2.7: Italy annual GDP growth - percentage change from previous year

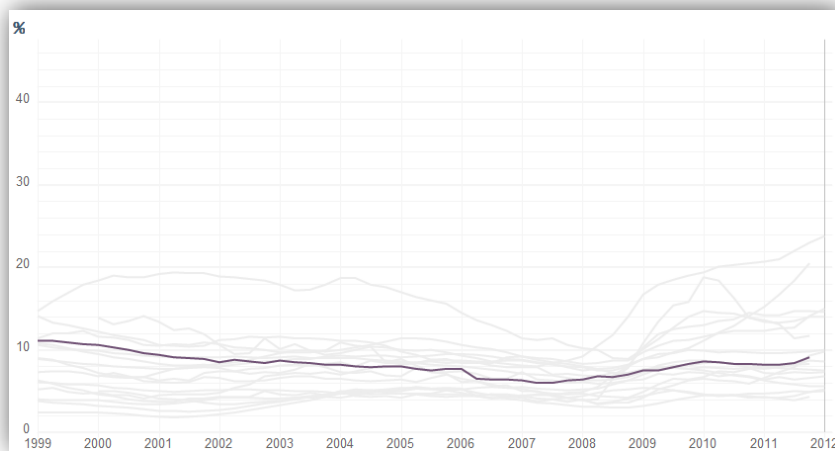


Source: Eurostat

In 2000, Italy has a significant increase in GDP growth and reached the level of 3,7 percent. Between 2001 and 2007, Italian economy growth on average of 1,3

percent. However, the situation changed by the impact of financial crisis and Italian GDP decreased up to -5,5 percent in 2009.

Graph 2.8: Italy unemployment rate



Source: Eurostat

In Italy the unemployment has been steadily falling. In 1999, the country had the highest unemployment of 11 percent and since then, it went down and was

fluctuating around the 8 percent until the year 2008. In the last years, the unemployment rate in Italy is rising and currently it reaches the level of 9,1 percent.



2.3 Spain

Official name: Kingdom of Spain

Capital: Madrid

Population: 41.1 million

Currency: Euro

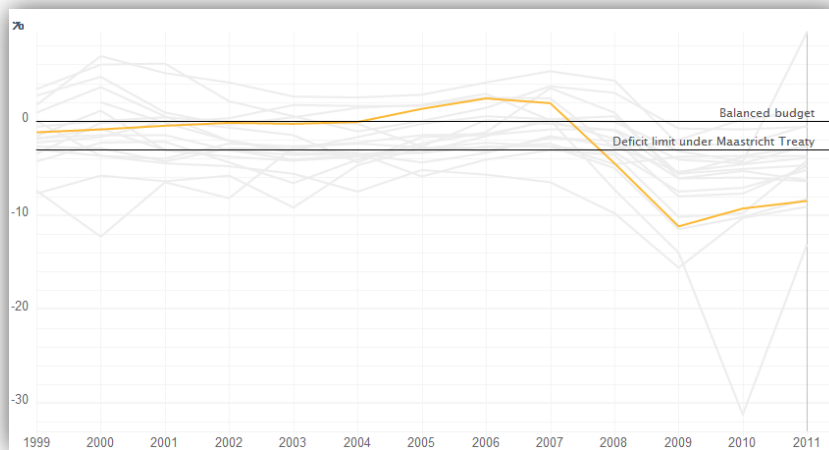
Official language: Spanish, Galician, Basque, and Catalan



The adoption of euro in Spain is associated with a huge misallocation of resources and loss of competitiveness. In Spain, the non-tradable sector like housing and other market services has grown very rapidly. The debt to GDP in Spain is half that of Greece and therefore the government in Spain has more time and resources to fix its problems. However, its budget deficit is still so large and the collapse of its post-euro growth model indicates that public debt can be directed towards an exploding path. In order to reduce its unemployment and increase its growth Spain has to make a structural transformation instead of looking to a cyclical recovery to reignite growth. There is also no possibility for currency devaluation. That's why, the reforms will be carry out if house prices, labor costs and the price of services decrease relative to the country's European partners. (7)

The crisis in Spain was mainly defined by boom and bust in housing sector. During just ten years since the Spain has adopted the euro, the housing prices have more than doubled. However, the boom in housing sector represented just one of the many misallocations of resources. As interest rates decrease and confidence soared, the domestic demand and inflation started to rise more than 1,5 times quicker than in the rest Eurozone. It turned out that European monetary policy was too loose in order to disable these trends. (7)

Graph 2.9: Spain government annual surplus or deficit

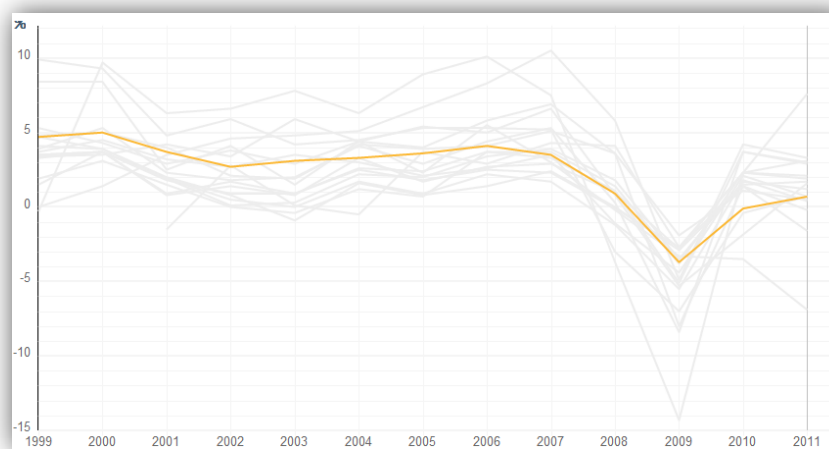


Source: Eurostat

Since 1999 Spain's budget has been within the defined limit in Maastricht Treaty. Even during the years 2005-2007 Spain grew its current account surplus.

However, recession reduces its surplus and Spain plunged into deep deficit which is currently nearly 9 percent.

Graph 2.10: Spain annual GDP growth - percentage change from previous year

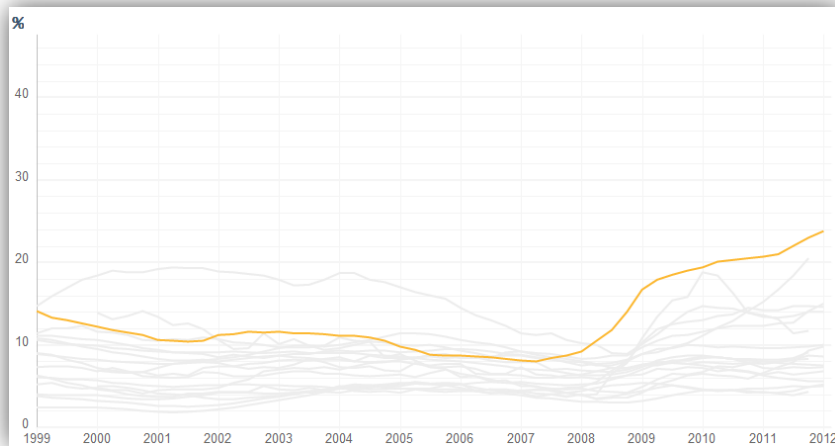


Source: Eurostat

GDP growth an average of 3,7 percent from 1999 to 2007 with the largest growth in 2000, when the GDP growth reached the level of 5 percent.

Spain economy was growing but as other vulnerable economies, its GDP growth fell to 0,9 percent in 2008 which continued the decline of -3,7 percent in 2009. However, the rapid decrease was followed by the increase to 0,7 percent during two following years.

Graph 2.11: Spain unemployment rate

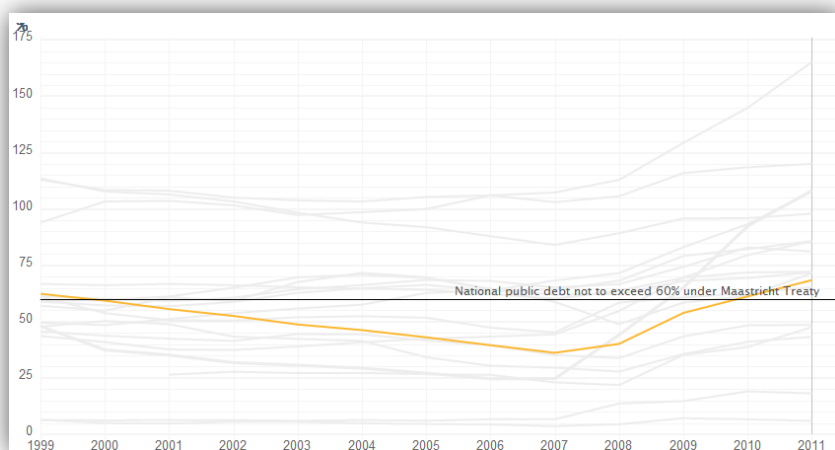


Source: Eurostat

The massive increase in unemployment that is apparent from the year 2008 is due to structural misallocation. The

collapse of global trade on manufacturing and collapse of demand for housing reflected in increased unemployment. Since second quarter of 2008, Spain has become the country with the highest unemployment in whole Eurozone.

Graph 2.12: Spain government debt as a proportion of GDP



Source: Eurostat

Spain's government debt had decreasing tendency and since the euro establishment, Spain reduced its debt from 62,4 percent in 1999 to 36,2 percent in 2007.

However, nowadays the country has its debt level again more than 60 percent and exceeded the limit defined under Maastricht Treaty.



2.4 Ireland



Official name: Ireland

Capital: Dublin

Population: 4 million

Currency: Euro

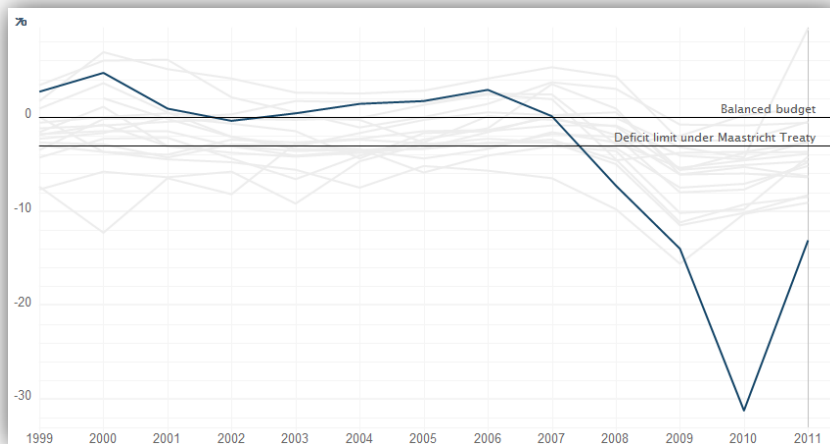
Official language: Irish and English

Before the introduction of euro in the late 1990s, Ireland was thriving country. Even the country was growing significantly faster than others of GIIPS and its inflation was below of the other GIIPS during the years 1990-1995. Furthermore, the country was ranked as one of the world's strongest. (7)

In Ireland, the euro caused an unsustainable boost to an already booming economy. Between the years 1995 and 2000, the growth in Ireland speeded up to an average of 9,6 percent per year. In Ireland the wages rose almost five times faster than in the Euro area average from 1997 to 2007. The steep growth together with a European monetary policy that was far too loose for Ireland stimulated the tremendous overleveraging of the financial sector. (7)

The balance sheets of financial and monetary institutions in Ireland grew by approximately 750 percent of GDP in just ten years. In comparison with other countries from GIIPS which balance sheets expanded by just 100 percent of GDP, Ireland's expansion was truly enormous. Ireland's prospering economy soon had an effect of an extraordinary housing bubble that occurred between the years 1997-2006. The housing completions rose by 9,6 percent a year and Irish house prices increased by more than 90 percent which was three times more compared to e.g. growth of Spanish prices. As in others from GIIPS, Ireland is now dealing with loss of competitiveness and an unsustainable government debt. (7)

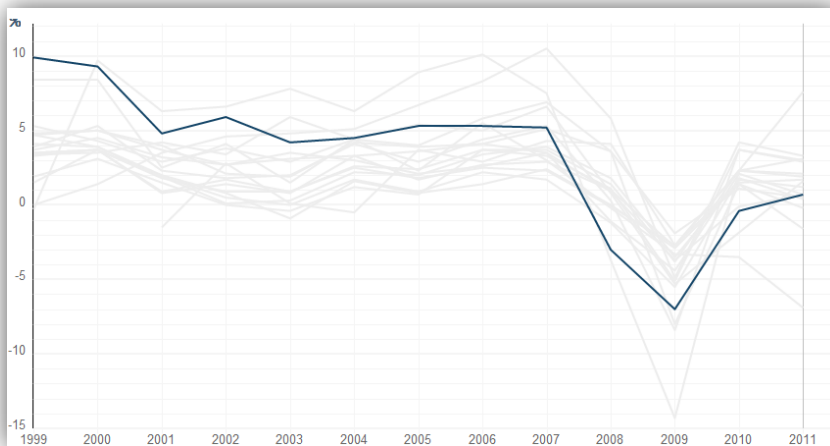
Graph 2.13: Ireland government annual surplus or deficit



Source: Eurostat

Despite this boom, the government in Ireland appeared to behave responsibly and was generated an average budget surplus of 1,6 percent of GDP from 1999 to 2007. After this period, Ireland recorded a deficit that peaked of 31,2 percent in 2010.

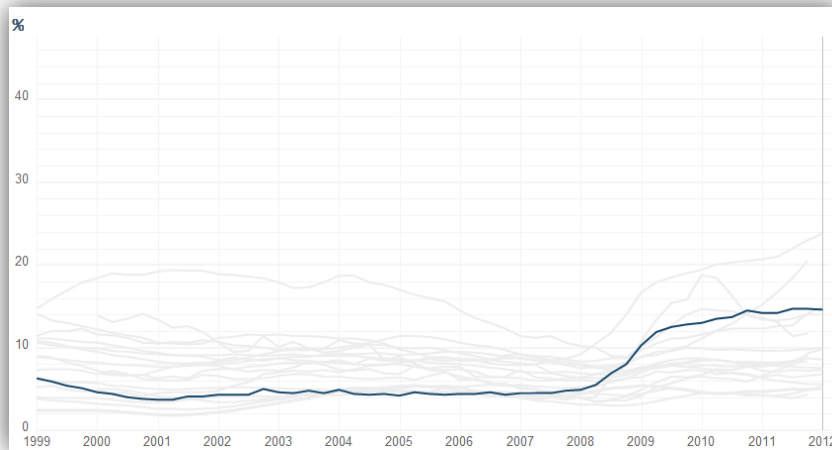
Graph 2.14: Ireland annual GDP growth - percentage change from previous year



Source: Eurostat

From this chart, it is perfectly visible how much the GDP contracted since the launch of the euro. The country's GDP growth was 9,9 percent in 1999. Only a two years after, it deteriorated and GDP growth rate fell to 4,8 percent in 2001. From 2002 to 2007, the GDP grew as o percentage from previous year by an average of 4,5 percent. But then, the GDP growth rate fell to -3 percent in 2008 which was the reflection of damages caused by the financial crisis.

