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„The European Economic and Monetary Union and the  
Theory of Optimum Currency Areas“

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## Table of Contents

<b>1. Introduction .....</b>	<b>1</b>
<b>2. A Brief History of the European Monetary Union .....</b>	<b>5</b>
2.1. Reasons for the Foundation of the EMU .....	5
2.2. A Chronology of Events Leading to the EMU .....	6
<b>3. OCA Theory.....</b>	<b>12</b>
3.1. The GG Schedule .....	12
3.2. The LL Schedule .....	14
3.3. The GG and LL Schedule Together .....	16
3.4. The Size of the OCA .....	17
3.5. Shocks.....	19
3.5.1. Adverse shocks.....	20
3.5.2. Asymmetric shocks .....	21
3.5.3. Symmetric shocks with asymmetric effects .....	24
3.6. The Theory of Mundell .....	24
<b>4. OCA Criteria .....</b>	<b>29</b>
4.1. Labor and Capital Mobility (Mundell) .....	29
4.1.1. Labor Mobility.....	30
4.1.2. The Graphical Illustration of Mundell's Theory .....	35
4.1.3. Immigration in Europe over Time.....	36
4.1.4. The European Labor Market .....	37
4.1.5. European and US Labor Situation.....	40
4.1.6. Increasing Labor Mobility .....	43
4.1.7. Free Movement of Capital.....	44
4.2. Price and Wage Flexibility .....	46
4.2.1. Price flexibility .....	47
4.2.2. Wage Flexibility .....	50
4.2.2.1. Wage Rigidity in Europe .....	50
4.2.2.2. Concepts of Nominal and Real Wage Flexibility.....	51
4.2.2.3. EMU Goals .....	52
4.2.2.4. Reasons for Wage Rigidity in EMU.....	53
4.2.2.5. Wage Flexibility and Co-ordination of Wage Bargaining .....	54
4.2.2.6. Further Possibilities to Increase Wage Flexibility.....	55
4.3. Financial Market Integration .....	56
4.3.1. The Concept of Financial Market Integration .....	57
4.3.2. Advantages of Financial Integration .....	57
4.3.3. The EMU and Payment Behaviors Convergence.....	59
4.3.4. The Money Market in the EMU .....	60
4.3.5. Corporate Bond Markets .....	62
4.3.6. The Bank Credit Markets .....	63
4.3.7. The Euro Equity Markets .....	64
4.3.7.1. Consequences of the Integration .....	65
4.3.7.2. Further Integration (e. g. by a European Stock Exchange) .....	66
4.3.8. The Government Bond Market.....	67
4.3.8.1. The Concept of Government Bond Markets and Their Advantages .....	67

4.3.8.2.	Changes in the Euro Area Government Bond Market.....	68
4.4.	Production Diversification (Kenen) .....	70
4.5.	Economic Openness (Mc Kinnon) .....	71
4.6.	Similarities of Inflation Rates.....	73
4.7.	Fiscal Integration (Fiscal Transfers).....	74
4.8.	Political Integration .....	75
4.8.1.	EMU Political Integration .....	76
4.8.2.	Institutions and Governing .....	77
4.8.3.	The European Central Bank .....	79
4.8.3.1.	Models of Central Banking .....	79
4.8.3.2.	The ECB and other EMU Institutions .....	81
4.8.3.3.	The Optimal ECB Design.....	85
4.8.3.4.	The ECB and the Euro Area Enlargement .....	88
4.8.3.5.	The Accountability of the ECB .....	89
4.8.3.6.	ECB Communication.....	89
4.8.3.7.	The supervision of the banking sector.....	92
4.8.4.	The Reform Treaty (Treaty of Lisbon) and Further Possible Integration .....	93
4.8.5.	Solidarity vs. Nationalism .....	94
4.9.	Homogeneous Preferences .....	95
<b>5.</b>	<b>The Maastricht Criteria .....</b>	<b>97</b>
5.1.	Inflation .....	99
5.2.	Interest Rates .....	103
5.3.	Exchange Rate .....	104
5.4.	Deficit and Debt .....	107
5.5.	Convergence .....	116
5.5.1.	Convergence after Maastricht.....	116
5.5.2.	Convergence in EMU Candidate Countries .....	117
5.5.3.	The Maastricht Conditions for EMU Membership .....	117
5.6.	Political Challenges .....	119
5.7.	EU External Relations .....	122
5.7.1.	European Economic Area (EEA) .....	123
5.7.2.	European Neighborhood Policy (ENP) .....	123
5.7.3.	EU Limits .....	124
5.7.4.	Italy and Great Britain .....	124
5.8.	The Possibility of Euro Area Breakup.....	125
5.9.	Language .....	129
<b>6.</b>	<b>The Impact of the Crisis 2008 .....</b>	<b>131</b>
6.1.	General Definitions of Crises .....	133
6.2.	The Emergence of the Financial Crisis of 2008 .....	134
6.3.	Reasons and Developments.....	137
6.4.	The Effects on Maastricht Requirements .....	143
6.5.	The Role of EMU Institutions .....	145
6.6.	Measures for Overcoming the Crisis.....	148
6.6.1.	Regulatory Design .....	149
6.6.2.	European Reactions .....	150
6.6.3.	Fiscal and Financial Support .....	152
6.6.4.	Measures to Enhance EU Financial Market Integration.....	154

6.6.5.	Economic and Financial Cooperation between the EU and the US .....	157
6.6.6.	G-20 Measures.....	158
6.6.7.	Purposes of Measures .....	158
6.7.	Expectations of Further Developments .....	160
6.8.	Conclusions .....	162
<b>7.</b>	<b>Opinions .....</b>	<b>165</b>
<b>8.</b>	<b>Summary and Concluding Remarks.....</b>	<b>167</b>
<b>9.</b>	<b>References .....</b>	<b>172</b>

## Index of Tables

Table 1: Labor Market Outlook – Euro Area and EU27 .....	40
Table 2: ECB Participation in Community Fora and Bodies .....	85
Table 3: Inflation Outlook – Euro Area and EU27 .....	100
Table 4: General Government Budgetary Position – Euro Area and EU27 .....	108
Table 5: General Government Structural Budget Balance .....	110
Table 6: Overview of fiscal and financial support in G7 and BRIC countries.....	152

## Index of Figures

Figure 1: The GG Schedule.....	13
Figure 2: The LL Schedule.....	15
Figure 3: Deciding When to Peg the Exchange Rate .....	16
Figure 4: An Increase in Output Market Variability .....	17
Figure 5: The Logic of the Optimum Currency Area Theory .....	18
Figure 6: An Adverse Demand Shock.....	21
Figure 7: An Asymmetric Shock in a Currency Union .....	22

## List of Abbreviations

ABS	Asset backed security
AIG	American International Group
bn	billion
BRIC	Brazil, Russia, India, China
CEEC	Central Eastern European Countries
CBA	Currency Board Arrangement
CDO	Collateralized debt obligation
CDS	Credit default swap
CRA	Credit rating agency
DGT	Directorate-General for Translation
DM	Deutsche Mark
ECB	European Central Bank
ECOFIN	Economics and Finance Ministers of EU Member States
ECU	European Currency Unit
EEA	European Economic Area
EFC	European Association of Independent Funders
EFTA	European Free Trade Association
ELM	European Labor Markets
EMCF	European Monetary Cooperation Fund
EMI	European Monetary Institute
EMS	European Monetary System
EMU	European Economic and Monetary Union; European Monetary Union
EPC	European Political Cooperation
ERM	Exchange Rate Mechanism
ERM II	Exchange Rate Mechanism II
EONIA	Euro Overnight Index Average
ESCB	European System of Central Banks
EU	European Union

EURIBOR	Euro Inter Bank Offered Rate
FHLMC	Federal Home Loan Mortgage Corporation
FNMA	Federal National Mortgage Association
G-20	Group of Twenty
G7	Group of Seven
GDP	Gross Domestic Product
HIPC	Harmonized Indices of Consumer Prices
IMF	International Monetary Fund
Libor	London inter-bank offered rate
MEP	Member of European Parliament
MIFID	Market in Financial Instruments Directive
NAIRU	Non-accelarating Inflation Rate of Unemployment
NATO	North Atlantic Treaty Organisation
NBR	National Bank of Romania
OCA	Optimum Currency Area
OECD	Organization for Economic Co-operation and Development
OTC	Over the Counter
p.	page
R&D	Research and development
SEA	Single European Act
SEPA	Single Euro Payment Area
SGP	Stability and Growth Pact
S&P	Standard and Poor
SPA	Single Payment Area
SPV	Special purpose vehicle
UK	United Kingdom
UN	United Nations
US	United States
TEC	Transatlantic Economic Council
TEU	Treaty of the European Union
ToA	Treaty of Amsterdam

## 1. Introduction

In recent years the European Union (EU) has expanded by the joining of several new countries, most of them from Central and Eastern Europe. These countries include the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, Slovenia as well as Cyprus and Malta, which joined in 2004. In the year 2007 Bulgaria and Romania were also accepted as EU members. These new member states have the obligation to enter the European Monetary Union some time after the admission, which is subject to satisfying the convergence criteria specified in the Treaty of Maastricht<sup>1</sup>.

The European Economic and Monetary Union (EMU – which is also referred to as “European Monetary Union” by some economists and throughout this paper) is a currency area that exists as a result of the adoption of the euro on January 1, 1999, by eleven EU countries (Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Portugal and Spain). Greece was the 12<sup>th</sup> EU country that adopted the euro on January 1, 2001. New EMU members have been Slovenia since 1.1.2007 as well as Malta and Cyprus since 1.1.2008. Slovakia will join the third stage of EMU on January 1, 2009. All new European Union (EU) member states do not have an opt-out right (like the former members Denmark and the United Kingdom), meaning that EMU membership is obligatory for these countries. After all new EU countries will join the EMU the currency area will have a population of about 300 million<sup>2</sup>.

The main issue analyzed in this paper regards the question whether EMU is an optimum currency area (OCA). An OCA can be defined as “the optimal geographic domain of a single currency, or of several currencies, whose exchange rates are irrevocably pegged and might be unified”<sup>3</sup>. This means that the common currency or the pegged currencies of the monetary union can float only together against the rest of the world. Whether a currency area is optimal or not can only be determined by examining certain OCA properties, like labor mobility, price and wage flexibility, economic openness, fiscal and political integration as well as other important factors. The fulfillment of these OCA criteria reduces the importance of nominal

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<sup>1</sup> See Lipinska (2008), p.7

<sup>2</sup> See Krugman/Obstfeld (2006), p. 548.

exchange rate adjustments. Naturally the members of a currency area expect that the benefits from joining such an agreement are higher than the costs incurred<sup>4</sup>.

There are different views of economists about this aspect. Some economists that favor flexible exchange rates are:

- J. E. Meade (1957), because of the lack of labor mobility between member states<sup>5</sup>;
- De Grauwe (1994), because of the economic costs that are likely to be higher than the benefits<sup>6</sup>;
- Martin Feldstein (1997), as a result of adverse economic effects and political disagreement<sup>7</sup>.

Baldwin and Wyplosz come to the conclusion that EMU fulfills certain criteria but not all of them, e.g. there is low labor mobility<sup>8</sup>. Scitovski (1958) supports a common currency because of the greater degree of capital mobility, but he also considers that further steps have to be taken in order to increase the optimality of the EMU<sup>9</sup>.

In order to explore these issues, the rest of this thesis is organized as follows:

The *second chapter* describes the motives that led to the formation of EMU as well as a brief history of important steps in the development of this currency area. Knowing the main characteristics of EMU and its important economic and historic aspects can lead to understanding the factors that are optimal and those which should be improved in the euro zone.

The *third chapter* deals with the OCA theory, possible shocks and their consequences for exchange rate areas. The purpose is to present the characteristics of an OCA theory and the derived economic lessons. The main OCA theory presented in detail in this chapter is that of

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<sup>3</sup> See Mongelli (2002), p.7

<sup>4</sup> See Mongelli (2002), p. 7

<sup>5</sup> See Meade (1957), quoted in Mundell (1961), p. 661.

<sup>6</sup> See De Grauwe (1994), quoted in Tomann (2007), p. 19.

<sup>7</sup> See Feldstein (1997), quoted in Baldwin/Wyplosz (2006), p. 370.

<sup>8</sup> See Baldwin/Wyplosz (2006), p. 370.

<sup>9</sup> See Scitovski (1958), quoted in Mundell (1961), p. 661.



Mundell, who now advocates a single worldwide currency<sup>10</sup>. Understanding the OCA theories can help to answer the question whether EMU is an OCA.

In the *fourth chapter* the different OCA criteria are discussed as well as their fulfillment in the EMU. The criteria described in detail are:

- labor and capital mobility
- price and wage flexibility
- financial market integration
- product diversification
- economic openness
- similarities of inflation rates
- fiscal integration (fiscal transfers)
- political integration (e.g. solidarity vs. nationalism)
- homogeneous preferences.

What can be observed during the analysis of these criteria is that, although progress is possible and recommended, the adoption of the euro determined an improvement of these criteria. Possible further measures regard a common European stock market<sup>11</sup> and the complete establishment of a single debt market<sup>12</sup> to increase the financial market integration, as well as an EMU wide supervision of the banking sector<sup>13</sup> and institutional improvements<sup>14</sup> to determine a higher political integration.

The *fifth chapter* presents an overview of the Maastricht criteria (inflation, interest rate, exchange rate, deficit and debt), which have to be fulfilled by EU countries that intend to join the EMU<sup>15</sup>. Advantages and disadvantages of the introduction of these criteria are described, as well as the convergence as a result of these criteria. This chapter also presents different opinions whether it is optimal to make EMU accession dependent on the fulfillment of these criteria. Further aspects regarding the convergence and the optimality of EMU are discussed,

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<sup>10</sup> See Baldwin/Wyplosz (2006), p. 357.

<sup>11</sup> See Aehling (2000), p. 27.

<sup>12</sup> See Adjoute and Danthine (2003), p. 1.

<sup>13</sup> See De Grauwe (2005), p. 191.

<sup>14</sup> See Treaty of Lisbon.

<sup>15</sup> See Maastricht Treaty (1991).

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consisting in EU external relations as well as the challenge of having several different languages in the union. Political conditions for EU membership are also analyzed as well as the possibility of EMU breakup.

The *sixth chapter* deals with the 2008 financial crisis and its possible effects on currency areas. Some definitions as well as elements of financial crises are given. Then, an overview of the present crisis shows the severity and the possible consequences for currency areas such as the US and EMU. The effects of the present crisis on the Maastricht criteria and on the fulfillment of the SGP are also detailed. The role of EMU institutions in the context of crisis shows the importance of the political integration. Measures to overcome the crisis and to also increase the fulfillment of the OCA criteria of financial market integration and political integration are described. The expectations of further developments are then analyzed. Finally, the significance of EMU for taking measures to overcome the crisis is stressed.

In the *seventh chapter* important opinions of economists regarding the question whether EMU is an optimum currency area are described. Like already mentioned, there are economists who favor flexible exchange rates and consider that EMU is not an optimum currency area, e.g. J. E. Meade, De Grauwe, M. Feldstein; economists who believe that certain OCA criteria are fulfilled by the EMU but not all; and economists who support a common currency because of the improvements made in the EMU regarding the OCA criteria.

Finally, the *last chapter* presents a summary and conclusion of the topics discussed in this thesis.

## 2. A Brief History of the European Monetary Union

The economic and monetary union (EMU) can be defined as “a European Union in which national currencies would be replaced by a single EU currency managed by a sole central bank operating on behalf of all EU members”<sup>16</sup>.

This chapter covers the following topics:

- the reasons why the EMU plays a significant role for the member states and in the world economy;
- the motives for the economic and monetary cooperation;
- the benefits and costs of a currency union.

Then there will be given an overview of the chronology of the events leading to EMU.

### ***2.1. Reasons for the Foundation of the EMU***

The European Monetary Union plays a very important role for the member states and in the world economy by increasing Europe’s competitiveness especially in comparison with the United States and Asia, by leading to more stability and protection against international speculators, through lower exchange and transaction costs and through the elimination of the exchange rate risk between the member states<sup>17</sup>.

There were different reasons for the economic and monetary cooperation. A reason was the fact that European leaders considered the integration a guarantee against future wars between member states, like the World War I and World War II. Another motive consisted in the intention to increase Europe’s importance in the world monetary system. The purpose was a more efficient capacity to represent the economic interests of European countries after the collapse of the Bretton Woods system, and in the context of a reduced confidence that the United States would pursue international monetary purposes ahead of national interests. Thirdly, there was the determination to transform the European Union into a unified market based on the model of the United States without official trade barriers and exchange rate

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<sup>16</sup> See Krugman/Obstfeld (2006), p. 554.

<sup>17</sup> See Böhm, Lahovnsky (2006), p. 60.

uncertainty<sup>18</sup>. Countries also wanted to establish the German Bundesbank's credibility as an inflation fighter by fixing the exchange rates against the Deutsche Mark (DM) in countries that were confronted with high inflation in the 1970s (this is known as the credibility theory of the EMS)<sup>19</sup>.

However, there are benefits and costs of a currency union, as can be seen in the following overview.

#### Benefits and costs of a currency union

Benefits (dependent on the openness of the economy):

- Transaction costs are reduced
- Indirect effects: more transparent markets
- Price discrimination is reduced
- Monetary investment risks are diminished
- Growth effects

Costs:

- Seignorage and inflation tax are not to the discretion of national governments
- Exchange rate policy to compensate for intra-union asymmetrical shocks is abandoned
- 'Countries are different' (particularly with respect to wage and price rigidity)

Source: Tomann, H. (2007), p. 19.

## **2.2. A Chronology of Events Leading to the EMU**

The EMU came into being because of the convergence of widely different interests, e.g. the creation of a customs union, threats of exchange rate fluctuations, the intention to have a free trade area and the necessity to adopt a common policy vis-à-vis the United States<sup>20</sup>.

<sup>18</sup> See Krugman, Obstfeld (2006), p. 550.

<sup>19</sup> See Krugman, Obstfeld (2006), p. 552.

<sup>20</sup> See Tsoukalis, quoted in Arestis, McCauley, Sawyer (1999), p. 3.

A very important step towards EMU was the foundation of the EU through the 1957 Treaty of Rome by Belgium, Germany, France, Italy, Luxembourg and the Netherlands. Through this treaty there was also established customs union in Europe and the exchange rates were considered “a matter of common interest” between member states.

The Committee of Central Bank Governors of EU was founded in 1964. In 1969 the heads of state and government of EU expressed the intention to found the European Economic and Monetary Union. In 1970 a commission worked out a plan for the introduction of the European Monetary Union that should have been founded in the year 1980, but international monetary turbulences hindered the purpose<sup>21</sup>. The Werner Report of 1971, like the subsequent Delors Report, proposed an EMU in three stages: stage one should have been “directed at getting economic underpinning right and preparing the ground for any institutional development in order to facilitate coordinated policy-making”; the second stage, when economic and institutional progress should have been consolidated; stage three of irrevocably fixed exchange rates and a community central bank with centralized monetary policy. The purposes of the stages one and two were higher “convergence, a common policy on government budgeting and a progressive narrowing of currency fluctuation bands”<sup>22</sup>. In 1972 the EU countries introduced between their currencies and against the dollar the arrangement that the exchange rates were allowed to fluctuate up and down by as much as 2.5 percent relative to an assigned par value<sup>23</sup>.

In 1979 the European Monetary System (EMS) was introduced and the eight original participants in the EMS’s exchange rate mechanism were France, Germany, Italy, Belgium, Denmark, Ireland, Luxembourg and the Netherlands. In March 1979 the members of the EMS began to operate a formal network of mutually pegged exchange rates<sup>24</sup>. The ERM (Exchange Rate Mechanism) is a tool provided by the EMS to achieve some of its objectives and it has four components: the European Currency Unit (ECU), the parity grid, the divergence indicator, and credit financing<sup>25</sup>. Through policy cooperation and realignment the EMS

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<sup>21</sup> See Greving (2005), p. 46.

<sup>22</sup> See Arestis, McCauley, Sawyer (1999), p. 16.

<sup>23</sup> See Greving (2005), p. 46.

<sup>24</sup> See Krugman, Obstfeld (2006), p. 551.

<sup>25</sup> See Arestis, McCauley, Sawyer (1999), p. 19.

managed to extend and was joined by Spain in 1989, by Britain in 1990 and by Portugal in 1992.

Britain and Italy left the EMS exchange rate mechanism in September 1992 because of a European currency crisis, that had as a consequence the widening of most EMS bands to  $\pm 15$  percent because of speculative attacks (in August 1993).

Between March 1979 and August 1993 the exchange rates were allowed to fluctuate up and down by as much as 2.25 percent relative to an assigned par value. Some members negotiated bands of  $\pm 6$  percent. In order to maintain the negotiated bands, several measures were taken, including:

- provisions for credit from strong- to weak-currency members (if the currency in country A depreciated against the currency of country B, then the central bank from country B had to lend an amount of its own currency to the central bank of country A, that was sold for the currency of country A in the foreign exchange market);
- capital controls in some countries like France and Italy in order to reduce speculative attacks by limiting domestic residents' sales of home currencies for foreign currencies;
- periodic currency realignments (between March 1979 and January 1987 11 realignments took place).

In the EU the freedom of payments and capital movements are very important principles, so the capital controls were removed over time and the monetary independence reduced by increasing the influence of the European governing bodies.

In 1990 the reunification of eastern and western Germany took place. The consequences were economic shocks and asymmetric macroeconomic pressures in Germany and its major EMS partners in 1992. After the reunification of Germany a boom took place in that country and the Bundesbank increased interest rates as a measure against inflation. France, Italy and the United Kingdom were not booming like Germany, but they had to increase interest rates in order to be able to hold the currencies fixed against Germany's, aspects that led to deep

recession in that countries and to speculative attacks, that resulted in a widening of the bands to  $\pm 15$  percent, kept until the introduction of the euro in 1999<sup>26</sup>.

The measures adopted by EU countries in order to obtain higher internal economic unity are the fixing of the mutual exchange rates and direct measures to encourage the free flow of goods, services and factors of production. The preference for mutually fixed exchange rates on macroeconomic grounds was positively influenced by the measures to raise microeconomic efficiency through market liberalization (the most recent plan in this sense is the “1992” initiative and its purposes<sup>27</sup>, consisting in the free movements of goods, services and resources<sup>28</sup>, which had to be achieved by January 1, 1993; it was speeded up by the Single European Act, SEA)<sup>29</sup>. Through the Single European Act of 1986 the barriers to trade, capital and labor migration that existed even with the Treaty of Rome were widely eliminated, and the necessity of unanimous consent for measures related to market completion dropped. The measures were very effective especially concerning the free flow of financial capital<sup>30</sup>.

In 1989 a committee headed by Jacques Delors, president of the European Commission, presented as a goal an economic and monetary union (EMU) with a single EU currency and a common central bank<sup>31</sup>. The Delors Report recommended that three stages should lead to a full monetary union:

- the first stage began on July 1, 1990, when the liberalization of capital movements was introduced, being part of the Single Market Program;
- the second stage started on January 1, 1994, when the European Monetary Institute (EMI) was created as a precursor to the ECB. Some of its purposes were to coordinate the monetary policies of member states, to monitor the functioning of the EMS, to facilitate the use of the ECU, to make recommendations on exchange rate policy and to monitor the economic convergence of member states;

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<sup>26</sup> See Krugman, Obstfeld (2006), p. 551.

<sup>27</sup> See Krugman, Obstfeld (2006), p. 552.

<sup>28</sup> See Arestis, McCauley, Sawyer (1999), p. 26.

<sup>29</sup> See Krugman, Obstfeld (2006), p. 552.

<sup>30</sup> See Krugman, Obstfeld (2006), p. 553.

<sup>31</sup> See Krugman, Obstfeld (2006), p. 554.

- the third stage began on January 1, 1999, when the euro was introduced instead of national currencies and when the ECB and national central banks, composing the European System of Central Banks (ESCB), replaced the EMI<sup>32</sup>.

The introduction of the single European currency and the European Central Bank were regulated through the Maastricht Treaty, ratified in the year 1993 by all 12 EU member countries. Austria, Finland and Sweden, which decided to join the EU in 1995, accepted the Treaty, too.

The reasons for the introduction of the common currency euro instead of maintaining fixed exchange rates or even allowing the exchange rates to float are the higher market integration, the possibility to pursue the interests of all EMU member states by the European Central Bank and to give those countries the same chances to contribute to the decision process, the freedom of capital and the reduction of the risks of speculative attacks, as well as the expectancy of political stability of Europe<sup>33</sup>. The ECU (European Currency Unit) was at the beginning the factitious European Common Currency<sup>34</sup>. It can be defined as a “monetary unit based on a basket of EU currencies; a fixed quantity of each currency in the basket with the weights of the currencies vary over time as intra-European exchange rates fluctuate, and a reserve instrument issued by the EMCF (European Monetary Cooperation Fund) to the EMS central banks in exchange for 20% of gold and dollar reserves”<sup>35</sup>.

On January 1, 1999, the common currency euro was introduced in 11 EU member states (Belgium, Germany, Finland, France, Ireland, Italy, Luxembourg, the Netherlands, Austria, Portugal and Spain). The exchange rates were fixed and the foreign exchange transactions of the European Central Bank took place in euro. The enlargement of the EMU continued with Greece becoming the 12<sup>th</sup> EMU member state in 2001, Slovenia being a member from the 1.1.2007 and Cyprus and Malta from the 1.1.2008.

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<sup>32</sup> See Arestis, McCauley, Sawyer (1999), p. 30.

<sup>33</sup> See Krugman, Obstfeld (2006), p. 554.

<sup>34</sup> See Greving (2005), p. 46.

<sup>35</sup> See Arestis, McCauley, Sawyer (1999), p. 19.



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On January 1, 2002, the European Central Bank put the euro bills and coins into circulation. The euro became the only legal means of payment in the EMU starting from July 1, 2002<sup>36</sup>.

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<sup>36</sup> See Greving (2005), p. 46.

### 3. OCA Theory

The definition of the OCA theory will be presented in this chapter. Then, the decision to join a currency area will be explained and illustrated by diagrams: the GG schedule shows the monetary efficiency gain of a country, resulting from joining a fixed exchange rate area (as economic integration between the country and the area rises); the LL schedule illustrates the economic stability loss of the country becoming a member of an exchange rate area, which falls as the economic integration between the country and the area rises; finally, the critical level of the economic integration is depicted, above which the decision to join leads to positive net economic benefits for the joining country. This chapter also presents reasons why a large currency area is desirable. Then, the different kinds of shocks and their connections to the OCA theory are discussed. Finally, the theory of Mundell, who has pioneered the OCA theory, is discussed in detail. In his acclaimed article from 1961, he considers that the costs of a currency union would be eliminated with full mobility of labor and capital. Since labor mobility is problematic across European countries, this could represent an obstacle for an OCA. According to his present opinion, however, a worldwide currency is desirable.

The theory of optimum currency areas is the analysis of the costs and benefits from joining a fixed exchange rate area such as the EMS. According to this theory, fixed exchange rates are most appropriate for areas closely integrated, e.g. through international trade and factor movements<sup>37</sup>. The decision of a country to join a currency area can be clarified through the use of diagrams, as can be seen in the following sections of this chapter.

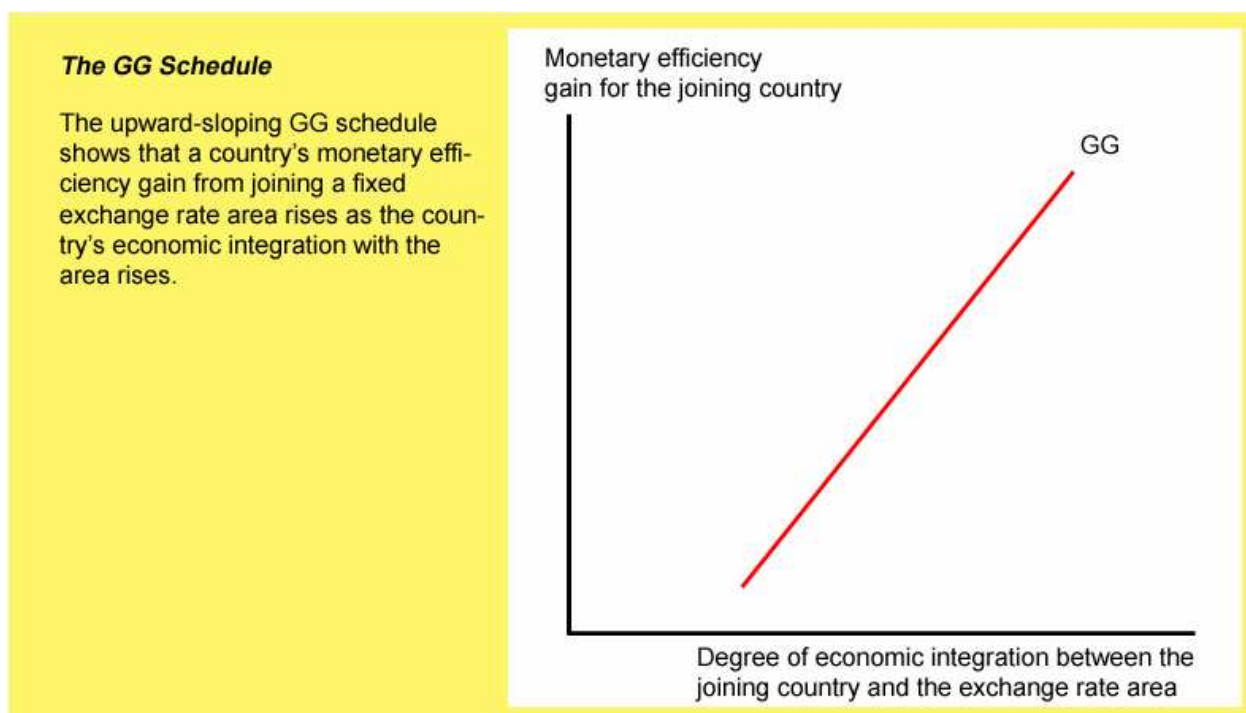
#### 3.1. *The GG Schedule*

The schedule called GG shows the potential gains from joining the currency zone. A very important benefit of fixed exchange rates is the simplification of economic calculations and the provision of a more predictable basis for decisions concerning international transactions. There are savings from the elimination of uncertainty as well as from the reduction of calculation and transaction costs that are characteristic for floating exchange rates. It is, however, very difficult to calculate the precise amount of efficiency gain resulting from

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<sup>37</sup> See Krugman/Obstfeld (2006), p. 558.

pegging to a currency, but this gain is higher the more the country trades with the currency zone. The returns on investments are more predictable and wages more stable for people who decide to work in another country if the currency is pegged to that of the monetary union. “A high degree of economic integration between a country and a fixed exchange rate area magnifies the monetary efficiency gain the country reaps when it fixes its exchange rate against the area’s currencies”<sup>38</sup>.



**Figure 1: The GG Schedule**

Source: Krugman/Obstfeld (2006), p. 560.

The GG is an upward-sloping curve, which illustrates the relation between a country's degree of economic integration with a fixed exchange rate area – measured by the horizontal axis –, and the monetary efficiency gain to the country from joining the area, – measured on the vertical axis. The positive slope indicates that the efficiency gains are higher with increasing economic integration. The assumptions made are that the price level of the currency area is stable and predictable and that the exchange rate commitment of the country is firm<sup>39</sup>. If these assumptions were not fulfilled the monetary efficiency gains would be smaller. A very

<sup>38</sup> See Krugman/Obstfeld (2006), p. 559.

<sup>39</sup> See Krugman/Obstfeld (2006), p. 559.

important consequence of economic integration is international price convergence and thus higher price stability if this is also a characteristic of the currency union<sup>40</sup>.

### **3.2. The LL Schedule**

The schedule LL shows the potential costs from joining an exchange rate area. These costs occur because the country that joins a currency area gives up its ability to use exchange rate and monetary policy in order to stabilize output and employment<sup>41</sup>.

If there is a change in output markets, different situations can be observed:

1. floating exchange rates have the advantage of cushioning output and employment in the economy, because an immediate change in the relative price of domestic and foreign goods can take place;
2. if the currency is pegged and the aggregate demand falls in all countries of the currency area as well as in the country with the pegged currency, the common currency of the zone will depreciate against outside currencies and lead to an automatic stabilization;
3. if the currency is pegged and the aggregate demand falls only in the country with the pegged currency, then the currency of that state will remain stable against all foreign currencies; however, there will be at least for a certain period a reduction of prices of goods as well as a fall of wages in that country.