Graph 2.15: Ireland unemployment rate

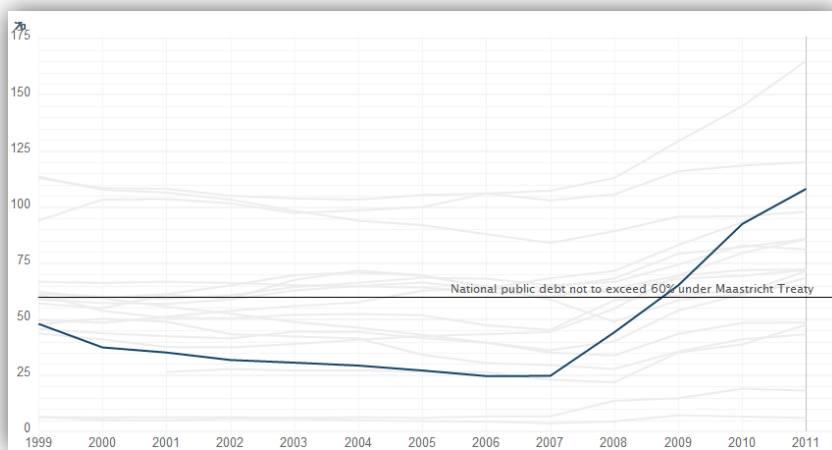


Source: Eurostat

The unemployment was relatively low in Ireland compare to others GIIPS. In 1999, the country has an average of 5 percent and this unemployment rate

was for the next seven years the highest. Ireland kept its unemployment low since the year 2008, when it has been increasing steadily up to today's rate of unemployment of 14,6 percent.

Graph 2.16: Ireland government debt as a proportion of GDP



Source: Eurostat

Ireland had its debt really low and as the country was prospering, the government was able to reduce its debt substantially during the first years after the euro introduction. In

2000, the country had the debt of 37,5 percent which were reduced up to 24,8 percent in 2007. But as Portugal so Ireland have been moving up the debts for the past few years and currently the country generated the debt of 108,2 percent of GDP.



2.5 Portugal

Official name: *Republic of Portugal*

Capital: *Lisbon*

Population: *10.1 million*

Currency: *Euro*

Official language: *Portuguese*

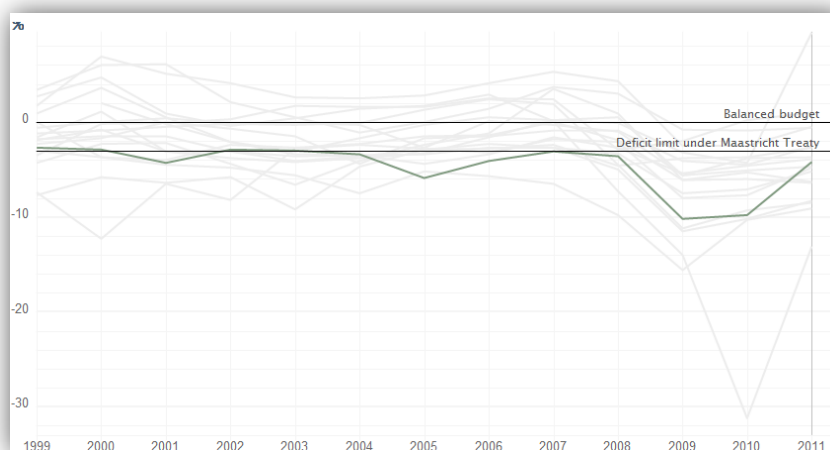


In the run up to the introduction of the European single currency, Portugal's GDP has continued to grow at an average of 4 per cent. It was considered as one of the highest rate in the Eurozone. A sharp decline in interest rates and expansionary fiscal policy led to the increase in demand in Portugal. However, it wasn't followed by increase in potential supply and Portugal early on lost its competitiveness relative to others from GIIPS. From 2001 to 2005 the growth rate of Portugal decreased to just one per cent. However, In terms of long-term growth prospects, loss of competitiveness, high private and public indebtedness, budget deficit and public debt, the country is in better condition than Greece but is still highly vulnerable to adverse shocks. (7)

As in the rest of the GIIPS, in Portugal the introduction of the euro led interest rates to considerable decrease from an average of 12,3 percent to round 6 percent. The low level of interest rates set the stage for a consumption boom in country. (7)

The monetary policy in the Eurozone was in some way too tight for Portugal and therefore the housing investments as percentage of GDP had declined as well as inflation had fallen. On the other hand, for Greece, Ireland and Spain the monetary policy was too loose and creates housing booms in these countries. (7)

Graph 2.17: Portugal government annual surplus or deficit

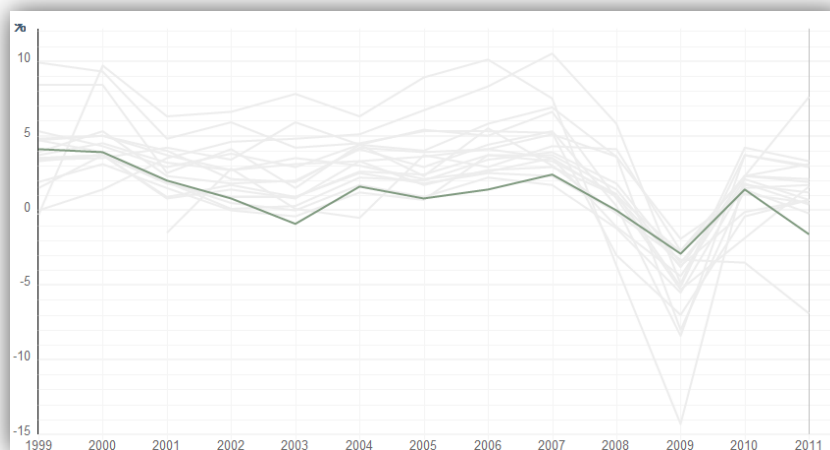


Source: Eurostat

The Portugal's budget almost wasn't balanced since the euro introduction. The country met the limit in 1999 and had its deficit under 3 percent

but early on in 2001, the government deficit has increased to 4,3 percent. The deficit varied around the limit under Maastricht treaty between 2002-2007 and partially increase in 2005 up to 5,9 percent. However, as a consequences of impact of the crisis, the rapid growth of government deficit is evident since 2009, when Portugal doubled its deficit and reached the level of 10,2 percent.

Graph 2.18: Portugal annual GDP growth - percentage change from previous year

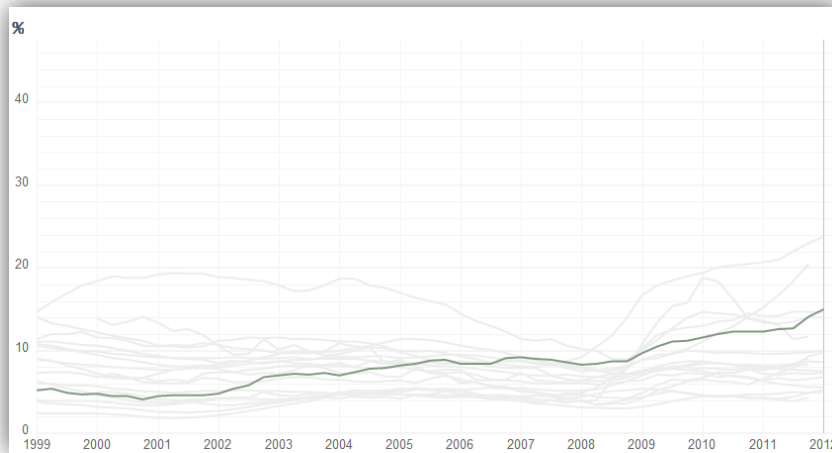


Source: Eurostat

GDP growth averaged only by 0,8 percent from 2001 to 2008. The recession did not hit the country in such a big extent as other vulnerable economies. Despite

GDP growth rate decreased to 2,9 percent in 2009, the country increased its GDP growth of 1,4 percent in 2010 that was driven by external trade as domestic demand stagnated.

Graph 2.19: Portugal unemployment rate

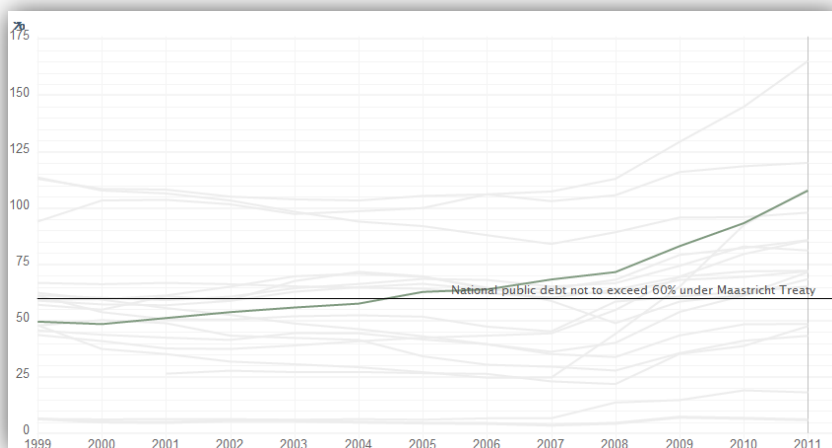


Source: Eurostat

expected to be at 15 percent.

The downturn in GDP growth had also an impact on unemployment which reached more than 10 percent in 2009 and has a rising tendency. For the year 2012, it is

Graph 2.20: Portugal government debt as a proportion of GDP



Source: Eurostat

because of impact of the crisis, public finance was severely affected and the debt reached the level of 107,8 percent in 2011.

The national public debt was under the limit defined in Maastricht Treaty from 1999 to 2005. In 2005, the debt did slightly exceed 60 percent and



2.6 Germany



Official name: *Federal Republic of Germany*

Capital: *Berlin*

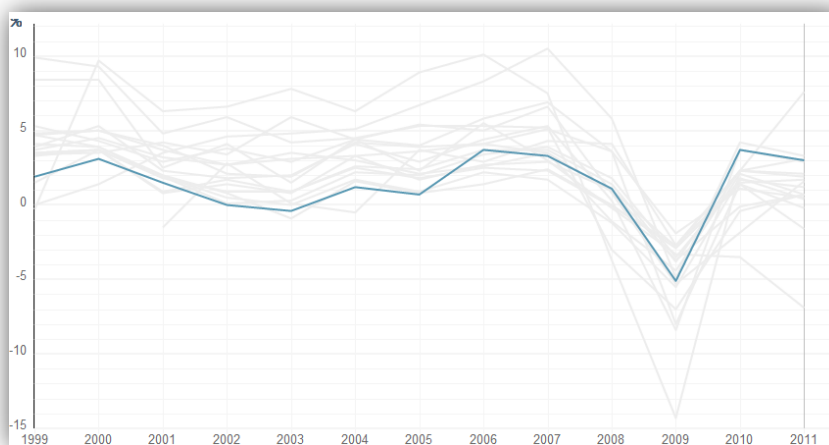
Population: *82.5 million*

Currency: *Euro*

Official language: *German*

Since the introduction of the euro at the beginning of 1999, Germany has gained competitiveness, not just against other major industrial nations but also against the members of the euro area. The euro adoption consolidated unit labor costs of Germany, increased the exports in parallel with decrease of domestic demand behind that of the GIIPS. The adoption of the euro creates in Germany the export boom. Export benefited because the euro became less expensive than the deutschmark might have been. The single currency adoption also raised external demand, including from the GIIPS. Since the euro adoption, Germany's export has gained 14 percent of GDP share. Contrary to GIIPS which became more inward-focused and powered by domestic activities, Germany became one of the largest exporters in the world. (7)

Graph 2.21: Germany annual GDP growth - percentage change from previous year



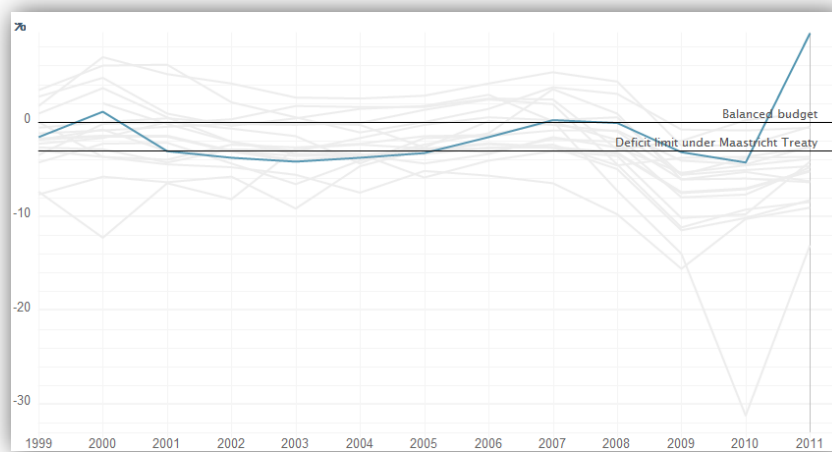
Source: Eurostat

Slow GDP growth and slow rise of domestic demand contributed to Germany's wage growth stayed moderate.

Between 2000-2008, Germany annual GDP growth was on average of 1,4 percent. It represents half that of the GIIPS that grew each year on average of 3 percent.

From 2000 to 2008, Germany domestic demand's share of GDP decreased by 5,8 percent while in GIIPS domestic demand's share of GDP increased by 0,6 percent on average. It was caused by number of factors including the Euro area's monetary policy which was too tight for Germany but on the other hand too benevolent for the GIIPS. Other factors that caused this demand slump are relatively high unemployment and high saving among an aging population. (7)

Graph 2.22: Germany government annual surplus or deficit

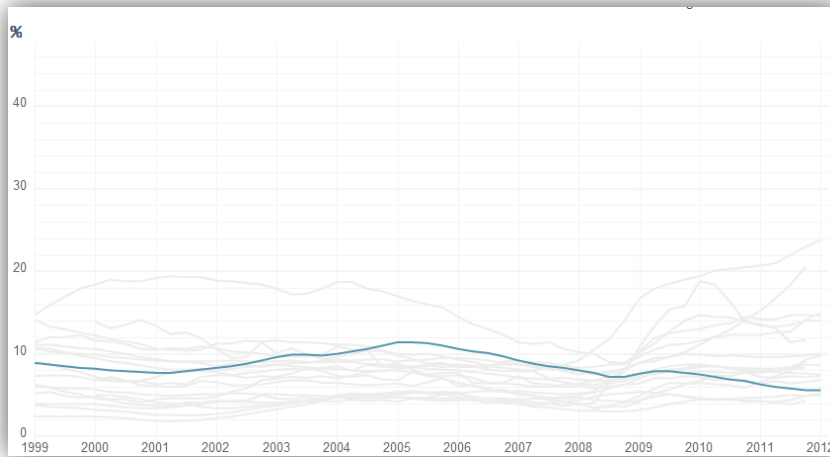


Source: Eurostat

Over the period 1999-2008, Germany's budget has gone from small deficit to balanced budget.

Except for about a year during 1999-2000 when the Germany's budget was in surplus by 1,1 percent of GDP and years 2008 and 2009, when the country's budget fell considerably and deficit rose from 3,2 to 4,3 percent of GDP.