When the integration between the country with the pegged currency and the area is higher, the costs of adjustment become lower. An important reason for this situation is that even small reductions in the prices of the country with the pegged currency determine a large increase in demand for its goods in the area, so that full employment can be restored in a short time. Another reason is that with a high integration, workers can migrate abroad, and domestic capital can be invested more profitable in other area countries, so that unemployment becomes lower and the rate of return is not significantly lower<sup>42</sup>. If an increase in demand for

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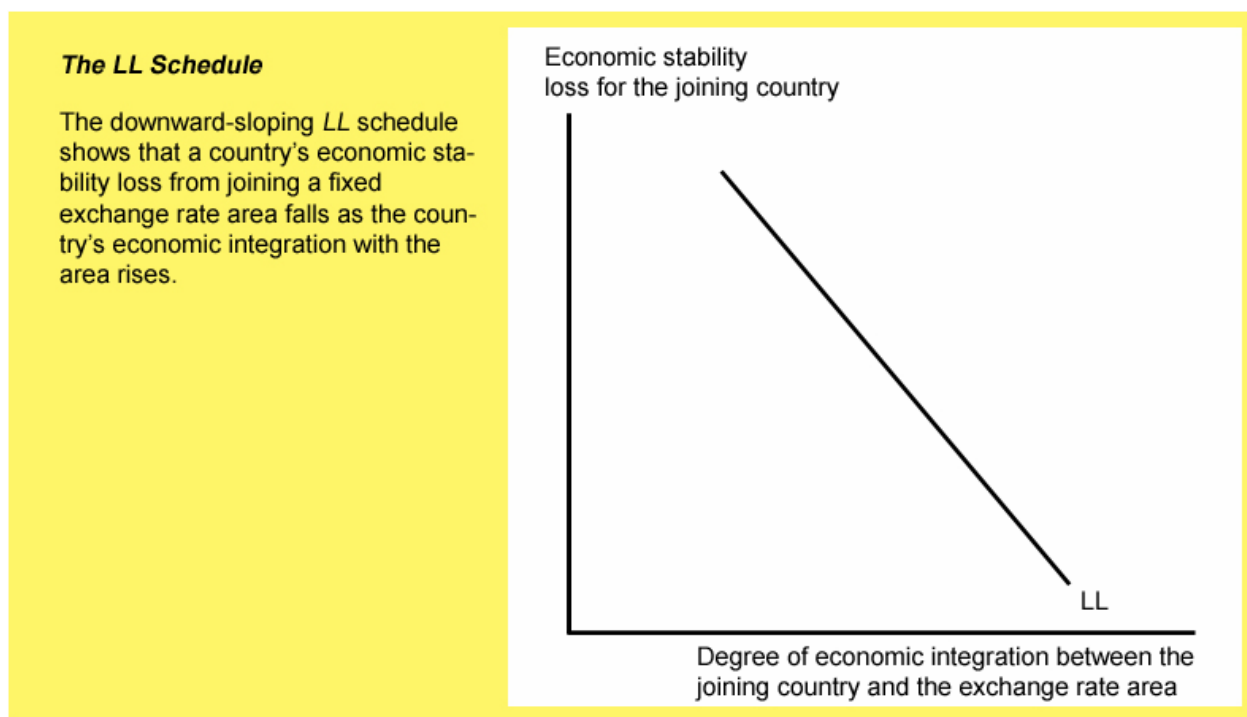
<sup>40</sup> See Krugman/Obstfeld (2006), p. 560.

<sup>41</sup> See Krugman/Obstfeld (2006), p. 560.

<sup>42</sup> See Krugman/Obstfeld (2006), p. 561.

the country's output takes place and if the country is tightly integrated with the economies of the area, than even a small increase in price level and some movement of foreign capital and labor into the country helps to attain a situation of stability and decreased demand. A greater integration with countries outside the area increases economic stability loss from pegging to the currency of the area. "A high degree of economic integration between a country and the fixed exchange rate area that it joins reduces the resulting economic stability loss due to output market disturbances"<sup>43</sup>.

The LL schedule illustrates the relation between the economic stability loss from joining and the country's economic integration with the other currency area members. The LL slope is negative because the loss of economic stability as a result of pegging to the currencies of the area decreases while the degree of economic interdependence becomes higher<sup>44</sup>.



**Figure 2: The LL Schedule**

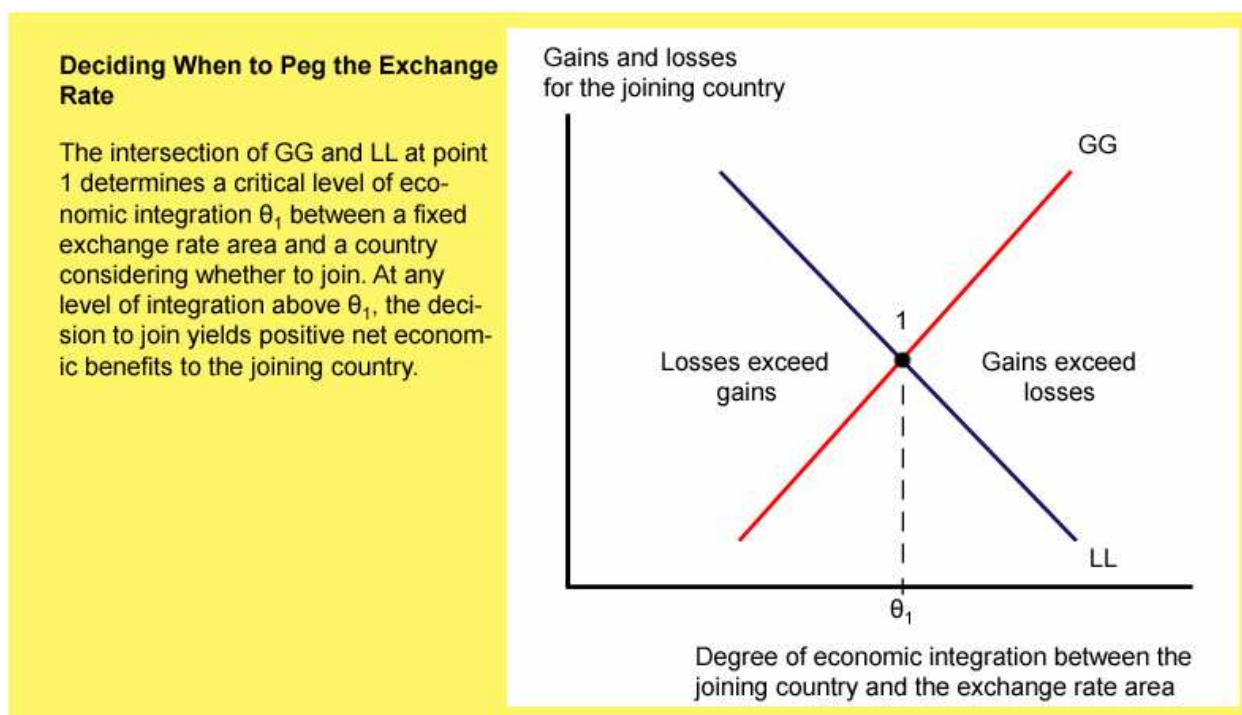
Source: Krugman/Obstfeld (2006), p. 563.

<sup>43</sup> See Krugman/Obstfeld (2006), p. 562.

<sup>44</sup> See Krugman/Obstfeld (2006), p. 562.

### 3.3. The GG and LL Schedule Together

Putting the GG and LL schedules together helps decide whether it is optimal to fix a currency to that of the area. It should be done if the level of economic integration is at least like those determined by the intersection of GG and LL. If the level were lower, the output and employment instability after joining would be higher than the monetary efficiency gain. If the level were higher, the country would have a net gain from joining the currency area<sup>45</sup>.



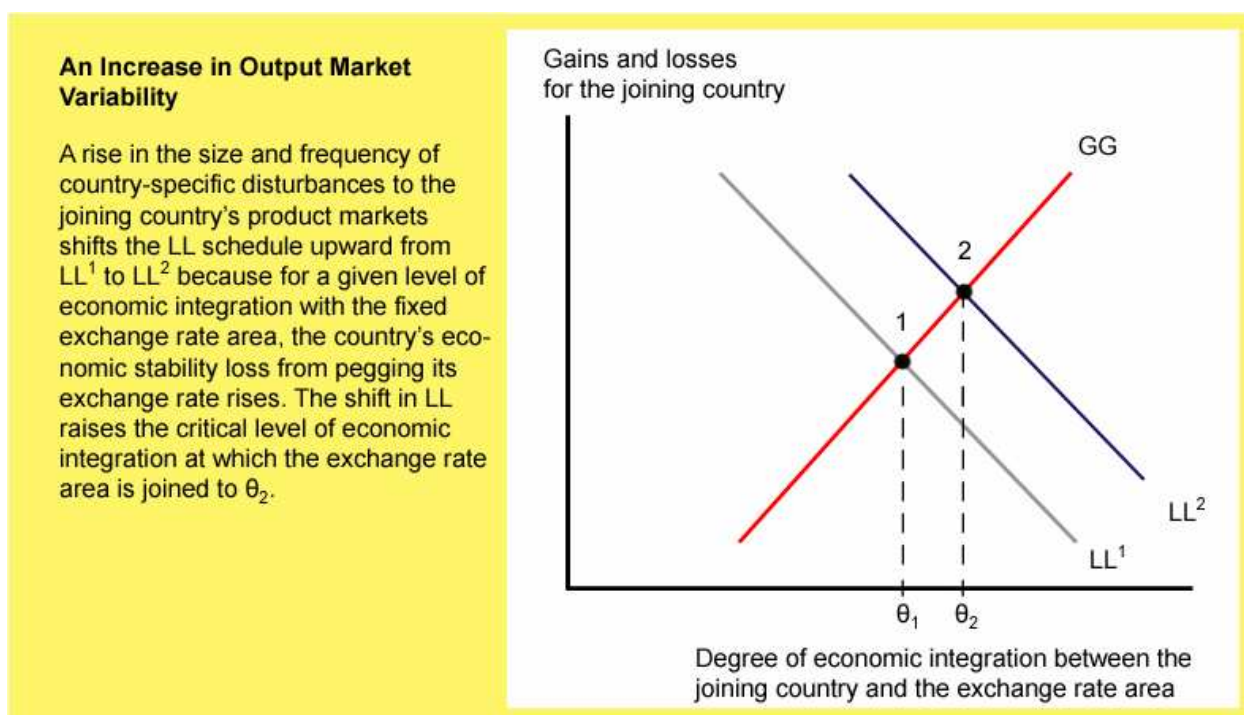
**Figure 3: Deciding When to Peg the Exchange Rate**

Source: Krugman/Obstfeld (2006), p. 563.

The second diagram shows the willingness of a country to peg its currency to a monetary union as a result of changes of economic factors. Let's assume that the demand of the country's exports increases, so that a move of  $LL^1$  to  $LL^2$  takes place. As a result, an increase of the economic integration which would be optimal for the country in order to join the currency area takes place, which is shown by the move from  $\theta_1$  to  $\theta_2$ . The conclusion is that

<sup>45</sup> See Krugman/Obstfeld (2006), p. 563.

the willingness of a country to take part in a fixed exchange rate area decreases when the variability of the product markets increase<sup>46</sup>.



**Figure 4: An Increase in Output Market Variability**

Source: Krugman/Obstfeld (2006), p. 564.

### 3.4. The Size of the OCA

A currency can be a symbol of statehood like the flag for example. The main role of money is, however, to avoid barter and to make commercial and financial transactions easier. The usefulness of a currency increases with the number of people that accept a currency. From this perspective it would be beneficial to have one currency accepted everywhere. Small currency areas are not optimal especially because of the exchange costs and the fluctuations of exchange rates<sup>47</sup>.

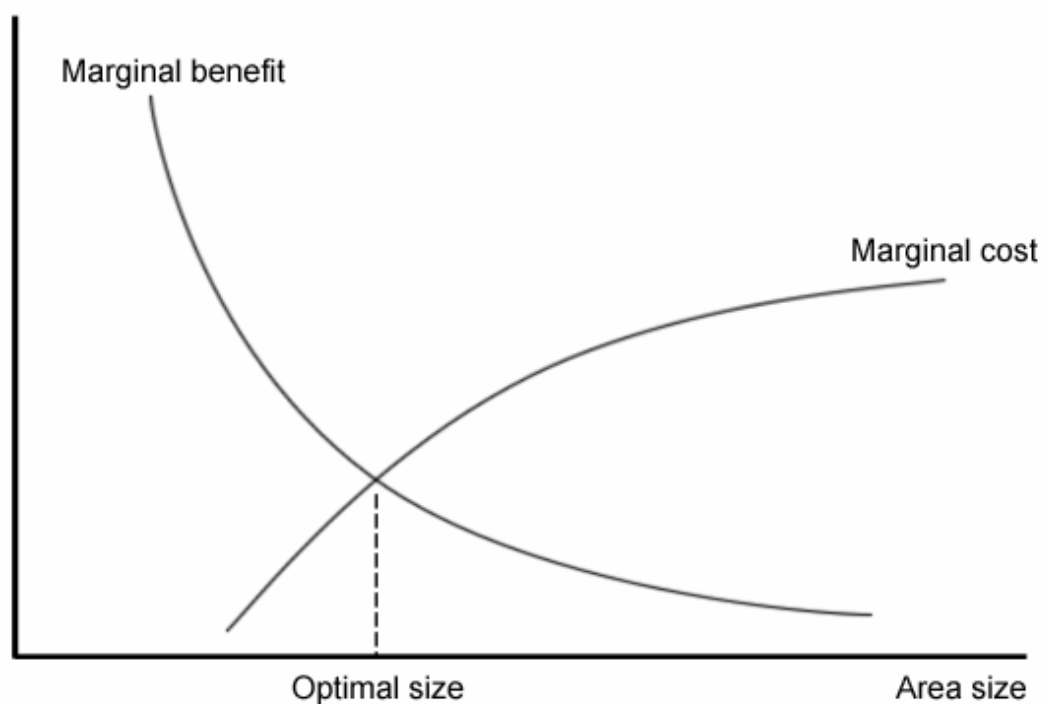
The currency becomes more useful when the size of the area where it is used is larger, so that its marginal benefit is positive. The marginal benefit is declining because the benefit of a new country for a large currency area is smaller than when the initial area had a smaller size.

<sup>46</sup> See Krugman/Obstfeld (2006), p. 564.

The question that arises is whether the optimum currency area is the world because of the marginal benefit that is always positive. The conclusion is that this would be the case if there were no costs. A reason for the costs can be the diversity, for example in the standard of living, and therefore these costs usually increase with the size of the area<sup>48</sup>.

As a result, the optimum currency area is characterized by a situation where the marginal costs equal the benefits. However, the corresponding figure is highly symbolic, as can be seen in the next graph.

Marginal costs and benefits



**Figure 5: The Logic of the Optimum Currency Area Theory**

*Source: Baldwin/Wyplosz (2006), p. 352.*

The reason because of which diversity is costly is that it implicates asymmetric shocks and exchange rates have an important role in dealing with these shocks. The next section of this chapter provides an overview regarding the connection between different types of shocks and

<sup>47</sup> See Baldwin/Wyplosz (2006), p. 351.

<sup>48</sup> See Baldwin/Wyplosz (2006), p. 352.



the benefits and costs of an OCA. A common currency also necessitates a single central bank that cannot react to every local particularity<sup>49</sup>.

### **3.5. Shocks**

Low interest rates are according to Hume a sign for the welfare of a nation. They usually also imply a high amount of money. However, when the amount of money increases, the prices of goods and labor become higher. Factors that lead to low interest rates are a reduced demand for loans, high wealth that can be used to satisfy this demands and low profit margins in commercial activities. Diligence determines the accumulation of high amounts of money and permits low interest rates<sup>50</sup>.

Thus, reduced interest rates are an expression of hard work and developed commerce. They increase the incentives to invest money (especially with the development of capital markets) in order to stimulate economic growth, so that profit margins can be maintained at reduced levels. Thus, the economy can be positively influenced. The demand for loans increases and progress is possible. The impact on consumption can also be positive (e.g. loans for consumption can increase). With flexible exchange rates the value of the currency increases when the demand for it becomes higher, but at the same time with this increase the economy can redress as interest rates are still low. Devaluation can be the expression of a crisis when exchange rates are flexible. The currency's value increases, however, when the economic situation improves. During the period of low interest rates and devaluated currency the demand for money and products becomes higher. Thus, low interest rates can be an important instrument for dealing with shocks and crises.

There are different kinds of shocks:

1. Adverse shocks;
2. Asymmetric shocks;
3. Symmetric shocks with asymmetric effects.

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<sup>49</sup> See Baldwin/Wyplosz (2006), p. 353.

<sup>50</sup> See Hume (1988), p. 219 ff.

Under the premises of competition the situations described below can occur.

### 3.5.1. Adverse shocks

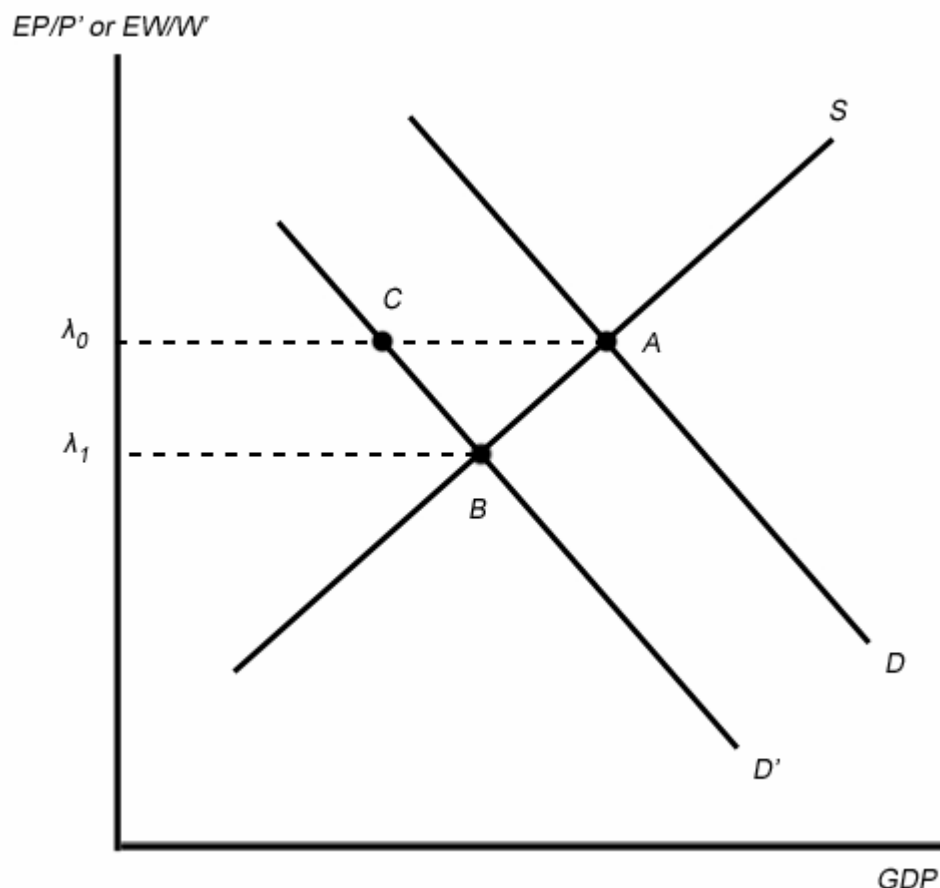
There can occur situations when a country's exports decrease because tastes change or as a result of cheaper alternatives. This leads to a hole in the balance of trade. In order to increase in competitiveness exports must become cheaper. This can be attained by lowering prices and wages or through a depreciation of the currency if possible. If the country is a member of a wide currency area the only alternative is to reduce prices through lower production costs or lower wages.

The following figure shows the demand and supply of domestic goods (depicted by lines D and S) in relation with the real exchange rate. The real exchange rate  $\lambda$  can be defined as the relative price of domestic to foreign goods ( $\lambda = EP/P'$ , where E is the nominal exchange rate, P the price of domestic goods and P' the price of foreign goods) or in terms of production costs ( $EW/W'$ ), where W and W' are production costs at home or abroad. An adverse shock is shown by the shift of world (domestic and foreign) demand for domestically produced goods, from D to D'.

If depreciation is possible from  $\lambda_0$  to  $\lambda_1$  it will take place. There will also be a decrease in output and a shift from A to B<sup>51</sup>. With fixed exchange rates and rigid wage and price levels the output will decline even further, from point A to point C. The distance AC represents the goods that cannot be sold under the new situation. The consequences will be production cutbacks, increased unemployment, gradual price and wage cuts, so that the economy will shift to point B.

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<sup>51</sup> See Baldwin/Wyplosz (2006), p. 353.



**Figure 6: An Adverse Demand Shock**

*Source: Baldwin/Wyplosz (2006), p. 353.*

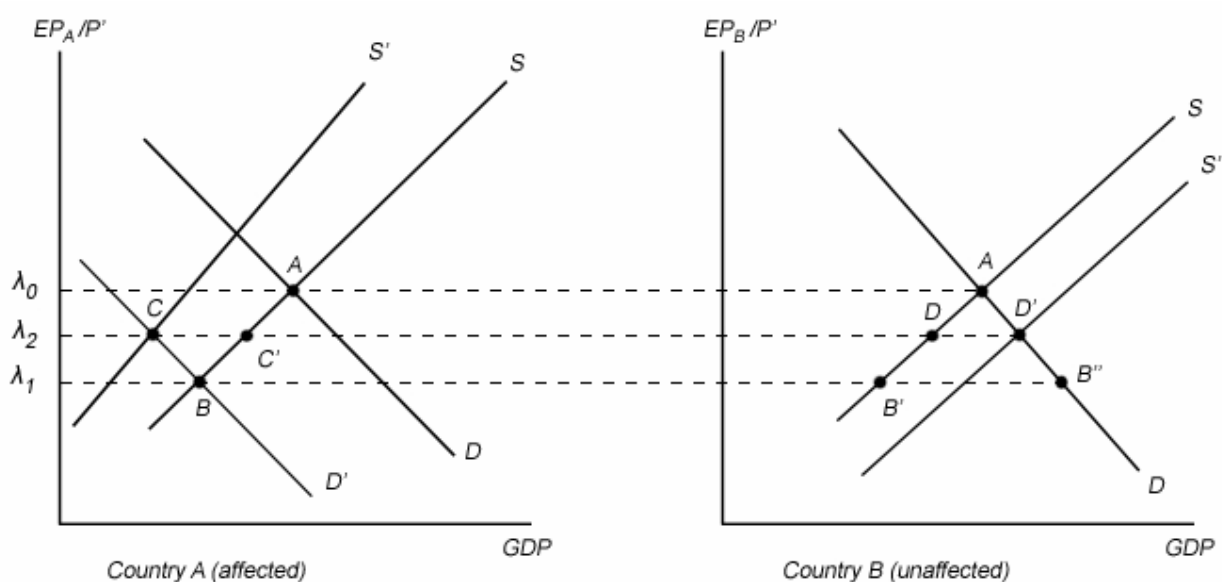
In a monetary union, there is no possibility of nominal exchange rate adjustments so that real exchange rates must be changed through prices and wages modifications. If prices and wages are rigid, the adjustment process becomes more difficult and it takes longer.

### 3.5.2. Asymmetric shocks

Diversity means that in different countries there are different shocks. Let's assume there are two countries A and B. Each country has two (nominal and real) exchange rates: one vis-à-vis country B or respectively A and one vis-à-vis the rest of the world. In both countries (A and B) a real depreciation vis-à-vis the rest of the world has to take place if they are hit by the same adverse shock. The bilateral (nominal and real) exchange rate does not have to change if the situation in A and B is similar.

An asymmetric shock can mean that only country A is hit by an adverse shock, but not country B. As a result, a real depreciation in country A has to take place vis-à-vis country B and the rest of the world. If member states are confronted with the same shocks, the loss of the exchange rate has no consequences. With symmetric shocks, the country must adjust only the exchange rate vis-à-vis the rest of the world.

The situation with asymmetrical shocks is presented in the following figure:



**Figure 7: An Asymmetric Shock in a Currency Union**

Source: Baldwin/Wyplosz (2006), p. 355.

The vertical axis measures each country's real exchange rate vis-à-vis the rest of the world:  $EP_A/P'$  and  $EP_B/P'$ .

$P_A$  and  $P_B$  = the price indices in country A and country B

$P'$  = the price level in the rest of the world

$E$  = the common currency's exchange rate, initially  $E_0$

$A$  = the initially balanced situation with a real exchange rate  $\lambda_0$

$\lambda_0 = E_0/P_A/P' = E_0/P_B/P'$

The assumption is of sticky prices.

Assume that an adverse shock affects only country A; as a consequence, the demand schedule shifts from D to D'. If the country does not belong to a monetary union and can change its nominal exchange rate, there will be a depreciation to  $E_1$  and to  $\lambda_1 = E_1/P_A/P^*$  (the real exchange rate), leading to new equilibrium to point B. The nominal and real exchange rates in country B, which are  $E_0$  and  $\lambda_0$ , remain unchanged.

If A and B are members of a monetary union, a possibility is that the common central bank depreciates the common exchange rate to  $E_1$ , so that with sticky prices there will be the same real exchange rate  $\lambda_1$  in the countries A and B. The situation has a negative impact on country B, which is confronted with inflationary excess demand (the distance B'B"). With asymmetric shocks, the measures that are positive for one country have negative effects for the other, this being the fundamental cost in a monetary union<sup>52</sup>.

If the external exchange rate of the currency union floats freely, there will be a depreciation to  $E_2$  and  $\lambda_2 = E_2/P_A/P^* = E_2/P_B/P^*$ . The results are excess supply in A (CC') and excess demand in B (DD'). Both countries are in disequilibrium, with a too strong exchange rate level in country A (which is in recession) and too weak for country B (which is overheated), this being a cost of being part in a monetary union.

The disequilibrium has to be eliminated through adjustments of prices and wages in both countries. Because of the recession (meaning that there is an excess supply of goods in A) unemployment increases and leads to a downward pressure on prices and wages. The price level in country A decreases because it cannot sell its entire production, so the new real exchange rate is  $\lambda_1$ . The prices of goods in A are  $P'_A$ . In country B there will be an increase in prices and an appreciation to  $\lambda_0$  because of the strong demand.

The costs of a monetary union in the case of asymmetric shocks are therefore clearly illustrated in this example, with recession and disinflation in A and boom and inflation in B.

### 3.5.3. Symmetric shocks with asymmetric effects

The situation of asymmetric shocks also applies to the case of symmetric shocks with asymmetric effects. The reasons why two countries could not react the same way to the same shock are different socio-economic structures, including labor market regulations and traditions, the relative importance of industrial sectors, the role of the financial and banking sectors, the external indebtedness, the ability to strike agreements between firms, trade unions and the government etc. An increase in oil and gas prices for example hurts oil- and gas-importing countries but is positive for exporting countries (e.g. the Netherlands, Norway and the UK). This is an important reason why Norway and the UK have not become EMU members.

The effects of a central bank reaction to symmetric shocks must not be the same for the entire currency union, for example because of different structures of the banking and financial markets<sup>53</sup>.

## 3.6. *The Theory of Mundell*

Mundell defines an optimum currency area as well as some very important criteria for an OCA (e.g. labor and capital mobility). Mundell studies the subject of flexible exchange rates by examining two distinct questions. He analyses whether flexible exchange rates can be effectively and efficiently used in the world economy. Furthermore, he discusses how the world should be divided into distinct currency areas. A significant conclusion of his theory is that an optimum currency area should be based on regions (determined by internal high factor mobility and factor immobility between them) and not on individual countries. This is however problematic because currency domains are an expression of national sovereignty<sup>54</sup>.

A currency area can be defined “as a domain within which exchange rates are fixed”<sup>55</sup>.

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<sup>52</sup> See Baldwin/Wyplosz (2006), p. 354.

<sup>53</sup> See Baldwin/Wyplosz (2006), p. 355.

<sup>54</sup> See Mundell (1961), p. 663f.

<sup>55</sup> See Mundell (1961), p. 657.

With fixed exchange rates and rigid wage and price levels periodic balance-of-payments crises occur because the terms of trade cannot fulfill a natural role in the adjustment process. With flexible exchange rates depreciation can replace unemployment when there is a deficit of the external balance, and appreciation can replace inflation when there is a surplus<sup>56</sup>.

There are two possible situations in a currency area: currency areas can have a single currency and there are currency areas with more than one currency. In a currency area with a single currency there has to be a single central bank with note-issuing powers and as a consequence a potentially elastic supply of interregional means of payments. In a currency area involving more than one currency the cooperation of many central banks determines the supply of international means of payment; if a central bank increases its liabilities much faster than other central banks it loses reserves and impairs convertibility. The conclusion is that there is an important difference between an interregional adjustment (this is an adjustment within a currency area which has a single currency) and an international adjustment (that is an adjustment within a currency area with more than one currency).

In a currency area with many different currencies the policy of surplus countries to prevent inflation has the tendency to lead to recession. To illustrate this, Mundell provides an example of two countries or regions A and B, where equilibrium is affected by a shift in demand. The reason is that if there is a shift of demand from country B to A, the consequences are unemployment in B and inflationary pressure in A. The burden of adjustment will be split between A and B if an increase in prices is possible in A. If A acts to prevent increasing prices and tightens credit restrictions, the burden of adjustment has to be taken by B. If a reduction in B's real income cannot be achieved by a change in the terms of trade (because B cannot lower and A will not raise prices), a reduction of B's output and employment is necessary in order to attain a lower real income<sup>57</sup>.

In a currency area with a common currency pursuing full employment leads to a tendency towards inflation. The reason is that a shift of demand from region B to region A has as a result unemployment in B and inflationary pressure and a surplus in the balance of payments

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<sup>56</sup> See Mundell (1961), p. 657.

<sup>57</sup> See Mundell (1961), p. 658.

in A. If the authorities in B want to reduce unemployment they will increase the money supply, a situation that increases the inflationary pressure in A. The effective way to achieve full employment in the deficit region is by increasing prices in the surplus region.

The conclusion is that there is no possibility to avoid both unemployment and inflation in a currency area. The reason is not the type of currency area, but the fact that the optimum currency area is not the world.

Furthermore, Mundell analyses the characteristics of an optimum currency area by taking also into consideration the alternative of flexible exchange rates. Variable exchange rates mean “the existence of more than one currency area in the world”<sup>58</sup>. If A and B are two countries with flexible exchange rates, then a shift of demand from country B to country A would determine a depreciation, lower unemployment and a corrected external imbalance in country B, and an appreciation and a reduced inflation in country A<sup>59</sup>.

It is assumed that in the world there are two countries with separate currencies and flexible exchange rates, Canada and the United States, and two regions that are not identical with the national boundaries, the East (where cars are produced) and the West (with lumber production). The assumption is made that a higher productivity in the automobile industry leads to an excess demand for lumber products and an excess supply of cars. The consequences are unemployment in the East and inflationary pressure in the West. Because of the balance of payments deficit in the East, bank reserves flow from the East to the West. It would be possible to avoid unemployment in the East by expanding the national money supply in both countries, thus at the expense of inflation in the West. Another possibility would be to reduce inflation in the West by contracting the national money supply, at the expense of unemployment in the East. The last possibility would be to allow some unemployment in the East and some inflation in the West. Both unemployment and inflation cannot be avoided at the same time under these circumstances.

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<sup>58</sup> See Mundell (1961), p. 659.

<sup>59</sup> See Mundell (1961), p. 659.



Let's assume that national currencies are replaced by regional currencies, so that Eastern and Western dollars are introduced instead of Canadian and United States dollars. With fixed exchange rates the authorities would have to choose between measures against unemployment or against inflation. If the exchange rate between Eastern and Western dollars *were* flexible, then the Western dollar would appreciate relative to the Eastern dollar as a result of the excess demand for lumber products. There would be a balance of payments equilibrium and stable employment and prices.

Flexible exchange rates are more effective if they are based on regional currencies, not on national currencies. "The optimum currency area is the region."<sup>60</sup> The region is "defined in terms of internal factor mobility and external factor immobility"<sup>61</sup>. Currency reorganization on a regional basis requires important political changes, because currencies are usually the expression of national sovereignty.

There are different views regarding the degree of factor mobility necessary to delimitate a region. J. E. Meade (1957) considered that flexible exchange rates would be more effective in order to achieve a balance of payments equilibrium and internal stability in Western Europe than a common currency because of the lack of labor mobility<sup>62</sup>. T. Scitovsky (1958) supported the idea of a common currency because this would result in a greater degree of capital mobility, but he argued that further steps would have to be taken to achieve higher labor mobility<sup>63</sup>.

If the basic argument for flexible exchange rates is valid, the goals of internal stability can be achieved more successfully with an increasing number of currency areas in the world. But when the number of currency areas in the world is high, there are also increasing costs of valuation and money-changing<sup>64</sup>. Another reason against an arbitrarily large number of currency areas is that "markets for foreign exchange should not be so thin that any single speculator (perhaps excepting central banks) can affect the market price"<sup>65</sup>. Furthermore, the

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<sup>60</sup> See Mundell (1961), p. 660.

<sup>61</sup> See Mundell (1961), p. 661.

<sup>62</sup> See Meade (1957), quoted in Mundell (1961), p. 661.

<sup>63</sup> See Scitovsky (1958), quoted in Mundell (1961), p. 661.

<sup>64</sup> See Mundell (1961), p. 662.

<sup>65</sup> See Mundell (1961), p. 663.

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community usually does not accept variations in the real income as a result of changes in the money wage rate or price level, but it does accept changes through variations in the rate of exchange. This assumption becomes less probable the smaller the currency area, so that this is another reason for a reduced number of currency areas<sup>66</sup>.

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<sup>66</sup> See Mundell (1961), p. 663.