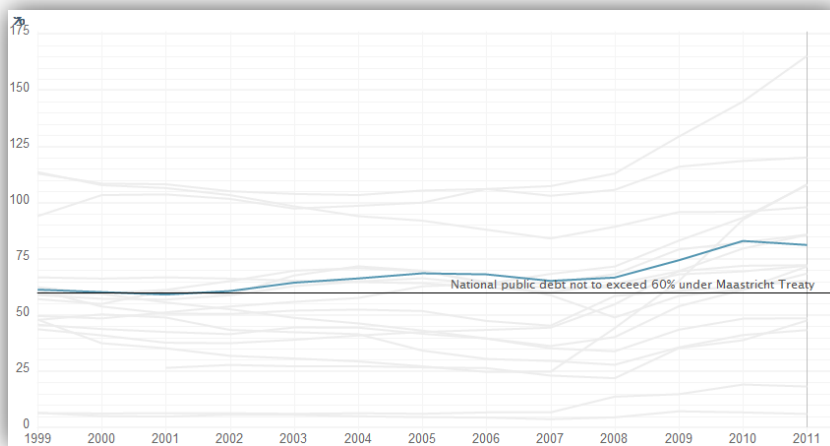
Graph 2.23: Germany unemployment rate



Source: Eurostat

From 1999 until 2012, Germany unemployment rate was on average of 8,5 percent. In 2005, the unemployment in Germany reached the level of 11 percent, the highest in last decade. Germany has been able to diminish its unemployment since 2008 and recorded its unemployment rate of 6 percent in 2011. Actual unemployment rate in Germany is reported at 5,6 percent and has decreasing tendency.

Graph 2.24: Germany government debt as a proportion of GDP



Source: Eurostat

Since 2003, government debt has been rising up to current level of 81,2 percent of GDP. However, it is expected that the government in Germany will reduced its debt to 74,8 percent of GDP in 2015.

The government debt in percenta of GDP in Germany was reported at 61,3 percent in 1999 and remained at similar lever over the next three years.



2.7 Belgium



Official name: *Kingdom of Belgium*

Capital: *Brussels*

Population: *10.3 million*

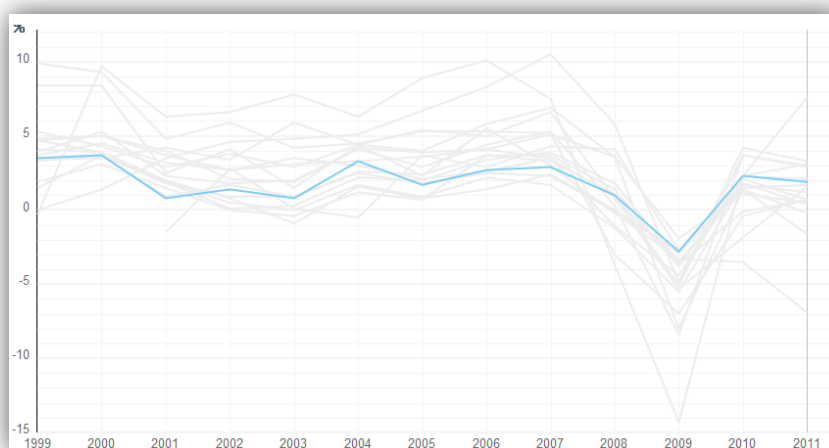
Currency: *Euro*

Official language: *Dutch, French, and German*

Prior to the euro adoption, Belgium belonged to countries with the highest debt as a percentage of GDP in Euro area. The debt level was almost two times bigger than the limit determined under Maastricht criteria. Belgium had to get special permission in order to be able to continue the preparation for the euro establishment. (4)

After Belgium adopted the euro, interest rates didn't fall too much and remained relatively high compare to substantial reduction which occurred in GIIPS. Thus, the consumer spending wasn't in this country fuelled so much. Belgium is a small and very open economy. From 1999 to 2006, the share of import in its GDP rose by more than 8,3 percent and export by 7,9 percent. Belgium had slightly improved its performance compare to situation before the introduction of euro and has maintained its competitive position at a broadly stable level compared with the euro area average. (4)

Graph 2.25: Belgium annual GDP growth - percentage change from previous year

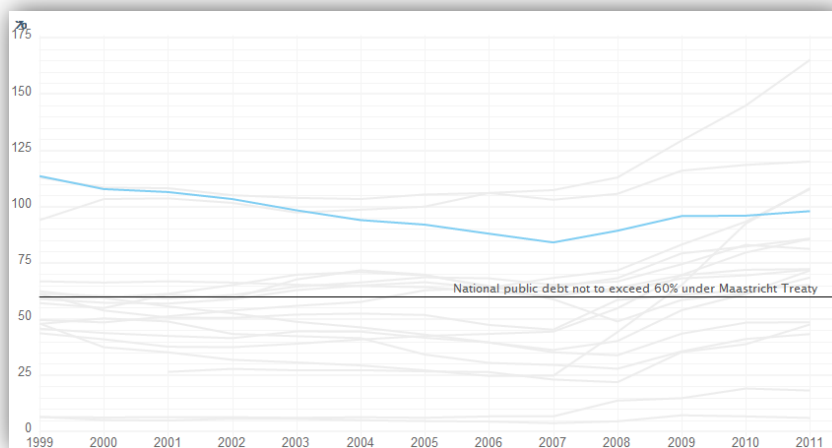


Source: Eurostat

The annual GDP growth reached 3,7 percent in 2000 but one year after Belgium fell into a slump. In 2004, the GDP

again increased at average of 3,3 percent however, it was also followed by decrease and the figures diminished by half. The rapid growth of GDP in 2000 was caused by the rise of import that grew by 24 percent.

Graph 2.26: Belgium government debt as a proportion of GDP



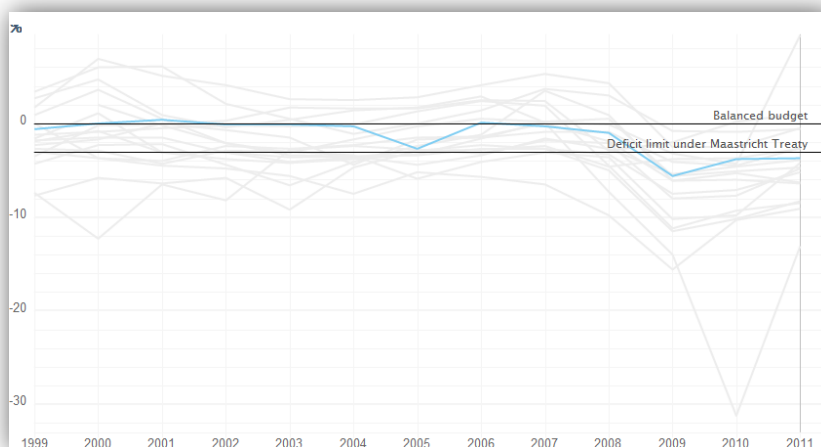
Source: Eurostat

The country reduced its debt the most significantly throughout the euro area. In 1999, the country's debt

was 113,6 percent of GDP and after less than ten years the debt level fall to 89,3 percent of GDP.

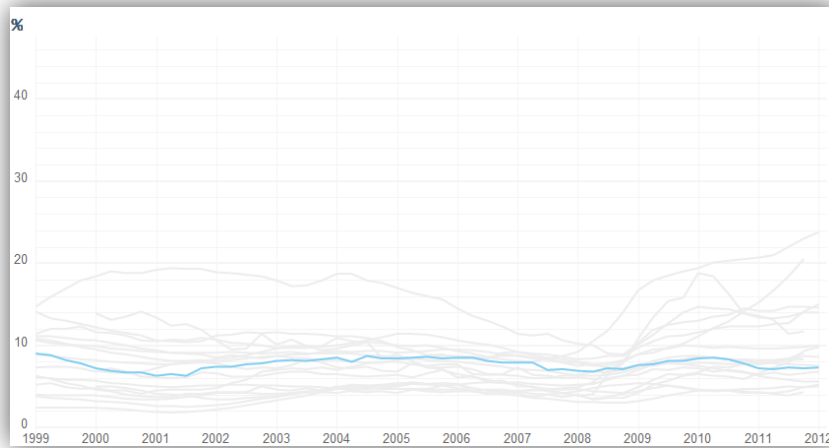
The government budget was more or less balanced from 1999 to 2004. In 2005 deficit widened to 2,7 percent of GDP and next year the budget got into surplus of 0,1 percent of GDP. The level of Belgium deficit was still between defined limit under Maastricht Treaty since the euro introduction. However, the impact of financial crisis caused that the country generate the deficit of 5,6 percent in 2009. (see the graph below).

Graph 2.27: Belgium government annual surplus or deficit



Source: Eurostat

Graph 2.28: Belgium unemployment rate



Source: Eurostat

In Belgium, the unemployment rate was 9 percent in 1999 and has been steadily falling up to 6,3 percent in 2001. After this year, the

unemployment in

Belgium accelerated to an average of 7,8 percent per year. It is still rather high compare to the Netherlands, Austria and Luxembourg where they have unemployment rate at an average of 4 percent.



2.8 France



Official name: *French Republic*

Capital: *Paris*

Population: *60.1 million*

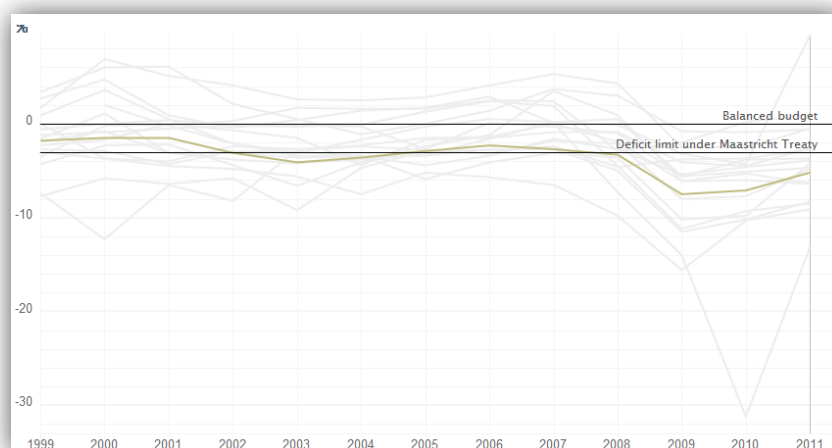
Currency: *Euro*

Official language: *French*

France has improved its competitiveness against the rest of the euro area since 1999. The French economy is the second largest economy in the EMU and running an average of 20 percent of euro area GDP. After the euro's introduction in 1999, borrowing costs were above that of the other GIIPS and close to German levels. Higher interest rate kept inflation in France low and therefore, the prices and consumer spending didn't increased so markedly. Between 2002 and 2007, household debt in France grew at an annual average rate of 1,77 percent which was in average two and half times less compare to the Spain, Greece and Portugal. (34)

France has one of the most opened economies in Eurozone. Approximately half of France's exports go to the euro area countries. Until 1999, the growth rate of imports and exports were ranged from 5 to 10 percent. In 2000, France raised its external demand up to 16,1 percent but the rapid increase was followed by slowdown and downturn in 2002. (34)

Graph 2.29: France government annual surplus or deficit

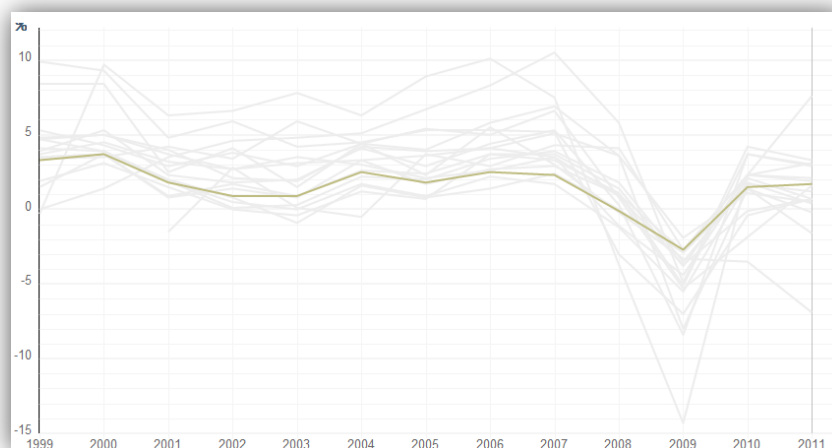


Source: Eurostat

France had before the establishment of euro deficit at 3 percent of GDP. Since the 1999, deficit followed a decreasing trend

mainly due to effort of France government to keep it among the deficit limit under Maastricht treaty and higher economic growth. However, by the end of 2002, government deficit started to exceed substantially the budget criteria. In 2005, deficit had shrunk to 2,9 percent and remained under the limit until the year 2008 when the impact of financial crisis resulted in increased deficit of 7 percent of GDP.

Graph 2.30: France annual GDP growth - percentage change from previous year

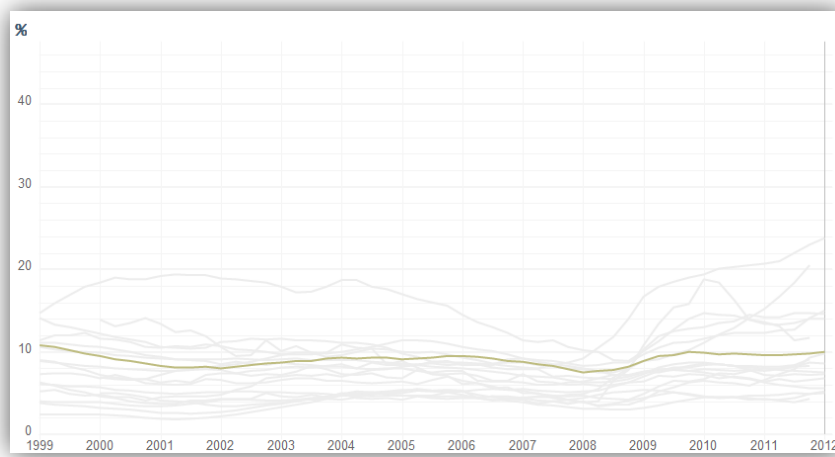


Source: Eurostat

From 1999 to 2006, GDP growth an average of 2,2 percent per year. Despite this growth rate exceed by 0,3 percentage point

the average of the euro area, French economy grew the fourth slowest rate in the euro area. France's GDP grows around the trend of exports and domestic demand. Between 2002 and 2003, GDP fell to 0,9 percent as reflection of exports' reduction.

Graph 2.31: France unemployment rate



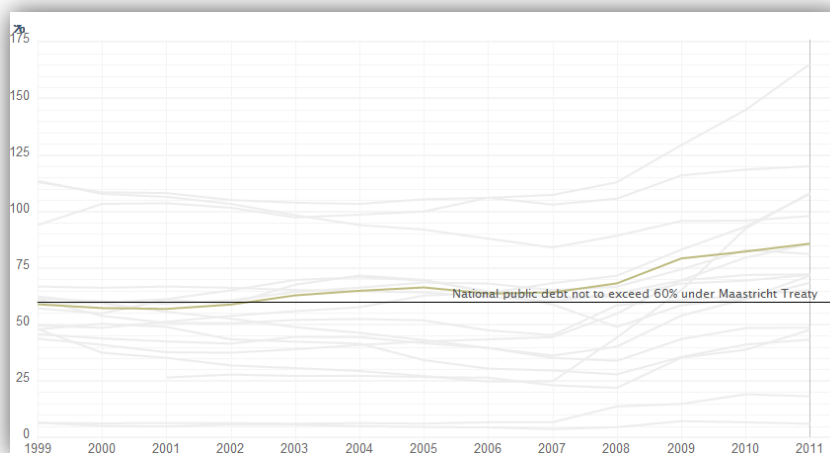
Source: Eurostat

level of 10,8 percent and since then, it has been decreasing steadily. Currently, the unemployment rate in France was reported at 10 percent.

The average unemployment rate in France stood at 9,1 percent between 1999 – 2012. In the first quarter of 1999, the unemployment

rate was at highest

Graph 2.32: France government debt as a proportion of GDP



Source: Eurostat

limit defined under Maastricht Treaty but France as Germany even if they broke the rules, they managed to avoid penalties and promised to the Commission to reach the SGP targets as soon as possible.

The country kept its debt around 58 percent during the years 1999-2002. Then Government went from 62,9 percent in 2003 to almost 85,8 percent in 2011.

It meant to break the



2.9 The Netherlands



Official name: *Kingdom of the Netherlands*

Capital: *Amsterdam; The Hague (administrative)*

Population: *16.1 million*

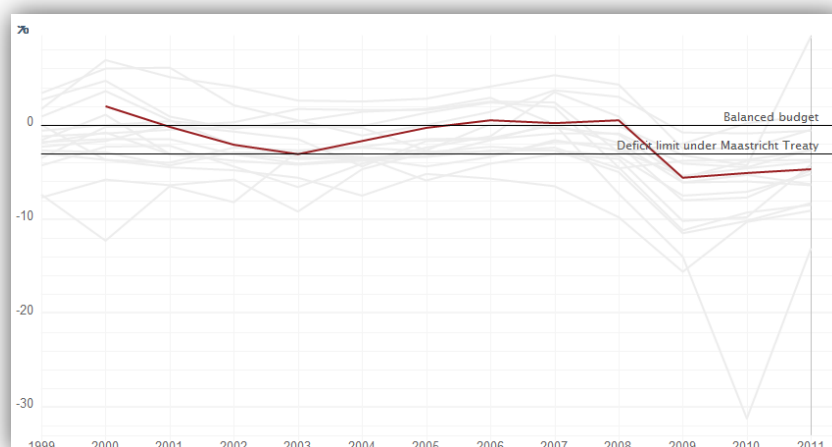
Currency: *Euro*

Official language: *Dutch*

The Netherlands as Germany are the member of EMU with most solid debt profiles. There is a great confidence in the sustainability of its public finances. In the late 1990s, the Netherlands has the interest rate at low level and the economy was growing and booming. The economic boom in the Netherlands was strongly fuelled by booming equity markets and increasing real-estate prices in the second half of the nineties. Amidst symptoms of overheating, the inflation reached the level of 5,1 percent in 2001. (33,8)

Since the euro's introduction, the Netherlands has become expensive and stopped its growth for several years and in 2001, the Netherlands fell into a slump. The country had low interest rates, tax cuts and a weak euro all at the same time which resulting in a recession. In 2003, the Netherlands was very low-growth country besides the fact that in 90's it was very fast grower country with strong exports. With the weakest economic growth in the EMU, the Netherlands increased unemployment to 4,2 percent and deficit to 3,1 percent of GDP. All changed in 2004, when the country's economic performance was recovering and started to growth gradually. (33,8)

Graph 2.33: The Netherlands government annual surplus or deficit

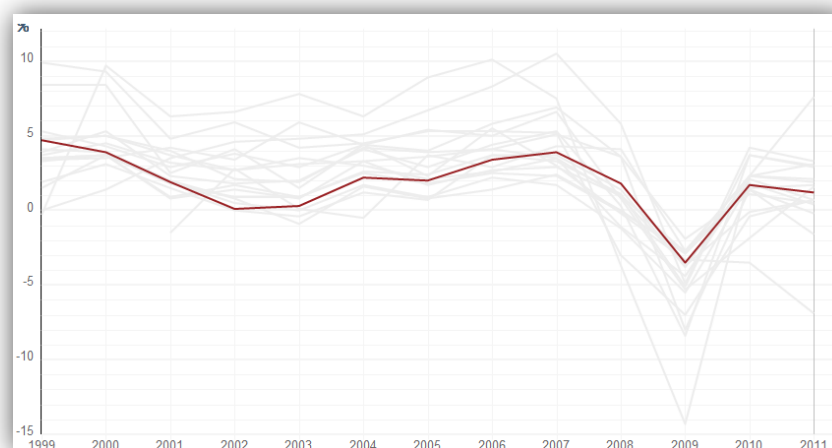


Source: Eurostat

The Netherlands' budget surplus decreased considerably since the euro introduction in 1999. Since 2001, the budget

was steadily falling into deficit but the country was still in the limit under Maastricht Treaty. Between 2006 and 2009, the Netherlands' budget was in surplus and rose from 0,2 percent of GDP to over 0,5 percent. However, the financial crisis resulted in a downturn and the Netherlands shows a considerable deficit in last 3 years.

Graph 2.34: The Netherlands annual GDP growth - percentage change from previous year

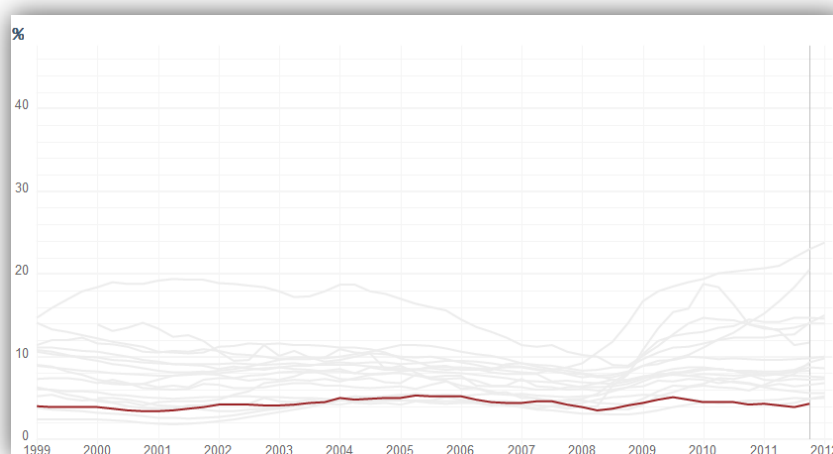


Source: Eurostat

It is visible how GDP in the Netherlands stopped its growth since the euro introduction. Between 2000

and 2003, GDP growth an average of 1,6 percent. After this four years of attenuation, the country's GDP grew as a percentage from previous year by 2,2 percent and had an increasing tendency. But then, the country was hit by impact of financial crisis and the GDP growth fell by -3,5 percent in 2009.

Graph 2.35: The Netherlands unemployment rate

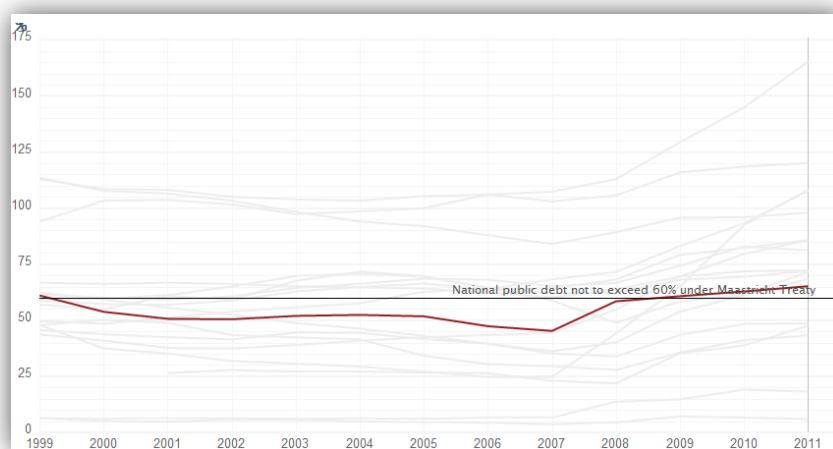


Source: Eurostat

The Dutch unemployment rate decreased from 3,8 percent in 1999 to 2,6 percent in 2001, after which it rose again to 5,4 percent in 2005.

However, it could be said that the unemployment rate in the Netherlands is still relatively low compare to other Member States of Eurozone.

Graph 2.36: The Netherlands government debt as a proportion of GDP



Source: Eurostat

The public debt of the Netherlands was from the beginning of the euro establishment under the limit defined in

Maastricht Treaty.

But in last four years, the Netherlands has failed to comply and the Dutch public debt had run up to 65,2 percent of GDP in 2011. The public debt level in the Netherlands is however still far below the average debt level and this debt-to-GDP is fourth lowest in the EU-12.



2.10 Luxembourg



Official name: *Grand Duchy of Luxembourg*

Capital: *Luxembourg-Ville*

Population: *453,000*

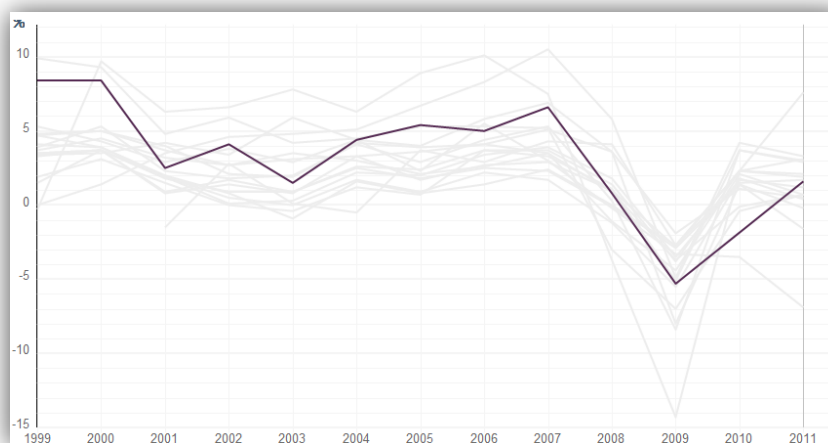
Currency: *Euro*

Official language: *French, German, and Luxembourgish*

Luxembourg has a stable, small and high-income economy that benefits from proximity to Belgium, Germany and France. Luxembourg is by far the most open economy in the Eurozone. Well before the euro's introduction in 1999, Luxembourg was among the best economic performance of eventual euro area members. From 1996 to 1999, country's GDP was growing significantly. However, in 2001 the strong inflation in Luxembourg caused the fastest rise of consumer prices compare to the whole Eurozone.

Luxembourg's competitiveness has unquestionably deteriorated in 2000 and the main reason was the appreciation of the euro by the end of 2000. Luxembourg has a low debt risk profile and no solvency or liquidity concerns. (19)

Graph 2.37: Luxembourg annual GDP growth - percentage change from previous year

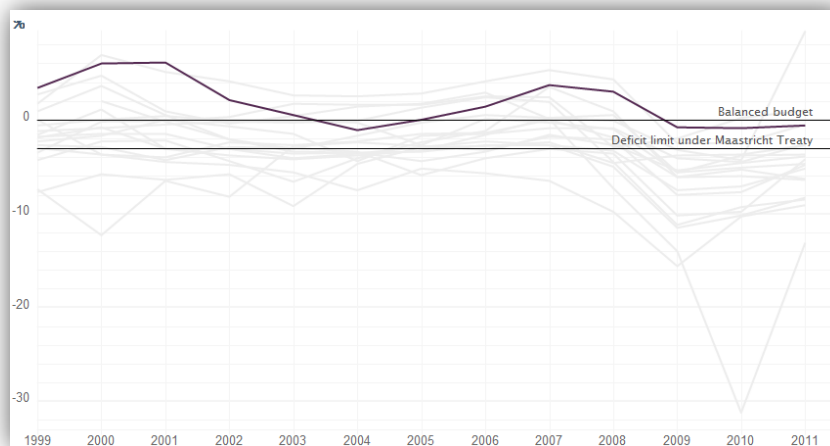


Source: Eurostat

Luxembourg has historically featured solid growth. However, the GDP slowed down sharply from 2000 to

2001. The GDP growth rate fell from 8,4 percent to just 2,5 percent. But in 2002, the GDP growth reached 4,1 percent. However, similar scenario occurred and ones again the GDP fell into a slump in 2003. From 2004 to 2007, the GDP growth rate again increased and grew on average of 5,4 percent. In 2008, the figures diminished and in 2009, Luxembourg had the GDP growth rate at -5,3 percent.

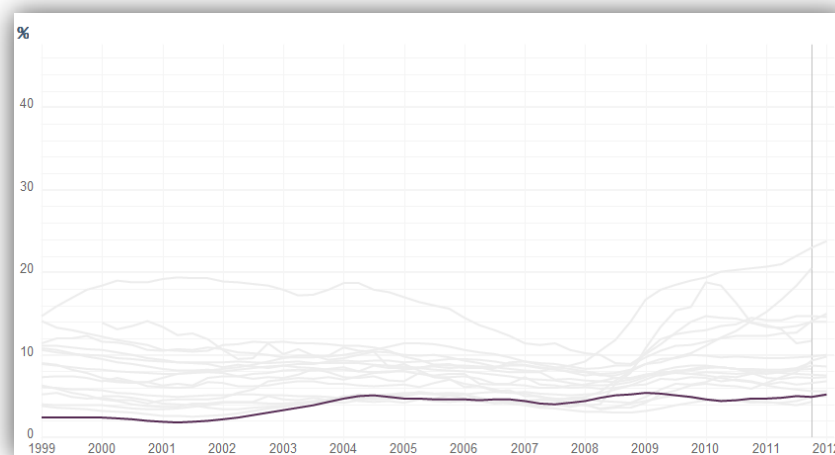
Graph 2.38: Luxembourg government annual surplus or deficit



Source: Eurostat

Luxembourg has the budget predominantly in surplus. Only in 2004, the government generated deficit of 1,1 percent of GDP and also the crisis quickly caused that balanced budget became off-balance and the country had the deficit of 0,8 percent in 2009. However, Luxembourg is the only country that didn't violate the 3 percent deficit rule during the thirteenth year since the introduction of the euro.

Graph 2.39: Luxembourg unemployment rate

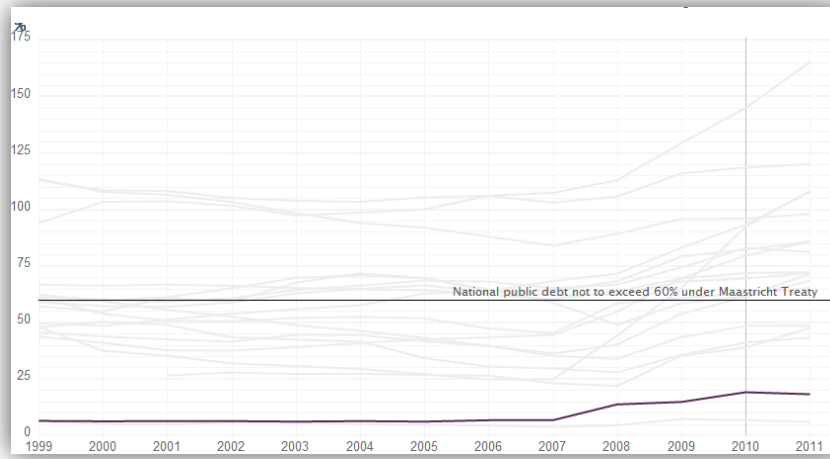


Source: Eurostat

The strong slowdown of GDP growth during the years 2000-2001 had resulted in a rise in unemployment. At the first

quarter of 2001 the unemployment rate hardly decelerated but afterwards it can be seen continuous growth from 2,2 percent in 2002 to current level of 5,2 percent.