## 4. OCA Criteria

This chapter includes a description about the criteria a currency union must satisfy in order to be an optimum currency area. The main objective is to present the situation of the European Monetary Union and to show if the OCA criteria are fulfilled or whether at least significant progress has been made in this sense.

The OCA criteria presented in detail in this chapter are:

1. labor and capital mobility;
2. price and wage flexibility;
3. financial market integration;
4. product diversification (Kenen);
5. economic openness (Mc Kinnon);
6. similarities of inflation rates;
7. fiscal integration (fiscal transfers);
8. political integration;
9. homogeneous preferences.

The analysis of these aspects leads to the conclusion that the OCA criteria are increasingly fulfilled in the European Monetary Union as “citizens and governments learn to live with a common currency”<sup>67</sup>. However, some economists like Krugman/Obstfeld consider that the EMU is not an optimum currency area, because criteria like significant labor mobility are not entirely fulfilled<sup>68</sup>.

### **4.1. Labor and Capital Mobility (Mundell)**

According to the theory of Mundell, two very important criteria of the OCA are labor and capital mobility. The fulfillment of the labor criterion in the EMU is discussed by presenting the views of important economists like Krugman/Obstfeld, Eichengreen, Blanchard and Katz. Then, the reasons for the low labor mobility between and within EMU countries are described in this section. Factors and measures that could increase the labor mobility in the future are

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<sup>67</sup> See Baldwin, Wyplosz (2006), p. 367.

<sup>68</sup> See Krugman/Obstfeld (2006), p. 569.

also discussed. Mundell's theory is illustrated graphically, showing how the equilibrium real exchange rate can be achieved in the case of fully mobile factors of production, labor and capital. An overview of the immigration in Europe over time is given. The analysis of the European labor market shows that the unemployment rate is expected to decrease as a result of GDP growth and increasing consumer confidence, and not so much because of labor flexibility. As a result, wage pressures are also expected. Concerning the free movement of capital, important provisions of the Treaties of the European Union are presented, showing the high degree of regulation regarding capital mobility.

#### **4.1.1. Labor Mobility**

According to Krugman/Obstfeld (2006) "Europe is not an optimum currency area"<sup>69</sup>. Some problems concern the labor mobility.

The main reasons for the lower EMU labor mobility in comparison to that of the United States are language and culture. B. Eichengreen found that the regional unemployment rates are smaller and less persistent in the United States than between countries in the European Union<sup>70</sup>. The main aspect that reduces the regional unemployment in the United States is the migration of workers. Krugman/Obstfeld and other economists consider that this adjustment is unlikely possible in Europe in the near future<sup>71</sup>.

The labor mobility is low even within European countries. In order to obtain unemployment benefits in some countries, persons must establish their residence in these countries<sup>72</sup>. Factors that contribute to low labor mobility in the EMU are the high number of unions and the high government employment taxes. Because of the reduced labor mobility there are high levels of unemployment in some EMU countries and adjustment problems to economic shocks. Pressures of workers for wage harmonization are possible, in order to prevent the migration of capital to countries with lower wages<sup>73</sup>.

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<sup>69</sup> See Krugman/Obstfeld (2006), p. 569.

<sup>70</sup> See Eichengreen (1990), pp. 118-166.

<sup>71</sup> See Blanchard and Katz (1992), pp.1-75.

<sup>72</sup> See Krugman/Obstfeld (2006), p. 567.

<sup>73</sup> See Krugman/Obstfeld (2006), p. 571.

However, legislative measures like the elimination of border controls have been taken in order to encourage labor mobility. Some factors that will probably increase the labor mobility in the years to come are:

- globalization;
- local growth.

The globalization is “a process of increasing freedom for international movements of goods and factors”<sup>74</sup>. There are movements of goods, factors of production and individuals (acting as workers and consumers) among countries especially because of differences in prices and returns. The integration of goods markets reduces international disparities in the real returns of internationally immobile factors, with and without factor mobility. The integration of factor markets decreases the differences in the real returns of internationally immobile factors even with nontraded goods. Globalization is characterized by the tendency of diminishing international disparities in the real returns of factors<sup>75</sup>. The conclusion is that in the context of globalization, because of the increasing integration of goods and factor markets in the EMU, the differences between wages will be reduced, so that an important factor that hinders labor mobility towards some countries and regions, and which consists in the different wages between EMU countries, will be eliminated over time.

The local economic growth can be measured by net migration, per capita income growth and housing price growth<sup>76</sup>. A higher net migration can be determined by or lead to increasing labor mobility. A population that used to live and work in different countries or regions shows flexibility and could increase labor mobility. The per capita income growth is seen as favorable by workers and can determine a higher migration of labor forces towards that country. It also can be the result of the necessity of higher labor migration, especially of the migration of skilled workers, who would not accept certain jobs without high incomes. The housing price growth implicates a population with increasing income like investors who expect further developments and increasing growth in that region. If investors become interested in a country or region then the labor mobility increases, because labor forces from

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<sup>74</sup> See Falvey, Kreickemeier (2002), p. 1.

<sup>75</sup> See Falvey, Kreickemeier (2002), p. 1.

other regions or countries are usually sent there for working reasons, some of them for a limited time. The growth of housing price can also be the result of migration and labor mobility that increases the demand for houses. As a conclusion, there is a connection between local economic growth and labor mobility.

There are several reasons why some localities grow quicker than others. A “good government”, the measures of rule of law and lack of government corruption are important<sup>77</sup>. Public investments in transportation and communication and budget surpluses determine higher incomes<sup>78</sup>. There are marginal benefits from higher levels of government services or government capital and marginal costs from higher taxes<sup>79</sup>. There exists a positive correlation between local growth and expenditures on elementary and secondary school education. A negative correlation is given between local growth and the percentage of local tax revenue from personal income and sales taxes. The economic growth is positively correlated with high levels of human capital and negatively correlated with medium levels of human capital, unemployment, violent crime and poverty<sup>80</sup>.

Factors that have an important influence upon labor mobility are taxes, social transfers, moving costs, consumer price differences and the local supply of public goods<sup>81</sup>.

Another important aspect that influenced the residence chosen by the population of the United States and that could increase in importance in Europe, too, concerns geographical aspects. The population moved towards ocean coastal areas and towards regions with moderate winter and summer temperatures and low levels of precipitations. There was an increasing productivity in localities near the Great Lakes and near navigable rivers<sup>82</sup>.

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<sup>76</sup> See Rappaport (1999), p. 1.

<sup>77</sup> See Keefer and Knack (1995) and Mauro (1995), quoted in Rappaport p. 1.

<sup>78</sup> See Easterly and Rebelo (1993), quoted in Rappaport p. 1.

<sup>79</sup> See Bartik (1991), quoted in Rappaport p. 1.

<sup>80</sup> See Rappaport (1999), p. 2.

<sup>81</sup> See Richter (2002), p. 11.

<sup>82</sup> See Rappaport (1999), p. 36.

In Europe there is a relatively little migration within countries as well as cross-border migration. There are constrictions regarding the mobility especially for non-active citizens of the European Union and for nationals of third countries<sup>83</sup>.

Some economists consider that the EU enlargement represents an opportunity to reduce the rigidity of labor market structures because of the higher external competition<sup>84</sup>. Other economists believe that there will be immigration in order to reap social benefits<sup>85</sup>. There are expectations that immigration will be high in Germany and Austria because of geographic aspects and because these countries have been preferred by immigrants in the past (two-third of immigrants from Central and Eastern Europe lived in Germany in 1993)<sup>86</sup>. According to some calculations, the immigration from the ten Central and Eastern European countries will represent about one percent of the population of the EU in the first years after accession<sup>87</sup>. In Germany immigrants will possibly represent 3.2% of the residential population in 2020. According to another projection there will be 80 percent more immigrants to Germany without taking into consideration Romania and Bulgaria<sup>88</sup>.

According to economic theory, migration increases efficiency. There are also critical aspects regarding migration. Without mobility constraints overshooting migration is possible. There also can be fiscal distortions of choices concerning migration. Furthermore, because of immigration and as a consequence of higher competitive pressure, income losses of labor forces are possible. These losses are usually not large<sup>89</sup>. It was estimated that immigration of unskilled workers representing 1% of EU population would have led to an income loss of 0.7% for the EU-population in 1993. If the labor force had increased by 1% and mainly skilled workers had immigrated, income gains and an increase of GDP by 6.9% could have been expected<sup>90</sup>.

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<sup>83</sup> See Richter (2002), p. 3.

<sup>84</sup> See Burda (2000), quoted in Richter (2002), p. 1.

<sup>85</sup> See Sinn (1994), quoted in Richter (2002), p. 1.

<sup>86</sup> See Richter (2002), p. 4.

<sup>87</sup> See DIW (2000), quoted in Richter (2002), p. 4.

<sup>88</sup> See Sinn (2001), quoted in Richter (2002), p. 4.

<sup>89</sup> See Richter (2002), p. 5.

<sup>90</sup> See Bauer and Zimmermann (1999), quoted in Richter (2002), p. 5.

An important aspect that hinders labor mobility in Europe is the fact that the competence for social security and the right to levy income tax lie with the country of employment concerning cross-border matters. The disadvantages resulting from this situation are the distortion of the choice of active persons concerning the place of work and the fact that employment-based regulation of state competencies cannot be applied to persons that are non-active. The Employment Principle should be replaced by the Principle of Delayed Integration in order to take cross-border matters into consideration<sup>91</sup>. “Delayed Integration means that migrants – active persons and non-active ones alike – remain assigned to their country of origin for tax and social security purposes for an agreed period of time after emigrating. Only after this period has elapsed does the country of immigration take over the fiscal competences for these particular persons<sup>92</sup>.” If this principle is introduced, all jurisdictions must agree to the same span of delay in order to avoid collision in international tax and social security. A period of transition of one to five years is discussed<sup>93</sup>. An advantage of this principle is that the free movement of citizens would be increased without discriminating between active and non-active ones. The fiscal distortion of location choices could be reduced by a long delay, while the consequence of a short delay would be fiscal competition among Member States<sup>94</sup>.

Other possible principles that could replace the Employment Principle, but which are not viable political options are:

1. The Nationality Principle. “Treating Union Citizens differently according to their nationality would be interpreted as a form of discrimination which is expressly forbidden in Article 12 of the EU Treaty<sup>95</sup>.”
2. The Origin Principle. “According to Sinn (1994), individuals should therefore only be free to choose between the competing redistributive systems ex ante when young and ignorant about career perspectives. The redistributive system they choose then defines the country of origin, or the home country, respectively. Switching the country of origin ex post should not be allowed<sup>96</sup>. According to this opinion the primary function of the welfare state is to insure against income risks and uncertain life

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<sup>91</sup> See Richter (2002), p. 1.

<sup>92</sup> See Richter (2002), p. 2.

<sup>93</sup> See Richter (2002), p. 19.

<sup>94</sup> See Richter (2002), p. 21.

<sup>95</sup> See Richter (2002), p. 14.

<sup>96</sup> See Richter (2002), p. 15.



careers. If individuals could change insurance ex post there would be a risk of adverse selection<sup>97</sup>.

3. The Residence Principle. This principle exists in the Nordic countries where insufficient resources after three years of residence do not have expulsion as a consequence. The objections to this principle are that the negative allocation effects of the Employment Principle would hardly be reduced because migrant workers use to change the place of residence together with the place of work, and that the welfare support would be an important criterion for recipients of social assistance in their decision about choosing a residence<sup>98</sup>.

Important measures adopted through the Maastricht Treaty, that were also intended to increase migration, were the introduction of the status of Union Citizenship, the right to vote and to candidate at municipal and European elections and the right to move and reside freely within Member States<sup>99</sup>.

A significant reason for labor mobility is, according to Mundell, the elimination of the cost of sharing the same currency when the factors of production, capital and labor, are fully mobile. The assumption in his theory is that of mobile capital.

#### 4.1.2. The Graphical Illustration of Mundell's Theory

The theory of Mundell can be illustrated graphically (using the figure 7 described in detail also in the previous chapter on page 22). The graph is of importance because it presents the situation of two countries A and B, with unemployment in A and inflation in B, as it is described in Mundell's theory. This figure illustrates the way in which it is possible to reach a real exchange rate equilibrium  $\lambda_2$  with mobile factors of production (labor and capital).

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<sup>97</sup> See Richter (2002), p. 15.

<sup>98</sup> See Richter (2002), p. 17.

<sup>99</sup> See Richter (2002), p. 6.

A possible assumption is that of unemployment in country A and inflationary pressure in country B. A solution is the shift of factors of production from country A to country B because in the latter country there is a short supply. The shift of the supply schedules to  $S'$  shows the reallocation. When country A is at point C and country B is at point D' then there is a new equilibrium exchange rate. Prices and wages do not have to change in either country. The nominal exchange rate  $E_2$  delivers the equilibrium real exchange rate  $\lambda_2$  if there is a movement of the factors of production.

There are different aspects that should be taken into consideration:

1. Currency areas usually do coincide with nation states because of the common culture and language. Important aspects that hinder labor migration are institutional barriers. Changes in legislation are recommended.
2. Because the goods produced in country A can differ from those produced in country B it could take time until labor forces are able to produce the goods of country B. Shocks could also be temporary, while moving and retraining could take time.
3. In order to make labor more productive, equipment is needed. Plants and equipment are not mobile<sup>100</sup>.

Labor mobility depends on how easily people respond to economic incentives. Earnings must include: the cost of moving; the possibility of becoming unemployed; career opportunities; family career prospects; social benefits; taxation of earnings. There are also non-economic incentives like cultural differences that include language, relations, traditions, family and nationalism.

#### 4.1.3. Immigration in Europe over Time

In Europe there is less immigration than in the United States and Canada because of the differences between European countries. Only a small proportion of foreign workers are Europeans. Even within European countries the labor mobility is low<sup>101</sup>. 38 percent of EU citizens changed residence in the 1990s: 68 percent of them moved within the same town or village and 30 percent moved to another town in the same region. In Europe 21 percent

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<sup>100</sup> See Baldwin, Wyplosz (2006), p. 356.

moved to another region in the same Member State and 4.4 percent moved to another Member State. Moving is mainly determined by personal reasons and only 5 percent move because of professional reasons. The most important reasons are language and traditions. Housing is usually more expensive in Europe than in the USA. There are also difficulties concerning the health and retirement benefits<sup>102</sup>.

Until 1968, when work permits were abolished and preferences for home country workers no longer permitted, there were significant restrictions of labor movements. In Germany there has been a small rise and in Luxembourg a small fall in the national work forces<sup>103</sup>.

During the past 20 years significant labor market reforms have been introduced, e.g. reductions in traditional employment protections. The US is more open to immigrants than Europe<sup>104</sup>.

In the period 1997-2002 13 percent of employment growth in Europe was due to third country nationals. Immigrants represented 20 percent of the employment growth if foreign-born citizens were included. In the US the net flows of highly-educated individuals are more significant than in Europe<sup>105</sup>.

#### **4.1.4. The European Labor Market**

The developments of the European Labor Markets (ELM) were favorable lately as a consequence of the measures taken in order to improve the labor market conditions (e.g. the permanent efforts to liberalize these markets).

The expectations for 2008-2009 are of a deceleration in the employment dynamics. The unemployment rate will, however, become lower as a result of GDP growth and of the maturity cycle.

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<sup>101</sup> See Baldwin, Wyplosz (2006), p. 364.

<sup>102</sup> See Baldwin, Wyplosz (2006), p. 365.

<sup>103</sup> El (2007), p. 158.

<sup>104</sup> Eichengreen, Landesmann and Stiefel (2008), p. 5.

In Germany there was a significant increase of mainly regular jobs (e.g. full-time, paying social security contributions). There is an expectation of a positive employment growth in the EMU member countries, while a slower growth than the average is expected in France, Italy and Portugal.

The employment rate is also expected to have a positive development outside the EMU (e.g. in Poland). This development will be seen in all sectors as well as for various types of work arrangements (e.g. part-time, full-time, permanent and fixed-term contracts). This is the result of structural reforms and increasing confidence of firms. The consumer confidence is also expected to increase<sup>106</sup>. A problematic aspect is, however, youth unemployment, especially in Poland, France and Spain.

Employment increased in the service sector, while the data from the manufacturing sector were more mixed. The outlook for 2008-2009 indicates an employment growth of slightly below 1 percent per annum in the euro area and in the EU. There will probably be a decelerated employment growth in Germany, Spain and Italy as well as in the smaller Member States. Employment growth in the EU will decrease from 1.5 percent in 2007 to 0.9 percent in 2008 and 0.8 percent in 2009. In Poland the employment growth is expected to drop from 4.4 percent in 2007 to 1.3 percent in 2009. In Sweden and Denmark there will be declines of around 2 percent points.

In the euro area the unemployment rate was expected to be around 7.1 percent in 2008 and 2009 and in the EU 6.8 percent in 2008 and 6.6 percent in 2009. In 2008 a significant decline of unemployment was expected in Germany and the Netherlands. In the UK and Estonia there was an expectation of a constant unemployment rate, while in Lithuania the unemployment rate was expected to increase.

The structural unemployment rate (NAIRU - non accelerating inflation rate of unemployment) was also declining and was expected to be 7.1 percent in the euro area and 6.6 percent in the EU by 2009. However, because of these developments, wage pressures were expected (e.g. in

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<sup>105</sup> Eichengreen, Landesmann and Stiefel (2008), p. 6.

<sup>106</sup> See Economic Forecast, Autumn 2007, p. 37.

the Netherlands, Poland, Denmark and Bulgaria). In the manufacturing and service sectors more and more labor and equipment shortages were expected<sup>107</sup>.

Real compensation of employees in the euro area were expected to increase from 0.7 percent in 2007 to 1.0 percent in 2008 and 0.8 percent in 2009 (especially because of the situation in Germany, Finland and Slovenia). The real compensation per employee in Spain will probably decrease. In the EU the compensation per employee will increase by 0.9 percent in 2007, 1.4 percent in 2008 and 1.3 percent in 2009. These rates are above the long-term averages of the past ten years for the euro area and the EU. Moderate wage developments are expected (especially as a result of international competition). Unit labor costs should be of 1.8 percent in 2008 and 1.5 percent in 2009 in the euro area. Export should be supported by these developments.

“It is expected that (i) employment growth will remain robust, (ii) the unemployment rate will keep declining, (iii) and compensation per employee will see a slight improvement over the forecast horizon. This should support rise in the overall wage bill which, in turn should feed into an improved outlook for private consumption”<sup>108</sup>.

The expected labor productivity growth is of 1.2 percent in 2008 and 1.3 percent in 2009. The longer-term averages of productivity will be 1 ¼ percent in the euro area and 1 ½ percent in the EU. In the EU the labor productivity should increase faster because of the catching-up economies and the above-average labor productivity in Denmark and the UK. A relatively low productivity growth is expected in Italy and Spain in 2008-2009.

Two significant developments can be observed in the EMU:

- because of structural reforms, wage moderation and cyclical upswings, the employment and labor supply increased;
- the slowdown in labor productivity that began in mid-1990s came to a halt in mid-2000s<sup>109</sup>.

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<sup>107</sup> See Economic Forecast, Autumn 2007, p. 38.

<sup>108</sup> See Economic Forecast, Autumn 2007, p. 39.

<sup>109</sup> See Economic Forecast, Autumn 2007, p. 40.

**Labour market outlook – euro area and EU27**

(Annual percentage change)					Difference vs						Difference vs	
Euro area					spring 2007		EU27				spring 2007	
	2006	2007	2008	2009	2007	2008	2006	2007	2008	2009	2007	2008
Population in working age (15 - 64)	0.1	0.2	0.2	0.2	-0.1	0.0	0.2	0.2	0.2	0.2	-0.1	0.0
Labour force	:	0.7	0.8	0.8	-0.2	0.0	0.8	0.7	0.6	0.6	0.0	0.0
Employment	1.3	1.5	1.0	0.8	0.1	-0.2	1.5	1.5	0.9	0.8	0.1	-0.2
Employment (change in million)	2.1	2.3	1.7	1.5	2.4	1.8	3.5	3.5	2.3	2.1	0.5	-0.2
Unemployment (levels in millions)	12.6	11.2	11.0	11.0	0.2	0.6	19.2	16.8	16.1	15.9	-0.2	0.2
Unemployment rate (% of labour force)	8.3	7.3	7.1	7.1	0.1	0.3	8.2	7.1	6.8	6.6	-0.1	0.1
Labour productivity, whole economy	1.4	1.1	1.2	1.3	-0.1	0.0	1.5	1.3	1.5	1.6	-0.2	0.0
Employment rate (a)	66.0	66.9	67.5	67.9	:	:	64.4	65.3	65.8	66.2	0.3	0.2

(a) As a percentage of population of working age. Definition according to structural indicators.

**Table 1: Labor Market Outlook – Euro Area and EU27**

Source: *Economic Forecast, autumn 2007, p. 40.*

The previous table shows that the yearly increase of the population in the working ages is expected to remain relatively constant between 2007 and 2009. A further conclusion of these data is that the employment will increase and the unemployment rate will become lower, but with a decreasing dynamic. The lower unemployment rate is especially due to the GDP growth and not so much the consequence of labor mobility. Wage pressures are expected because of these developments. The labor flexibility could also increase especially towards countries where the compensations per employee become higher and unemployment rates lower. The presented data must be viewed, however, with caution because of the current crisis.

#### 4.1.5. European and US Labor Situation

Analyzing the situation of the US economy, which fulfills the OCA criteria to a large extent, can be useful for the European economy. Measures can be taken after the differences and common aspects of the two economies are understood, in order to improve the competitiveness and to increase the fulfillment of the OCA criteria in EMU. The conclusion that can be derived is that although the US and the European economy resemble one another

more than they differ, regarding labor mobility significant measures for labor markets are necessary in EMU in order to increase the optimality.

In Europe the income inequality is not as high as in the US, but the social mobility that permits individuals to move between less- and better-paying jobs is also lower. This leads to an increased incentive for well trained labor forces to work in the US. The unemployment rates are higher in Europe than in the US, the work weeks shorter and there are more holiday weeks. Other important characteristics of European labor markets compared to those in the US are:

- more difficulties to terminate redundant workers;
- bigger problems in reorganizing production with the purpose of reducing labor costs;
- more heavy unionization;
- the existence of industry-wide wage agreements that reduce the possibility of wage differentials between more- and less- productive firms and regions.

However, the output per hour worked (a measure of productivity) is higher in most advanced European economies than in the US. In Europe the number of skilled technicians is also very high.

The European and US economies also have a high number of aspects in common (e.g. both economies are well managed and have skilled workers and entrepreneurs). The conclusion is that “from the perspective of the rest of the world, the U.S. and European economies resemble one another more than they differ”<sup>110</sup>.

The US and European economies are confronted with external pressures resulting for example from competition from lower-wage emerging markets like China and the interests of corporations to make investments in lower-cost economies<sup>111</sup>.

The convergence of the income per capita between Europe and the US stopped in the 1970s. Since the 1990s the European-U.S. productivity (meaning GDP per hour worked or total

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<sup>110</sup> See Eichengreen and Landesmann (2008), p. 1.

<sup>111</sup> See Eichengreen and Landesmann (2008), p. 2.

factor productivity) gap has widened. According to the Single Market Program, EMU and Lisbon Agenda, the purpose is to make Europe the most productive economy of the world by 2010<sup>112</sup>.

In 2004 the EU-15 productivity represented 90 percent of US productivity, while the European income per capita was only 69 percent of that of the US. The reason for this situation consists in the difference of hours worked per capita, being possible consequences of a stronger taste for leisure and especially of differences in participation rates (which represent “the share of the population of working age that is counted as part of the employed or unemployed labor force”<sup>113</sup>). The employment and participation rates in Europe have improved since 1995 especially because of market and pension reforms as well as due to measures towards lower youth unemployment<sup>114</sup>.

“While incorporation into the European Union encourages catching-up, such processes can take a long time. Given the diversity of developmental starting points, wider Europe comprises a region with a very wide range of Standortfaktoren (wage and productivity levels, skill endowments, quality of institutions, etc.), which poses political problems. From a more narrowly economic standpoint, it opens up an unprecedented range of location options for firms and facilitates their efforts to develop cross-European production networks as a way of enhancing productivity and profitability”<sup>115</sup>.

In Europe, in the past 20 years, important labor market reforms have been undertaken (e.g. the reduction of traditional employment protections)<sup>116</sup>. Measures which are possible in order to increase employment and participation rates, could lead in the short run to higher labor/capital ratio and thus reduce productivity. This could also be an explanation for the slow European growth recently<sup>117</sup>.

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<sup>112</sup> See Eichengreen and Landesmann (2008), p. 3.

<sup>113</sup> See Gordon (2008), quoted in Eichengreen and Landesmann (2008), p. 3.

<sup>114</sup> See Gordon (2008), quoted in Eichengreen and Landesmann (2008), p. 3.

<sup>115</sup> See Aiginger and Landesmann (2008), quoted in Eichengreen and Landesmann (2008), p. 4.

<sup>116</sup> See Boeri (2008), quoted in Eichengreen and Landesmann (2008), p. 5.

<sup>117</sup> See Pichelmann and Roeger (2008), quoted in Eichengreen and Landesmann (2008), p. 5.



An important characteristic of Europe is that social protection is significant and represents a fundamental right, determining lower poverty rates, better health provisions, a higher life expectancy and lower crime rates than in the US<sup>118</sup>. Unemployment compensation in Europe can have some negative effects on labor utilization. Certain social transfers have, however, pro-growth effects (e.g. investments in career continuity and skill accumulation as well as public health expenditure)<sup>119</sup>.

The European economy is, however, also confronted with some problems like lagging productivity growth, population ageing and difficult adjustments in the context of enlargement and globalization<sup>120</sup>.

#### **4.1.6. Increasing Labor Mobility**

The analysis of the US and European labor markets shows that in EMU significant measures should be taken, especially in the context of enlargement. Some additional solutions to European labor market challenges that could be adopted, as well as steps that have already been taken, are described in this chapter. They can contribute to an increasing acceptance of EMU and higher optimality of the euro currency area.

This is important in order to decrease the probability of EMU breakup. In this context, the recognition of technical credentials, the portability of pensions and the receipt of social services in the new labor market are important to be adopted<sup>121</sup>.

Some of the important measures, which already have been taken, are: more transparent and transferable qualifications by introducing a standard portfolio of documents (“the Europass”); the elimination of many administrative and legal barriers; as well as the European health insurance card and more portable occupational pension rights.

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<sup>118</sup> See Streissler (2008), quoted in Eichengreen and Landesmann (2008), p. 8.

<sup>119</sup> See Lindert (2008), quoted in Eichengreen and Landesmann (2008), p. 8.

<sup>120</sup> See Eichengreen and Landesmann (2008), p. 10.

<sup>121</sup> See Eichengreen (2007), p. 27.

However, higher labor mobility within EMU leads to the necessity to reinforce barriers to immigration from outside the euro zone, disregarding whether it is legal or illegal. This aspect could result in strains with different governments and is not very useful for promoting democratic values and market-oriented economic development<sup>122</sup>.

A measure that could be taken into consideration would be a different treatment of workers from EU member countries that have introduced the euro and workers from EU states that are not EMU members. As a result, a possibility would be to allow workers to relocate freely only within EMU member states, especially in the context of concerns regarding for example a future EMU membership for Turkey<sup>123</sup>.

#### **4.1.7. Free Movement of Capital**

The free movement of capital is one of the four freedoms comprised in the original Treaty of Rome. The articles were altered by the Treaty of the European Union (TEU) and renumbered by the Treaty of Amsterdam (ToA)<sup>124</sup>.

By Article 67(1) of the Treaty of Rome the obligation to abolish restrictions on capital movements was introduced, which was an important aspect for the proper functioning of the common market. Article 68(1) of this Treaty imposed the obligation for Member States to act as liberally as possible in granting exchange authorizations. Article 71 required from Member States not to introduce new exchange restrictions on capital movements.

The TEU, with effect from 1 January 1994, contains important provisions concerning the free movement of capital. Article 56 of the TEU requires that:

- 1. Within the framework of provisions set out in this chapter, all restrictions on the movement of capital between Member States and between Member States and third countries shall be prohibited.*

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<sup>122</sup> See Eichengreen (2007), p. 28.

<sup>123</sup> See Eichengreen (2007), p. 29.

<sup>124</sup> See Craig, Burca (2003), p. 680.

2. *Within the framework of the provisions set out in this chapter, all restrictions on payments between Member States and between Member States and third countries shall be prohibited.*

Some examples of aspects prohibited by Article 56 of the TEU are: a national prohibition on the creation of a mortgage in a foreign currency, discriminatory restrictions concerning the acquisition and disposal of movable property, measures to dissuade the residents of a Member State not to obtain loans or make investments in other Member States<sup>125</sup>.

Some restrictions between Member States and non-member countries are still possible. Article 59 of the TEU for example provides that:

*Where, in exceptional circumstances, movements of capital to or from third countries cause, or threaten to cause, serious difficulties for the operation of economic and monetary union, the Council, acting by a qualified majority on a proposal from the Commission and after consulting the ECB, may take safeguard measures with regard to third countries for a period not exceeding six months if such measures are strictly necessary.*

Article 58 of the TEU represents an exception to Article 56. It contains the disposals that:

1. *The provisions of Article 56 shall be without prejudice to the right of Member States:*
  - (a) *to apply the relevant provisions of their tax law which distinguish between taxpayers who are not in the same situation with regard to their place of residence or with regard to the place where their capital is invested;*
  - (b) *to take all requisite measures to prevent infringements of national law and regulations, in particular in the field of taxation and the prudential supervision of financial institutions, or to lay down procedures for the declaration of capital movements for purposes of administrative and statistical information, or to take measures which are justified on grounds of public policy or public security.*
2. *The provisions of this chapter shall be without prejudice to the applicability of restrictions on the right of establishment which are compatible with this Treaty.*

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<sup>125</sup> See Craig, Burca (2003), p. 681.

3. *The measures and procedures referred to in paragraph 1 and 2 shall not constitute a means of arbitrary discrimination or a disguised restriction on the free movement of capital and payments as defined in Article 56.*

Article 119 and 120 of the TEU contain a qualification to Article 56 and deal with balance of payments crises. If a Member State has a difficulty with its balance of payments or as a result of the type of currency at its disposal that could lead to problems regarding the proper functioning of the common market or the implementation of the common commercial policy, the Commission must suggest measures to the State. If this is insufficient to overcome the difficulties, the Commission can authorize the State to take protective measures. Article 120(1) of the TEU provides that:

*Where a sudden crisis in the balance of payments occurs and a decision within the meaning of Article 119(2) is not immediately taken, the Member States concerned may, as a precaution, take the necessary protective measures. Such measures must cause the least possible disturbance in the functioning of the common market and must not be wider in scope than is strictly necessary to remedy the sudden difficulties which have arisen.*

The conclusion of the analysis of the criteria of labor and capital mobility is that while the criterion of labor flexibility is not fulfilled (e.g. also according to the opinions of Krugman/Obstfeld, Eichengreen and Blanchard and Katz), the criterion of the capital mobility is satisfied.

## **4.2. Price and Wage Flexibility**

The need for nominal exchange rate adjustment is reduced if nominal prices and wages are flexible between and within countries having a single currency<sup>126</sup>. The reason is that the probability of sustained unemployment in one country and/or inflation in another is not so high during the transition towards adjustment following a shock if prices and wages are flexible. The loss of direct control over nominal exchange rates is a cost if nominal prices and wages are downward rigid because measures of real flexibility by exchange rate adjustments

are not possible<sup>127</sup>. Price and wage flexibility are important in the short run during the adjustment process after a disturbance<sup>128</sup>.

#### 4.2.1. Price flexibility

The reasons for the low price flexibility consist in trade barriers, state aid and the low market competition in sectors with state owned enterprises as well as in a reduced elasticity of demand. Studies show that especially the existence of a high degree of competition leads to price flexibility; it makes companies take into consideration the prices of competitors, review prices more often and to change them. Prices are also modified more often in sectors with a high elasticity of demand. In companies where labor costs are significant for price setting, prices are not changed so often as in sectors where raw materials are more important, because changes of wages do not occur that often as the changes in prices of raw materials.

Price flexibility is low across European countries. Some reasons are the slow implementation of the Single Market Programme (which highlighted the need for institutional and constitutional reform of the Community; the 1992 goal consisted in the creation of a homogeneous frontier-free internal market<sup>129</sup>), a slow elimination of some non-tariff internal and external trade barriers and state aid to several sectors. There is usually a low market competition in sectors with state owned or previously state owned enterprises<sup>130</sup>.

The firms pricing behavior depends on the degree of market competition. The responsiveness to current shocks is higher in firms acting in more competitive industries. The reason is that these companies face higher uncertainty about their future position in the market and are more concerned with their short-run returns<sup>131</sup>. In firms from industries characterized by less competition, long-term returns are important in the decision making process and fluctuations

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<sup>126</sup> See Friedman (1953), quoted in Mongelli (2002), p. 9.

<sup>127</sup> See Kawai (1987), quoted in Mongelli (2002), p. 9.

<sup>128</sup> See Mongelli (2002), p. 8.

<sup>129</sup> See Arestis, McCauley, Sawyer (1999), p. 26.