Graph 2.40: Luxembourg government debt as a proportion of GDP



Source: Eurostat

The debt of Luxembourg is the lowest in euro area. Since the country adopted the euro as its currency, Luxembourg has its debt far below

the limit defined in Maastricht Treaty. The public debt was in 1999 around 6,4 percent of GDP and had the tendency to decrease until the year 2008, when the debt had run up to 13,7 percent of GDP and remained above the ten percent until now.



2.11 Austria



Official name: *Republic of Austria*

Capital: *Vienna*

Population: *8.1 million*

Currency: *Euro*

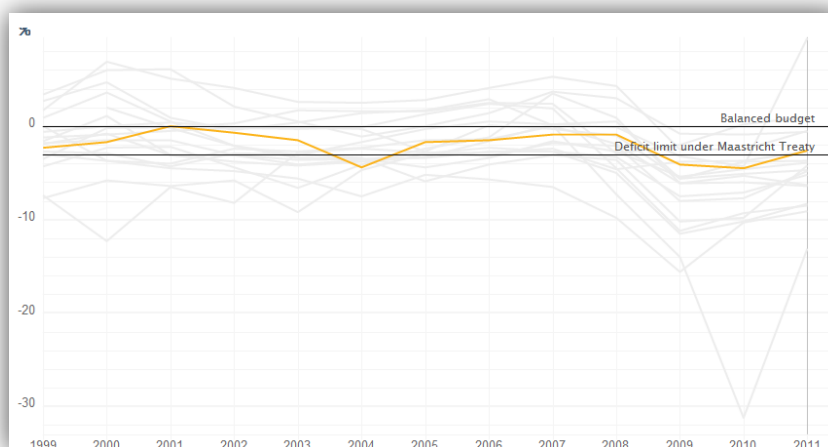
Official language: *German*

For Austria, it is calculated an intra-EU trade effect associated with introduction of European single currency of 13,7 percent. That is even higher in comparison with the EU average which is 12,6 percent. By having fixed exchange rate, Austria was not able to devaluate its currency which had a positive impact on its competitiveness. The introduction of euro has brought the economic growth of 0,4 percent per year for Austria. (3)

The euro introduction had a positive effect on Austrian exports because euro helps to small countries like Austria to achieve particularly high foreign trade gains. (3)

Like most other euro area countries, Austria since the adoption of the euro has experienced low inflation rates. Before the country joined the EMU the average rate of inflation was around 3,8 percent. However, from 1999 to 2010 the inflation gained an average of 1,7 percent. (3)

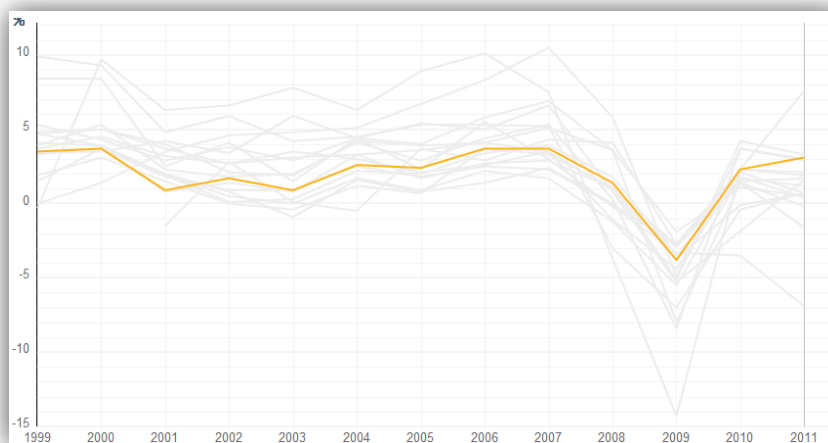
Graph 2.41: Austria government annual surplus or deficit



Source: Eurostat

The government budget was in time of euro introduction in deficit of 2,3 percent of GDP. During the years 2000 and 2001, deficit was reduced and the budget became balanced. From 2001 to 2008, the budget deficit was steadily reduced, just with one exception in year 2004, when the deficit increased to 4,4 percent of GDP. Currently the country shows the deficit of 2,6 percent of GDP which is the reflection of impact of financial crisis.

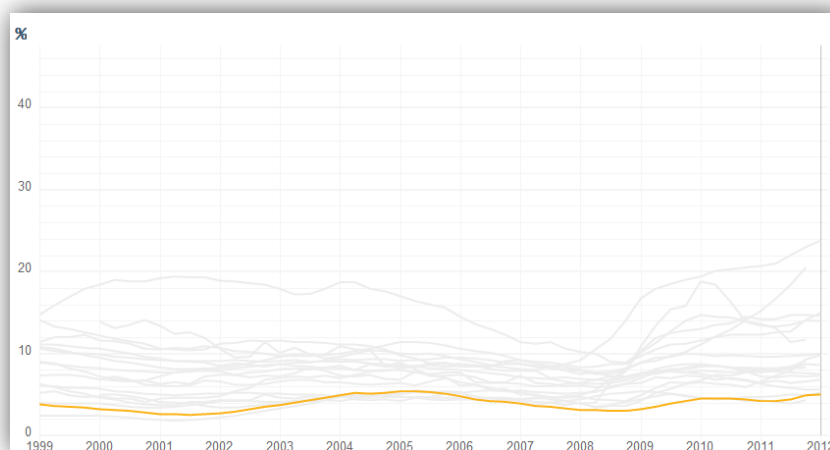
Graph 2.42: Austria annual GDP growth - percentage change from previous year



Source: Eurostat

The access to the EMU has brought economic benefits. Despite the GDP slowed from 3,7 to just 0,9 percent between 2000-2001. Austria's GDP growth an average of 2,5 percent from 2002 to 2007. The situation changed by the impact of financial crisis and Austria as other countries, decreased its GDP growth to -3,8 percent in 2009. However, the country accelerated its growth and rose by 2,3 percent and 3,1 in 2010 and 2011, respectively.

Graph 2.43: Austria unemployment rate

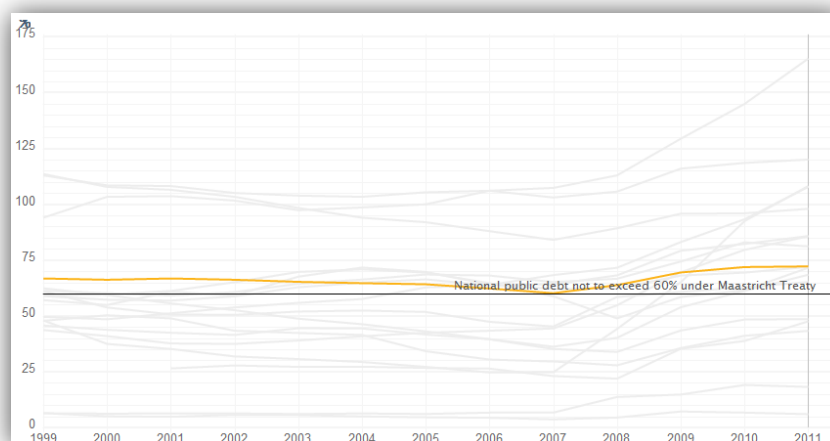


Source: Eurostat

Austria has the lowest unemployment rate between the EU-12. From 1999 to 2012, Austria unemployment rate was an average of 4,2 percent. Austria has

been diminished its unemployment since 2006. Nowadays, Austria unemployment rate is at 4,3 percent and if this current rate is compared to rate in time of euro introduction it would show the increase of only 0,4 percent.

Graph 2.44: Austria government debt as a proportion of GDP



Through the whole time since the euro introduction, Austria kept its debt-to-GDP at around 66,2 percent. From 2000 to 2007, the government debt to GDP ratio

decreased from 66,2 percent to 60,2 percent. However, due to financial crisis, the government debt rose up to 72,2 percent of GDP. It is important to note, that Austria through whole period didn't meet the limit defined in Maastricht Treaty and had its public debt level over the 60 percent of GDP.



2.12 Finland

Official name: *Republic of Finland*

Capital: *Helsinki*

Population: *5.2 million*

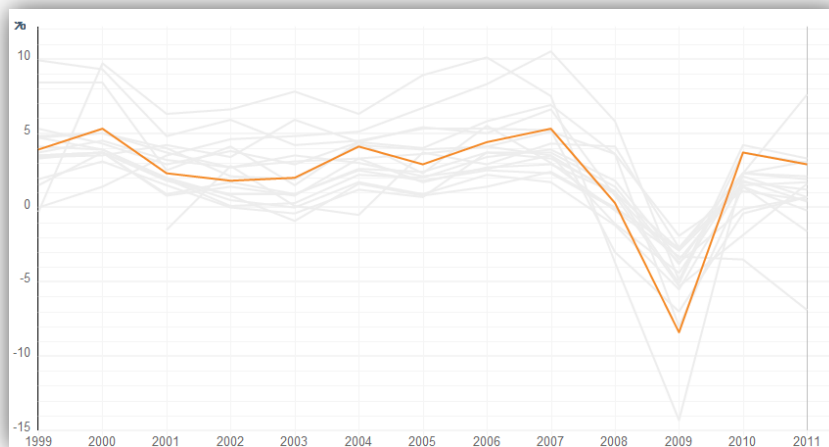
Currency: *Euro*

Official language: *Finnish and Swedish*



Finland joined the Eurozone among the first eleven countries in 1999. The introduction of the euro has affected Finnish economy and economic policies in many respects. It is important to point out that Finland had just recovered from economic and financial crisis when joined the euro. This means that the impact of single currency introduction is intrinsically mixed with the effects of crisis. All in all, Finland and her economy benefited from the adoption of the euro in term of economic efficiency and monetary policy credibility. (29,6)

Graph 2.45: Finland annual GDP growth - percentage change from previous year



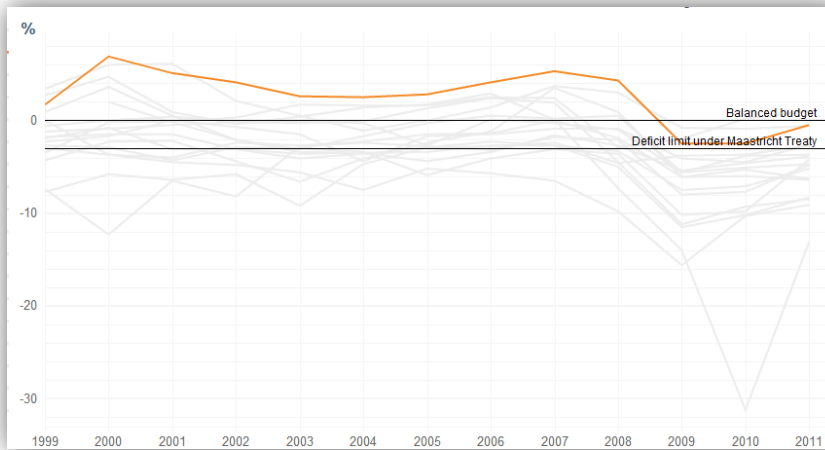
Source: Eurostat

Looking at GDP growth since the 1999, it can be seen significant growth. Finnish economic development exceeded the average of the other euro area

members. It was caused mainly by an IT boom, which was in average stronger in Finland than in other countries in Eurozone.

In country the long-term and short-term interest rates became more stable and at a lower level. Moreover, the Finnish economy increased the level of openness. It has taken place at several levels as the share of export in GDP went up.

Graph 2.46: Finland government annual surplus or deficit

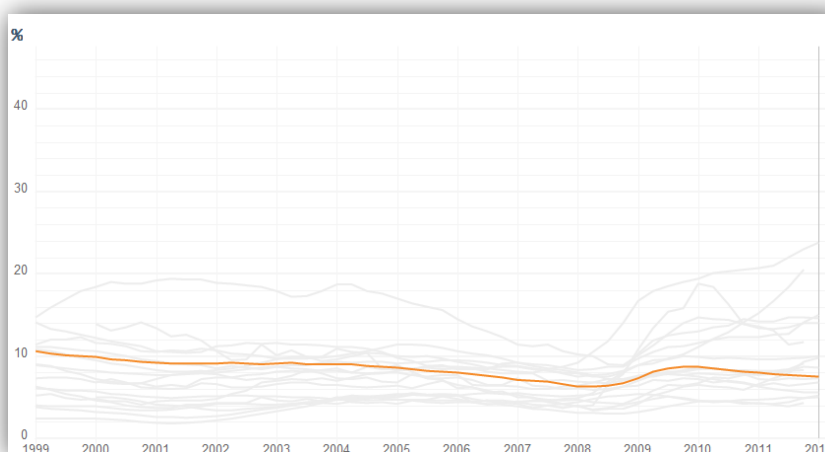


Source: Eurostat

Since the year 1999, the country has been in surplus and its budget was balanced. The graph/table confirms the substantial decline in the

surplus in Finland after the year 2008. The country's budget became unbalanced but the country still meets the Maastricht criteria and keep the government deficit below 3% of GDP.

Graph 2.47: Finland unemployment rate



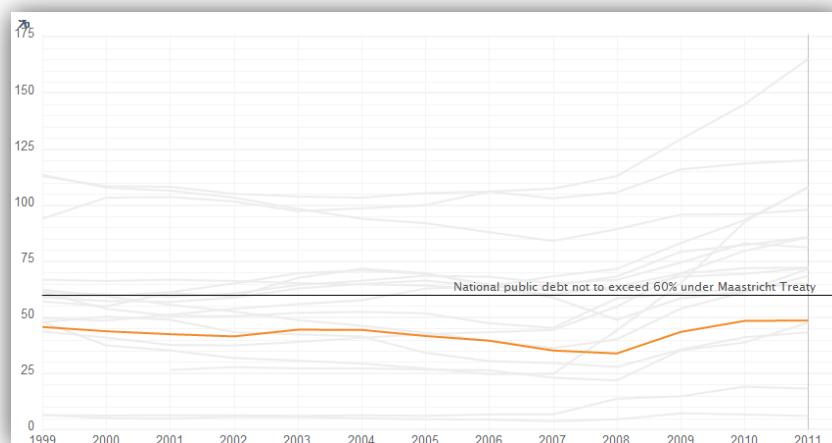
Source: Eurostat

Unemployment is the worst problem in the Finnish economy. Despite quite small reduction since the 1999, the unemployment

remained stuck at quite a high level even if the economy has grown significantly in the

recent years. It indicates a mismatch between the number of vacancies and those who are seeking for a job.

Graph 2.48: Finland government debt as a proportion of GDP



Source: Eurostat

in time of euro introduction, to 33,9 in 2008. The change occurred after the impact of financial crisis and the government debt-to-GDP ratio increased to 43,5 percent in 2009.

In Finland, the government debt ratio was never greater than the referred limit by Maastricht treaty. The government debt decreased from 45,7 percent in time of euro

2.13 Overview

To analyse general economic performance, it was looked at development of GDP, unemployment rate, government debt and government deficit as a percentage of GDP. For each country from above mentioned groups, I illustrate the development of these economic indicators. The time period covered by the analysis starts from the Eurozone inception in 1999 to 2011 and the used data come from the Eurostat.

Despite the theory of EMU which emphasize the benefits in terms of economic efficiency, less uncertainty over exchange rates, greater competition and more price comparability, the analysis has shown that the countries look generally worse than before the euro adoption and moreover, the impact of crisis made evident the disparities in competitiveness among countries in Eurozone.

Firstly, it was took a look at GDP growth for analysing the economic performance of these twelve countries. Based from the findings, the dispersion of GDP growth rates has reducing tendency. However, as a result of the sovereign debt crisis, the dispersion increased. One of the reasons for high dispersion between the states is the differences in competitive position of the states.

Under the euro, the analysed countries also significantly increased its government spending and there are apparent imbalances between them in term of government annual surplus or deficit. Large deficits were run in Greece, Portugal, Spain and Italy. Greece benefited from joining the euro in 2001 but Greek government started to spend a lot and nowadays the country suffer from its huge spending and is unable to cope with its huge debt loans. Also Portugal with its high borrowing and its reversal in economic fortunes has been linked in the group of countries with high deficit as its Mediterranean neighbours.

In Ireland the adoption of euro caused even rapid growth of already growing and booming economy but unfortunately the economy growth was dependent on a property bubble. It became obvious in 2008 when Ireland's bubble burst and the country become the first Eurozone country to fall into recession. On the other hand, Germany, Austria

and Finland have improved their position since the euro introduction. For Finland the euro adoption was beneficial and the country is ranked as one of the most satisfied euro countries.

By analysing the unemployment rates, it was detected that the deviation was decreasing. Such an evolution points to growing labour market integration. However, as on GDP growth so on unemployment rate had a significant impact the crisis that interrupted the integration and increased the deviation.

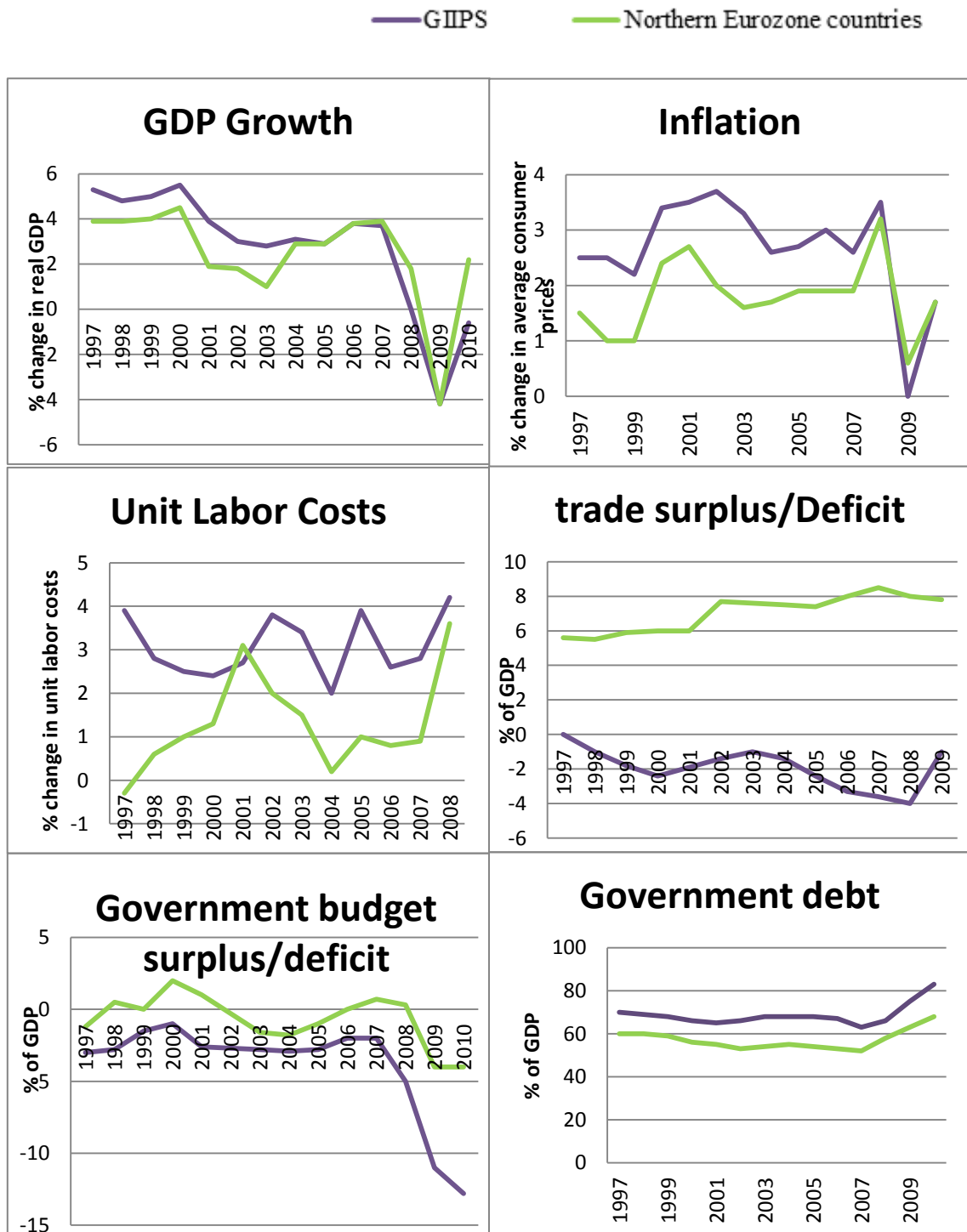
Especially, by analysing the government debt, it was found huge differences between the states. Nowadays just Finland and Luxembourg don't violate the debt limit and has it under 60 percent of GDP.

The data also showed that seven countries exceeded the debt limit already in 1999. Greece had its debt-to-GDP ratio 94 percent in 1999 and nowadays the ratio is even bigger 165,3 percent (2011). In Belgium the figures go from the 113,6 percent in 1999 to 98 in 2011. The similar scenario can be seen in Germany where the debt level increased from 61,3 percent to 81,2 percent and Italy where the debt level grown from 113 percent to 120 percent. Also Spain has risen its debt to approximately 68,5 percent since 1999 and the Netherlands which had the debt level of 61,1 percent and rose it to 65,2 percent in 2011. The Last country which exceeded the debt limit already in 1999 is Austria. It had debt-to-GDP ratio 66,8 percent and currently has 72,2 percent.

As a consequence, the EMU is struggling to find a way out of the crisis amid growth reduction, mounting debts and widespread uncertainty in the market.

2.14 Imbalances within the Eurozone

Figure 2.2: Economic trends in the Eurozone (Source: Ahearn, 2012)



Diversity between the economies of the GIIPS and the Northern Europe can be caused by number of factors but its inappropriate adjustment mechanisms is one of the main factors causing it. The use of a single currency has resulted in larger government deficits of GIIPS and subsequently to higher inflation because the capital inflows into the GIIPS fuelled domestic demand. To see the inflation developments in each states (see Appendix 4). The diversity of inflation in the Eurozone has been quite marked since the beginning of 1999.

The GIIPS experienced higher trade deficit, higher budget deficit and have substantially faster growth in the compensation for workers compare to the Northern European countries. It confirmed what Lacina (25) refers to in his book that the unified monetary policy will be excessively tight for states with lower inflation and too loose for the states with high inflation rate.

2.15 Critical overview

2.15.1 Imbalances in EMU in light of OCA

By taking into account the Mundell's criteria, it can be stated that the EMU is not an optimum currency area. EMU doesn't fulfil all the criteria. Despite the fact that European countries share common cultural and political goals, there is still a big diverse between the countries in term of the economies as well as the countries are at different point in their business cycle. Also the barriers to labour mobility remained between the countries because the language and other barriers make it difficult for people to move to another country and find a job. Furthermore, there is no centralized fiscal policy for redistribution of income.

2.15.2 Comparison of the Eurozone and the USA

The USA and the Eurozone represent the two major currency areas. By comparison, there were identified major differences. The USA is a sovereign state where the government is central and by that, monetary policy and fiscal policy is highly uniform in all the states. It is important to note that in the Eurozone, the fiscal policy is predominantly determined by the national governments. The critical analysis detected that it has led to different types of financial spending by each member country. In particular Greece's government spending expanded so large that it negatively infected other countries. Currently, Italy, Ireland and others from GIIPS suffer from low economic growth, loss of competitiveness and unsustainable government debt. In the USA the differences between the states exist also, but there is more uniformity and federal government. Thus, the USA is closer to OCA than the Eurozone.

2.15.3 Possible scenarios for the future of the Eurozone

It could be said that the current situation in Eurozone posed the challenge for the states that are a part and led to speculation about the future of the euro area.

There are several scenarios how to deal with current situation in Eurozone. The first possible solution of current situation that could strengthen the foundation of the Eurozone and bolster confidence in the euro is to let go one or more countries from the Eurozone. According to Lacina (26) this scenario will not probably occur because he argues that split of the Eurozone will lead to even greater costs in the near term. Contrary to that Klaus (24) in this book emphasizes that if some member state is opt out of the single currency, the impact for Eurozone would be manageable and the costs would be not obviously so heavy.

The exiting Member states will abandon the euro as their national currency by issuing their new national currency that allow them to appreciate and depreciate it against the euro.

If the Southern European countries are pushed out of the Eurozone, the biggest benefit to them is associated with the possibility of new national currency depreciation against

the currency of its major trading partners in North part of the Europe. This could help them regain competitiveness by decreasing imports and increasing exports to the northern European countries. Furthermore, it would reduce the trade deficit of Southern European countries. However, the exiting of Southern European countries is connected with potentially huge costs for them. Their debts are denominated in euros and by exiting the Eurozone in favour of a depreciated national currency it might increase the value of the debt in term of national currency. The country will also face exclusion from international capital markets and higher inflation. Moreover, there are also legal and technical obstacles for the states exiting the Eurozone.

The break-up of the Eurozone can possibly occur also when some of the Northern European countries exit. It would be costly but, on the other hand, country could regain control over the monetary policy by reverting to its national currency. There is also the substantial advantage in form of financial commitments reduction in favour of the Southern European countries. But e.g. the possibility of Germany's withdrawal from the Eurozone is highly unlikely scenario and it would also lead to high appreciation of the new German currency that will threaten the country's export sector.

Another possible solution of current situation is to move to core Eurozone and create the area around Germany and France and include the Northern European countries. From the critical analysis, it could be drawn up that such members should be Luxembourg and Finland as they successfully keep their debt under 60 percent of GDP even after the impact of crisis and also Finland, Austria and the Netherlands that showed as countries with relatively sound and sustainable public finances. This new zone will probably benefits from an inflow of capital and increase in domestic demand. However, this new arrangement of the Eurozone would lead to exclusion of the Southern European countries and by that to massive shocks in financial markets. Moreover, the depreciations of the new national currencies would contribute to large losses to companies operating in these countries.

Also the Monetary expansion is considered as another way to solve a current situation. The ECB would stimulate the economy through a certain program of bond purchases. In the short-term, it could help to the Eurozone to reduce the countries debt but also it will

lead to increase of inflation above the 2 percent. In the medium term, this scenario would even negatively affect future growth prospects through greater interest rates.

The costs of a break-up or rearrangement of the Eurozone are very high and would have long lasting consequences on the whole Europe and the world economy. Therefore, I incline to the view of Lacina (26) and point out that the leading countries should strive to hold the EMU together as one zone.

It is now more that obvious that the actual form of the Eurozone is not sustainable and as pointed out in book (24) by Miroslav Ševčík; the Eurozone could be maintained only with deeper fiscal integration. Therefore, the suitable solution of current situation is that the Eurozone can become more integrated which is associated with greater political and economic integration. Fiscal policy is important for national sovereignty and in the short term, currency union with the closer fiscal union will lead to disconnect in many countries. However, in the long term range this solution could save the world's largest economic bloc by bringing it closer to the OCA.

2.16 Corporate response

Although the break-up scenario is undesirable and highly unlikely, the firms have to take into account this possibility of future development of the Eurozone. If the Eurozone breaks up the GDP of the Eurozone will drop significantly. Therefore, the managers should be prepared on impact that it could have on their business. It is assumed that the responses are investigated in parent company's headquarter which is in Czech Republic. The Czech company has to analyse its value chain to be able to determine if some inputs are sourced from the potential break-up country. Managers can require the increase in inventories or limit the amount of these inputs from that country (in case it is possible) and find a new supplier. Managers would take into account that if some country leaves the Eurozone, its market became unstable and it could lead to bankruptcy of some company's debtors. So the company has to try to manage this debt and use e.g. factoring as an alternative option to get at least some part of value on your receivables. This Czech company would be exposed to exchange rate fluctuation and would have to respond to it if the subsidiary is situated in leaving country. Furthermore,

managers should expect that the break-up can cause some loss of revenue by a decline in demand which could be compensated by wage adjustments or through productivity. The company should be prepared to respond to some shifts in competition, possible new regulations and be ready to update IT systems in order to be able to deal with transactions in new currencies.

3 Proposals and contribution of suggested solutions

Following proposals are made on the basis of results from the critical analysis. A big divergence among the Southern European countries and Northern European countries led me to make proposals which are directed towards the whole euro area as well as proposals that are pointed to each state which is a part of GIIPS as these states are facing mounting debts and worse economic situation compare to the Northern European countries.

The concrete proposals are as follows:

Euro Area

- In euro area, it would be beneficial tighten the criteria for euro adoption. From the newcomers it should be required to run large fiscal surpluses to offset the demand boom which mostly accompanies euro adoption
- The violation of one or more Maastricht criteria has to be penalised automatically without exception
- Also the important role will play to implement requirements which will bind members to placing truthful, reliable and comparable data on macroeconomic indicators
- Increase in fiscal coordination and integration. This proposal will involve the implementation of reforms to reduce fiscal free-riding. As fiscal policy is important for national sovereignty, it have to be stated to what extent the national governments would leave the control over their national budgets into the hands of European authorities

Greece

- Reduce the debt-to-GDP ratio and government deficit below 3 percent of GDP
- Reduce spending, tax increases and make structural reforms in order to increase government productivity and transparency
- Improve competitiveness across Greece through the wage reductions, deflation and enhance in productivity

Ireland

- Restore competitiveness
- Lower the deficit by reducing spending, cutting public wages, reducing social welfare benefits, increasing the minimum pension age and also by expanding the tax base
- Rebalancing of its economy toward exports

Italy

- Gradually decline the debt-to GDP ratio
- Regain the competitiveness by cutting the labour costs and making structural reforms in order to rise productivity (e.g. increase efficiency of country's backbone services)
- Cut the wages of public sector workers

Portugal

- Raising tax e.g. on high earners, cut wages and reduce public investment spending
- Reorient the economy toward exports
- Boost competitiveness by increasing labour flexibility and efficiency in backbone service

- Improve human capital in the country which will lead to productivity improvement and subsequently it will help to the country regain attractiveness with foreign investors

Spain

- Cut government deficit below 3 percent of GDP
- Recover competitiveness by reducing unit labour costs and increase labour market flexibility
- Make structural reform – increase efficiency and competition in backbone services such as energy, transportation, communication and finance in order to reduce price and encourage investment
- Rely increasingly on exports

The above mentioned proposals will contribute to resolve the financial problems of Eurozone and will support the economic recovery as well as reduce imbalances among the GIIPS and the rest of the Eurozone.