<sup>130</sup> See Mongelli (2002), p. 18.

<sup>131</sup> See Encaoua, Geroski (1986), quoted in Alvarez, Hernando (2006), p. 9.

in costs and demand are smoothed out. Oligopolists usually do not adjust prices immediately because of tacit pricing understandings<sup>132</sup>.

The price adjustment is faster when the elasticity of demand and competition are higher<sup>133</sup>. In competitive industries responses of prices to supply and demand shocks are faster<sup>134</sup>, and cost changes are transmitted more into prices<sup>135</sup>. Several studies show that there is a positive link between price flexibility and the degree of market competition<sup>136</sup>.

The degree of competition faced by a firm can be inferred “from the importance it attaches to changes in competitors’ prices in explaining its own price decreases”<sup>137</sup>. This definition can be explained by the fact that if the environment of a firm is more competitive, it is more likely that the pricing strategy is influenced by the behavior of competitors.

Around 60% of firms are confronted with intense competition in the euro area. The share of companies that face intense competition is the lowest in Spain with 54% and the highest in the Netherlands with 71%<sup>138</sup>.

There are different ways how firms set prices: “markup over costs”, “price set according to competitors’ prices” and “others”<sup>139</sup>. Setting prices as a markup over marginal costs is characteristic for firms with an important degree of market power. 64% of firms with low competition and 50% of firms in industries with intense competition use markup rules. 15% of firms facing low competition and 35% of companies facing high competition set prices according to competitors’ prices. A highly competitive environment determines a forward looking decision making process. In Spain for example 37% of firms operating in a competitive environment and 18% of firms operating in an environment characterized by low competition adopt forward looking strategies when setting the prices.

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<sup>132</sup> See Stiglitz (1984), quoted in Alvarez, Hernando (2006), p. 9.

<sup>133</sup> See Carlton (1986) and Hall et al. (2000), quoted in Alvarez, Hernando (2006), p. 9.

<sup>134</sup> See Geroski (1992), quoted in Alvarez, Hernando (2006), p. 9.

<sup>135</sup> See Weiss (1995), quoted in Alvarez, Hernando (2006), p. 9.

<sup>136</sup> See Dixon (1983), Encaoua and Geroski (1986), Bedrossian and Moschos (1988), quoted in Alvarez, Hernando (2006), p. 9.

<sup>137</sup> See Alvarez, Hernando (2006), p. 11.

<sup>138</sup> See Alvarez, Hernando (2006), p. 11.

<sup>139</sup> See Fabiani et al. (2006), quoted in Alvarez, Hernando (2006), p. 13.

Firms facing more competition review prices more frequently in the euro area. Firms that review prices at least twelve times per year represent 23% of those for whom competitors' prices are unimportant and 34% of those for whom competitors' prices are very important. 68% of firms for whom competitors' prices are unimportant and 45% of companies for whom competitors' prices are very important review prices at most three times per year<sup>140</sup>.

10% of firms reporting that competitors' prices are unimportant for their decisions concerning price setting and 26% of companies stating that competitors' prices are very important for their price setting policies change prices at least four times a year. 73% of firms that consider competitors' prices unimportant and 50% of companies for whom competitors' prices are very important change prices at most once a year in the euro area. Prices are unchanged on average for 9 months for very competitive firms and for 14 months in more sheltered markets of the euro area<sup>141</sup>.

Price flexibility, "measured by the fraction of firms that change prices at least four times a year"<sup>142</sup>, is determined by the market competition. The companies for whom labor costs are very relevant do not change prices so often, because wages usually change once a year. The firms where raw materials are very relevant change prices more often, because the raw material prices typically change often. Important demand conditions (e.g. a high elasticity of demand) usually determine higher price flexibility. The sectors where prices are less flexible are the transport and communication sector<sup>143</sup>.

The overall conclusion of the aforementioned data is that price flexibility is low in the EMU, especially in sectors with state owned enterprises. A significant example in this sense is represented by the high number of companies belonging to the transportation sector. The studies presented show that in EMU 60 percent of firms are confronted with intense competition, but only 35 percent of companies facing high competition set prices according to competitors' prices (50 percent use markup rules). Furthermore, just 34 percent of firms for

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<sup>140</sup> See Alvarez, Hernando (2006), p. 15.

<sup>141</sup> See Alvarez, Hernando (2006), p. 16.

<sup>142</sup> See Alvarez, Hernando (2006), p. 22.

<sup>143</sup> See Alvarez, Hernando (2006), p. 22.

whom competitors' prices are very important review prices at least twelve times per year and 45 percent of them at most three times per year. In firms with high competition prices are unchanged on average for 9 months.

#### **4.2.2. Wage Flexibility**

The reasons for the wage rigidity in the EMU are described in this section. The concepts of nominal and real wage flexibility are presented as well as their significance for the achievement of real exchange rate equilibrium, current account equilibrium and low equilibrium unemployment. The developments of nominal wages should be in accordance with EMU goals (e.g. price stability and the structural competitiveness at country level). Possibilities in order to increase wage flexibility are presented, e.g. a transnational co-ordination of wage bargaining at EU level, but also a weakening of trade union power and labor market regulation. Factors that also have to be taken into consideration are the desire of workers for security and higher employment.

##### **4.2.2.1. Wage Rigidity in Europe**

Real wages are characterized by rigidity across most European countries. The adjustment of real wages to economic shocks is slow in continental Europe<sup>144</sup>. Reasons for the low wage flexibility are: wage bargaining arrangements, employment protection, unemployment insurance systems, and minimum wage provisions<sup>145</sup>. Important labor market asymmetries<sup>146</sup> and a wide heterogeneity of labor market institutions are specific for EU countries<sup>147</sup>. Pressure on real wages has been due to unemployment in Europe in the 1990s. The reduced wage flexibility leads to low price flexibility<sup>148</sup>.

The dynamics of wage and labor costs has been benign during the last years in the euro area, but there still are cross-country differences in the developments of wage and labor costs that

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<sup>144</sup> See OECD (1994), quoted in Mongelli (2002), p. 18.

<sup>145</sup> See Blanchard (1999), Blanchard and Wolfers (2000), EU Commission (1999), IMF (1999), quoted in Mongelli (2002), p. 18.

<sup>146</sup> See Cadiou, Guichard, Maurel (2001), quoted in Mongelli (2002), p. 18.

<sup>147</sup> See Nickell (1997), Layard and Nickell (1998), OECD (1999), quoted in Mongelli (2002), p.18.

<sup>148</sup> See Mongelli (2002),p. 18.



do not always reflect warranted adjustment needs and that show an insufficient degree of nominal and real flexibility<sup>149</sup>. The improvement in labor market performance like the rising employment rates, the trend increase in participation and the reduction in structural unemployment are only in a small degree the result of wage flexibility.

#### **4.2.2.2. Concepts of Nominal and Real Wage Flexibility**

“Real or nominal wage flexibility can be seen as the speed with which real or nominal wages adjust to real or nominal shocks”<sup>150</sup>. Concepts of nominal and real wage flexibility are “the response of nominal wages to changes in the price level of inflation”<sup>151</sup>, “the response of real wages to labor market conditions (i.e. either to changes in unemployment or in productivity) due to the presence of labor market frictions”<sup>152</sup> and “the response of wages to changes in the composition of labor demand or labor supply”<sup>153</sup>.

It has been proved that nominal wages are usually downward rigid when an adjustment is required. On the other hand, a higher inflation rate usually leads to stronger wage increases than lower inflation (in order to compensate for the reduction of the purchasing power)<sup>154</sup>.

A longer period for the elimination of labor market disequilibrium indicates low real wage flexibility. The reaction to demand pressures is small when wage rigidity is high.

It is possible that relative wages do not express correctly individual skills, individual productivity or geographical conditions because of wage compression. When there is a shock because of the shift in consumers' preferences from domestic to foreign produced goods, an adjustment in relative prices and wages is necessary in order to balance labor demand and labor supply.

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<sup>149</sup> See Arpaia, Pichelmann (2007), p. 2.

<sup>150</sup> See Arpaia, Pichelmann (2007), p. 3.

<sup>151</sup> See Arpaia, Pichelmann (2007), p. 4.

<sup>152</sup> See Arpaia, Pichelmann (2007), p. 4.

<sup>153</sup> See Arpaia, Pichelmann (2007), p. 4.

<sup>154</sup> See Arpaia, Pichelmann (2007), p. 4.

There are two different dimensions of wage adjustment mechanisms. The first refers to the fact that nominal wage and price flexibility are important as a reaction to country-specific aggregate demand shocks. Flexible money wages and flexible prices can have an influence upon output and employment and thus lead to necessary real effective exchange rate and current account equilibrium. The second is the possibility that real wage flexibility leads to real wages that are in line with regional, sectoral and occupational productivity developments. Equilibrium unemployment could be lower if wages were more flexible because a reallocation of labor resources across economic activities would be possible in the situation of industry-specific or supply-side shocks<sup>155</sup>.

#### **4.2.2.3. EMU Goals**

The goals that are important to be achieved in EMU are developments of nominal wages consistent with the goal of price stability and the avoidance of the loss of structural competitiveness at country level. Excessive nominal wages could increase the inflationary risk, reduce the competitiveness and lead to higher unemployment. The aggregate wage growth should be given by the sum of trend productivity growth and price stability target of the ECB of below 2%. In the EMU the growth of nominal wage per worker has been stable<sup>156</sup>. Over the period 1999-2006 the increase of nominal wage per worker was low and represented 2.5%, without Germany, where the increase was 3%<sup>157</sup>.

The differences that exist between wage and labor cost developments in countries belonging to the EMU do not necessarily need to be a cause for concern, but they could reflect the growth or the cyclical situation of that country. The inflation and as a consequence the wage increases could be higher in countries that grow faster, while the inflation and wage growth are usually lower in countries confronted with depression.

The changes in relative wages and prices of different sectors are important for the absorption of sectoral shocks. When there is a demand shift from traded to non-tradable goods in a

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<sup>155</sup> See Arpaia, Pichelmann (2007), p. 4.

<sup>156</sup> See Arpaia, Pichelmann (2007), p. 5.

<sup>157</sup> See Arpaia, Pichelmann (2007), p. 7.

certain country, changes of wages and prices of the tradable relative to the non-tradable goods could lead to a new equilibrium and reduce trade imbalances<sup>158</sup>.

#### 4.2.2.4. Reasons for Wage Rigidity in EMU

Nominal wages have a high degree of rigidity in EMU. The downward wage adjustment is about 0.3% when unemployment increases by 1%<sup>159</sup>.

A reason for nominal wage rigidity is given by “the long contract periods”<sup>160</sup>. An incentive for long contract periods are lower negotiation costs like the risk of labor-market conflicts, while an incentive for short contract periods is the possible reaction to unforeseen events. Longer contract periods also have as a result lower inflation rates because nominal wages are not revised so often<sup>161</sup>.

Other aspects that result in downward nominal wage rigidity are “social norms about fairness: firms do not want to cut money wages because this would have a negative impact on workforce morale and reduce productivity<sup>162</sup>.” Reductions of nominal wages are usually accepted only in extreme situations, for example when the survival of the firm is problematic.

Furthermore, the nominal wage rigidity has to do with the “bargaining game between employers and employees”<sup>163</sup>. “The common practice is almost everywhere that production continues with the same money wage as in the old contract until a new one is concluded. The consequence may be nominal wage rigidity: if there is only a moderate change in nominal demand, it will pay for neither employers nor unions to initiate a labor-market conflict to change the wage. The upshot is again that, even if the EMU implies larger demand fluctuations, these may not be sufficiently large to change wage-setting behavior”<sup>164</sup>.

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<sup>158</sup> See Arpaia, Pichelmann (2007), p. 8.

<sup>159</sup> See Arpaia, Pichelmann (2007), p. 30.

<sup>160</sup> See Calmfors (2001), p. 2.

<sup>161</sup> See Calmfors (2001), p. 2.

<sup>162</sup> See Solow (1979), Akerlof and Yellen (1990), quoted in Calmfors (2001), p. 3.

<sup>163</sup> See Holden (1994), quoted in Calmfors (2001), p. 3.

<sup>164</sup> See Calmfors (2001), p. 3.

#### **4.2.2.5. Wage Flexibility and Co-ordination of Wage Bargaining**

A national co-ordination of wage bargaining will probably be introduced in the EMU, because nominal wage flexibility could become an important substitute for domestic monetary policy if social actors see the need for such a development<sup>165</sup>. There are incentives for a transnational co-ordination of wage bargaining at EU level because of the Europeanization of monetary policy and in order to increase welfare. The framework for this development is given by the Macroeconomic Dialogue within the framework of the Employment Pact, established by the EU in 1999. According to this, European-level unions and representatives of employers meet regularly with the ECB, the Commission and EU ministers of Finance and discuss macroeconomic issues. Another incentive consists in the increased competition among firms from different European countries, because a transnational co-ordination would result in smaller job losses than wage increases within the sector of one country only<sup>166</sup>. Cross-border bargaining co-ordination would also increase the bargaining power within large multinational firms that threaten to reallocate production to other countries because of wage and labor cost increases<sup>167</sup>.

Reasons that could impede transnational bargaining co-ordination are a very country-specific knowledge about labor-market relations, the insufficient knowledge of foreign languages especially among blue-collar union representatives, the opposition from employers who favor decentralization and the reduction of union gains because of competition from outside the EU<sup>168</sup>. If there will be a transnational coordination of wage bargaining the probability for this development will be the highest within multinational firms because of similarities in production that determine similar systems of pay and other benefits, and because of the regular interaction of employees from different countries. Multinational firms in the EU with at least 1000 employees in total and a minimum of 150 employees in at least two countries must establish European Works Councils according to the Commission directive from 1994. "They represent institutionalized networks of employees across borders, where local union representatives will meet regularly, and could provide a basis for co-ordination of

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<sup>165</sup> See Calmfors (2001), p. 4.

<sup>166</sup> See Calmfors (2001), p. 20.

<sup>167</sup> See Calmfors (2001), p. 21.

<sup>168</sup> See Calmfors (2001), p. 22.

bargaining<sup>169</sup>.” Factors that reduce the co-ordination costs are the common currency and the possibility to increase the influence of unions in Brussels<sup>170</sup>.

#### **4.2.2.6. Further Possibilities to Increase Wage Flexibility**

It is thought that the poor performance of European countries in comparison with that of the United States is the result of labor market rigidities. By weakening trade union power and labor market regulations, the flexibility of the labor market could be increased.

However, when decisions concerning the labor market are taken, the workers welfare, aspects of social security, but also budgetary constraints and the danger of long-term unemployment because of high wages and labor costs have to be taken into consideration<sup>171</sup>. In the decision making process about labor markets the interests of employers for more flexibility and the need of workers for security and higher employment should be taken into consideration<sup>172</sup>.

Through the Employment Guidelines the EU Council recommended in 2002 to EU Member States to continue the implementation of further structural reforms, innovation, and competitiveness and to analyze the possibility of introducing more flexible labor contract types into the national laws. According to the EU Council, IMF, OECD and the European Central Bank, there is a necessity to increase labor market flexibility, in order to solve the unemployment problem by increasing the reaction to production shocks, and to lower inflation variability because of the reduction of the need for stabilization policy by the common central bank. Important reasons for the low labor mobility in the EMU are cultural differences and language barriers<sup>173</sup>.

As a consequence of the 1997 Amsterdam Treaty, labor market policy coordination intensified, because employment is considered “as a matter of common concern”<sup>174</sup> and

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<sup>169</sup> See Marginson and Sisson (1998), quoted in Calmfors (2001), p. 23.

<sup>170</sup> See Calmfors (2001), p. 23.

<sup>171</sup> See Cazes (2002), p. 1.

<sup>172</sup> See Cazes (2002), p. 22.

<sup>173</sup> See Rantala (2003), p. 7.

<sup>174</sup> See Rantala (2003), p. 8.

Member States “shall co-ordinate their action”<sup>175</sup>. The coordination “refers to a situation where the flexibility parameters of the member states are chosen so as to minimize joint losses of the national governments”<sup>176</sup>. The decisions and the implementation of labor market policy still are main attributions of the member states<sup>177</sup>.

A study of full-time employees, working in the same firm, for twelve European countries during 1994-96 contains evidence about nominal wage rigidity. In Germany and Ireland the percentage of employees with no wage changes is the highest. Nominal wage cuts can be observed<sup>178</sup>.

Possibilities to improve the employment situation in the EMU would be through higher flexibility, deregulation and incentives of households to work (for example because of lower unemployment benefits and benefit duration)<sup>179</sup>.

Two important developments that will probably take place and that will increase the necessity for labor flexibility are a higher immigration of individuals and the emigration of jobs from Europe to other regions through off-shoring. The maintenance of productivity advantages, high wages and increased competitiveness in the context of globalization will be possible through increased flexibility and high skills of European workers and by incentives for jobseekers to find and accept jobs that are available<sup>180</sup>.

The overall conclusion is that the EMU is characterized by high wage rigidity and this criterion needs to be further improved in order to meet OCA requirements.

### **4.3. *Financial Market Integration***

This section presents the concept of financial market integration and its advantages. Then, the impact of EMU on financial market integration and on the convergence of payment behaviors

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<sup>175</sup> See Rantala (2003), p. 8.

<sup>176</sup> See Rantala (2003), p. 8.

<sup>177</sup> See Rantala (2003), p. 8.

<sup>178</sup> See Dessy (2004), p. 1.

<sup>179</sup> See Bucher, Dreger, Ramos, Surinach (2005), p. 1.

<sup>180</sup> See Commander, Heitmueller, Tyson (2006), p. 1.

is described. The markets presented in detail and which show a high degree of integration in the EMU are: the money market, the corporate bond markets, the bank credit markets, the euro equity markets and the government bond market.

#### **4.3.1. The Concept of Financial Market Integration**

The necessity for exchange rate adjustments can be reduced by financial market integration because adverse shocks can be temporarily cushioned by capital inflows, for example “by borrowing from surplus areas or de-cumulating net foreign assets that can be reverted when the shock is over”<sup>181</sup>. Changes in the interest rates can equilibrate capital movements across partner countries even when they are not very high, if there is an important degree of financial integration. Differences between long-term interest rates could thus be reduced, with positive effects for the financing of external imbalances and for the efficient allocation of resources<sup>182</sup>.

“The market for a given set of financial instruments and/or services is fully integrated if all potential market participants with the same relevant characteristics

- (1) face a single set of rules when they decide to deal with those financial instruments and/or services;
- (2) have equal access to the above-mentioned set of financial instruments and/or services; and
- (3) are treated equally when they are active in the market”<sup>183</sup>.

#### **4.3.2. Advantages of Financial Integration**

Benefits of financial integration are increased possibilities for risk sharing and diversification, a better capital allocation and the potential for higher growth.

According to an empirical study risk sharing across regions enhances the specialization in production<sup>184</sup>. The financial integration also leads to an increased set of financial instruments

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<sup>181</sup> See Mongelli (2002), p. 9.

<sup>182</sup> See Mongelli (2002), p. 9.

<sup>183</sup> See Baele, Ferrando, Höhrdahl, Krylova, Monnet (2004), p. 6.

<sup>184</sup> See Kalemli-Oczan (2001), quoted in Baele, Ferrando, Höhrdahl, Krylova, Monnet (2004), p. 7.

and of cross-ownership of assets. In the euro area the agents do not fully share risk. “When agents in an area fully share risk, the consumption of agents located in one region co-moves with that of agents located in other regions of that area, while consumption does not co-move with region-specific shocks”<sup>185</sup>. In the Euro zone the correlation between GDP growth rates is higher than that of consumption growth rates, which means that there are further possibilities of risk sharing<sup>186</sup>.

Financial integration also means the elimination of barriers to trading, clearing and settlement platforms, so that firms can choose trading, clearing and/or settlement platforms with the highest efficiency. Investors will have the possibility to choose between more productive investments and reallocate funds according to these opportunities.

Furthermore, financial integration leads to a higher flow of investment funds in some regions, if these investment possibilities are more productive relative to foreign ones. There will be higher competition in less developed regions and this situation could lead to lower intermediation costs, a higher efficiency of their financial system, an increase of local and foreign agents, and thus to further development of these financial systems<sup>187</sup>. In the new EU member states there is a high amount of foreign involvement in almost all financial market segments. However, the process of financial market integration should be monitored in order to avoid the creation of monopolies<sup>188</sup>.

There is a relation between financial developments and economic growth. The basic purposes of the financial systems are: “1) lower uncertainty by facilitating the trading, hedging, diversifying and pooling of risk; 2) allocate resources; and 3) mobilize savings”<sup>189</sup>. These aspects can have an influence upon economic growth because of the capital and technological accumulation.

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<sup>185</sup> See Adjaoute and Danthine (2003), quoted in Baele, Ferrando, Höhrdahl, Krylova, Monnet (2004), p. 8.

<sup>186</sup> See Adjaoute and Danthine (2003), quoted in Baele, Ferrando, Höhrdahl, Krylova, Monnet (2004), p. 8.

<sup>187</sup> See Gianetti et al. (2002), quoted in Baele, Ferrando, Höhrdahl, Krylova, Monnet (2004), p. 8.

<sup>188</sup> See Baele, Ferrando, Höhrdahl, Krylova, Monnet (2004), p. 8.

<sup>189</sup> See Levine (1997), quoted in Baele, Ferrando, Höhrdahl, Krylova, Monnet (2004), p. 8.



### 4.3.3. The EMU and Payment Behaviors Convergence

A study of the five payment instruments, which are the credit card, cash, cheque, credit transfer and direct debit, shows convergence on demand for all payment methods in the EMU except for the cheque<sup>190</sup>. Cards and cash take in volume the place of cheques and credit transfers, while the credit transfer increases and cheques decrease in value<sup>191</sup>. Important aspects that influenced the payment behaviors are technological innovation<sup>192</sup>, legislative environment and banking integration<sup>193</sup>. In the EMU, the payment behavior is determined by the unification of national markets for retail payments through the Single Payment Area (SPA), by technological and socio-macroeconomic factors<sup>194</sup>.

“The SPA is one domestic euro payment area grouping together the” ”existing national areas, and in which payments are carried out with identical time and costs”<sup>195</sup>. The purpose is to permit customers to complete payment transactions as they now do at national level, while at present, retail payments across borders take longer and are more costly than domestic payments. The reasons for these differences consist in the specific laws and the different speeds that are characteristic for the EMU member states. Today, the only integration refers to card payments, which have international functionality. Important measures that have been taken in order to eliminate these barriers were the creation of the European Payment Council, whose purpose is to provide guidance to the banking industry in order to accelerate the setting up of the SPA, and the common legal framework for payments established by the European Commission. Factors that impede the developments towards a SPA are the fact that consumers usually do not switch banks, so that there is a little incentive to reduce prices, and the fact that competition is not very high in this sector<sup>196</sup>.

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<sup>190</sup> See Deungoue (2005), p. 1.

<sup>191</sup> See Deungoue (2005), p. 6.

<sup>192</sup> See Snellman and al (2001), Markose and Loke (2000; 2002), quoted in Deungoue (2005), p. 2.

<sup>193</sup> See Snellman (2000), quoted in Deungoue (2005), p. 2.

<sup>194</sup> See Deungoue (2005), p. 2.

<sup>195</sup> See Deungoue (2005), p. 3.

<sup>196</sup> See Deungoue (2005), p. 3.

#### **4.3.4. The Money Market in the EMU**

##### **Definition of the Money Market**

“The money market is commonly defined as the market for short-term debt, where “short-term” means a maturity of up to one year”<sup>197</sup>. Segments of the money market are: unsecured debt, secured debt (e.g. the repo market), and derivatives of short-term debt (e.g. the interest rate swap market).

It is important to monitor the integration of euro area money markets for the following reasons: the market is very important for the implementation of the single monetary policy of the area, for the distribution of liquidity by the Euro system, for the efficient allocation of resources in the euro area and for assuring a more efficient pricing of short-term debt in the Euro zone.

##### **The Unsecured Market Segment**

“The unsecured deposit market is where credit institutions exchange short-term liquidity without any collateral as guarantee”<sup>198</sup>. Between mid-1998 and mid-1999 this market grew especially because of a 40% increase of the overnight segment, which now represents a little less than 70% of the turnover of the total market. The second largest turnover is given by transactions with maturities up to one month<sup>199</sup>.

EONIA (euro overnight index average) and EURIBOR (euro inter bank offered rate) are daily benchmark indices for unsecured lending rates in the Euro zone, which were used after the adoption of the euro in 1999, and which contributed to an increase of the market, because they were used as underlying or reference indices in the derivative markets. EONIA “is the reference rate for the euro area overnight rate, and it is calculated by the ECB as a weighted average of all overnight unsecured lending transactions undertaken in the interbank market by

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<sup>197</sup> See Baele, Ferrando, Hördahl, Krylova, Monnet (2004), p. 23.

<sup>198</sup> See Baele, Ferrando, Hördahl, Krylova, Monnet (2004), p. 23.

<sup>199</sup> See Baele, Ferrando, Hördahl, Krylova, Monnet (2004), p. 23.

a number of contributing panel banks”<sup>200</sup>. EURIBOR “is the benchmark rate of the euro money market for a number of standardized maturities up to one year”<sup>201</sup>.”

### **The Repo Market Segment**

“In the repo market, financial agents exchange securities for liquidity, with a simultaneous agreement to reverse the transaction at some pre-specified future date and at a pre-set price”<sup>202</sup>. After the adoption of the common currency, the euro area repo market has registered an important growth, because more euro area securities are available and new players have entered the market. The size of the euro area repo market is higher than that of the unsecured deposit market, and most transactions are based on sovereign bonds, and have a short maturity<sup>203</sup>. An important aspect that contributed to an increased integration of the euro area repo market was the introduction of the EUREPO index in 2002. The percentage of trades with a non-domestic euro area counterpart increased from 33% in 1998 and 1999 to 40% in 2000<sup>204</sup>.

### **The Interest Rate Swap Market Segment**

“In the interest rate swap market, financial agents agree to exchange periodic payments of interest rates according to some pre-specified formula, based on an underlying principal, which itself is not exchanged”<sup>205</sup>. The operations in the interest rate swap market usually involve banks, and there is a concentration among a few large market players. The reason for this development consists in the fact that individual transactions on the order of several billions of euros are usually made. The adoption of the euro determined a high growth of the euro area interest swap market, because the single euro area swap curve was used by a large number of market participants as a reference, and because the growth itself increased the market liquidity and made the market more attractive. There is a concentration of the market

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<sup>200</sup> See Baele, Ferrando, Hördahl, Krylova, Monnet (2004), p. 24.

<sup>201</sup> See Baele, Ferrando, Hördahl, Krylova, Monnet (2004), p. 24.

<sup>202</sup> See Baele, Ferrando, Hördahl, Krylova, Monnet (2004), p. 24.

<sup>203</sup> See Baele, Ferrando, Hördahl, Krylova, Monnet (2004), p. 24.

<sup>204</sup> See Baele, Ferrando, Hördahl, Krylova, Monnet (2004), p. 33.

<sup>205</sup> See Baele, Ferrando, Hördahl, Krylova, Monnet (2004), p. 24.

at shorter maturities<sup>206</sup>. The percentage of the average daily transactions in the euro area represented 34% in 1998 and increased to 52% by the second quarter of 1999<sup>207</sup>.

#### 4.3.5. Corporate Bond Markets

A characteristic of the corporate bond markets is the rapid growth during the last years. While before 1998 corporate bonds were issued by highly-rated financial corporations, the number of lower-rated A and BBB corporations in these markets increased. The corporate bond yield spreads are determined especially by the credit rating<sup>208</sup>.

Benefits of a further integration of the corporate bond markets are the larger choice of assets for investors, the increased possibility of investors to spread the risk because of the elimination of barriers to international investments, the lower risk premium that has to be paid by companies, the reduced dependence on domestic credit decision-makers, the lower sensitivity of corporate financing to business cycle downturns and to crises in the banking and securities market and the higher incentive to increase shareholder value and improve information in order to reduce the cost of capital<sup>209</sup>.

There have been significant changes at the supply and at the demand side of the market. On the supply side for example, an increase of the total outstanding value from 180 billion euro in 1998 to about 680 billion euro in 2003 could be observed. The A-rated segment increased from 30 billion euro in 1998 to 220 billion euro in 2003, and the BBB-rated segment from 3 billion euro in 1998 to 182 billion euro in 2003, especially because of the increased participation of non-financial corporations<sup>210</sup>. On the demand side, an increase could be observed because of the higher diversity in the supply and the increased liquidity of corporate bonds. The low levels of government bonds because of the restrictions of the Treaty and the

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<sup>206</sup> See Baele, Ferrando, Hördahl, Krylova, Monnet (2004), p. 24.

<sup>207</sup> See Baele, Ferrando, Hördahl, Krylova, Monnet (2004), p. 33.

<sup>208</sup> See Baele, Ferrando, Hördahl, Krylova, Monnet (2004), p. 54.

<sup>209</sup> See Baele, Ferrando, Hördahl, Krylova, Monnet (2004), p. 45.

<sup>210</sup> See Baele, Ferrando, Hördahl, Krylova, Monnet (2004), p. 46.

Stability and Growth Pact and an ageing population also increased the demand for long-term savings<sup>211</sup>.

The euro area corporate bond markets show a reasonable degree of integration; the home bias of bond portfolios decreased and European-wide bond funds registered a significant growth.

#### **4.3.6. The Bank Credit Markets**

“Banks are crucial to the transmission of monetary policy impulses to the economy since they are the counterparts for central bank monetary policy operations and since they grant credit to households and firms, inter alia, on the basis of credit received from the central bank”<sup>212</sup>. In the euro zone, banks are the most important intermediaries.

The integration after the adoption of the common currency euro differs between banking activities and has been relatively slow on the retail banking market. The regulators made efforts in order to increase the integration, for example through the First (1977) and Second (1988) Banking Directives and the publication of the Financial Service Action Plan in 1999, which contains measures to eliminate price differences across the EU and enhance consumer protection in the retail markets<sup>213</sup>.

There is a tendency towards consolidation of credit institutions, especially because of technological developments, deregulation, liberalization and globalization. Asymmetries in the banking sector become lower as a result of mergers and acquisitions that take place mainly in countries where the bank concentration is low<sup>214</sup>.

In spite of these developments, there still are some important differences concerning banking activities in the euro zone. The short-term lending is more segmented than medium- and long-term lending in the corporate lending market. The consumer credit segment shows a high degree of fragmentation, while mortgage loans are not characterized by large differences

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<sup>211</sup> See Baele, Ferrando, Hördahl, Krylova, Monnet (2004), p. 48.

<sup>212</sup> See Baele, Ferrando, Hördahl, Krylova, Monnet (2004), p. 55.

<sup>213</sup> See Baele, Ferrando, Hördahl, Krylova, Monnet (2004), p. 55.

<sup>214</sup> See Baele, Ferrando, Hördahl, Krylova, Monnet (2004), p. 56.

across countries. The cross-border activities in the retail banking segment are still home biased, so that further developments and measures towards integration are necessary<sup>215</sup>.

#### **4.3.7. The Euro Equity Markets**

The reform of European equity markets began in the mid '80s and was determined by increased capital mobility, progress in telecommunication and cross-border trading in order to enhance portfolio diversification.

“Until 1985, the stock exchange of each European country was a closed membership organization protected from competition by national regulation, restriction to capital mobility and high costs of telecommunication<sup>216</sup>.” Today, important developments of the equity market concern mergers among national stock markets (for example the merger of the stock exchanges of Paris, Brussels and Amsterdam in September 2000 resulting in the Euronext stock exchange), the increased concentration of equity brokerage and the expansion of trading hours<sup>217</sup>.

A study of the equity markets in Germany, France, Italy and Spain for the period January 1994 to June 2004 shows an increased integration (measured by the return correlations across the equity markets of the euro zone), because of the elimination of restrictions concerning the capital mobility and of institutional barriers. Another conclusion of the study is that the informational market efficiency increased. Because of these developments a better allocation of capital and economic growth in Europe could be expected. Investors from the euro zone increased their investments in equities and there is a tendency to move from a bank-oriented European financial system to a more market-oriented one. However, the euro equity markets are not fully integrated, so that a further harmonization of rules and increased cooperation are necessary<sup>218</sup>.

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<sup>215</sup> See Baele, Ferrando, Hördahl, Krylova, Monnet (2004), p. 66.

<sup>216</sup> See Croci (2004), p. 1.

<sup>217</sup> See Croci (2004), p. 2.

<sup>218</sup> See Croci (2004), p. 20.

The European equity market can be considered as highly integrated only since 1996 and its importance in the world financial markets has increased significantly since then. This development is mainly due to the transition towards EMU, and in this context through the elimination of the exchange rate volatility and uncertainty, as well as through the monetary policy convergence of interest rates and inflation rates<sup>219</sup>.

The integration is important for investors and policy-makers. From the investors' perspective, the integration made the Euro area a more attractive place for investment and increased the incentives to diversify more across sectors or across regions. Policy makers have to adopt further supervisory measures in the context of the increasing interdependence of Euro area markets<sup>220</sup>.