Conclusions

At the time of the euro's introduction in 1999, many economists expected that national economies of Member states within the Eurozone would achieve further alignment. In reality, most of the countries' economies remained unchanged and there is a distinction in number of economic dimensions. The Eurozone states are generally divided into two groups according to size of their divergence. The first group is called: The Southern European countries and includes Greece, Ireland, Italy, Portugal and Spain. These states that are part of the second group, are often referred to by the acronym "GIIPS." The Second group is called: the Northern European Countries involving states like Austria, Belgium, Germany, Finland, France, Luxembourg and the Netherlands.

Before the beginning of global financial crisis in 2008, the GIIPS had higher rates of economic growth on average compare to the Northern European countries. Contrary to that the GIIPS generally had faster growth in price. It results in a loss of competitiveness for the Southern European countries.

The GIIPS adopted the European single currency and investors saw these destinations to be safer for investment. The interest rates paid by the GIIPS countries on their government bonds dropped to the level of Northern European countries and it resulted in overinvestment in many sectors. As interest rates were too low, the private sector borrowing and demand went up, particularly from banks in Northern European countries. All this contributed to larger government budget deficits of GIIPS and subsequently to higher inflation because the capital inflows into the GIIPS fuelled domestic demand.

The inflation increased the price and reduced the competitiveness of GIIPS countries. On the other hand, for most of the Northern European economies, the interest rates did not decrease after joining the Eurozone and therefore, these countries did not face dramatic increases in capital inflows. Compare to the GIIPS, the Northern European countries had lower inflation and remained more competitive.

The membership in the Eurozone reduced the ability of the GIIPS governments to respond to increasing diversity from the Northern European countries. Mainly due to

impossibility of using currency depreciation in order to reduce the trade deficits or rise interest rates to slow economic growth when there is a potential for economy's overheating.

To sum it up, the trade imbalances between the GIIPS and the Northern countries provide proof that the EMU's internal adjustment mechanisms are not functioning well and that unified European monetary policy hasn't positive effects on all countries in euro area. To support the economic recovery and reduce imbalances among the GIIPS and the rest of the Eurozone, the GIIPS should mainly make structural reforms, reduce public wages and rebalance of the economies toward export.

On the basis of the theory of OCA, the European monetary union necessitate greater convergence between the members that is more extensive than just meeting the Maastricht convergence criteria. Therefore, there is a need to increase fiscal coordination and integration because it would move the EMU closer to Optimum currency area and thereby the EMU could be prevented from devastating consequences.

Reference list

- (1) AHEARN, Raymond J, et al. *The future of the Eurozone and U.S. Interests*. [online]. 2012 [Accessed 19 April 2012]. Available at: <http://www.fas.org/sgp/crs/row/R41411.pdf>
- (2) BALDWIN, Richard; WZPLOSZ, Charles. *The Economics of European Integration*. McGraw-Hill: Berkshire, 2004. 458 p. ISBN 0-077-103947
- (3) BEER, Christian. *Monetary policy and the economy*. [online]. 2011 [Accessed 4 June 2012]. Available at: http://www.oenb.at/en/img/mop_2011_q3_analyses02_beer_tcm16-241427.pdf
- (4) BETHUYNE, Gerrit; BUITENKAMP, Bouke. *Smooth versus bumpy: differences in growth dynamics in Belgium and the Netherlands*. [online]. 2006 [Accessed 8 June 2012]. Available at: http://ec.europa.eu/economy_finance/publications/publication1310_en.pdf
- (5) BROZ, Tanja. *The Theory of Optimum Currency Areas*. [online]. 2005 [Accessed 12 April 2012]. Available at: hrcak.srce.hr/file/28755
- (6) BUFFET, Coctail. *Finland – and her Economy – in the Euro Area*. [online]. 2006 [Accessed 3 June 2012]. Available at: http://www.suomenpankki.fi/en/suomen_pankki/ajankohtaista/puheet/Documents/060110PHWashington.pdf
- (7) DADUSH, Uri et al. *Paradigm lost – the euro in crisis*. [online]. 2010 [Accessed 1 June 2012]. Available at: http://carnegieendowment.org/files/Paradigm_Lost2.pdf
- (8) DUMAN, Charles. *The Netherlands and the Euro*. [online]. 2012 [Accessed 6 June 2012]. Available at: http://www.google.cz/#hl=cs&output=search&sclient=psy-ab&q=The+Netherlands+%26+The+Euro+The+Full+Report&oq=The+Netherlands+%26+The+Euro+The+Full+Report&gs_l=hp.3...218.218.1.620.1.1.0.0.0.80.80.1.1.0...0.0...1c.-IIFQS2eGe0&psj=1&bav=on.2,or.r_gc.r_pw.r_qf.&fp=efcf247c2b88ca77&biw=1366&bih=667

- (9) ECB. *Basic tasks of ECB*. [online]. [Accessed 12 April 2012]. Available at: <http://www.ecb.europa.eu/ecb/orga/tasks/html/index.en.html>
- (10) ECB. *Economic and Monetary Union*. [online]. 2012 [Accessed 2 April 2012]. Available at: <http://www.ecb.int/ecb/history/emu/html/index.en.html>
- (11) ECB. *The monetary policy of the ECB*. [online]. 2011 [Accessed 11 April 2012]. Available at: <http://www.ecb.int/pub/pdf/other/monetarypolicy2011en.pdf>
- (12) EU4Journalists. *History – adopting the Euro*. [online]. 2011 [Accessed 18 April 2012]. Available at: <http://www.eu4journalists.eu/index.php/dossiers/english/C23>
- (13) EURO CHALLENGE. *The current economic situation*. [online]. 2012 [Accessed 12 April 2012]. Available at: <http://www.euro-challenge.org/doc/2012/CurrentEconomicSituationMar2012.pdf>
- (14) EUROPEAN COMMISSION. *Adopting the euro: who can join and when?* [online]. 2011 [Accessed 3 April 2012]. Available at: http://ec.europa.eu/economy_finance/euro/adoption/who_can_join/index_en.htm
- (15) EUROPEAN COMMISSION. *Economic and monetary union*. Luxembourg: Office for Official Publications of the European Communities, 1996. 28 p. ISBN 92-827-7294-2
- (16) EUROPEAN COMMISSION. *European Economy No 6/2008 - Economic forecast - autumn 2008*. Luxembourg: Office for official publications of the European Communities, 2008. 167 p. ISBN 978-92-79-08388-4
- (17) EUROPEAN COMMISSION. *Going for growth, the economy of the EU*. Luxembourg: Office for official publications of the European Communities, 2003. 22 p. ISBN 92-894-6143-8
- (18) EUROPEAN COMMISSION. *One currency for one Europe: the road to the euro*. Luxembourg: Office for official publications of the European Communities, 2006. 24 p. ISBN 978-92-79-04810

- (19) EUROPEAN COMMISSION. *Surveillance of Intra-Euro-Area: Competitiveness and Imbalances*. [online]. 2010 [Accessed 11 June 2012]. Available at: http://ec.europa.eu/economy_finance/publications/european_economy/2010/pdf/ee-2010-1_en.pdf
- (20) FELDSTEIN, Martin, et al. *EURO: Is the real test only ahead?* 1st ed. Praha: Prague Twenty, o.p.s., 2010. 62 p. ISBN 978-80-254-6725-1
- (21) FIALA, Petr; PITROVÁ, Markéta. *Evropská unie*. 2nd ed. Brno: Centrum pro studium demokracie a kultury, 2009. 803 p. ISBN 978-80-7325-180-2
- (22) GRAUWE, De Paul. *Economics of Monetary*. 7th ed. New York: Oxford University press, 2007. 281 p. ISBN 978-0-19-929780-1
- (23) KALEMLI-OZCAN, Sebnem; SORENSEN, Bent; YOSHA, Oved. *Asymmetric shocks and risk-sharing in a monetary union: updated evidence and policy implications for europe*. [online]. [Accessed 18 April 2012]. Available at: http://ec.europa.eu/dgs/policy_advisers/docs/3_kalemli_may05.pdf
- (24) KLAUS, Václav, et al. *Euro versus koruna, Dilemata jednotné měny v době dluhové krize*. 4th ed. Brno: Centrum pro studium demokracie a kultury, 2012. 339 p. ISBN 978-80-7325-265-6
- (25) LACINA, Lubor; ROZMAHEL, Petr; RUSEK, Antonin. *10 years of euro: success?* Plzeň: Aleš Čeněk, 2009. 318 p. ISBN 978-80-7380-226-4
- (26) LACINA, Lubor, et al. *Euro: ano/ne?* Praha: Alfa Nakladatelství, 2010. 319 p. ISBN 978-80-87197-26-4
- (27) LACINA, Lubor, et al. *Evropská Unie: trendy, příležitosti, rizika*. Plzeň: Aleš Čeněk, 2007. 260 p. ISBN 978-80-7380-077-2
- (28) LACINA, Lubor, et al. *Měnová integrace. Náklady a přínosy členství v měnové unii*. 1st ed. Praha: C. H. Beck, 2007. 538 p. ISBN 978-80-7179-560-5
- (29) LIIKANEN, Erkki. *Finland, the EMU and the introduction of the euro*. [online]. 2006 [Accessed 3 June 2012]. Available at: <http://www.bis.org/review/r061023c.pdf>

- (30) MCCORMICK, John. *Understanding the european union, a concise introduction*. Machillan press Ltd., 1999, 251 p. ISBN 0-333-71695-7
- (31) NIJKAMP, Peter; WANG, Shunli. *Winners and losers in the european monetary union*. [online]. [Accessed 12 April 2012]. Available at: <http://www.tinbergen.nl/discussionpapers/98074.pdf>
- (32) PINDER, John; USHERWOOD, Simon. *The european union a very short introduction*. GB: Oxford university press, 2007. 202 p. ISBN 978-0-19-923397-7
- (33) RABOBANK. *Economic Research Department*. [online]. 2010 [Accessed 6 June 2012]. Available at: http://www.rabobank.com/content/images/CountryProfile_NL_tcm43-59244.pdf
- (34) TOMBAZOS, STAVROS. *Centrifugal Tendencies in the Euro Area*. Journal of Contemporary European Studies, March 2011, Vol. 19, No. 1, 33-46.
- (35) WERNER, Antweiler. *The Euro, Europe's new currency*. [online]. 2001 [Accessed 25 July 2012]. Available at: <http://fx.sauder.ubc.ca/euro/euro.html>
- (36) YÜCEOL, Hüseyin M. *Why European union is not an optimal currency area: the limits of integration*. [online]. [Accessed 19 April 2012]. Available at: http://eab.ege.edu.tr/pdf/6_2/C6-S2-M6.pdf

List of Figures

Figure 1.1: The three stages to Economic and Monetary Union.....	15
Figure 1.2: The decision-making bodies of the ECB.....	20
Figure 1.3: Asymmetric shock.....	25
Figure 1.4: Asymmetric shock in a MU.....	26
Figure 1.5: OCA line.....	27
Figure 2.1: Two groups of analysed countries.....	31
Figure 2.2: Economic trends in the Eurozone.....	70

List of Tables

Table 1.1: The Maastricht convergence criteria.....	18
Table 1.2: Seventeen countries which agreed to launch the euro.....	21
Table 1.3: Euro Area Economic Indicators.....	28

List of Graphs

Graph 1.1: GDP in Euro area in %.....	29
Graph 1.2: Inflation rate in Euro area in %.....	29
Graph 1.3: Unemployment rate in Euro area in %.....	30
Graph 2.1: Greece government annual surplus or deficit.....	33
Graph 2.2: Greece annual GDP growth - percentage change from previous year.....	33
Graph 2.3: Greece unemployment rate.....	34
Graph 2.4: Greece government debt as a proportion of GDP.....	34
Graph 2.5: Italy Government debt as a proportion of GDP.....	35
Graph 2.6: Italy government annual surplus or deficit.....	36
Graph 2.7: Italy annual GDP growth - percentage change from previous year.....	37
Graph 2.8: Italy unemployment rate.....	37
Graph 2.9: Spain government annual surplus or deficit.....	39
Graph 2.10: Spain annual GDP growth - percentage change from previous year.....	39
Graph 2.11: Spain unemployment rate.....	40
Graph 2.12: Spain government debt as a proportion of GDP.....	40
Graph 2.13: Ireland government annual surplus or deficit.....	42
Graph 2.14: Ireland annual GDP growth - percentage change from previous year.....	42
Graph 2.15: Ireland unemployment rate.....	43

Graph 2.16: Ireland government debt as a proportion of GDP.....	43
Graph 2.17: Portugal government annual surplus or deficit.....	45
Graph 2.18: Portugal annual GDP growth - percentage change from previous year.....	45
Graph 2.19: Portugal unemployment rate.....	46
Graph 2.20: Portugal government debt as a proportion of GDP.....	46
Graph 2.21: Germany annual GDP growth - percentage change from previous year....	47
Graph 2.22: Germany government annual surplus or deficit.....	48
Graph 2.23: Germany unemployment rate.....	49
Graph 2.24: Germany government debt as a proportion of GDP.....	49
Graph 2.25: Belgium annual GDP growth - percentage change from previous year.....	50
Graph 2.26: Belgium government debt as a proportion of GDP.....	51
Graph 2.27: Belgium government annual surplus or deficit.....	51
Graph 2.28: Belgium unemployment rate.....	52
Graph 2.29: France government annual surplus or deficit.....	54
Graph 2.30: France annual GDP growth - percentage change from previous year.....	54
Graph 2.31: France unemployment rate.....	55
Graph 2.32: France government debt as a proportion of GDP.....	55
Graph 2.33: The Netherlands government annual surplus or deficit.....	57
Graph 2.34: The Netherlands annual GDP growth - percentage change from previous year.....	57

Graph 2.35: The Netherlands unemployment rate.....	58
Graph 2.36: The Netherlands government debt as a proportion of GDP.....	58
Graph 2.37: Luxembourg annual GDP growth - percentage change from previous year.....	59
Graph 2.38: Luxembourg government annual surplus or deficit.....	60
Graph 2.39: Luxembourg unemployment rate.....	60
Graph 2.40: Luxembourg government debt as a proportion of GDP.....	61
Graph 2.41: Austria government annual surplus or deficit.....	63
Graph 2.42: Austria annual GDP growth - percentage change from previous year.....	63
Graph 2.43: Austria unemployment rate.....	64
Graph 2.44: Austria government debt as a proportion of GDP.....	64
Graph 2.45: Finland annual GDP growth - percentage change from previous year.....	65
Graph 2.46: Finland government annual surplus or deficit.....	66
Graph 2.47: Finland unemployment rate.....	66
Graph 2.48: Finland government debt as a proportion of GDP.....	67

List of Appendices

Appendix 1: Detailed scenario of the Euro introduction

Appendix 2: Fixed euro conversion rates

Appendix 3: The map of EU Member States

Appendix 4: Inflation differentials in the Euro Area

Appendix 5: Government annual surplus or deficit

Appendix 6: Annual GDP growth - percentage change from previous year

Appendix 7: Unemployment rate

Appendix 8: Government debt as a proportion of GDP

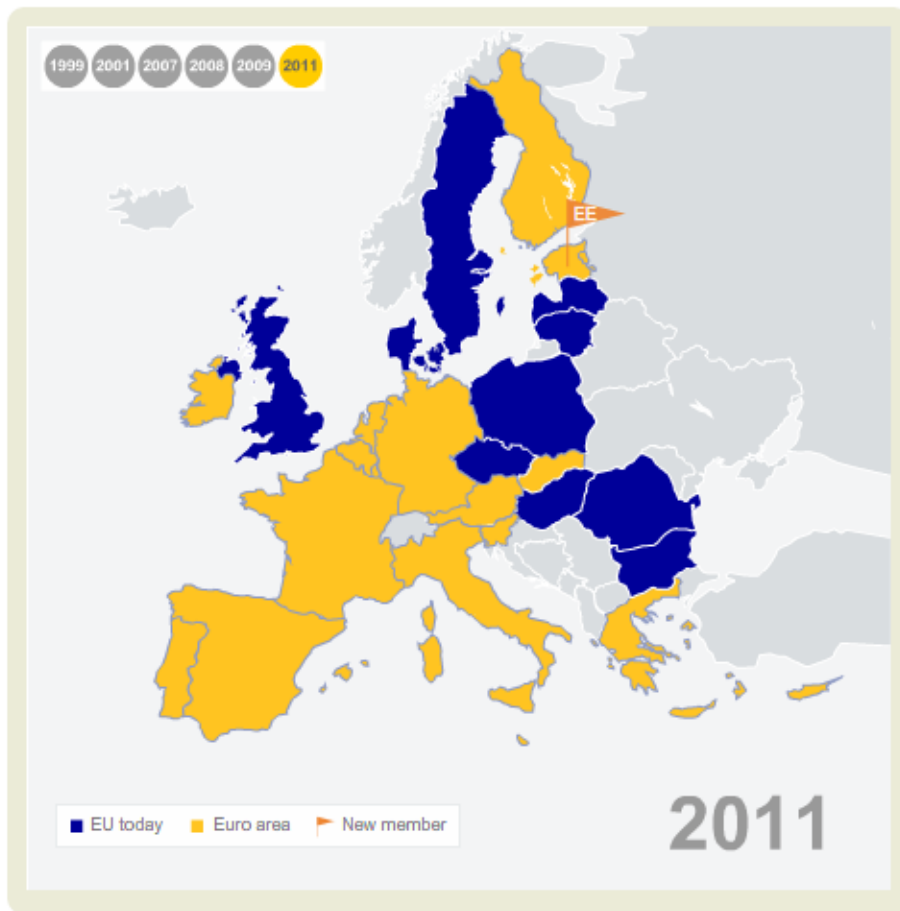
Appendix 1: Detailed scenario of the Euro introduction (Source: EC)

As soon as possible in 1998	Selection by the Heads of State or Governments of the Member States participating in economic and monetary union.
During 1998	<p>Launch and follow-through of a broad-based public awareness campaign on the euro.</p> <p>Appointment of the members of the Executive Board of the European Central Bank (ECB).</p> <p>Start of the production of banknotes and coins in euro and setting of the date (1 January 2002 at the latest) for their introduction.</p> <p>Preparation for the entry into operation of the ECB (adoption of regulatory framework, introduction and testing of the instruments of monetary policy and of payment systems in euro).</p> <p>Adoption of European and national legislation necessary for the introduction of the euro.</p> <p>Stepping-up of preparations for the euro by banks, financial markets and businesses.</p>
On 1 January 1999	<p>Irrevocable fixing of conversion rates between participating currencies and vis-à-vis the euro.</p> <p>The ecu ceases to be a basket currency and becomes, under the name euro, a currency in its own right.</p> <p>Entry into force of legislation defining the status of the euro and of participant currencies during the period (maximum three and a half years) of their co-existence.</p>
From 1 January 1999	<p>The ECB defines and executes its single monetary policy exclusively in euro. The same applies to the ECB's foreign exchange market operations.</p> <p>National authorities issue new public debt exclusively in euro.</p> <p>Changeover to the euro by the wholesale markets (interbank, money, foreign exchange and capital).</p> <p>Announcement of the timetable for use of the euro in operations of public administrations if this has not already taken place (taxes, social security, etc.). It seems likely that the major part of this changeover will have to be concentrated towards the end of the period of co-existence between the euro and its national denominations.</p> <p>Follow-up, under the auspices of the ECB and the national authorities, of the changeover to the euro of large payments systems (transfers, cheques, bank cards, etc.).</p>
Between 1 January 2002 at the latest and 1 July 2002 at the latest	<p>Start circulation of euro coins and banknotes.</p> <p>Complete changeover to the euro by public administrations.</p> <p>Cancel the legal tender status of national currencies and withdraw national bank notes and coins. These banknotes and coins can be exchanged for euro at the central bank.</p>
From 1 July 2002 at the latest	Exclusive and generalized use of the euro within the EMU.

Appendix 2: Fixed euro conversion rates (Source: ECB)

€	Currency code	Conversion rate	Currency name	Country
1	BEF	40.3399	Belgian francs	Belgium
1	DEM	1.95583	Deutsche Mark	Germany
1	EEK	15.6466	Estonian kroon	Estonia
1	IEP	0.787564	Irish pound	Ireland
1	GRD	340.750	Greek drachmas	Greece
1	ESP	166.386	Spanish pesetas	Spain
1	CYP	0.585274	Cyprus pound	Cyprus
1	FRF	6.55957	French francs	France
1	ITL	1936.27	Italian lire	Italy
1	LUF	40.3399	Luxembourg francs	Luxembourg
1	MTL	0.429300	Maltese lira	Malta
1	NLG	2.20371	Dutch guilders	The Netherlands
1	ATS	13.7603	Austrian schillings	Austria
1	PTE	200.482	Portuguese escudos	Portugal
1	SIT	239.640	Slovenian tolars	Slovenia
1	SKK	30.1260	Slovak koruna	Slovakia
1	FIM	5.94573	Finnish markkas	Finland

Appendix 3: The map of EU Member States (Source: ECB)



The states that have already launched the euro are highlighted on the map by yellow colour. There are 10 Member states whose currency is not the euro, including The Czech Republic, Poland, Bulgaria, Hungary, Romania, Denmark, Latvia, Lithuania, Sweden and the United Kingdom. These countries are indicated by blue colour on the map. The last symbol, that can be seen there, is an orange flat point to a new member.

Appendix 4: Inflation differentials in the Euro Area (Source: Eurostat)

HICP rate – inflation (HICP – Harmonised Indices of Consumer Prices)

Years	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Belgium	1,1	2,7	2,4	1,6	1,5	1,9	2,5	2,3	1,8	4,5	0	2,3	3,5
Germany	0,6	1,4	1,9	1,4	1	1,8	1,9	1,8	2,3	2,8	0,2	1,2	2,5
Greece	2,1	2,9	3,7	3,9	3,4	3	3,5	3,3	3	4,2	1,3	4,7	3,1
Spain	2,2	3,5	2,8	3,6	3,1	3,1	3,4	3,6	2,8	4,1	-0,2	2	3,1
France	0,6	1,8	1,8	1,9	2,2	2,3	1,9	1,9	1,6	3,2	0,1	1,7	2,3
Italy	1,7	2,6	2,3	2,6	2,8	2,3	2,2	2,2	2	3,5	0,8	1,6	2,9
Luxembourg	1	3,8	2,4	2,1	2,5	3,2	3,8	3	2,7	4,1	0	2,8	3,7
The Netherlands	2	2,3	5,1	3,9	2,2	1,4	1,5	1,7	1,6	2,2	1	0,9	2,5
Austria	0,5	2	2,3	1,7	1,3	2	2,1	1,7	2,2	3,2	0,4	1,7	3,6
Portugal	2,2	2,8	4,4	3,7	3,3	2,5	2,1	3	2,4	2,7	-0,9	1,4	3,6
Finland	1,3	2,9	2,7	2	1,3	0,1	0,8	1,3	1,6	3,9	1,6	1,7	3,3
Ireland	2,5	5,3	4	4,7	4	2,3	2,2	2,7	2,9	3,1	-1,7	-1,6	1,2

Appendix 5: Government annual surplus or deficit (Source: Eurostat)

Years	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Belgium	-0,6	0,0	0,4	-0,1	-0,1	-0,3	-2,7	0,1	-0,3	-1,0	-5,6	-3,8	-3,7
Germany	-1,6	1,1	-3,1	-3,8	-4,2	-3,8	-3,3	-1,6	0,2	-0,1	-3,2	-4,3	
Ireland	2,7	4,7	0,9	-0,4	0,4	1,4	1,7	2,9	0,1	-7,3	-14,0	-31,2	-13,1
Greece		-3,7	-4,5	-4,8	-5,6	-7,5	-5,2	-5,7	-6,5	-9,8	-15,6	-10,3	-9,1
Spain	-1,2	-0,9	-0,5	-0,2	-0,3	-0,1	1,3	2,4	1,9	-4,5	-11,2	-9,3	-8,5
France	-1,8	-1,5	-1,5	-3,1	-4,1	-3,6	-2,9	-2,3	-2,7	-3,3	-7,5	-7,1	-5,2
Italy	-1,9	-0,8	-3,1	-3,1	-3,6	-3,5	-4,4	-3,4	-1,6	-2,7	-5,4	-4,6	-3,9
Luxembourg	3,4	6,0	6,1	2,1	0,5	-1,1	0,0	1,4	3,7	3,0	-0,8	-0,9	-0,6
Netherlands	0,4	2,0	-0,2	-2,1	-3,1	-1,7	-0,3	0,5	0,2	0,5	-5,6	-5,1	-4,7
Austria	-2,3	-1,7	0,0	-0,7	-1,5	-4,4	-1,7	-1,5	-0,9	-0,9	-4,1	-4,5	-2,6
Portugal	-2,7	-2,9	-4,3	-2,9	-3,0	-3,4	-5,9	-4,1	-3,1	-3,6	-10,2	-9,8	-4,2
Finland	1,7	6,9	5,1	4,1	2,6	2,5	2,8	4,1	5,3	4,3	-2,5	-2,5	-0,5

Appendix 6: Annual GDP growth - percentage change from previous year (Source: Eurostat)

Years	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Belgium	3,5	3,7	0,8	1,4	0,8	3,3	1,7	2,7	2,9	1,0	-2,8	2,3	1,9
Germany	1,9	3,1	1,5	0,0	-0,4	1,2	0,7	3,7	3,3	1,1	-5,1	3,7	3,0
Ireland	9,9	9,3	4,8	5,9	4,2	4,5	5,3	5,3	5,2	-3,0	-7,0	-0,4	0,7
Greece	3,4	3,5	4,2	3,4	5,9	4,4	2,3	5,5	3,0	-0,2	-3,3	-3,5	-6,9
Spain	4,7	5,0	3,7	2,7	3,1	3,3	3,6	4,1	3,5	0,9	-3,7	-0,1	0,7
France	3,3	3,7	1,8	0,9	0,9	2,5	1,8	2,5	2,3	-0,1	-2,7	1,5	1,7
Italy	1,5	3,7	1,9	0,5	0,0	1,7	0,9	2,2	1,7	-1,2	-5,5	1,8	0,4
Luxembourg	8,4	8,4	2,5	4,1	1,5	4,4	5,4	5,0	6,6	0,8	-5,3	2,7	1,6
Netherlands	4,7	3,9	1,9	0,1	0,3	2,2	2,0	3,4	3,9	1,8	-3,5	1,7	1,2
Austria	3,5	3,7	0,9	1,7	0,9	2,6	2,4	3,7	3,7	1,4	-3,8	2,3	3,1
Portugal	4,1	3,9	2,0	0,8	-0,9	1,6	0,8	1,4	2,4	0,0	-2,9	1,4	-1,6
Finland	3,9	5,3	2,3	1,8	2,0	4,1	2,9	4,4	5,3	0,3	-8,4	3,7	2,9

Appendix 7: Unemployment rate (Source: Eurostat)

Years	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Belgium	8,5	6,9	6,6	7,6	8,2	8,4	8,5	8,3	7,5	7,0	7,9	8,3	7,2
Germany	8,6	8,0	7,9	8,7	9,8	10,5	11,3	10,2	8,7	7,5	7,8	7,1	5,9
Ireland	5,7	4,2	3,9	4,5	4,6	4,5	4,4	4,4	4,6	6,3	11,9	13,7	14,5
Greece	11,9	11,2	10,7	10,3	9,8	10,5	9,9	8,9	8,3	7,7	9,5	12,6	17,7
Spain	13,3	11,7	10,5	11,4	11,4	10,9	9,2	8,5	8,3	11,4	18,0	20,1	21,7
France	10,4	9,0	8,2	8,3	8,9	9,3	9,3	9,3	8,4	7,8	9,5	9,8	9,7
Italy	11,0	10,1	9,1	8,6	8,5	8,0	7,7	6,8	6,2	6,7	7,8	8,4	8,5
Luxembourg	2,4	2,2	1,9	2,6	3,8	4,9	4,7	4,6	4,2	4,9	5,2	4,6	4,9
Netherlands	3,6	3,0	2,6	3,1	4,2	5,1	5,3	4,4	3,6	3,1	3,7	4,5	4,4
Austria	3,9	3,6	3,6	4,2	4,3	4,9	5,2	4,7	4,5	3,8	4,8	4,4	4,2
Portugal	5,1	4,5	4,6	5,7	7,2	7,5	8,6	8,6	8,9	8,5	10,6	12,1	12,9
Finland	10,3	9,6	9,1	9,1	9,1	8,9	8,3	7,7	6,9	6,4	8,2	8,4	7,8

Appendix 8: Government debt as a proportion of GDP (Source: Eurostat)

Years	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Belgium	113,6	107,8	106,5	103,4	98,4	94,0	92,0	88,0	84,1	89,3	95,8	96,0	98,0
Germany	61,3	60,2	59,1	60,7	64,4	66,3	68,6	68,1	65,2	66,7	74,4	83,0	81,2
Ireland	48,0	37,5	35,2	31,9	30,7	29,4	27,2	24,7	24,8	44,2	65,1	92,5	108,2
Greece	94,0	103,4	103,7	101,7	97,4	98,6	100,0	106,1	107,4	113,0	129,4	145,0	165,3
Spain	62,4	59,4	55,6	52,6	48,8	46,3	43,1	39,6	36,2	40,2	53,9	61,2	68,5
France	58,9	57,3	56,9	58,8	62,9	64,9	66,4	63,7	64,2	68,2	79,2	82,3	85,8
Italy	113,0	108,5	108,2	105,1	103,9	103,4	105,4	106,1	103,1	105,7	116,0	118,6	120,1
Luxembourg	6,4	6,2	6,3	6,3	6,1	6,3	6,1	6,7	6,7	13,7	14,8	19,1	18,2
Netherlands	61,1	53,8	50,7	50,5	52,0	52,4	51,8	47,4	45,3	58,5	60,8	62,9	65,2
Austria	66,8	66,2	66,8	66,2	65,3	64,7	64,2	62,3	60,2	63,8	69,5	71,9	72,2
Portugal	49,6	48,5	51,2	53,8	55,9	57,6	62,8	63,9	68,3	71,6	83,1	93,3	107,8
Finland	45,7	43,8	42,5	41,5	44,5	44,4	41,7	39,6	35,2	33,9	43,5	48,4	48,6