#### **4.3.7.1. Consequences of the Integration**

There is a convergence of macroeconomic influences on company profits as a result of a single monetary policy, closely aligned interest rates and fiscal policy discipline. Lower trade barriers to trade goods and financial assets lead to a higher degree of specialization in national industries<sup>221</sup>.

For European firms the consequence of increasing integration could consist in lower costs of equity capital, because the equity risk premium declines<sup>222</sup>. There still is a fragmentation of stock exchanges in Europe resulting in different prices for equity capital for firms with similar characteristics.

For investments the lower cost of capital implies that riskier, high expected return projects can be financed more advantageously. This aspect is favorable for investments, output and economic growth.

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<sup>219</sup> See Fratzscher (2001), p. 5.

<sup>220</sup> See Fratzscher (2001), p. 37.

<sup>221</sup> See Adjaoute and Danthine (2003), p. 3.

<sup>222</sup> See Adjaoute and Danthine (2003), p. 54.

Private investors can profit from better diversification opportunities at lower costs as a result of financial integration<sup>223</sup>.

#### **4.3.7.2. Further Integration (e. g. by a European Stock Exchange)**

A stock exchange, share market or bourse is a formal organization “made up of members who use the facilities to exchange certain common stocks”<sup>224</sup>.

The euro area financial integration could be significantly increased by the existence of a common Euro Area Stock Exchange. Current developments that could lead to a common stock exchange in the euro zone are the increasing international competition on the capital markets as well as the technological progress and the computerization of trade. Important benefits of a common stock exchange would relate to costs, efficiency, speed, liquidity and price advantages.

There has been an attempt to build an alliance between the Deutsche Börse AG and the London Stock Exchange in 1998. The development of a common European trade platform was discussed, as well as the possibility that the other European stock exchanges should join it later. However, there have been different points of view regarding the harmonization of the stock markets which hindered the fulfillment. An agreement could not be reached regarding for example the ownership and the electronic trade system to be chosen<sup>225</sup>.

A solution could consist in establishing different trading places, e.g. in London, Frankfurt, Paris, Mailand, Madrid, Zurich, Amsterdam and Brussels, a possibility that has already been taken into consideration<sup>226</sup>. The trade for specific market segments could be concentrated on a single trading place. Some very important questions that would have to be solved, however, regard the listing requirements, the supervision of the stock exchange activities, the

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<sup>223</sup> See Adjaoute and Danthine (2003), p. 55.

<sup>224</sup> See Bloomberg Financial Glossary ([http://www.bloomberg.com/invest/glossary/bfgloss.htm#stock\\_market](http://www.bloomberg.com/invest/glossary/bfgloss.htm#stock_market)).

<sup>225</sup> See Aehling (2000), p. 27.

<sup>226</sup> See Aehling (2000), p. 28.



harmonization of the legislation, the technical platform for the trade, the ownership and the trading segments for the euro area stock exchange<sup>227</sup>.

#### **4.3.8. The Government Bond Market**

##### **4.3.8.1. The Concept of Government Bond Markets and Their Advantages**

The government bond markets in the Euro zone play a very important role because they are the main source of financing for central and local governments; they help the financial system function, and government bonds are benchmark assets when pricing other securities as well as collaterals in some financial transactions. After the introduction of the euro, the integration of the euro area government bond market increased. Bond portfolios became more diversified, especially in the smaller euro area countries, and the competition increased.

A benefit of further government bond market integration is the reduction of the cost of serving government debt. Because of the market integration, investors can diversify geographically easier, so that the required yield is lower and there are reduced interest payments for governments. If governments also manage to improve the liquidity of the outstanding bonds, the liquidity premium required by investors will be lower. The debt servicing costs for the euro area could be reduced by 5 billion euro because of a further integration<sup>228</sup>.

Another advantage of further integration is a higher transparency and a more homogeneous pricing of bonds. Government bonds of similar maturity are closer substitutes, and because of that the functioning of the euro area collateral-backed asset market is improved.

Furthermore, the integration can determine a more symmetric impact of monetary policy in the bond markets, increased liquidity, efficiency and convergence<sup>229</sup>.

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<sup>227</sup> See Aehling (2000), p. 32.

<sup>228</sup> See Adjaoute and Danthine (2003), quoted in Baele, Ferrando, Hördahl, Krylova, Monnet (2004), p. 34.

<sup>229</sup> See Baele, Ferrando, Hördahl, Krylova, Monnet (2004), p. 34.

#### **4.3.8.2. Changes in the Euro Area Government Bond Market**

The holdings of non-domestic bonds have become higher after the introduction of the euro because investors wanted to benefit from improved diversification and liquidity. The changes can be categorized into those which are mainly supply-driven, the demand-driven changes and developments in the financial infrastructure.

The supply-driven changes refer to modifications concerning the issuance of sovereign bonds. The competition has increased and has led to higher liquidity of government bonds and larger volumes of outstanding issues. Small countries are increasingly starting to create benchmark issues, and some governments initiated buy-back programs for instruments that were illiquid and/or short-dated. Pre-announced auction calendars were introduced in order to make the issuance activity more regular, predictable and transparent. The number of primary dealers increased, trading systems for the secondary market were started to increase the liquidity, and there were sustained efforts in order to meet particular investor needs (e.g. in Spain and France constant-maturity bonds were introduced). Some reasons for the remaining fragmentation are the decentralized management of the public debt market and the different credit risk of the countries.

The demand-driven changes concern the fact that investors started to take a euro area-wide perspective rather than a national one on issues referring to portfolio allocations. The motives behind this development are the elimination of the exchange rate risk between the currencies of EMU member states and the concern of debtors for more liquidity. The portfolio diversification increased especially in smaller countries, mainly because of the smaller choice of domestic assets<sup>230</sup>.

The trading in bond markets usually took place over the counter (OTC) and between relatively small groups of counterparts. Now, there are several structured trading platforms in the euro area as a result of technological innovation and the increased demand for efficiency

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<sup>230</sup> See Baele, Ferrando, Hördahl, Krylova, Monnet (2004), p. 35.

which is the consequence of higher competition between debt managers, intermediaries and investors. The liquidity of the market increased, especially in smaller countries<sup>231</sup>.

Concerning the public debt market, the risk free interest rates became less volatile in the euro zone after the adoption of the common currency. The single public debt market is still not completely established, and the fragmentation leads to costs for Treasuries and taxpayers<sup>232</sup>. Full integration of the financial area would mean that there is a single risk free rate. An important aspect which led to higher integration was the elimination of the currency risk after the adoption of the euro. Other important facts for the integration are the low inflation target of the ECB and the restrictions on fiscal policies (the latter is very important for the convergence of the credit risk)<sup>233</sup>. However, there still are deviations from the law of one price, which means that public bonds with the same credit rating have yield differences and correlations between the yields smaller than unity. For the Treasuries of the euro area this situation leads to unnecessary costs of about 5 billion euro annually. In this context, the establishment of a multilateral agency in charge of issuing debt on behalf of the euro-area governments could be a solution<sup>234</sup>.

The conclusion is that EMU is characterized by a high financial market integration of the markets described. Equity and bond home biases have decreased across European countries while a large shift in holdings towards other euro area countries took place, a situation which proves that euro area financial markets became more integrated<sup>235</sup>. A reason for the higher financial integration in the euro area was the easier access to equity and bonds markets<sup>236</sup>. However, some further improvements are possible, e.g. a common European Stock Exchange<sup>237</sup> and the complete establishment of a single debt market<sup>238</sup>.

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<sup>231</sup> See Baele, Ferrando, Hördahl, Krylova, Monnet (2004), p. 36.

<sup>232</sup> See Adjaoute and Danthine (2003), p. 1.

<sup>233</sup> See Adjaoute and Danthine (2003), p. 2.

<sup>234</sup> See Adjaoute and Danthine (2003), p. 3.

<sup>235</sup> See Santis, Gerard (2006), p. 25.

<sup>236</sup> See Santis, Gerard (2006), p. 29.

<sup>237</sup> See Aehling (2000), p. 27.

<sup>238</sup> See Adjaoute and Danthine (2003), p. 1.

#### **4.4. *Production Diversification (Kenen)***

This criterion can be formulated in the following way: “Countries whose production and exports are widely diversified and of similar structure form an optimum currency area”<sup>239</sup>.

In order to represent a problem for a monetary union, a shock has to be large and asymmetric. The most likely sources of shocks are shifts in spending patterns, e.g. because of changing tastes or of new technology that leads to new products. This problem can occur especially in countries that are specialized in a narrow range of goods<sup>240</sup>.

Asymmetric shocks are not so likely among countries with similar production patterns and diversified trade. An analysis of European countries leads to the conclusion that the dissimilarity between Germany and Austria for example is very low, that Norway did not accede to EMU because of its dissimilarity with other EU countries (its trade is dominated by fish and oil) and that dissimilarity is high between the EU and the UK. An exception to other European countries is the Netherlands which joined the EU in spite of its dissimilarity, because of economic and political advantages<sup>241</sup>.

A question arises as to the effect of trade integration on diversification. According to one opinion trade leads to more specialization because each country or region concentrates on its comparative advantage. If this situation occurs, the diversification will decrease and the monetary union will become more costly (trade takes the inter-industry form). According to another point of view, every country produces different brands of the same goods, offers more choice and trade becomes more diversified (there is intra-industry trade). An analysis of the situation so far supports the view that diversification increases with trade integration, so that “the EMU with regard to that criterion stands to improve further”<sup>242</sup>.

However, this OCA criterion is satisfied in EMU (e.g. according to Petreski), in spite of the fact that its optimality could increase<sup>243</sup>. The reason consists in the fact that the tendency in

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<sup>239</sup> See Baldwin, Wyplosz (2006), p. 358.

<sup>240</sup> See Baldwin, Wyplosz (2006), p. 358.

<sup>241</sup> See Baldwin, Wyplosz (2006), p. 363.

<sup>242</sup> See Baldwin, Wyplosz (2006), p. 368.

<sup>243</sup> See Petreski (2007), p. 12.

EMU is towards a more diversified production and trade of different brands of the same goods. Production and exports are thus diversified and of the same structure.

#### **4.5. *Economic Openness (Mc Kinnon)***

The Mc Kinnon criterion states that: “Countries which are very open to trade and trade heavily with each other form an optimum currency area”<sup>244</sup>.

The question that arises is whether the exchange rate is useful in the situation of asymmetric shocks. Standard products, which are produced in different countries and are virtually identical, have similar prices at home and abroad. Their prices are nearly the same under the premises of competition. In this situation prices are not important and giving up the exchange rate does not represent a significant loss.

Let's consider a situation where two countries that do not share the same currency have their own exchange rate vis-à-vis the rest of the world, e.g.  $E_A$  and  $E_B$ . If in both countries there is an intensive competition then the prices will equalize when they are expressed in the same currency. If  $P_A$  = the price of country A's domestic goods in domestic currency, then  $E_AP_A$  = the price of domestic goods expressed in the rest of the world's currency for country A, and  $E_BP_B$  = the price of domestic goods expressed in the rest of the world's currency for country B. With competition, the “world price levels” tend to be equal ( $E_AP_A = E_BP_B$ ). A's change in the exchange rate  $E_A$  must be followed by a change in local currency prices  $P_A$  in order to keep  $E_AP_A$  unchanged. The result is that  $P_A$  and  $P_B$  are not sticky anymore and the real exchange rates of both countries vis-à-vis the rest of the world are also equal  $E_A/P_A/P^* = E_B/P_B/P^*$  ( $P^*$  = the price level in the rest of the world). With flexible prices no significant loss results from giving up the exchange rate in a currency union<sup>245</sup>. As a consequence, in countries that are open to trade and trade heavily, prices tend to equalize and the real exchange rates vis-à-vis the rest of the world are also equal. Giving up the exchange rate does not represent a significant loss.

<sup>244</sup> See Baldwin, Wyplosz (2006), p. 358.

<sup>245</sup> See Baldwin, Wyplosz (2006), p. 358.

The international prices of tradable goods influence the domestic cost of living as a result of economic openness. Higher openness reduces the probability of money and/or exchange rate illusion by wage earners, because changes in international prices have an increasing direct and indirect impact on domestic prices. As a consequence, the importance of the nominal exchange rate as an adjustment instrument decreases. Dimensions of the economic openness are “the degree of trade integration (i.e., the ratio of reciprocal exports plus imports over GDP) with the partner countries, the share of tradable versus non-tradable goods and services in production and consumption, the marginal propensity to import, and international capital mobility<sup>246</sup>.”

The economic openness calculated as the ratio of export plus import of goods and services to GDP is relatively high in Europe, reaching an average of about 40 percent of GDP. The prices of tradable goods tend to equalize across European countries as a result of liberalization and increasing industry trade<sup>247</sup>.

This criterion is important in the OCA theory also because most goods from a small open economy are traded on international markets. As a result, local conditions do not play a very important role for their prices, and changes in the currency value are passed into domestic prices. The consequence is that exchange rate changes do not have a significant effect on the competitiveness of the country.

“Openness is defined as the share of economic activity devoted to international trade. The ratio of exports to GDP measures the proportion of domestic production that is exported. The ratio of imports to GDP measures the proportion of domestic spending that falls on imports”<sup>248</sup>.

Smaller European countries are more open. This is a reason why smaller countries usually support the European Union more than the others. The ten new member countries (that will probably be members of the euro zone by the end of the decade) are like the candidate countries very open. The EU as a whole is by contrast largely closed.

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<sup>246</sup> See Mongelli (2002), p. 9.

<sup>247</sup> See Beck and Weber (2001), quoted in Mongelli (2002), p. 21.

“A second way to look at openness is to measure how domestic prices respond to exchange rate changes, the pass-through effect. If all prices respond one for one to exchange rate changes, the pass-through is complete and the exchange rate only affects inflation, not competitiveness...for instance, a 0.6 pass-through coefficient means that a 10 per cent depreciation is followed within three month by a 6 percent increase in import prices...The more open the economy the larger is the pass-through”<sup>249</sup>.

In most European countries there is a significant openness and a large pass-through coefficient. This criterion is fulfilled in most EU economies, especially for smaller countries, where domestic prices tend to be dominated by the exchange rate<sup>250</sup>.

#### **4.6. *Similarities of Inflation Rates***

The expectation is of similar or closely related inflation rates in countries that are members of a currency union. According to Fleming (1971)<sup>251</sup>, the terms of trade converge if the inflation rates of the member countries in a currency area also converge. This situation reduces the need for exchange rate adjustment as a result of current account equilibrium<sup>252</sup>.

Persistent differences in national inflation rates can cause external imbalances. Reasons for the different national inflation rates can be: disparities in structural developments, diversities in labor market institutions, differences in economic policies, and diverse social preferences such as the inflation aversion<sup>253</sup>. If inflation rates between countries are low and similar, than the trade will be stable and the need for nominal exchange rate adjustments will decrease<sup>254</sup>.

The inflation rates decreased over the 15-20 years in euro area countries. There are variations in the national inflation rates of euro area member countries because of the following factors: statistical and erratic factors (noise); the completion of the single market and higher cross-

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<sup>248</sup> See Baldwin/Wyplosz (2006), p. 362.

<sup>249</sup> See Baldwin/Wyplosz (2006), p. 362.

<sup>250</sup> See Baldwin/Wyplosz (2006), p. 363.

<sup>251</sup> See Fleming (1971), quoted in Mongelli (2002), p. 9.

<sup>252</sup> See Petreski (2007), p. 4.

<sup>253</sup> See Mongelli (2002), p. 9.

border transparency, which reduce the differences in the prices of traded goods; the Balassa-Samuelson effect (this effect refers to the observation that consumer price levels in wealthier countries are systematically higher than in poorer ones; it is an economic model predicting the above, based on the assumption that productivity or productivity growth-rates vary more by country in traded goods sectors than in other sectors); different cyclical conditions and demand policies<sup>255</sup>. Some differences in national inflation rates in euro area countries should not be viewed as negative, if they reflect a “catching-up” process<sup>256</sup> (e.g. in the new member countries).

However, the cross border volatility of relative prices has decreased significantly in euro area member countries since the adoption of the euro in January 1999<sup>257</sup>. The criterion of similar inflation rates can be seen as fulfilled in EMU (e.g. according to Petreski)<sup>258</sup>.

#### **4.7. Fiscal Integration (*Fiscal Transfers*)**

This criterion can be formulated in the following way: “Countries that agree to compensate each other for adverse shocks form an optimum currency area”<sup>259</sup>.

If in country A there is an adverse shock, there are also negative consequences in country B. A possibility would be help from country B to country A, e.g. financial compensation in order to reduce the asymmetric shifts. If this strategy is adopted, the recession in country A and the boom in country B could be reduced, and the shock could disappear over time through longer lasting prices. Countries that do offer help are beneficiaries in the future.

The transfer schemes can be explicit or implicit, as can be seen in different countries. In the situation of an asymmetric shock income declines and welfare support like unemployment benefits rise. Transfers are received from the rest of the country. Transfers can be implicit and

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<sup>254</sup> See Fleming (1971), quoted in Mongelli (2002), p. 9.

<sup>255</sup> See ECB (1999), quoted in Mongelli (2002), p. 22.

<sup>256</sup> See OECD (1999), quoted in Mongelli (2002), p. 22.

<sup>257</sup> See Beck and Weber (2001), quoted in Mongelli (2002), p. 22.

<sup>258</sup> See Petreski (2007), p. 12.

<sup>259</sup> See Baldwin, Wyplosz (2006), p. 358.



a result of the redistributive mechanism in the country. Explicit transfer systems are in place in some federal countries such as Germany and Switzerland<sup>260</sup>.

In the situation of temporary adverse shocks, countries can receive transfers from better-off countries in a currency area (without the exchange rate mechanism). Under these circumstances, the income of the region declines relatively to the rest of the currency area, and tax payments are lower, while welfare payments (unemployment benefits, subsidies) increase.

In the USA federal transfers amount to between 10 and 40 percent of the loss while in the EU they represent about 1 percent of the GDP. In Europe it is usually spent on the Commission's operating expenses, the common Agricultural Policy and Structural Funds for poorer regions. "On this criterion, Europe is definitely not an optimum monetary union<sup>261</sup>."

The necessity of nominal exchange rate adjustments is smaller if countries share a supra-national fiscal transfer system, so that a redistribution of funds to a member country that is affected by an adverse asymmetric shock takes place. The premise for this is an advanced degree of political integration and the acceptance of such risk sharing by member countries<sup>262</sup>. The conclusion is that in EMU the criterion of fiscal integration is not fulfilled<sup>263</sup>.

#### **4.8. Political Integration**

The reasons why political integration is very important are shown in this section. Then, the significant institutions for the functioning of the EMU, especially the ECB and EU bodies related to it, are presented in detail, by describing aspects that are optimal and possible improvements in their organization. Some problematic aspects for example are the lack of accountability of the ECB and the fact that the supervision of the banking sector is not centralized at the level of the currency union. Some other important institutions for the political integration, where reform would be optimal, are the Council of the EU and the

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<sup>260</sup> See Baldwin, Wyplosz (2006), p. 358.

<sup>261</sup> See Baldwin, Wyplosz (2006), p. 366.

<sup>262</sup> See Kenen (1969), quoted in Mongelli (2002), p. 10.

<sup>263</sup> See Petreski (2007), p. 12.

Commission of the European Communities. The creation of a Representative for Foreign Affairs through the Lisbon Treaty would also represent progress towards increasing political integration.

Some economists view the will for political integration as the single most important condition for a currency union<sup>264</sup>. It allows the adoption of joint commitments, co-operation on economic policies and more institutional linkages<sup>265</sup>. The political will was and is crucial for the adoption and maintenance of a single currency. Haberler (1970) thought that it is significant for joint economic policies, common fiscal policy and strong institutional linkage. Tower and Willet (1976) affirmed that compatibility in preferences toward growth, inflation and unemployment are essential for the proper functioning of EMU<sup>266</sup>.

#### **4.8.1. EMU Political Integration**

In EMU there is a strong political will to increase European integration. Monetary unification is aimed at, which is shown by the common targets concerning the stabilization of inflation, budget deficits and exchange rates in euro area member countries. However, the euro area is not a state and it is also not likely to become one<sup>267</sup>.

Concerning the increasing functional political integration, it can be observed that there are different areas of government that have come closer together. The supranational legislators that play an important role in the harmonization are the EU Council – which is the intergovernmental body - and the European Parliament. Common policies are initiated by the European Commission, which also observes the implementation of supranational laws and regulations. Another important institution is the European Court of Justice. In the European Union there is no absolute economic power of the nation state. However, the state still is responsible for aspects like income redistribution, growth promotion and employment. It is probable that political integration will increase over time.

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<sup>264</sup> See Mintz (1970), quoted in Mongelli (2002), p. 10.

<sup>265</sup> See Mongelli (2002), p. 10.

<sup>266</sup> See Petreski (2007), p. 4.

<sup>267</sup> See Mongelli (2002), p. 23.

A transfer has taken place of sovereignty over some elements of economic policy. The competences regarding the monetary policy have been transferred to the European System of Central Banks. The ESCB and the EU Council decide on the exchange rate policy, while the ECB is responsible for holding and managing foreign exchange reserves and conducting foreign exchange operations. The EU is also responsible for decisions about the single market, competition and trade policies. The fiscal policy is still a national competence but the provisions of the Stability and Growth Pact impose some restrictions<sup>268</sup>.

There is, however, an increased necessity for policy co-ordination in EMU, determined for example by the increasing policy spillovers between countries and by economies of scale. At present, there are frequent exchanges of views about national and euro area developments and policies in forums like the Economic and Financial Affairs Council (ECOFIN; composed of the Economics and Finance Ministers of the EU member states), the European Foundation Center (EFC; a European association of independent funders) and the European Political Cooperation (EPC; a form of EU foreign policy coordination).

Areas where a further political integration could take place are for example internal and external security and the budget of the European Union<sup>269</sup>. It is probable that the common foreign and security policy will be strengthened in the context of security issues regarding migration and relations with countries from different other regions such as the Middle East<sup>270</sup>.

#### **4.8.2. Institutions and Governing**

An analysis of the European economy shows that its institutions are often characterized by inertia and that decision taking could become more efficient. Although some further improvements may be recommendable, significant measures towards increasing the optimality of EMU have already been taken. Trade liberalization and the creation of the Common Market represent very important progresses. One issue regarding the effective EMU

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<sup>268</sup> See Mongelli (2002), p. 24.

<sup>269</sup> See Mongelli (2002), p. 25.

<sup>270</sup> See Gehler (2008), quoted in Eichengreen and Landesmann (2008), p. 1.

organization consists in the decision whether EU should be organized federally (which means that decision taking is collective) or confederally.

The European integration leads to pressures for convergence while the institutions and ideologies are at the same time significant sources of inertia and resistance (e.g. the price stability objective of the ECB and the excessive deficit procedure)<sup>271</sup>.

The European economic reforms adopted by decision makers could be characterized by “progressive liberalism”, defined “as the effort to fuse a liberal concern for efficiency with a Rawlesian commitment to support the disadvantaged”<sup>272</sup>. Examples of European liberalizing reforms are deficit reduction in Italy and Sweden; tax relief in France, the Netherlands and Britain; as well as efforts to increase market participation in the Netherlands and Sweden. Inefficient social spending in Europe could be reduced by more efficient administrative procedures such as the reduction of disability pay, early retirement and of protections for well-situated self-employed or public sector workers.

Despite some inertia and inefficiencies of European institutions, they fulfill some very important tasks. Regarding debtor friendliness the European system is not so debtor friendly as the American system, where restructuring insolvent enterprises is encouraged (e.g. significant in the context of crisis)<sup>273</sup>. Another important issue of the European integration refers to the development of a transnational competition policy in accordance with the principle of trade liberalization and the creation of the Common Market<sup>274</sup>.

The question arises whether it would be better if the EU were organized federally (meaning that decision making is collective) or confederally. A federal organization – meaning a collective decision taking - could become more difficult with larger EU growth when the heterogeneity increases and when citizens have more homogeneous preferences<sup>275</sup>.

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<sup>271</sup> See Cohen and Pisani-Ferry, quoted in Eichengreen and Landesmann (2008), p. 7.

<sup>272</sup> See Stiefel (2008), quoted in Eichengreen and Landesmann (2008), p. 8.

<sup>273</sup> See Stiefel (2008), quoted in Eichengreen and Landesmann (2008), p. 8.

<sup>274</sup> See Resch (2008), quoted in Eichengreen and Landesmann (2008), p. 9.

<sup>275</sup> See Mueller (2008), quoted in Eichengreen and Landesmann (2008), p. 9.

### 4.8.3. The European Central Bank

#### 4.8.3.1. Models of Central Banking

There were two models of central banking in the post-war period: the Anglo-French model and the German model.

Central banks designed according to the Anglo-French model pursue several objectives, e.g. price stability, stabilization of the business cycle, high employment and financial stability. There also exists a political dependence of central banks, because the minister's of finance have to approve decisions concerning monetary policy.

In the design of the ECB the German model prevailed. According to this model the price stability is the primary objective of the central bank. Article 105 of the Maastricht Treaty provides:

1. *The primary objective of the ESCB shall be to maintain price stability. Without prejudice to the price stability, the ESCB shall support the general economic policies in the Community with a view to contributing to the achievement of the objectives of the Community as laid down in Article 2.*

Article 2 of the Maastricht Treaty states that:

*The Community shall have as its task, by establishing a common market and an economic and monetary union and by implementing common policies or activities referred to in Articles 3 and 4, to promote throughout the Community a harmonious, balanced and sustainable development of economic activities, a high level of employment and of social protection, equality between men and women, sustainable and non-inflationary growth, a high degree of competitiveness and convergence of economic performance, a high level of protection and improvement of the quality of the environment, the raising of the standard of living and quality of life, and economic and social cohesion and solidarity among Member States.*

Another characteristic of the German model is the political independence, which means that decisions about interest rates are taken by the central bank alone, without the involvement of political authorities. Article 108 of the Maastricht Treaty provides:

*When exercising the powers and carrying out the tasks and duties conferred upon them by this Treaty and the Statute of the ESCB, neither the ECB, nor a national central bank, nor any member of their decision-making bodies shall seek or take instructions from Community institutions or bodies, from any government of a Member State or from any other body. The Community institutions and bodies and the governments of the Member States undertake to respect this principle and not to seek to influence the members of the decision-making bodies of the ECB or of the national central banks in the performance of their tasks<sup>276</sup>.*

An important reason for choosing the German model was that econometric studies during the 1980s and early 1990s showed that the economies of countries with politically independent central banks performed better and were characterized by lower inflation without having higher unemployment or lower economic growth. The political independence of the central bank is, however, not a sufficient condition for price stability, but it is necessary along with social and political consensus in order to achieve this<sup>277</sup>.

The fact that the ECB is a ‘conservative’ central bank – that is an institution which pursues especially price stability and puts less weight on output and employment – is sometimes also criticized. Usually there are gains consisting in lower inflation without the loss of employment, but this may, however, not be the case during a recession. The ECB does usually avoid expansionary policies that could reduce unemployment, a situation that can lead to conflicts with elected politicians<sup>278</sup>.

A problem in the euro area is given by hysteresis in unemployment, which means that a temporary shock to unemployment, for example because of a recession, is transformed into a permanent one. Due to rigidities in the labor markets workers who lost their jobs during a recession do not find a new job when economic performance improves. The temporary

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<sup>276</sup> See De Grauwe (2005), p. 164.

<sup>277</sup> See De Grauwe (2005), p. 166.

increase in unemployment is very large, because the ECB takes little stabilization measures. This can also lead to a high level of permanent unemployment<sup>279</sup>.

The ECB reacts to output gap movements because they can influence future inflation. Increasing output and accelerating economic activity are likely to lead to higher inflation. The ECB reduces interest rates when the output is low in order to boost the economy and vice versa<sup>280</sup>.

The ECB managed to prove that it has systematically pursued the goal of price stability – that means an inflation rate of below or approximately two percent - since its foundation<sup>281</sup>. An inflation rate that would exceed this target would also lead to a higher inflation uncertainty<sup>282</sup>.

It would be very difficult to make changes to the statutes of the ECB regarding the inflation target and the political independence. A revision of the Maastricht Treaty, requiring unanimity among all EU member states, would be necessary<sup>283</sup>.

#### **4.8.3.2. The ECB and other EMU Institutions**

On January 1, 1994, the European Monetary Institute was founded. Its role was the determination of the organization and logistics for the European System of Central Banks, which became operational on January 1, 1999. The European System of Central Banks consists of the European Central Bank and the national central banks of euro area member countries. It is administered by the decision-making bodies of the ECB, e. g. the Governing Council and the Executive Board. The Executive Board consists of a president, a vice president and four directors, chosen by the heads of state and governments of the euro area member countries. The Governing Council includes the members of the Executive Board and the governors of the central banks of euro area member countries<sup>284</sup>.

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<sup>278</sup> See De Grauwe (2005), p. 170.

<sup>279</sup> See De Grauwe (2005), p. 172.

<sup>280</sup> See De Grauwe (2005), p. 173.

<sup>281</sup> See Issing (2005), quoted in Berger, De Haan and Sturm (2006), p. 4.

<sup>282</sup> See Friedman (1977), quoted in Caporale and Kontonikas (2006), p. 4.

<sup>283</sup> See De Grauwe (2005), p. 165.

<sup>284</sup> See Wallace (2004), p. 167.

The most important decision-making body of the euro area is the Governing Council. Its main tasks are the formulation of monetary policies, the adoption of decisions about interest rates and reserve requirements as well as the provision of liquidity into the system. Its members meet every two weeks in Frankfurt<sup>285</sup>. Each member has one vote. The reason why there is no qualified voting in the Governing Council is that, according to the Maastricht Treaty, its members must take into consideration the interest of the entire euro area.

The main tasks of the Executive Board are to implement the decisions concerning the monetary policy adopted by the Governing Council and to set the agenda for the meetings of the members of the Governing Council<sup>286</sup>.

Sometimes criticism arises regarding the high degree of decentralization of the system, meaning that the influence of the national central banks in the Governing Council could determine the prevalence of national interests at the expense of euro area wide interests. National central banks are fully taking part in the decision-making process of the Governing Council and carry out the ECB instructions in their national money market<sup>287</sup>.

In order to assure the proper functioning of the euro area and to improve the decision-taking process concerning the common currency, the euro, the ECB collaborates with other bodies of the EU. The relations between the ECB and the other EU bodies are shown in the following table<sup>288</sup>.

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<sup>285</sup> See De Grauwe (2005), p. 181.

<sup>286</sup> See De Grauwe (2005), p. 182.

<sup>287</sup> See De Grauwe (2005), p. 183.

<sup>288</sup> See ECB Monthly Bulletin (October 2000), p. 62-63.



**Table 1****ECB participation in Community fora and bodies**

<b>Body/ forum</b>	<b>Main tasks</b>	<b>Membership</b>
<b>European Parliament</b> (established 1958)	<ul style="list-style-type: none"> <li>• Co-legislator with the EU Council on a wide range of EU laws.</li> <li>• Conducts confirmation hearings of persons nominated to manage Community institutions and bodies, including the ECB.</li> </ul>	<ul style="list-style-type: none"> <li>• Currently 626 Members of the European Parliament.</li> <li>• Organised in eight political groups, along the lines of ideological orientations.</li> </ul>
<b>EU Council (ECOFIN)</b> (established 1958)	<ul style="list-style-type: none"> <li>• To take decisions on issues related to Title III, Chapter 4 of the Treaty (Capital and payments), and Title VII (Economic and monetary policy).</li> <li>• To co-ordinate the general economic policies of the Member States.</li> </ul>	<ul style="list-style-type: none"> <li>• Economics or Finance Minister from each Member State (or a representative authorized to bind the government of that Member State).</li> <li>• The European Commission shall be invited.</li> <li>• The ECB shall be invited in cases where it exercises its right of initiative, or when the EU Council is discussing matters relating to the objectives and tasks of the ESCB.</li> </ul>
<b>Eurogroup</b> (established 1998)	<ul style="list-style-type: none"> <li>• To provide a forum for discussion among Ministers on issues connected with “their shared specific responsibilities for the single currency”.</li> </ul>	<ul style="list-style-type: none"> <li>• Economics or Finance Ministers of the Member States participating in the euro area.</li> <li>• The European Commission, and the ECB when appropriate, are invited to take part in the meetings.</li> </ul>
<b>Economic and Financial Committee</b> (established 1999)	<ul style="list-style-type: none"> <li>• To keep under review the economic and financial situation of the Member States and of the European Community and to report regularly thereon to the EU Council and to the European Commission, in particular on financial relations with third countries and international institutions.</li> <li>• To deliver opinions at the request of the EU Council or of the European Commission, or on its own initiative for submission to those institutions.</li> <li>• To contribute to the work of the ECOFIN Council and to carry out other advisory tasks assigned to it by the EU Council.</li> <li>• To examine, at least once every year, the situation regarding the movement of capital and the freedom of payments.</li> </ul>	<ul style="list-style-type: none"> <li>• The Member States, the European Commission and the ECB are each represented by two members.</li> <li>• The two members appointed by the Member States shall be selected respectively from among senior officials from the administration and the national central bank.</li> </ul>

<b>Economic Policy Committee</b> (established 1974)	<ul style="list-style-type: none"> <li>• To contribute to the preparation of the work of the EU Council by providing analyses, opinions on methodologies and draft formulations for policy recommendations, particularly on policies for improving growth potential and employment.</li> <li>• To provide advice to the European Commission and the EU Council.</li> <li>• To provide a framework for Macroeconomic Dialogue at the technical level.</li> </ul>	<ul style="list-style-type: none"> <li>• The Member States, the European Commission and the ECB are each represented by no more than four members.</li> </ul>
<b>Macroeconomic Dialogue</b> (established 1999)	<ul style="list-style-type: none"> <li>• To exchange information and opinions on how to design a macroeconomic policy in order to contribute towards higher levels of employment on the basis of strong, noninflationary, growth.</li> </ul>	<ul style="list-style-type: none"> <li>• The Member States are represented by a ministerial “Troika” from the current, subsequent and preceding presidencies, selected from the ECOFIN and Social Affairs Council.</li> <li>• The European Commission, the ECB and a non-euro area national central bank also participate.</li> <li>• The social partners are represented by EU level federations of employers and trade unions.</li> </ul>

Level of ECB participation	Frequency of meetings/ subgroups	Other observations	Body/ forum
President or Vice-President; other members of the Executive Board report on specific topics	<ul style="list-style-type: none"> <li>• Hearings of the ECB before the Economic and Monetary Affairs Committee in principle four times a year.</li> <li>• Presentation of the ECB’s Annual Report to a plenary session.</li> <li>• ECB officials can be invited before a parliamentary committee whenever a need arises.</li> </ul>	Monetary dialogue between the ECB and the European Parliament is a core element in the process of holding the ECB accountable.	<b>European Parliament</b>
President/Vice-President, or, exceptionally, other members of the Executive Board of the ECB	<ul style="list-style-type: none"> <li>• Usually once a month.</li> <li>• Twice-yearly informal meetings, national central banks, the ECB and the European Commission are invited.</li> <li>• Various sub-structures, Committee of Permanent Representatives (COREPER) and working groups.</li> </ul>	The ECOFIN Council is one of the compositions of the EU Council. Generally, the EU Council is the main legislator at the European level, in many cases in co-decision with the European Parliament.	<b>EU Council (ECOFIN)</b>

President and Vice-President, or, exceptionally, other Executive Board members	<ul style="list-style-type: none"> <li>• Usually once a month, before the ECOFIN meetings.</li> </ul>	The Eurogroup is an informal entity which was established on the basis of a Resolution of the 1997 Luxembourg European Council. The Eurogroup has no legal basis in the Treaty and has, as such, no legislative powers.	<b>Eurogroup</b>
Vice-President, and a member of the Executive Board; two senior staff members act as alternates.	<ul style="list-style-type: none"> <li>• Usually once a month.</li> <li>• Sub-structures include committee of alternates and various working groups (e.g. Financial Experts Group; Working Group on EU Government Bonds and Bills; Working Group on Statistics; Euro-Coins Subcommittee) which meet to prepare EFC meetings.</li> </ul>	Successor to the Monetary Committee (established 1958). Provides the main framework within which the dialogue between the EU Council and the ECB can be prepared and continued at the level of senior officials from ministries, national central banks, the European Commission and the ECB.	<b>Economic and Financial Committee</b>
3 ECB staff members	<ul style="list-style-type: none"> <li>• Usually once a month.</li> <li>• Various subgroups (e.g. a working group on structural reform indicators) meet to prepare EPC meetings.</li> </ul>	<p>Work focuses mainly on structural issues.</p> <p>Organises an annual in-depth review of structural reforms in the Member States; the resulting Annual Report on Structural Reforms feeds into the elaboration of the Broad Economic Policy Guidelines.</p>	<b>Economic Policy Committee</b>
President or Vice-President and one accompanying person	<ul style="list-style-type: none"> <li>• Twice a year (spring and autumn).</li> <li>• The Macroeconomic Dialogue at the technical level prepares meetings at the political level.</li> <li>• A steering committee provides support.</li> </ul>	The Macroeconomic Dialogue is otherwise known as the “Cologne process”. It forms part of the European Employment Pact and is intended to complement the “Luxembourg process” (employment policy strategy) and the “Cardiff process” (reform of capital and product markets).	<b>Macroeconomic Dialogue</b>

**Table 2: ECB Participation in Community Fora and Bodies**

Source: *ECB Monthly Bulletin*, October 2000.

The monetary policy is a competence of the Community, while the Member States are responsible for the economic policy<sup>289</sup>.

#### 4.8.3.3. The Optimal ECB Design

Some important aspects to be taken into consideration when designing a central bank are the number of people that should be responsible for monetary policy decisions, the weight given

<sup>289</sup> See Arda (2006), p. 10.

to central vs. regional (or sectoral) representation in decision-making and whether regions (or sectors) should be represented according to their economic weight<sup>290</sup>.

Regarding the size, some economists think that the decision-making process is best when taking place in groups, because information is better processed<sup>291</sup>.

Concerning centralization, there are different opinions. Some economists think that the consequences of a strong representation of regional interests are inefficiencies in policy making<sup>292</sup>. Others view the regional representation within the Council as being positive, because economic information is mostly regional and as a result the precision with which economic data is analyzed can be increased<sup>293</sup>.

Another significant aspect is central vs. regional representation and how to deal with shocks to national preferences. Some economists suggest flexible majority rules for committee decisions, and majority requirements for policy proposals determined by national shocks<sup>294</sup>. Other economists propose a higher transparency of committee decisions with the consequence of decreasing incentives for regionally biased policies<sup>295</sup>. Another opinion is that rotation schemes would reduce the impact of regional preference shocks and would contribute to the stabilization of output and inflation in the currency union<sup>296</sup>.

There was a reform of the ECB statute in 2003, according to which the number of voting seats of national representatives will be maximal 15 and the number of voting members of the Executive Board will be limited to 6. In spite of this aspect the size of the ECB Governing Council will remain problematic<sup>297</sup> (because the decision making process is difficult when the number of members remains high).

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<sup>290</sup> See Berger (2006), p. 2.

<sup>291</sup> See Gerlach-Kristen (2002); Blinder and Morgan (2005); Lonbardi (2005); quoted in Berger (2006), p. 2.

<sup>292</sup> See Hagen and Suppel (1994) and Lohmann (1998), quoted in Berger (2006), p. 3.

<sup>293</sup> See Goodfried (2000); Berger (2002); Mayer et al. (2003); quoted in Berger (2006), p. 3.

<sup>294</sup> See Gersbach and Pahl (2004), quoted in Berger (2006), p. 3.

<sup>295</sup> See Gersbach and Hahn (2001), quoted in Berger (2006), p. 3.

<sup>296</sup> See Berger and Muller (2005), quoted in Berger (2006), p. 3.

<sup>297</sup> See Berger (2006), p. 8.

A benefit of centralization is a less volatile monetary policy, because of the fewer members appointed at regional level and due to the fewer changes of the committee's median voter. Another benefit consists in the absence of a regional bias in the decision-making process<sup>298</sup>. However, there are also costs as a result of decreasing the voting rights of regional representatives. One cost is the disadvantage of a lower number of veto players for the institutional independence of the ECB, because a higher regional representation reduces the possibility of political influences by governments. A second cost is related to the loss of information, because much of it comes from the regional level and regional representatives can provide a good understanding of regional developments<sup>299</sup>.

If the assumptions are that regions differ as to the economic and preference perspective and that their representatives show signs of "home bias", a misrepresentation of economic size will lead to decisions that are not first-best. An example could be a small region which is overrepresented and has inflation below the weighted inflation average of the area. In this situation, the majority of members could vote for a more expansionary policy. If the regional representation is exactly according to the region's economic weight, regional bias can be avoided. About the accountability and credibility, some economists argue that: "considerable loss of current EMU-members' influence power especially in favor of joining Central Eastern European Countries (CEECs) results in a loss of monetary credibility of the ECB: As transparency of the decision-making process within the ECB is lacking, markets may consider the ECB to be too much inclined to the economic performances of the CEECs<sup>300</sup>." There are, however, also benefits of misrepresentation, e. g. the principle "one region, one vote" that favors political stability<sup>301</sup>.

According to the 2003 reform of the ECB statute, the number of national central bank governors with voting rights in the Governing Council will be limited to 15. There will also be an asymmetric rotation scheme concerning the exercise of voting rights by governors, once EMU membership exceeds the number of votes. Two or three groups, according to the size of the countries, will be formed - out of which governors will rotate into a limited number of

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<sup>298</sup> See Berger (2006), p. 9.

<sup>299</sup> See Berger (2006), p. 10.

<sup>300</sup> See Fahrholz and Mohl (2004), quoted in Berger (2006), p. 12.

<sup>301</sup> See Berger (2006), p. 12.

voting seats. Larger countries will have more voting rights<sup>302</sup>. All representatives of national central banks will participate in the Governing Board meetings. The regional representation in the Governing Council will be about 70 percent of voting rights<sup>303</sup>.

The situation concerning the centralization and representation in the ECB could, however, be further improved. Some economists argue that the optimal size of the ECB Governing Board would be of maximum around 20 members. Concerning the regional representation in the Bundesbank and Fed, it is about 40-50 percent, which is considerably lower than expected for the ECB after the reform of its statute. The optimal degree of representation in the euro area would be according to GDP shares of the member countries<sup>304</sup>.

#### **4.8.3.4. The ECB and the Euro Area Enlargement**

A study of euro zone member countries for the period 1999 to 2005 shows that there is no convincing evidence that country-specific economic developments influence the decisions of the ECB Governing Council. However, some factors that seem to have an effect on these decisions are the maximum inflation rate and the minimum economic sentiment<sup>305</sup> (meaning the investor confidence or economic expectations). This leads to the conclusion that new euro area member countries could influence ECB decisions if they provide the minimum or maximum inflation rate and economic sentiment<sup>306</sup>.

Potential members from new EU countries also do not have a long history of central bank independence. A possibility is that central bankers of these countries will behave tough in order to prove their capability of conservative central banking. It is also possible that they will pursue a loose monetary policy and support fiscal policy<sup>307</sup>.

Many officials and part of the economists think that a nominal and real convergence of new members to present member countries would be necessary in order to have successful

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<sup>302</sup> See Berger (2006), p. 13.

<sup>303</sup> See Berger (2006), p. 19.

<sup>304</sup> See Berger (2006), p. 18.

<sup>305</sup> See Ullrich (2006), p. 1.

<sup>306</sup> See Ullrich (2006), p. 3.

<sup>307</sup> See Ullrich (2006), p. 2.

integration. With diverse members, it will be difficult for the ECB to pursue its goals, and the monetary policy will be unable to react to national idiosyncratic shocks.

Another possible consequence of an EMU enlargement is that ECB decisions become less predictable as a result of the larger ECB council, in spite of the reform of the ECB statute<sup>308</sup>.

#### **4.8.3.5. The Accountability of the ECB**

The accountability of the ECB is weak because of the absence of strong European political institutions that could control the performance of the ECB and as a result of the vagueness of the Maastricht Treaty in defining the objectives of the ECB (except for the price stability).

This lack of formal accountability could be compensated by informal accountability, this means by greater transparency. An important measure that has been taken in this direction is the publication of policies of the ECB, explained in detail, in a Monthly Bulletin. The ECB President also explains the reasons for decisions taken during each monthly meeting of the Governing Council concerning monetary policy<sup>309</sup>. The minutes of the meetings of the Governing Council and the voting record of the members of the Board are not published because it is forbidden by the Treaty<sup>310</sup>.

#### **4.8.3.6. ECB Communication**

There are different reasons why communication is useful for central banks. Firstly, it influences expectations and thus it improves the effectiveness of policy and the overall performance of the economy<sup>311</sup>. Secondly, as a result of communication the noise in financial markets could be reduced and the predictability of central bank actions increased<sup>312</sup>. Thirdly, the communication is important from the perspective of the accountability of the central bank.

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<sup>308</sup> See Hefeker (2006), p. 1.

<sup>309</sup> See De Grauwe (2005), p. 179.

<sup>310</sup> See De Grauwe (2005), p. 181.

<sup>311</sup> See Bernanke (2004), quoted in Berger, De Haan and Sturm (2006), p. 4.

<sup>312</sup> See Posse (2003), quoted in Berger, De Haan and Sturm (2006), p. 4.

The independence of the central bank has increased over time as well as the necessity to explain its decisions<sup>313</sup>.

There are, however, various difficulties in ECB communication. A reason is that the ECB is relatively young and has a culturally heterogeneous staff and Council which often make contradictory statements<sup>314</sup>. Another reason is that economists sometimes do not have a good understanding of the policy of the ECB, as its monetary policy strategy differs from that of other central banks, as it pursues monetary and inflation goals<sup>315</sup>. Finally, there are different cultures, languages, traditions and motives that influence the ways ECB messages are interpreted by the media<sup>316</sup>.

As a result of the multi-country, multicultural and multilingual context as well as of the multiple central banking traditions in the euro area, there are important differences in the accuracy of economic agents in forecasting monetary policy decisions of the ECB<sup>317</sup>. A reason for these differences is related to geography. Thus, the accuracy tends to improve for financial institutions headquartered in Frankfurt or having a subsidiary there, because of the fact that the ECB and the Bundesbank (which was the model of the ECB) have their headquarters in Frankfurt and as a result of the close informational hub. Analysts based in London/United Kingdom also show good performances<sup>318</sup>. A second reason for these differences consists of macroeconomic conditions, as predictions are less accurate in countries where inflation and unemployment levels are not according to the euro area average. A third aspect that determines these differences is history, meaning that countries with high central bank independence make better forecasts. Some geographic differences, however, tend to become lower over time, as an effect of learning<sup>319</sup>.

Communication is very important for conducting the monetary policy by the ECB. Central banks usually do have control only over the overnight interest rate, but they intend to

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<sup>313</sup> See Issing (2005); De Haan and Eijffinger (2000); quoted in Berger, De Haan and Sturm (2006), p. 4.

<sup>314</sup> See Jansen and De Haan (2005b), quoted in Berger, De Haan and Sturm (2006), p. 4.

<sup>315</sup> See De Haan et al. (2005), quoted in Berger, De Haan and Sturm (2006), p. 4.

<sup>316</sup> See Berger, De Haan and Sturm (2006), p. 4.

<sup>317</sup> See Berger, Ehrmann and Fratzscher (2006a), p. 1.

<sup>318</sup> See Berger, Ehrmann and Fratzscher (2006a), p. 3.

<sup>319</sup> See Berger, Ehrmann and Fratzscher (2006a), p. 4.



influence asset prices and interest rates at all maturities. In order to achieve these goals, effective communication has a significant role. In this sense, important aspects are the media coverage and thus the audience reached by the central bank, as well as the favorableness of the discussions of ECB monetary policy with an influence upon the credibility and the effectiveness of the bank. Usually, press discussions are critical if ECB decisions are poorly understood, if they come as a surprise for markets and if the inflation rate exceeds 2%<sup>320</sup>. A factor that determines more favorable media reports is that the ECB makes inflation and output projections public on a quarterly basis instead of once per year, as it was the situation between 1999 and 2002. The fact that the meetings of the ECB Governing Council and the press conference afterwards are held outside Frankfurt twice a year is also viewed as positive. National biases, however, do not influence the discussions in national media coverage<sup>321</sup>.

The ECB communication has an influence upon the term structure of interest rates in the medium run over a horizon between five month and one year. Financial agents expect to be informed in advance about changes in ECB interest rates, although the exact timing is less foreseeable<sup>322</sup>. Communication by ECB officials also influences the level and the volatility of the exchange rate<sup>323</sup> and the short-term money interest rates<sup>324</sup>. As a consequence, improving the credibility and transparency of the central bank can enhance monetary policy and welfare<sup>325</sup>. A higher credibility also leads to lower interest rates in the euro area<sup>326</sup>. Too much transparency, however, could have negative effects for the monetary policy in the case of deviations from the target<sup>327</sup>.

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<sup>320</sup> See Berger, Ehrmann and Fratzscher (2006b), p. 5.

<sup>321</sup> See Berger, Ehrmann and Fratzscher (2006b), p. 6.

<sup>322</sup> See Lamla and Rupprecht (2006), p. 1.

<sup>323</sup> See Fratzscher (2004); Jansen and De Haan (2005a) and Jansen and De Haan (2005b); quoted in Lamla and Rupprecht (2006), p. 2.

<sup>324</sup> See Rosa and Verga (2005), quoted in Lamla and Rupprecht (2006), p. 2.

<sup>325</sup> See Lamla and Rupprecht (2006), p. 4.

<sup>326</sup> See Hayo (2006), p. 29.

<sup>327</sup> See Lamla and Rupprecht (2006), p. 5.

#### 4.8.3.7. The supervision of the banking sector

Article 105 of the Maastricht Treaty provides:

*5. The ESCB shall contribute to the smooth conduct of policies pursued by the competent authorities relating to the prudential supervision of credit institutions and the stability of the financial system.*

A potential problem in the euro area is that the supervision of the banking system was not centralized at the level of the currency union. This could cause difficulties in preventing and managing financial crises<sup>328</sup>.

In the euro area there is the principle of home country control, which means that responsibility for the supervision of banks is entrusted to the authorities of the country where the banks have their head office. Another principle is the host country responsibility, which states that the host country is responsible for financial stability in its own market. As a conclusion, the monetary policy is a competence of European institutions, while the banking supervision is a competence of nation-states<sup>329</sup>.

A negative consequence of this situation could occur during a crisis, characterized by the failure of a bank with bad loans and a run on other banks by deposit-holders. Under these circumstances the central bank should lend to sound but illiquid banks (lender of last resort principle) and allow insolvent banks to fail or be restructured. The problem of the central bank could be to distinguish between illiquid and insolvent banks, especially if they do not obtain the necessary information from other EU countries' authorities quickly.

The solution would be to entrust the responsibility as the lender of last resort to the ECB. The supervision may be assigned to the ECB or to another European authority created for this purpose<sup>330</sup>.

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<sup>328</sup> See De Grauwe (2005), p. 193.

<sup>329</sup> See De Grauwe (2005), p. 190.

<sup>330</sup> See De Grauwe (2005), p. 191.

#### **4.8.4. The Reform Treaty (Treaty of Lisbon) and Further Possible Integration**

The Treaty of Lisbon or the Reform Treaty was signed on 13 December 2007 in Lisbon, Portugal. It provides a series of amendments to the Treaty of the European Union (or the Maastricht Treaty) and the Treaty establishing the European Community (Treaty of Rome), the latter being renamed Treaty on the Functioning of the European Union. These two treaties will be the basis of the Union. It is planned that the Treaty of Lisbon will be ratified by all Member States by the end of 2008.

There are measures included in the Reform Treaty in order to improve the functioning of the EU and EMU and that will probably increase the political integration and the capacity to react to foreign challenges. Thus, the European Central Bank will become an official institution<sup>331</sup>. There will be a President of the European Council, elected for a two and a half year term by a qualified majority among the members of the body<sup>332</sup>, instead of the President-in-office, who is the head of government or state of the country that holds the presidency of the EU and rotates every six months<sup>333</sup>. The Council of the European Union will be split in two separate institutions, e.g. the European Council which is a body of heads of Member States' governments (the president or the prime minister), and the Council of Ministers which consists of the national ministers of specific departments<sup>334</sup>. A very important measure will be the creation of the position of a Representative for Foreign Affairs and Security Policy<sup>335</sup>. The co-decision procedure between the Parliament and the Council will be extended to new areas of policy, but the number of MEPs will be permanently reduced to 750 plus the president<sup>336</sup>. The Court of Justice of the European Communities will be named 'Court of Justice of the European Union'<sup>337</sup>. The Commission of the European Communities will be called 'European Commission' and the number of Commissioners will be reduced from 27 to 18<sup>338</sup>. The 'High

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<sup>331</sup> See Treaty of Lisbon, Article 245 a (3).

<sup>332</sup> See Treaty of Lisbon, Article 9 B (2).

<sup>333</sup> See Treaty of Maastricht, Article 203 I-23.

<sup>334</sup> See Treaty of Maastricht, Article 7; Treaty of Lisbon, Article 9.

<sup>335</sup> See Treaty of Lisbon, Article 9 E.

<sup>336</sup> See Treaty of Lisbon, Article 9 A.

<sup>337</sup> See Maastricht Treaty, Article 7; Treaty of Lisbon, Article 9.

<sup>338</sup> See Treaty of Lisbon, Article 9 D (5).

Representative of the Union for Foreign Affairs and Security Policy’ will also be the Vice-President of the Commission<sup>339</sup>.

Some consider that the changes in foreign relations are the core changes in the treaty. The post of High Representative for the Common Foreign and Security Policy and the post of the European Commissioner for External Relations and European Neighborhood Policy will merge. The ‘High Representative of the Union for Foreign Affairs and Security Policy’ will also be the Vice-President of the Commission and the administrator of the European Defense Agency and get a diplomatic corps. There will be a common defense for the EU when the European Council unanimously takes a decision in this sense<sup>340</sup>.

The enlargement criteria will be stronger and countries that intend to join the EU will also have to adhere to its values. There will be an exit clause for member states that want to withdraw from the Union<sup>341</sup>.

#### **4.8.5. Solidarity vs. Nationalism**

The solidarity criterion states: “When the common monetary policy gives rise to conflicts of national interests, the countries that form a currency area need to accept the costs in the name of a common destiny”<sup>342</sup>.

Political aspects are taken into consideration through this criterion. “Since none of the previous criteria is likely to be fully satisfied, no currency area is ever optimum. This is even true for individual countries which casually operate as currency areas”<sup>343</sup>. The results of the fact that the OCA criteria are not fully satisfied are political disagreements about the proper response even with symmetric shocks. The disagreements are more significant across regional areas with asymmetric or symmetric effects. The solidarity of people that form a union must

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<sup>339</sup> See Treaty of Lisbon, Article 9 E (4).

<sup>340</sup> See Treaty of Lisbon, Article 9 E and Article 13 A.

<sup>341</sup> See Treaty of Lisbon, Article 1 (a).

<sup>342</sup> See Baldwin/Wyplosz (2006), p. 359.

<sup>343</sup> See Baldwin/Wyplosz (2006), p. 359.

be increased in order to be able to tolerate such disagreements. Nationalism can lead to intransigent reactions<sup>344</sup>.

The question that occurs is whether or how far citizens are willing to give up parts of their national sovereignties in pursuit of the common interest. In May and June 2005 (the time of negative referenda in France and the Netherlands) there was a public opinion pool for the whole union, where the following question was put: "Are you, yourself, for the development towards a European political union"<sup>345</sup>? 58 percent of the answers were positive and 28 percent negative while 11 percent of the respondents refused to state their opinion. Especially new member countries from the Baltic area are important opponents<sup>346</sup>.

The conclusion is that the criterion of political integration is not fulfilled in EMU, although significant steps are planned and taken regarding the ECB and the other EU institutions<sup>347</sup>. An overall conclusion can be that "Europe may not be scoring very highly on this criterion, but nor is it badly failing"<sup>348</sup>.

#### **4.9. *Homogeneous Preferences***

The homogeneity of preferences criterion states the following: "Currency union member countries must share a wide consensus on the way to deal with shocks"<sup>349</sup>.

If there are symmetric shocks political conditions are important. A premise in order to have symmetric shocks that do not represent a problem is an agreement between all countries about how to act in case of shocks. Problems can be the choice between inflation and unemployment, or between weak exchange rates (favored by exporters) and strong exchange rates (preferred by consumers). Political parties, trade unions and lobbies deal with these tradeoffs. Sometimes the decisions across countries are not the same because of national preferences that are not always homogeneous.

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<sup>344</sup> See Baldwin/Wyplosz (2006), p. 359.

<sup>345</sup> See Baldwin/Wyplosz (2006), p. 366.

<sup>346</sup> See Baldwin/Wyplosz (2006), p. 366.

<sup>347</sup> See Petreski (2007), p. 12.

<sup>348</sup> See Baldwin/Wyplosz (2006), p. 367.

There are redistributive effects of a shock because some groups lose and others may benefit. The political response depends on collective preferences. In a currency area the differences of domestic politics should not be too wide<sup>350</sup>.

In Europe there are significant differences between countries, e.g. low-inflation in Germany and high-inflation in Italy or Greece, as well as different policy-making institutions (the executive and the parliament), and ideologies of political parties and trade unions. Important steps have been the development of common institutions, the discipline of monetary policy, the guarantee of macroeconomic stability, a European Central Bank strongly committed to price stability, and a not too high national deficit. However, sometimes there are frictions among the institutions.

“We can conclude that there remains some heterogeneity among national preferences. This criterion is only partly fulfilled”<sup>351</sup>.

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<sup>349</sup> See Baldwin, Wyplosz (2006), p. 359.

<sup>350</sup> See Baldwin, Wyplosz (2006), p. 359.

<sup>351</sup> See Baldwin, Wyplosz (2006), p. 366.

## 5. The Maastricht Criteria

This chapter contains an overview of the Maastricht criteria, e.g. about inflation, the interest rate, the exchange rate, the deficit and the debt. These are obligatory conditions for the membership in the currency area EMU. The advantages and disadvantages of these criteria will be discussed. A significant issue, which is described in a section of this chapter, concerns the convergence between the economies of the original and the new EMU members, as a result of these imposed criteria. Different points of view are also presented regarding whether it is optimal to impose the fulfillment of the Maastricht criteria before the accession to the currency area EMU or afterwards. Finally, other aspects and possibilities of EU external cooperation and the particular situation of Italy and the UK are discussed. Some suggested measures that would probably increase the convergence and make EMU a more optimal currency area refer to an increasing economic and monetary cooperation and the improvement of the communication in the EU (e.g. dealing with challenges regarding the languages).

Before becoming members of the European Monetary Union, EU member countries must satisfy certain convergence criteria, e.g.:

1. The country's inflation rate in the year before admission must be no more than 1.5 percent above the average rate of the three EU member states with lowest inflation.
2. The country must have maintained a stable exchange rate within the ERM without devaluing on its own initiative.
3. The country must have a public-sector deficit no higher than 3 percent of its GDP (excepting temporary and exceptional circumstances).
4. The country must have a public debt that is below or approaching a reference level of 60 percent of its GDP.

The convergence criteria of the Maastricht Treaty of 1991 can be divided into:

1. monetary convergence criteria and
2. fiscal convergence criteria.

The monetary convergence criteria concern:

1. price stability;
2. the exchange rate;
3. the long-term interest rates.

The fiscal convergence criteria concern:

1. the avoidance of an excessive deficit;
2. the avoidance of an excessive debt.

There is an ongoing monitoring of the deficit and debt criteria by the European Commission even after the country becomes an EMU member. Countries that do not manage to respect these rules regarding the deficit and debt are confronted with penalties<sup>352</sup>.

In addition to the Maastricht Treaty, the Stability and Growth Pact (SGP) was negotiated in 1997 by European leaders in order to achieve tighter fiscal conditions, and to convince voters in EU countries that the new system would provide low inflation. It sets out “the medium-term budgetary objective of positions close to balance or in surplus”<sup>353</sup>. However, because some EU countries did violate the provisions of the SGP, it has not been put into practice, and it was also weakened in 2005<sup>354</sup>.

The Maastricht criteria were introduced in order to achieve nominal convergence and to reduce asymmetric shocks and disparities between EMU countries. As a result, the countries lost some flexibility of economic policy and the control over exchange rate and monetary policy (to the ECB). The fiscal policy is the only independent policy of EMU member states, but even this is restricted by the SGP. The purpose of this pact is to achieve balanced public finances, to avoid inflationary pressure and to have a significant economic growth in the euro zone. The medium-term scope is to achieve higher budget flexibility in order to be able to deal with asymmetric shocks and recession<sup>355</sup>.

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<sup>352</sup> See Krugman, Obstfeld (2006), p. 555.

<sup>353</sup> See Krugman, Obstfeld (2006), p. 556.

<sup>354</sup> See Krugman, Obstfeld (2006), p. 556.

<sup>355</sup> See Soukiazis, Castro (2005), p. 386.



“The public sector has played a critical role in the development of employment and competitiveness”<sup>356</sup>. Two perspectives on fiscal policy can be differentiated: according to the Musgrave public-finance view, the state corrects market failures, while the Buchanan public-choice view considers that the state operates in the interest of specific groups. The European fiscal policy is characterized by three phases:

- (1) the postwar “golden age”; high growth and low unemployment supported complementary state-economy relations;
- (2) the phase of slower GDP growth, lower unemployment rates and thus rising public expenditure that led to higher social insurance contributions and taxes and with negative impact on investments. The solution under these circumstances are according to Buchanan fiscal discipline and limiting policy-makers’ discretions;
- (3) fiscal rules in the Maastricht Treaty and SGP<sup>357</sup>.

The opt-out is the right to remain for an undetermined time outside the EMU. Great Britain and Denmark have this right, new EU member states do not.

## **5.1. Inflation**

According to the Maastricht convergence criteria, “the country’s inflation rate in the year before admission must be no more than 1.5 percent above the average rate of the three EU member states with the lowest inflation”<sup>358</sup>.

The fact that inflation was included in the Maastricht criteria shows its significance. It is relevant for the OCA theory because an OCA criterion consists in the similarity of inflation rates, something that must be already achieved when the countries become EMU members, as a result of this Maastricht criterion imposed for EMU membership. Some economists consider that if the inflation criterion were the only required Maastricht convergence criterion and if candidate countries satisfied this criterion, they automatically would have met the other four<sup>359</sup>. Price stability (an inflation rate below or about 2 percent) is the main target of the

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<sup>356</sup> See Eichengreen and Landesmann (2008), p. 6.

<sup>357</sup> See Buti and Sapir (2008), quoted in Eichengreen and Landesmann (2008), p. 6.

<sup>358</sup> See Krugman, Obstfeld (2006), p. 555.

<sup>359</sup> See Zestos (2006), p.57.

ECB, so that countries must take measures in order to make the maintenance of a low inflation rate possible, even after they become EMU members. Price stability leads to economic growth, while inflation determines “uncertainty, arbitrary redistribution of wealth, distortionary effects in resource allocation away from most productive activities”<sup>360</sup>. Low inflation can, however, have positive effects by increasing output and reducing unemployment<sup>361</sup>.

The following table shows that the measures of inflation presented, which are the private consumption deflator, the GDP deflator and the HIPC (harmonized indices of consumer prices, which measures the changes over time in the prices of consumer goods and services acquired by households), indicate that price stability (an inflation rate of below or about 2 percent) can be expected to be achieved until 2009 in the euro area. Countries in the EU make permanent efforts to fulfill this goal, and thus to satisfy the OCA criterion of similarities of inflation rates, resulting in the relatively low level of inflation of the EU27. Factors that have an important role for the inflation target (e.g. the compensation per employee, the unit labor costs and the import prices of goods) also show levels that permit the maintenance and the achievement of a low inflation in the euro area and in the EU respectively.

#### Inflation outlook – euro area and EU27

(Annual percentage change)	Euro area				Difference vs spring 2007		EU27				Difference vs spring 2007	
	2006	2007	2008	2009	2007	2008	2006	2007	2008	2009	2007	2008
Private consumption deflator	2.2	1.9	2.0	2.0	0.1	0.2	2.2	2.4	1.7	2.1	0.2	-0.3
GDP deflator	1.9	2.2	2.1	2.0	0.1	0.2	2.1	2.8	1.9	2.2	0.2	-0.2
HICP	2.2	2.0	2.1	2.0	0.1	0.2	2.3	2.3	2.4	2.2	0.1	0.3
Compensation per employee	2.4	2.6	3.1	2.8	0.2	0.3	2.7	3.0	3.6	3.4	-0.1	0.3
Unit labour costs	1.0	1.4	1.8	1.5	0.2	0.2	1.2	1.7	2.1	1.8	0.2	0.3
Import prices of goods	4.5	1.3	1.3	1.1	0.6	0.0	4.1	1.5	1.2	1.2	0.5	-0.1

**Table 3: Inflation Outlook – Euro Area and EU27**

Source: *Economic Forecast, Autumn 2007*.

<sup>360</sup> See Zestos (2006), p.58.

<sup>361</sup> See Zestos (2006), p.58.

In August 2007 there was the first time after 1999 when inflation rates (the HICP inflation) were below 2% in the EMU for a period of twelve consecutive months. Especially **oil and commodity prices** have increased. There is also an upward pressure on prices of agricultural and food products. Significant attenuating factors are the strong euro, the small share of imported agricultural goods and protection of domestic agricultural markets. The prices for **processed food and services** also increased. The reasons for these developments were adverse weather conditions, the increasing world switch to bio-fuels and the higher incomes in emerging economies. The **services** inflation also increased because this sector is more sheltered from foreign competition<sup>362</sup>. Inflation for **non-energy industrial goods** has been mostly steady. However, this can be explained by aggressive seasonal discounting in July especially in clothing and footwear. Inflation for imported consumer goods has declined as a result of the appreciation of the euro. This offsets the effects of inflationary pressure caused by the historically high levels of capacity utilization rates in manufacturing. Inflation for **intermediate goods** remains at an elevated level, while inflation in industrial consumer goods increased because of an upward pressure on producer prices for consumer food items.

**Wages** are at moderate levels. Unemployment declines at levels not seen for the last 20 years. Labor productivity increased, but at a decelerated level<sup>363</sup>.

The **consumer inflation perception** rose, especially because of the increase of oil prices and of the prices for bread, cereals, milk and fruits.

The expectations for 2008 and 2009 are of an inflation of about 2 percent in EMU (the annual HICP inflation), and at 2.4 percent in 2008 and 2.2 percent in 2009 in the EU. Especially the oil price is very high. The expected annual rate of increase of import prices is below 1 ½ percent in 2007-08 and about 1 percent in 2009.

The inflation expectations for different European countries in 2008 and 2009 are:

- in Germany and France (the lowest inflation rates in the euro area): 1 ½ percent;
- in Greece, Spain and Slovenia (the highest rate): around 3 percent;

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<sup>362</sup> See Economic Forecast, autumn 2007, p. 41.

<sup>363</sup> See Economic Forecast, autumn 2007, p. 42.

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- in Baltic countries, and Bulgaria (the highest in the EU): 5-6 percent<sup>364</sup>.

The situation in some new EU states (e.g. Romania and Bulgaria) and in EU candidate countries (e.g. Croatia and Turkey) concerning inflation is presented in the following paragraphs:

### **Romania**

In 2006 there was a steady disinflation process. The disinflation stagnated in the first two quarters of 2007 and reversed in August and September because of increasing food prices after the higher world food prices and the depreciation of the RON (Romanian currency) since August 2007. The projected inflation for 2008 is 5 ½ percent because of rising international fuel and commodity prices. In 2009 the inflation will probably be around 4 ½ percent. Aspects that will put upward pressure on inflation will be a fiscal stimulus, credit growth and increasing wages<sup>365</sup>.

### **Bulgaria**

Inflation was around 4 ½ percent in the first half of 2007 and is expected to be at around 6-7 percent in 2008 and 2009. Excise duties increased and contributed to lower inflation (because demand for import products decreased). Reasons for inflation pressures are increases in food prices, higher demand and wages<sup>366</sup>.

### **Croatia**

The general index of consumer prices is estimated to decrease from 3.2 percent in 2006 to 3 percent in 2008 and 2009, despite the higher agricultural and food prices<sup>367</sup>.

### **Turkey**

The inflationary pressure will decline because of fiscal discipline and the increasing credibility of the Central Bank's disinflation targets. The 12-months consumer price inflation

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<sup>364</sup> See Economic Forecast, autumn 2007, p. 43.

<sup>365</sup> European Commission Economic Forecast (2007), p. 100.

<sup>366</sup> European Commission Economic Forecast (2007), p. 55.

<sup>367</sup> European Commission Economic Forecast (2007), p. 114.

is estimated at below 6 percent by the end of 2008 and 4 ½ percent at the end of 2009. The disinflation could be slower as a result of high oil and food prices<sup>368</sup>.

The aforementioned data represent estimations that have not taken into consideration the possibility of a crisis. The current developments suggest that these numbers should be viewed with caution.

The overall conclusion is that the obligation of EU countries to adhere to EMU (an exception being the UK and Denmark), and to satisfy the Maastricht inflation criterion, determine a tendency towards convergence between present and future EMU member countries and the fulfillment of the OCA criterion regarding similar inflation rates. A permanent preoccupation with factors that influence the inflation level as well as with measures to maintain price stability can be observed in euro area countries. EMU candidates make efforts to reduce inflation and to attain price stability.

## **5.2. Interest Rates**

According to the Maastricht convergence criteria the long-term interest rate must be no more than 2 percentage points above the average interest rate of the three EU countries with the lowest inflation rates in the year prior to the examination. The measure for the long-term interest rate is given by the 10-year government bond yield<sup>369</sup>.

It is very important that interest rates are set by also taking into consideration the goal of low inflation in the EMU. Only in this way the fulfillment of the OCA criteria of similar inflation rates and homogeneous preferences is possible in the euro zone.

The long-term interest rate is related to expected inflation. The Irving Fisher equation is:

$i = r + \pi^e$ ;  $i$  = long-term interest rate;  $r$  = real interest rate, depends on personal saving and productivity of capital and is relatively stable;  $\pi^e$  = expected inflation, related to present and past inflation. Low expected inflation results in low long-term interest rate<sup>370</sup>.

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<sup>368</sup> European Commission Economic Forecast (2007), p. 118.

<sup>369</sup> See Zestos (2006), p.209 f.

<sup>370</sup> See Zestos (2006), p. 67.

In **Bulgaria** the interest rates were 74.2 percent in 1997, 3.9 percent in 2000, 4.0 percent in 2002 and 2.6 percent in 2004<sup>371</sup>. In August 2007 the overnight interest rate was 4.04 percent and in August 2008 5.04 percent<sup>372</sup>. In **Romania** the interest rates were 47.2 percent in 1997, 35.0 percent in 2000, 20.4 percent in 2002 and 20.2 percent in 2004<sup>373</sup>. Now, in 2008, the NBR's policy rate is 10.25 percent, the lending facility is at 14.25 percent and the deposit facility at 6.25 percent<sup>374</sup>. In **Croatia**, in 2008, the interest rates for overnight loans in direct interbank trading are 3.90 percent, for long-term corporate loans 6.83 percent, for long-term loans to households 7.79 percent and for short-term loans to households 12.16 percent<sup>375</sup>. In **Turkey**, in 2008, the borrowing rate represents 16.75 percent and the lending rate 20.25 percent. A rate cut in the overnight interest rate is projected in Turkey if the favorable outlook in inflation and commodity prices continues<sup>376</sup>.

In Romania, Bulgaria, Croatia and Turkey the tendency was and is of decreasing and maintaining sustainable low interest rates, as well as of higher predictability and of an improving investment climate. Lower interest rates lead to more investments and imports and the economy is recovering. The lower interest rates are the result of an increasing market confidence and a prudential fiscal policy.

### 5.3. *Exchange Rate*

The Maastricht exchange rate criterion provides that all EMU candidate countries must maintain their currencies within the  $\pm 2.25$  percent ERM normal band for at least two years without devaluing their currencies<sup>377</sup>. A reason for this criterion is to determine countries to pursue price stability. In high inflation countries there is a depreciation of their currencies vis-à-vis currencies of low inflation countries. Only by also satisfying this provision of the Maastricht Treaty, the OCA criteria of similar (and low) inflation rates and homogenous

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<sup>371</sup> See Figuet (2006), p. 3.

<sup>372</sup> See Bulgarian National Bank; <http://www.bnb.bg/bnb/home.nsf/fsWebIndex?OpenFrameset> (2008).

<sup>373</sup> See Figuet (2006), p. 3.

<sup>374</sup> See Romanian National Bank; <http://www.insse.ro/sdds> (2008).

<sup>375</sup> See Croatian National Bank; <http://www.hnb.hr/publikac/bilten/informacija/einformacija.pdf?tsfsf=237e433093538eac86f8fee6c934a1b> (2008)

<sup>376</sup> See Central Bank of the Republic of Turkey; <http://www.tcmb.gov.tr/yeni/eng/> (2008).

<sup>377</sup> See Zestos (2006), p. 74.

preferences can be achieved. Another reason is the avoidance of devaluations during the transitional period to EMU in order to gain a competitive advantage<sup>378</sup>.

There are several requirements to be fulfilled before EU countries become EMU member states. They must adopt measures and policies to transform their economies into efficient market economies and achieve nominal convergence through the Maastricht criteria. All new EU member states must join the ERM II (meaning that exchange rate agreements subsequent to the ERM were and are made with countries wishing to join the euro area) and be members for at least two years before being allowed to adopt the euro. The central exchange rate versus the euro must be agreed upon by all parties to the agreement before the country joins ERM II. Countries can adopt different types of exchange rate strategies before becoming ERM II members, but there are also some restrictions. Thus, a country cannot peg the currency to any currency other than the euro and it cannot adopt the euro as the national currency on its own (by euroization) before being first ERM II members for at least two years. After becoming ERM II members, periodical realignments of its currency and the use of short-term financing facilities of the ECB to stabilize their currencies are allowed<sup>379</sup>.

The Governing Council recommends that countries should join ERMII only after having achieved significant convergence and flexibility of their economies (e. g. by structural and institutional changes, market and trade liberalization). The purpose is to avoid exchange rate crises<sup>380</sup>.

A fluctuation of the exchange rate outside the normal ERM fluctuation band of  $\pm 2.25\%$  is not always evaluated as failure to fulfill the exchange rate criterion. A deviation in excess of the normal fluctuation band towards a stronger exchange rate is not inconsistent with the fulfillment of the exchange rate criterion<sup>381</sup>. Thus, aspects that are taken into consideration when analyzing whether a country fulfills this criterion are the duration of the deviation, its amplitude and its direction (whether it is on the weak or strong side of the band)<sup>382</sup>.

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<sup>378</sup> See Zestos (2006), p. 75.

<sup>379</sup> See Zestos (2006), p. 223.

<sup>380</sup> See Zestos (2006), p. 224.

<sup>381</sup> See Convergence Report (1998), p. 153.

<sup>382</sup> See Filacek, Horvath and Skopera (2006), p. 8.

The exchange rate regimes chosen by some countries are:

1. in **Bulgaria**: fixed exchange rate, fixed peg to the euro (currency board);
2. in **Romania, Croatia and Turkey**: managed floating, i.e. the countries do not fix their currencies against another foreign currency or basket of currencies, and the value is determined on the foreign exchange market freely<sup>383</sup>.

“A currency board arrangement may be defined as a monetary regime based on an explicit legislative commitment to exchange domestic currency for a specified foreign currency at a fixed exchange rate”<sup>384</sup>. A main benefit of the currency board arrangement (CBA) consists in the enhanced credibility and policy transparency. Domestic currency must remain fully backed by foreign assets. The policy discretion of the central bank is limited and changes in the money demand are accommodated by changes in foreign exchange reserves. Interest rate movements show the adjustment of the local market to monetary conditions prevailing in the reserve currency country. If the level of the fixed nominal exchange rate is appropriate, it can contribute to solid economic growth and an improved quality of bank loans. The CBA is operationally and administratively simple and transparent<sup>385</sup>. CBAs can help overcome economic and financial turmoil and lead to lower inflation. They can also lead to stability gains. A sustainable debt level and fiscal discipline are conditions for success<sup>386</sup>. With a CBA, the risk of currency devaluation is eliminated<sup>387</sup>. According to Wyplosz (2004), the advantages of currency boards are: they are robust, credible and inflation becomes endogenous. Disadvantages consist in: the elimination of the ability of lender of last resort operations, the fact that the central bank cannot conduct counter cyclical policies and that it is only a temporary arrangement in need for an exit strategy<sup>388</sup>. A significant condition required for a proper functioning of the CBA in Europe is the support of the ECB and the European Council. Another important aspect is that the economic policy is not entirely shielded from external and internal shocks<sup>389</sup>.

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<sup>383</sup> See Egert (2006), p. 1ff.

<sup>384</sup> See Rutkowski (2001), p. 7.

<sup>385</sup> See Rutkowski (2001), p. 7.

<sup>386</sup> See Grimm (2007), p. 1.

<sup>387</sup> See Valev (2005), p. 1.

<sup>388</sup> See Wyplosz (2004), p. 18f.

<sup>389</sup> See Rutkowski (2001), p. 8.



With managed floating, the “central banks simultaneously control the interest rate and the exchange rate in a way that guarantees both the achievement of domestic macroeconomic objectives and an equilibrium on the international financial markets”<sup>390</sup>. Different opinions about the advantages and disadvantages of the managed floating regime exist among economists. Haberler showed that floating rates protect against the transmission of monetary shocks. He later renounced advocating floating exchange rates and worked with Nurkse, who thought that a managed fixed rate system would reduce the probability of speculative attacks<sup>391</sup>.

Usually “Big Bang” countries in Europe (according to whom “front-loading”, thus taking measures as soon as possible, was highly desirable) chose limited exchange rate flexibility. In countries with flexible exchange rates the inflation was often high and an absence of macroeconomic stabilization as well as a low credibility could be observed<sup>392</sup>.

States that intend to adhere to the EMU make, however, permanent efforts to reduce high currency fluctuations independently from the exchange rate regime chosen and move towards more economic stability.

#### **5.4. *Deficit and Debt***

The requirements regarding deficit and debt are: “The country must have a public-sector deficit no higher than 3 percent of its GDP (except in exceptional and temporary circumstances). The country must have a public debt that is below or approaching a reference level of 60 percent of GDP”<sup>393</sup>.

Fiscal discipline is significant (also from the perspective of the OCA theories) for preserving similar and low inflation rates in the EMU. The fact that these criteria must be satisfied also

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<sup>390</sup> See Bofinger, Wollmershaeuser (2002), p. 1.

<sup>391</sup> See Bordo, James (2001), p. 1.

<sup>392</sup> See Wyplosz (2004), p. 17.

<sup>393</sup> See Krugman, Obstfeld (2006), p. 555.

after the countries become EMU members could determine a higher fulfillment of the OCA criterion of homogeneous preferences.

The next table shows the situation of gross debt as a percentage of GDP in the euro area as well as for the EU 27. Important factors analyzed that are significant for the gross debt are for example the total expenditure and the interest expenditure. These figures show a slight decrease in the euro area. The conclusion is that the gross debt as a percentage of GDP is expected to decrease in the euro area and represent 63.4 percent in 2009, while the gross debt for the EU 27 is projected to be even lower and reach 57 percent by the end of 2009. According to the Maastricht Treaty and the Stability and Growth Pact, member countries as well as candidates to EMU must have a public debt below or approaching 60 percent of the GDP.

**General government budgetary position – euro area and EU27**

(% of GDP)	Euro area				Difference vs		EU27				Difference vs	
					spring 2007						spring 2007	
	2006	2007	2008	2009	2007	2008	2006	2007	2008	2009	2007	2008
<b>Total revenue (1)</b>	45.6	45.6	45.3	45.1	0.1	-0.1	44.9	44.9	44.6	44.5	0.0	-0.2
<b>Total expenditure (2)</b>	47.1	46.4	46.2	46.0	-0.1	0.0	46.5	45.9	45.8	45.6	-0.2	-0.1
<b>Actual balance (3) = (1) - (2)</b>	-1.5	-0.8	-0.9	-0.8	0.2	-0.1	-1.6	-1.1	-1.2	-1.1	0.1	-0.2
<b>Interest expenditure (4)</b>	2.9	2.9	2.8	2.8	0.0	0.0	2.6	2.5	2.6	2.5	-0.1	0.0
<b>Primary balance (5) = (3) + (4)</b>	1.3	2.1	2.0	2.0	0.2	0.0	1.0	1.5	1.4	1.4	0.1	-0.2
<b>Cyclically adjusted budget balance</b>	-1.2	-0.7	-0.8	-0.7	0.1	-0.1	-1.4	-1.0	-1.1	-1.0	0.1	-0.2
<b>Cyclically adjusted primary balance</b>	1.6	2.2	2.1	2.1	0.1	-0.1	1.2	1.5	1.5	1.6	-0.1	-0.2
<b>Structural budget balance</b>	-1.1	-0.7	-0.8	-0.7	0.1	-0.1	-1.4	-1.0	-1.1	-1.0	0.1	-0.2
<b>Change in structural budget balance</b>	0.9	0.4	-0.1	0.1	0.1	-0.2	0.7	0.4	-0.1	0.1	0.2	-0.3
<b>Gross debt</b>	68.6	66.5	66.5	63.4	-0.3	0.0	61.4	59.5	58.3	57.0	-0.4	0.0

The structural budget balance is the cyclically-adjusted budget balance net of one-off and other temporary measures estimated by the Commission services.

**Table 4: General Government Budgetary Position – Euro Area and EU27**

*Source: Economic Forecast, Autumn 2007.*

The budgetary consolidation in the euro area will come to a halt in 2008-2009. The estimated general budget deficit represents 0.8 percent of GDP in the euro area (from 1.5 percent in

2006) and 1.1 percent of GDP in the EU (from 1.6 percent in 2006) in 2007. For 2008 deterioration is expected because of no further fiscal and budgetary consolidation. In 2009 the deficit is expected to stabilize.

The revenue-to-GDP ratio is expected to decrease gradually from 45.6 percent in 2007 to 45.1 percent in 2009 in the euro area and from 44.9 percent in 2007 to 44.5 percent in 2009 in the EU, because taxes will increase less than nominal GDP. For the year 2008 tax reductions were projected for countries like Germany, France, Sweden and Poland. The expectations are of a lower expenditure ratio of 46.2 percent of GDP in 2008 and 46.0 percent in 2009 in the EMU, and of 45.8 percent in 2008 and 45.6 percent in 2009 in the EU<sup>394</sup>.

The output gap (the difference between the actual output of an economy and the output it could achieve when it is most efficient or at full capacity) will stabilize from 2008 at around -¼ percent of potential GDP. The structural deficit will be of around ¾ percent of GDP in the euro area and of 1 percent in the EU in 2008 and 2009<sup>395</sup>.

An analysis of the general government structural budget balance, which is presented in the following table, shows further improvement or at least efforts towards stabilization in most countries of the euro area as well as in countries outside the EMU. This situation can also contribute to maintaining low and similar inflation rates by EMU members as well as by countries who take measures in order to adhere to the euro zone.

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<sup>394</sup> See Economic Forecast, Autumn 2007, p. 44.

<sup>395</sup> See Economic Forecast, Autumn 2007, p. 44.

**General government structural budget balance**

(% of GDP)	2005	2006	2007	2008	2009
Belgium	0.0	-0.3	-0.2	-0.1	0.0
Germany	-2.4	-1.3	0.0	-0.4	-0.2
Ireland	1.0	3.1	1.2	0.3	0.0
Greece	-5.5	-3.5	-3.1	-2.4	-2.3
Spain	1.4	2.1	2.0	1.6	1.4
France	-3.5	-2.8	-2.5	-2.6	-2.4
Cyprus	-2.7	-0.7	-0.6	-0.5	-0.4
Italy	-4.0	-2.7	-2.0	-2.0	-1.9
Luxembourg	0.6	0.8	1.2	1.2	1.7
Malta	-3.1	-2.7	-2.3	-1.7	-1.2
The Netherlands	0.8	1.1	-0.2	0.5	0.7
Austria	-0.9	-1.2	-1.0	-1.0	-0.8
Portugal	-5.1	-2.9	-2.3	-2.1	-2.1
Slovenia	-0.8	-1.1	-1.1	-1.4	-1.0
Finland	3.7	4.1	4.4	3.9	4.0
<b>Euro area</b>	<b>-2.1</b>	<b>-1.1</b>	<b>-0.7</b>	<b>-0.8</b>	<b>-0.7</b>
Bulgaria	1.4	2.7	2.5	3.1	3.4
Czech Republic	-2.2	-3.3	-4.1	-3.6	-3.2
Denmark	4.5	3.6	3.2	3.4	3.0
Estonia	1.7	2.7	2.4	1.9	1.5
Latvia	-0.4	-0.8	0.2	0.5	1.0
Lithuania	-0.8	-0.8	-1.2	-1.5	-0.6
Hungary	-8.4	-9.4	-5.5	-4.2	-3.9
Poland	-4.1	-3.9	-3.0	-3.4	-2.8
Romania	-1.6	-2.6	-3.3	-3.6	-4.0
Slovakia	-1.1	-3.4	-3.0	-2.7	-2.6
Sweden	2.1	2.1	2.7	2.3	2.6
United Kingdom	-3.2	-2.8	-2.7	-2.8	-2.6
<b>EU27</b>	<b>-2.1</b>	<b>-1.4</b>	<b>-1.0</b>	<b>-1.1</b>	<b>-1.0</b>

**Table 5: General Government Structural Budget Balance***Source: Economic Forecast, Autumn 2007.*

“Debt maintains its downward path”<sup>396</sup>. In the year 2005 there was a peak of the debt ratio in EMU countries. The expectations between 2006 and 2009 are of a declining debt ratio by

<sup>396</sup> See Economic Forecast, Autumn 2007, p. 45.

more than 5 pps., to 63.4 percent of GDP. The situation of the developments of the debt ratios in the EU 27 is broadly similar. An exception from the decreasing trend can be observed in Ireland (between 2005 and 2006), while in France and Portugal only a small debt reduction is expected between 2006 and 2009. In Cyprus, Malta and Austria, the debt ratio should be lower than 60 percent of GDP by 2009, and in Germany the debt ratio will be of about 60.3 percent of GDP also in 2009. Countries outside the EMU that are exceptions from a declining debt ratio are the Czech Republic, Romania and the UK, as well as Poland (between 2007 and 2008). A peak of the debt ratio for the year 2008 has been expected in Hungary<sup>397</sup>.

### **Fiscal Criteria in the EMU**

Very important aspects leading to fiscal convergence (and that could have a significance for increasing the fulfillment of the OCA criterion of homogenous preferences) are that all countries that want to become euro area members have to fulfill the fiscal criteria of the Maastricht Treaty, and that after they become euro area member states they have to comply with the Stability and Growth Pact. The economic integration in the euro area requires a harmonization in some areas of taxation, spending and fiscal legislation. However, there still are some significant differences between euro area countries, especially concerning the public indebtedness and the fiscal structures.

Regarding fiscal stabilization, the medium-term targets of the Stability and Growth Pact are a balanced budget or even a budget surplus, in order to be able to react to adverse shocks and to reduce the necessity of supranational transfers, international risk sharing, changes in prices and wages and/or changes in real exchange rates<sup>398</sup>.

The situation in the new EU member states (Romania and Bulgaria) and in two EU candidate countries (Croatia and Turkey) regarding fiscal convergence is the following:

### **Romania**

The budget deficit which was 1.9 percent of GDP in 2006, is expected to increase to 3.2 percent in 2008 and 3.9 percent in 2009, as a result of higher government consumption (e.g.

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<sup>397</sup> See Economic Forecast, Autumn 2007, p. 45.

<sup>398</sup> See Mongelli (2002), p. 23.

with public wages and social transfers). The pensions will almost double in 2008 and 2009 compared with those in 2007. The pension reform is projected to cost 0.2 percent of GDP in 2008 and 0.3 percent of GDP in 2009. The debt-to-GDP ratio is estimated to increase by 1 pp. between 2007 and 2009 to around 13 ½ percent, especially as a result of the higher deficits<sup>399</sup>.

### **Bulgaria**

There was a budget surplus in 2007 due to a strong economic activity, high revenues because of the domestic demand, high inflation, improved tax compliance and a reduction of the informal economy. For 2008 and 2009 there is also an expectation of government surplus. The projected government gross debt will be lower than 15 percent of GDP<sup>400</sup>.

### **Croatia**

There was a merchandise trade deficit of 24.7 percent of GDP and a surplus of trade in services of 16.9 percent of GDP in 2007. Net inflows of FDI (foreign direct investments) increased from 7.4 percent in 2006 to 9.1 percent of GDP in the twelve month to June 2007 mainly because of privatization and recapitalization of banks. The government debt was 38 percent of GDP at the end of June 2007. The expectations are of continuing growth in 2008 and 2009 because of strong domestic demand. Factors that will lead to a significant private consumption growth are the strong credit growth, consumer confidence, higher wages and social transfers. The public consumption will also increase because of increases in public sector wages and pre-election spending. The strong private investor confidence will determine further investment growth. The gap between higher imports and lower exports will become smaller as a result of increased competitiveness and stronger tourism. The GDP growth is estimated to be lower in 2008 and to represent about 5 percent because of decelerated public consumption after the election. There are also central bank measures in order to restrict credit growth. The estimated trade deficit represents 24.5 percent of GDP. The current account deficit will be a little lower to 8 percent of GDP because of the better performance of tourism<sup>401</sup>.

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<sup>399</sup> European Commission Economic Forecast (2007), p. 101.

<sup>400</sup> European Commission Economic Forecast (2007), p. 55.

## Turkey

There was a significant surplus of GDP in 2006 that led to a reduction of the debt ratio from 60 ½ percent of GDP at the end of 2006 to 54 percent at the end of 2007. The government interest payments were 17 percent of GDP in 2003 and 7 percent of GDP in 2007. The efficiency of tax collection should be increased. In 2006 there was a surplus of the government balance of ½ percent of GDP, and the estimations for 2008 and 2009 are of a budgetary surplus of ¼ percent of GDP and 1 ¼ percent of GDP respectively. The government debt is expected to decrease to less than 50 percent in 2009. Turkey has a high vulnerability to interest and exchange volatility and risk, so it pays high interest rates. The average maturity of domestic debt is relatively short<sup>402</sup>.

The overall conclusion is that the countries of the EMU make permanent efforts in order to fulfill the convergence criteria of the Maastricht Treaty and of the Stability and Growth Pact, which are important in order to preserve low and similar inflation rates. The EMU and EU candidate countries also make efforts regarding the fulfillment of the fiscal convergence criteria. In the countries described that already belong to the EU, which are Romania and Bulgaria, the debt level is significantly lower than in the EU candidate countries Croatia and Turkey. Regarding the budget, a surplus can be observed in Bulgaria and Turkey, a relatively low budget deficit in Romania and a higher budget deficit in Croatia.

All the projections presented in this chapter were formulated prior to the crisis 2008 and will probably be reconsidered to some extent following the current economic developments.

The fiscal criteria must be fulfilled for countries which are EMU members or else there are penalties up to 0.5 percent of GDP. The SGP has been revised in order to allow more flexible rules and procedures, e.g. the deduction of a list of long-run growth-promoting expenses, a longer time span for correction of excess deficits, and a less stringent definition of recession that permits an exemption from excess deficit procedures<sup>403</sup>. A significant reason for the

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<sup>401</sup> European Commission Economic Forecast (2007), p. 43.

<sup>402</sup> European Commission Economic Forecast (2007), p. 119.

<sup>403</sup> See Gaffeo, Passamani and Tamborini (2005), p. 1.

weakening of the SGP is that important countries like Germany, Italy and France were confronted with excessive deficits.

There have been mixed reactions to the reform of the SGP, because some measures do represent a risk for weakening the pact (according to the ECB point of view), while negative consequences for the expectations regarding fiscal discipline and macroeconomic stability are possible. There are also positive aspects of the reform of the SGP: the medium-term objectives reflect more the country-specific situations regarding debt and economic growth (preventive arm) and a higher flexibility of the rules (corrective arm)<sup>404</sup>.

Factors that can explain the different **deficits** across countries are:

- the real growth
- the unemployment rate
- political forces (partisan approach)
- institutional structure (veto player approach).

Research has shown that with a low number of veto players, meaning a high market concentration, there is a higher probability that left oriented governments will take long-term saving measures. In a system with a high number of veto players, which means that the political power is divided among a high number of actors, the right is more committed to the budget consolidation than the left<sup>405</sup>. However, when the right is expected to lose votes, it can accumulate debt in order to put the future government in the situation of paying back debt rather than increase social spending<sup>406</sup>. Hibbs showed that inflation is beneficial for groups with low income because it has an equalizing effect upon income distribution<sup>407</sup>. The income of poor people decreases when unemployment is higher. Groups with low and middle incomes (who are usually left oriented) prefer low unemployment and accept a higher inflation, while investors and persons with higher incomes (who are usually right oriented) favor the opposite situation<sup>408</sup>.

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<sup>404</sup> See Morris, Ongena, Schuknecht (2006), p. 41.

<sup>405</sup> See Pamp (2007), p. 23.

<sup>406</sup> See Pamp (2007), p. 7.

<sup>407</sup> See Hibbs (1977), quoted in Pamp (2007), p. 3.

<sup>408</sup> See Pamp (2007), p. 3.



However, governments try to use fiscal policy in order to increase their chances before votes<sup>409</sup>, even if this means to increase the deficit and the debt of the country.

Fiscal policy can be used in order to manage the economy under the premises of fixed exchange rates. Monetary policy is very important with flexible exchange rates<sup>410</sup>. As a consequence, the restrictions regarding the fiscal policy can be costly for the countries that also have to preserve exchange rate stability in the time before their accession to EMU.

The 3 percent deficit criterion had positive consequences upon the economic growth which became higher than prior to the Maastricht criterion. A further reduction of the deficit and debt in the EMU could be reached through increasing public investments, lower expenditures and direct taxes<sup>411</sup>.

Some of the most important reasons for excessive deficits in EU countries were the low economic growth, the timing of parliamentary elections and the majority of left oriented governments. Excessive deficits, however, could be reduced after the adoption of the Maastricht criteria. Important aspects that led to a reduction of excessive deficits were supranational fiscal restrictions, national measures in order to reduce public debt, policy decisions that encourage economic growth, mechanisms to reduce the political opportunism and the organizing of elections at the beginning or the end of the year in order to avoid political opportunism<sup>412</sup>.

There are several factors that do influence the debt to GDP ratio of countries, e.g. the debt level, the economic growth rate and the willingness of governments to favor surplus.

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<sup>409</sup> See Afonso (2005), p. 36.

<sup>410</sup> See Pamp (2007), p. 6.

<sup>411</sup> See Lamfalussy (2006), p. 9.

<sup>412</sup> See Castro (2007), p. 1.

The **debt** criterion is also very important in order to avoid the situation where countries generate inflation to reduce the real value of their debt and interest payments. Such a situation would determine higher interest rates for that state because of the higher risk<sup>413</sup>.

## **5.5. Convergence**

The question of convergence in countries that have already fulfilled the Maastricht criteria and are EMU members as well as in countries that will adhere to the EMU is presented in this section. Then arguments in favor and against the imposed Maastricht criteria as optimal conditions for the accession to the EMU are detailed. As already mentioned, the fulfillment of the Maastricht convergence criteria is significant, especially for the satisfaction of the OCA properties of similar inflation rates and homogenous preferences.

### **5.5.1. Convergence after Maastricht**

According to Bibow, some macroeconomic divergence occurred across the euro zone in recent years. The OCA theory assumes that the reasons are asymmetric shocks and structural factors. Another view is that the Maastricht regime determines divergence and fragility<sup>414</sup>. A reason for the last opinion is the reliance on the competitiveness channel as a substitute for the design of appropriate policies in order to deal with common shocks and/or asymmetric shocks and divergence<sup>415</sup>.

Some differentials, however, are not necessarily viewed as undesirable. For instance, an ECB study shows why inflation differentials across countries may be beneficial: “Inflation differentials can be an integral part of the adjustment mechanism resulting from dispersion of economic developments across the participating countries, a mechanism which in turn reflects the impact of various economic shocks as well as the fact that the economic structures in place vary from country to country. Inflation differentials are, then, the product of an equilibrating adjustment process within a monetary union and, as such, are not only unavoidable, but also desirable. At the same time, lasting inflation differentials in the euro

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<sup>413</sup> See Zestos (2006), p. 69f.

<sup>414</sup> See Bibow (2006), p. 1.

area are to some extent, also a product of misaligned fiscal policies, diverging wage developments and deep-seated structural inefficiencies such as nominal and real rigidities in product and factor markets<sup>416</sup>.

Some test results show that countries which joined the ERM from the beginning and never defected from the narrow band are characterized by strong convergence with each other. The inflation is higher than the average euro zone inflation rates in countries that joined at a later stage (Spain, Portugal and Greece)<sup>417</sup>.

### **5.5.2. Convergence in EMU Candidate Countries**

In order to achieve a price and output convergence between old and new EU member states, an inflation and growth divergence will be necessary during the following years.

A study regarding the recent ten EU members, shows a slow but steady per-capita real income convergence towards EU standards. There is evidence for significant inflation and interest rate convergence. Concerning the public finances, the results indicate a lack of fiscal sustainability. As a consequence, the current fiscal situation could be a reason for the delay of new EU countries from joining ERM II and thus for a later adoption of the euro. The recommendations made were to improve the budget institutions in these countries, to introduce further reforms in order to reduce government expenditures and to analyze the possibilities for adopting fiscal rules. Countries with fiscal problems should, however, not try to join the euro zone too soon<sup>418</sup>.

### **5.5.3. The Maastricht Conditions for EMU Membership**

According to traditional Keynesian macro-economy and OCA theory, there is the view that higher flexibility is required and that the convergence criteria and the Stability and Growth Pact are too strict. The reason is that restrictive fiscal policy is very expensive.

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<sup>415</sup> See Bibow (2006), p. 23.

<sup>416</sup> See ECB (2005, May MB), p. 61.

<sup>417</sup> See Busetti, Forni, Harvey and Venditti (2006), p. 6.

For representatives of economic policy and public choice the credibility is important. The strict convergence criteria also reduce the spill-over effects between different countries<sup>419</sup>.

Fiscal policies of euro area member states can have an impact upon other member countries for several reasons. Fiscal policy effects include macroeconomic spill-over on other countries; e. g. expansionary fiscal policy determines higher interest rates and thus a higher credit risk for the entire area. Secondly, increasing interest rates as a result of fiscal policy could lead to pressure on the ECB to loosen monetary policy, in order to reduce interest rates. Thirdly, it is not sure that other countries will be ready to help if a state has very high debts and delays payments. As a consequence, it is very important that countries fulfill the Maastricht criteria before becoming EMU members in order to avoid negative effects upon other EMU member countries<sup>420</sup>.

Some economists express the view that it would be better if the fiscal criteria had to be fulfilled during the first year of membership or when the membership is sure, and were not a condition for joining the EMU. The reason is that even with the provisions of the Stability and Growth Pact the fiscal criteria are very expensive. However, the EMU membership is of advantage for countries even if they must fulfill the fiscal criteria<sup>421</sup>.

According to another opinion, the condition of a deficit below 3% before EMU membership is useful, because for countries that did not fulfill this criterion before the accession it will be more difficult to achieve it afterwards. A reason is that the country could have insufficient incentives to reduce the deficit later. A second motive is that by fulfilling this criterion a country proves that it has the necessary fiscal discipline in order to be an EMU member<sup>422</sup>. Thirdly, the possibilities of the central bank to keep inflation targets without permanent interventions are higher in a country than in a monetary union. Previous reduction of public deficits and inflation thus contributes to facilitate price stability<sup>423</sup>.

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<sup>418</sup> See Kocenda, Kutun and Yigit (2005), p. 1.

<sup>419</sup> See Andrejovic (1998), p. 2.

<sup>420</sup> See Bohn (2000), p. 248.

<sup>421</sup> See Bohn (2000), p. 267.

<sup>422</sup> See Onorante (2006), p. 5.

<sup>423</sup> See Onorante (2006), p. 8.

Other important reasons against a fast adoption of the euro are the low nominal and real interest rates within the ERM II systems that could increase demand and lead to high inflation<sup>424</sup>.

## **5.6. Political Challenges**

The Maastricht criteria represent conditions for EMU membership. However, before countries become EMU members they have to belong to the EU. Political conditions for EU membership (like the guarantee of democracy) have to be fulfilled. Political requirements for EU membership can contribute to the improvement of the OCA criterion of political integration. Regarding the political aspects, efforts have to be made before and after EU membership, this being in the interest of the population and in order to avoid sanctions. A certain degree of economic progress, like the existence of a functioning market economy, is also essential. In this chapter, some of the important political and economic conditions for EU membership as well as reasons for different countries that adhere to the union will be presented. Then, the situation in some countries (e.g. Turkey and Croatia) that intend to become EU members as well as political challenges regarding these countries will be described.

Through enlargement the prosperity, stability and good governance of the EU are extended to other countries by means of its membership criteria. The principle of conditionality means “that accession is conditional on fulfilling the criteria for membership”<sup>425</sup>. This principle was developed in the 1990s for the countries of Central and Eastern Europe, because these states needed an external assistance during the transition from communism to western models and in order to avoid a situation in which the new countries could impair the EU because of a lack of adequate preparation.

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<sup>424</sup> See Masten (2007), p. 20.

<sup>425</sup> See Bomberg, Peterson, Stubb (2008), p. 180.

The membership requirements are known as the Copenhagen criteria<sup>426</sup>. According to the conclusions of the European Council at Copenhagen (1993), “membership requires:

1. that the candidate country has achieved stability of institutions guaranteeing democracy, the rule of law, human right and respect for and protection of minorities
2. the existence of a functioning market economy as well as the capacity to cope with competitive pressure and market forces within the Union
3. the presupposition of the candidate’s ability to take on the obligations of membership including adherence to the aims of political, economic and monetary union”<sup>427</sup>.

The decision for enlargement requires unanimity. The Accession Treaty has to be signed and ratified by all EU member states unanimously. The role of the European Parliament is to vote the Accession Treaty on a yes/no basis and to be informed about the accession negotiations<sup>428</sup>. A very important role in the enlargement process is played by the Commission. Its reports on the progress of applicant countries are significant for the decisions leading to the enlargement. In spite of the fact that the EU enlargement is an inter-governmental process, the Commission plays an important role as an interlocutor and intermediary with applicant countries and by presenting to the Council proposals for “common positions”<sup>429</sup>.

The reason for joining the EU is that countries consider that this is in their political and economic interest. The UK for example considered that advantages existed for its trade and economic growth. In Ireland and Denmark traditions of exports of agricultural products to the UK and the Six (France, Germany, Italy, Belgium, the Netherlands and Luxembourg) are given. Greece, Portugal and Spain joined the EU after the end of totalitarian regimes as a guarantee for the return to democracy. They also wanted to have access to the European market and European budget. Austria, Sweden and Finland, which had full access to the common market through the EEA, considered it as an economic benefit to be in the position of accepting rules from Brussels and not having to decide them. They also realized that their traditional neutrality could be less appropriate after the end of the Soviet bloc.

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<sup>426</sup> See Bomberg, Peterson, Stubb (2008), p. 182.

<sup>427</sup> See Bomberg, Peterson, Stubb (2008), p. 183.

<sup>428</sup> See Bomberg, Peterson, Stubb (2008), p. 183.

<sup>429</sup> See Bomberg, Peterson, Stubb (2008), p. 184.

In the ten Central and Eastern European countries, EU membership was viewed as a guarantee for democracy and economic development<sup>430</sup>. After the collapse of the Soviet bloc in 1989 a risk of instability in Europe was given, but countries in Central and Eastern Europe chose to make economic, social and political reforms, especially because of their determination and prospect to join the EU. In ex-Yugoslavia, however, political problems and civil war could not be avoided.

The main problems during the negotiations concerned the free movement of labor, agricultural policy and money. Some of the measures taken by the EU were to permit old EU member countries to maintain restrictions on workers from new member states for up to seven years and to impose a twelve year period for introducing direct payments to the new member states<sup>431</sup>.

The Balkan countries in south-east Europe, to whom EU membership was promised, are:

- Albania, with a population of 3.6 million;
- Bosnia-Herzegovina, with a population of 4.5 million;
- Croatia, with a population of 4.5 million;
- Former Yugoslav Republic of Macedonia, with a population of 2.1 million;
- Montenegro, with a population of 0.7 million;
- Serbia (including Kosovo), with a population of 10.2 million.

These countries, with a total population of about 25 million people, are trying to implement the necessary political and economic reforms in order to be able to join the EU. The problems consist in ethnic and religious conflicts that led to civil war in the 1990s. The main problems are the fact that Montenegro is newly separated from Serbia, the question of independence for Kosovo and Bosnia's external tutelage. Governance problems, corruption and criminality exist while EU membership requires autonomy and a functioning democracy. The situations of these countries concerning their EU membership requests are different:

- in 2005 Croatia opened accession negotiations;
- in 2006 Macedonia was accepted as a candidate;

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<sup>430</sup> See Bomberg, Peterson, Stubb (2008), p. 187.

<sup>431</sup> See Bomberg, Peterson, Stubb (2008), p. 189.

- Bosnia, Serbia, Montenegro and Albania have started the Stability and Association Program (SAP) which implies trade concessions, financial aid, contractual relations and helps on the way to applying for membership<sup>432</sup>.

Between the Community and Turkey there exists the Association Agreement of 1964, the application for EU membership from 1987 and the opening of accession negotiations in 2005. In spite of these very important steps, Turkey's EU membership is not assured. Its population represented 72 million in 2007 and is expected to grow. The country has a high geo-strategic importance in relation to the Middle East and the Black Sea region. It is also a NATO member. Other advantages can be the growing economy and the young labor force. Turkey has been a secular state since the 1930s with a majority of Islamic population. The country is making progress concerning the political and economic reforms in order to meet the Copenhagen criteria. Additional steps have to be taken with respect to the Kurdish minority, the freedom of expression and the political role of the military. Another problematic aspect is that with Turkey's membership the frontiers of the EU would be to Azerbaijan, Armenia, Iran, Iraq and Syria, which represent regions of instability. Some also consider that Turkey is not part of Europe from a geographical or cultural point of view and that it would determine a significant migration of workers in the situation of membership. Another problem concerns Cyprus. In 1974, the Turkish Republic of Northern Cyprus has been separated from the south, but it was not recognized by the international community. In 2003 the Greek Cypriots in the south did not accept a UN plan for reunification of the island. Turkey's EU membership would be an important signal that the EU accepts Islam. It will be, however, in Turkey's interest to continue the modernization even if the country does not become an EU member, but the process will probably be less effective under such a circumstance<sup>433</sup>.

### **5.7. *EU External Relations***

The relations between the EU and other states, especially European countries, will be described in this section, including the possibility of membership to the EU and thus also to the EMU. The aspect is important from the perspective of the OCA theory because the

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<sup>432</sup> See Bomberg, Peterson, Stubb (2008), p. 192.

<sup>433</sup> See Bomberg, Peterson, Stubb (2008), p. 193.



optimality of a currency area increases with its size. If we take into consideration this theory, the EU and EMU enlargement are desirable when the new candidate countries fulfill the imposed criteria.

### **5.7.1. European Economic Area (EEA)**

The European Economic Area (EEA) refers to an agreement that entered into force on 1 January 1994 and permits States belonging to the European Free Trade Association (EFTA) to participate in the Internal Market without joining the EU<sup>434</sup>.

Developed countries that have applied for EU membership are Norway and Switzerland. Norway signed two Accession Treaties, but its people said “no” in two referenda. The country is an EEA member and has access to the common market. Other EEA members are Iceland and Liechtenstein. The population of Switzerland voted “no” in a referendum to the EEA. Its interests are pursued through bilateral agreements with the EU<sup>435</sup>.

### **5.7.2. European Neighborhood Policy (ENP)**

The European Neighborhood Policy involves sixteen countries: Morocco, Algeria, Tunisia, Libya, Egypt, Israel, Jordan, Palestine Authority, Lebanon, Syria, Armenia, Azerbaijan, Georgia, Moldova, Ukraine and Belarus. There are Action Plans with each country, which involve political dialogue, economic and social reform, trade, cooperation in justice and security affairs, transport, energy, environment, education etc. The neighbors are required to take on European regulation and important parts of the *acquis*. The purpose is to avoid future barriers to neighbor countries. Russia rejected the EU’s offer of Neighborhood Policy. Belarus is not included in the ENP because of the undemocratic regime<sup>436</sup>.

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<sup>434</sup> See European Commission External Relations ([http://ec.europa.eu/external\\_relations/eea/](http://ec.europa.eu/external_relations/eea/)).

<sup>435</sup> See Bomberg, Peterson, Stubb (2008), p. 194.

<sup>436</sup> See Bomberg, Peterson, Stubb (2008), p. 195.

### 5.7.3. EU Limits

The EU was not designed to be a world system of government, but an ‘ever-closer union’ of European peoples. Frontiers are not so important in the context of globalization, but they still are significant in order to define the territory where laws apply. A possibility is to have different frontiers for different policies (e.g. for the euro and Schengen).

According to the 1957 Treaty of Rome “any European state may apply to become a member”<sup>437</sup>. In the 1997 Treaty of Amsterdam there is a reference to common values that have to be respected by EU members. According to the European Commission (1992), “the term ‘European’ has not been officially defined. It combines geographical, historical and cultural elements which all contribute to the European identity. The shared experience of proximity, ideas, values and historical interaction cannot be condensed into a single formula, and is subject to review by each succeeding generation. It is neither possible nor opportune to establish now the frontiers of the European Union, whose contours will be shaped over many years to come”<sup>438</sup>.

### 5.7.4. Italy and Great Britain

There are, however, countries where the possibility of leaving the euro zone has been expressed (e.g. Italy) or which do not want to join EMU (e.g. Great Britain).

In Germany and Italy there has been slower growth than in the rest of the euro zone with the common currency. The most important reason consists in the rigidities of labor market reforms. Italy is characterized by increasing production costs and little progress regarding the labor market. In June 2005 an Italian minister expressed the opinion that the country should leave the euro zone and the lira should be re-established. Economists who did not share the same view argued that in Italy there have been stable prices and low interest rates after the introduction of the euro. The public debt is high in Italy and the country would be confronted

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<sup>437</sup> See Bomberg, Peterson, Stubb (2008), p. 196.

<sup>438</sup> See Bomberg, Peterson, Stubb (2008), p. 196.

with increasing debt service costs because of the higher interest rates if the country left the euro zone. The reduction of employment remains a problem with the euro.

In 1997 Gordon Brown was appointed Chancellor of the Exchequer. He awarded himself a right of veto regarding the decision about British euro area membership. He made public the five economic tests on which he would make his verdict:

- *“Convergence. Are business cycles and economic structures compatible so that we and others could live comfortably with euro interest rates on a permanent basis?”*
- *Flexibility. If problems emerge, is there sufficient flexibility to deal with them?*
- *Investment. Would joining the EMU create better conditions for firms making long-term decisions to invest in the UK?*
- *Financial services. What impact would entry into the EMU have on the competitive position of the UK’s financial services industry, particularly the City’s wholesale markets?*
- *Growth, stability and employment. In summary will joining the EMU promote higher growth, stability and a lasting increase in jobs?”*<sup>439</sup>

### **5.8. The Possibility of Euro Area Breakup**

According to the OCA theory EMU becomes more optimal when it increases in size (after candidate countries fulfill the Maastricht criteria). However, the opinion that countries should leave the monetary union has been expressed before (ex ante) and after (ex post) the adoption of the euro. According to Eichengreen (2007) the probability of reintroducing a national currency decreases the longer the euro survives, for example because of increasing costs and the adaptation of markets and expectations to the single currency. Knowing possible reasons, advantages and disadvantages for leaving the euro area is important for convincing people about the prevailing positive aspects of EMU membership, in order to prevent the breakup of the currency area, and to be able to take measures for maintaining a stable and strong monetary union. Knowing the motives that can lead to the breakup is significant for taking measures in order to strengthen EMU and transform it into an OCA.

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<sup>439</sup> See Baldwin, Wyplosz (2006), p. 361.

The opinion that the euro area is possible to break up was expressed even before the existence of the single currency (ex ante point of view). The appreciation of the euro against the dollar and the slow growth in some euro area member states, have been reasons why various politicians blamed the ECB (ex post point of view). The possibility that one or more participants to EMU could leave the currency area was discussed by highly-placed officials before and after EMU came into being. According to Eichengreen (2007) “it is unlikely that one or more members of the euro area will leave in the next ten years and that the total disintegration of the euro area is more unlikely still”<sup>440</sup>. The reasons consist in technical difficulties should the reintroduction of the national currency take place<sup>441</sup>, and in the fact that even if immediate economic benefits could occur, longer-term economic costs and serious political costs can not be excluded. Cohen (2000) affirms, however, that “in a world of sovereign states... nothing can be regarded as truly irreversible”<sup>442</sup>.

Although the technical and legal obstacles in a country that unilaterally reintroduces its national currency can be overcome, the potential difficulties could be serious. Some problems (like the redenomination of contracts) could be solved more easily than others (e.g. rewriting of computer code; reprogramming automatic teller machines; advance planning; lengthy political debate as well as the necessity of a bill passed by a national parliament of legislature; the threat of a banking and financial-market collapse because of agents leaving domestic banks and giving up financial assets in anticipation of a depreciation of their claims into the national currency, in the context of expecting the redenomination). As a conclusion, the change from old to new money is more difficult today than in the 1920s in Germany and in the 1990s in the former Soviet Union<sup>443</sup>.

Possible economic obstacles refer to the debt servicing costs, interest rate spreads and interest-rate-sensitive forms of economic activity after not being an EMU member anymore. An opinion is that as a result of the departure from EMU a significant rise in spreads and debt-servicing costs would take place. Eichengreen (2007) considers that consequences will

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<sup>440</sup> See Eichengreen (2007), p. 1.

<sup>441</sup> See Eichengreen (2007), p. 1.

<sup>442</sup> See Cohen (2000), quoted in Eichengreen (2007), p. 2.

<sup>443</sup> See Eichengreen (2007), p. 2.

be dependent on the reason why the country leaves (e. g. because of a politicization of the ECB policy and inflation bias) as well as on the adoption of credible alternatives to the ECB and the Stability Pact at national level (e.g. a strengthening of bank independence and credible fiscal reforms in the situation of the reintroduction and depreciation of the exchange rate).

The political costs for countries leaving EMU would probably be very serious. They could consist in:

- raising doubts about the future of EMU and as a result negative reactions in other states towards the leaving countries;
- precipitating a shift out of euro-denominated assets, a situation that could be viewed as negative by remaining members;
- damaging the balance sheet of banks in other EMU member countries that invested in the country that departs;
- diplomatic tension and political acrimony;
- suffering cooperation on non-monetary issues;
- less important influence in intra-European discussions of non monetary issues;
- some opposition from persons favoring the European integration<sup>444</sup>.

Reasons for countries to intend to leave EMU could occur because nation states have different preferences over monetary policy due to differences in national history and identity. As a consequence, the monetary union is characterized by compromises and tradeoffs<sup>445</sup>. It is possible that in the situation of some nations the common policy is not optimum. Countries that decide to be EMU members trade off the costs of a monetary policy that is suboptimal against other benefits. A country confronted with an asymmetric shock could consider policies agreed upon by the majority of member states prohibitive. Another situation when a country may see the common policy prohibitive could be if less inflation-averse central bankers were appointed to the ECB board<sup>446</sup>.

Eichengreen (2007) states that “the high value that member states attach to the larger European project would prevent them from exiting from the monetary union except under the

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<sup>444</sup> See Eichengreen (2007), p. 3.

<sup>445</sup> See Eichengreen (2007), p. 34.

most extreme circumstances”<sup>447</sup>. The question that arises is whether the defection of one country could determine the euro area to disintegrate. Eichengreen (2007) considers that “it depends” and that it might determine a stronger incentive for other countries facing the same economic problem to follow. However, if the economic problems of the country leaving the euro area were the converse of the other member states, EMU could become more cohesive. This effect becomes more important when the country is larger. The euro area is also likely to become more cohesive if the leaving country has different preferences because policy agreements become easier to accomplish. This consequence is independent of the country size if ECB policy is decided by the principle of one country one vote<sup>448</sup>.

Analyzing scenarios about horizons longer than ten years, Eichengreen (2007) concluded that “the longer the euro survives, the less likely it would seem that a participating country would see reintroducing its national currency as a logical treatment for its economic ills. Markets adapt to the single currency, rendering attempts to tamper with it correspondingly more costly. Expectations adapt to its existence: having no first-hand experience with alternatives, residents take the existence of a European currency as the normal state of affairs and come to regard the reintroduction of a national currency as beyond the pale”<sup>449</sup>.

Other aspects that could increase the probability of a break-up of EMU are:

- diplomatic and political falling out over foreign policy;
- an asymmetric shock in the context of bombs and terrorist cells that determine a significant necessity for a real depreciation<sup>450</sup>.

However, the euro is least popular in low-income euro area member states (e.g. Greece and Portugal), in economies with slow growth (e.g. Italy and Portugal) and in countries concerned about inflation (e.g. the Netherlands)<sup>451</sup>.

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<sup>446</sup> See Eichengreen (2007), p. 35.

<sup>447</sup> See Eichengreen (2007), p. 36.

<sup>448</sup> See Eichengreen (2007), p. 36.

<sup>449</sup> See Eichengreen (2007), p. 37.

<sup>450</sup> See Eichengreen (2007), p. 37.

<sup>451</sup> See Eichengreen (2007), p. 20.

## 5.9. *Language*

A problematic aspect for the optimality of the euro area consists in the high number of languages used. At this time EU legislation has to be written in all official languages of the EU. There are twenty-seven members and twenty-two official languages<sup>452</sup>.

The most used languages in the EU are German with about 95 million speakers, French with 56, English and Italian with 54 million each, Spanish with 40 and Polish with 38 million speakers<sup>453</sup>. Today, English gains more and more importance because there are 375 million people who use it as their mother language, 375 million people live in countries where English is the second language and about 750 million people speak English as a foreign language<sup>454</sup>. A significant advantage of the English language is also the high number of words: it has 600,000 words (while German has only 300,000 words) and is used by specialists working in the most different fields like scientists for example<sup>455</sup>.

The goals that should be met by linguistic practices of a supranational legal regime are equality, fidelity and efficiency. The first goal is achieved, because all EU members are treated equally as each version of an EU law is viewed as an authoritative original, independent from the language in which it is written. However, there are three working languages in the EU: English, French and German<sup>456</sup>. The second goal, which consists in faithfulness to the intention of the drafter, is more difficult to be achieved when laws are written in different languages, because each version reflects at least to some extent the nuances of many legal cultures. Concerning the third goal, efficiency, today a costly burden on EU members can be observed. The Directorate-General for Translation (DGT) of the European Commission employs about 2,200 people at an annual cost of EUR 541 million. Tens of thousands of pages of documents have to be translated into the language of new EU member states<sup>457</sup>.

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<sup>452</sup> See Solan (2007), p. 1.

<sup>453</sup> See Lichtenberger (2005), p. 151.

<sup>454</sup> See Lichtenberger (2005), p. 152.

<sup>455</sup> See Lichtenberger (2005), p. 146.

<sup>456</sup> See Solan (2007), p. 2.

<sup>457</sup> See Solan (2007), p. 3.

As a conclusion, the large number of official languages determines significant financial and legal costs and is an impediment for an effective communication. A possible intermediate solution is considered to be a regime with six official languages, but even this suggested measure is unlikely to gain sufficient support at present<sup>458</sup>. However, especially young people learn foreign languages at present, so that measures regarding the languages are more probable in the future.

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<sup>458</sup> See Fidrmuc, Ginsburgh and Weber (2007), p. 1.



## 6. The Impact of the Crisis 2008

A financial system includes the money market, the corporate bond market, the bank credit market, the equity market and the government bond market. The financial market integration is an OCA criterion, as it can improve the functioning of these markets and lead to better risk sharing, diversification, capital allocation and higher growth. However, during financial crises disturbances in these markets take place. The uncertainty increases, the possibilities of proper resource allocation decrease and savings are more difficult to be mobilized. The demand for stocks and bonds can decrease significantly, especially for those of financial institutions and companies which are confronted with problems (e.g. because of loan defaults or decreasing demand for their products and lower profits). Financing can become more difficult for households and businesses as interest rates required by banks for loans increase and conditions become more severe because the value of assets that can be used as collaterals decreases and firms are confronted with lower demand.

The danger in the situation of a financial crisis is that opponents to EMU could express the preference for national currencies and flexible exchange rates. These would permit devaluation, and thus increase the demand for national products which could become cheaper. The value of domestic debt could also be reduced under such circumstances. However, the negative consequences of leaving the currency area would probably be higher than the advantages in most cases. Thus, the challenge during financial crises is to maintain a stable and strong EMU by taking common measures against the crises and by showing the advantages and progresses of the common currency euro (for example the lower foreign debt burden because of lower interest rates).

This chapter starts with the presentation of various definitions for financial crises. “The major difficulty is that crises tend to have different features each time and in each place: i. e. have strong historical peculiarities”<sup>459</sup>. Second, an overview of the financial crisis 2008 will be given. It shows that even strong currency areas like the US and EMU could lose importance because of mistakes regarding financial market regulation. Other countries, especially China, whose financial system is not so exposed to crises, could gain influence. Third, reasons and developments of the financial crisis that occurred so far are described. Because of

globalization and the high degree of financial market integration, the crisis spread through contagion around the world and is the most severe in 75 years. Credit, debt, liquidity, currency as well as banking problems are significant. Fourth, it will be shown that the OCA criteria as well as the criteria of the SGP are more difficult to be fulfilled under the conditions of financial crises, especially as opposition is expressed regarding debt and deficit restrictions. Countries that intend to become EU and EMU members could also be confronted with increasing problems in fulfilling the Maastricht criteria. Opposition towards EMU as well as towards possible new members of the currency area could increase as a result of financial crises, especially if coordinated proper measures are not taken. Fifth, the role of EMU institutions and thus of political integration, which represents an OCA criterion, is discussed.

Finally, it is shown that taking measures by politicians against the crisis is essential in order to maintain the stability of the currency area and to avoid a breakup. Critical areas of the economy must be identified and receive support. Bailing out banks and some industry areas like the motor industry is very important<sup>460</sup>. It has been argued that in order to work, policy measures have to be coordinated between the US and the EU as well as with those of BRICs countries (Brazil, Russia, India and China). However, some politicians have been against extended bailout measures since the beginning of the crisis. In Germany a certain aversion to spending its way out of recession has been expressed. “When the credit crunch began to bite Chancellor Angela Merkel said Germany was ‘strong enough’ to withstand the crisis and would not take part in a ‘pointless race to spend billions’ “<sup>461</sup>. Others call for tax cuts and economic stimulus in Germany<sup>462</sup>. The financial crisis 2008 has shown so far that EMU and EU institutions have been essential in taking coordinated measures against the crisis, measures that could also increase the financial market integration as well as the political integration, which are OCA criteria. The acceptance of EMU and the Lisbon Treaty could become higher. A possibility to overcome crises is thus by adopting measures that address the problem, but also those that restore and increase the optimality of OCA.

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<sup>459</sup> See Streissler (2008), Seminar.

<sup>460</sup> See North South (February 2009), p. 30.

<sup>461</sup> See North South (February 2009), p. 31.

<sup>462</sup> See North South (February 2009), p. 31.

## 6.1. General Definitions of Crises

Some important definitions of financial crises are:

- A financial crisis “is the culmination of a period of expansion and leads to downturn”<sup>463</sup>.
- Goldsmiths’ definition of financial crisis is that it represents “a sharp, brief, ultra cyclical deterioration of all or most of a group of financial indicators – short-term interest rates, asset (stock, real estate, land) prices, commercial insolvencies and failures of financial institutions”<sup>464</sup>.
- According to Hubbard (1991), financial crises can be defined “as episodes of breakdowns in financial trade. ‘Financial trade’ refers to the way in which financial contracts, institutions, and markets channel funds from ultimate savers to ultimate investors in the economy, allocate risk, and provide information about and incentives for borrowers’ performance”<sup>465</sup>.

According to Summers (2000) “every financial crisis is different and involves its own distinctive elements”<sup>466</sup>. He considers that “an international financial crisis is a situation where the international dimension substantially worsens a crisis in ways that would not occur in a closed economy”<sup>467</sup>. Elements that are common to some financial crises are “a dramatic swing in the current account, a large real depreciation, and a significant decline in real output”<sup>468</sup>. Three elements of crises are:

- (1) Investors choose to reduce their stock of assets because of concerns regarding the viability of the exchange-rate regime, fiscal deficits, current-account deficits, financial-sector weaknesses (e.g. because of insufficient capitalization and supervision of banks, as well as excessive leverage and guarantees) and because of directed lending (e.g. resulting from the necessity determined by economic problems faced by banks and firms).

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<sup>463</sup> See Kindleberger (1989), p. 3.

<sup>464</sup> See Kindleberger (1989), p. 6.

<sup>465</sup> See Hubbard (1991), p. 1.

<sup>466</sup> See Summers (2000), p. 3.

<sup>467</sup> See Summers (2000), p. 4.

<sup>468</sup> See Summers (2000), p. 5.

- (2) Investors then also evaluate the behavior of other investors and decide that they do not intend to be the last ones in the context of bank-runs. Rumors regarding capital controls and panic can occur.
- (3) Withdrawals of capital and a swing of the exchange rate can take place. Real exchange rate depreciation determines lower real incomes and spending. Foreign-currency liabilities increase in value and the lower creditworthiness of domestic borrowers leads to less lending<sup>469</sup>.

## **6.2. The Emergence of the Financial Crisis of 2008**

This overview shows that the international importance of a currency area (like the US) could decrease because of financial crises. Other countries, which are less confronted with the problems causing the crisis (especially China), could improve their significance. This situation is likely to occur even by taking appropriate measures against the crisis.

The global financial crisis was preceded by the US housing market bubble and a rise in foreclosures<sup>470</sup>. Other significant causes for the crisis were the very low interest rates combined with unprecedented levels of liquidity. The excess liquidity resulted according to Bernanke from “the global savings glut”, which refers to the financial surpluses of oil-producing countries. Another important reason for the crisis was the huge amount of capital that went into the subprime mortgage sector and toward weak borrowers in the US, in Europe and to a lesser extent in other regions around the world. The principle regarding loans is that the stronger the borrower, the lower the yield and vice versa. Thus, losses are significant in the situation of subprime mortgages<sup>471</sup>. US home equity had a value of \$13 trillion in 2006, only \$8.8 trillion by mid-2008 and was still falling in late 2008. Retirement assets decreased by 22 percent (from \$10.3 trillion in 2006 to \$8 trillion in mid-2008). Losses also occurred regarding savings and investment assets (i.e. their value decreased by \$1.2 trillion)<sup>472</sup>.

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<sup>469</sup> See Summers (2000), p. 5.

<sup>470</sup> See Nanto et al. (2008), p. 2.

<sup>471</sup> See Altman (2009), p. 4.

<sup>472</sup> See Altman (2009), p. 5.

An important number of banks, investment houses and insurance companies declared bankruptcy or had to be rescued. Credit flows decreased significantly, lender confidence dropped and recession occurred in countries around the world. The crisis continues even with the easing of monetary policy and with interventions of trillions of dollars by the IMF and governments<sup>473</sup>. The S&P 500 decreased by 45 percent between its 2007 high and November 2008. The Conference Board Consumer Confidence Index recorded in September 2008 the biggest monthly drop ever. US consumers reduced spending on discretionary items and expressed concerns for their bank deposits<sup>474</sup>.

Needing liquidity, some have to sell financial assets which leads to decreasing asset values. The lower value of assets discourages spending and lending under most circumstances. Approaches of easing monetary policy are expected to have a limited impact, because interest rates in the US as well as in Europe are already low and large amounts of liquidity have already been injected into credit markets. The discussed fiscal stimulus of \$300 billion in the US could also be viewed as not sufficient if the \$15 trillion economy is taken into consideration. The loan losses of global financial institutions are expected to rise at \$1.5 trillion<sup>475</sup>. The US and the EU governments committed \$1.5 trillion to direct equity investment in their local financial institutions. The amount injected by central banks in the credit markets reached \$2.5 trillion, which is the most significant in history. However, it is expected that Western financial institutions will have to withdraw credit from the world for at least three or four years. Changes in regulation are needed in order to avoid future similar crises<sup>476</sup>.

Governments as well as European leaders will have to concentrate especially on domestic recovery and on the demands of its own citizens when using national resources. Major international initiatives will have to be postponed because of unprecedented deficits and financial difficulties<sup>477</sup>. The credibility of the West has also been undermined to some extent<sup>478</sup>.

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<sup>473</sup> See Nanto et al. (2008), p. 2.

<sup>474</sup> See Altman (2009), p. 6.

<sup>475</sup> See Altman (2009), p. 7.

<sup>476</sup> See Altman (2009), p. 8.

<sup>477</sup> See Altman (2009), p. 9.

<sup>478</sup> See Altman (2009). P. 10.

The financial crisis initially began in industrialized countries, but then it spread to emerging markets and other economies. The values of stocks and domestic currencies became lower around the world, as investors took capital even from countries with low risk levels. Exports and commodity prices decreased and the economy went towards a world wide recession<sup>479</sup>. Countries like Hungary, Latvia and Ukraine, which have high debt and deficits, are especially hit by the crisis. Oil-exporting countries like Russia, Iran and Venezuela also are confronted with severe problems<sup>480</sup>.

In the US, the financial crisis has negative consequences on stability, relations with other states and the possibilities of providing a financial infrastructure that can contribute to a smooth functioning of the world economy. The financial problems have an impact upon exports and imports, growth rates, unemployment and government revenues and expenditures, which also affects the goods-and-services-producing.

The financial crisis shows that the US is a major financial center of the world. When a crisis occurs there it has significant consequences for the rest of the world. This happens because the US are the most important guarantor of the international financial system and US dollars are used to a large extent as currency reserves and as an international medium of exchange. A high amount of financial capital is invested in the US and other economies like those of emerging markets cannot be de-coupled from the US economy<sup>481</sup>.

The crisis could be used as an opportunity to strengthen and reshape the IMF (e.g. by increasing its capital base), to increase the significance of the G-20 (19 of the worlds largest economies plus the EU) and to revise the Basel II guidelines regarding bank capitalization<sup>482</sup>.

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<sup>479</sup> See Nanto et al. (2008), p. 2.

<sup>480</sup> See Altman (2009), p. 13.

<sup>481</sup> See Nanto et al (2008), p. 3.

<sup>482</sup> See Altman (2009), p. 14.

### **6.3. *Reasons and Developments***

The multiple reasons for the crisis 2008 suggest important problems in financial market regulation. They also show that if additional measures towards a more optimal currency area were taken, like an EMU wide supervision of the banking sector, maybe the current crisis would not be so severe. Problems in the banking sector would, however, have been easier identified. The crisis 2008 actually started mainly in the US, and shows that severe crises can occur even in currency areas that are considered developed.

Reasons that determine crises and are also significant for the current situation include “overshooting of markets, excessive leveraging of debt, credit booms, miscalculations of risk, rapid outflows of capital from a country, mismatches between asset types (e.g., short-term dollar debt used to fund long-term local currency loans), unsustainable macroeconomic policies, off-balance sheet operations by banks, inexperience with new financial instruments, and deregulation without sufficient market monitoring and oversight”<sup>483</sup>.

A reason for the current crisis consists in the accumulation of dollars, Euros, pounds and yen in record amounts by different countries. Such countries feared insufficient foreign exchange reserves following the 1997-98 Asian financial crises when Thailand, Indonesia and South Korea had to borrow from the IMF to be able to pay the short-term foreign debt when the value of their currencies decreased significantly. The dollar accumulation was also determined by the US trade current account deficit. Currency reserves had reached \$4.4 trillion by mid-2008 (\$2 trillion in China, nearly \$1 trillion in Japan, \$500 billion in Russia and more than \$200 billion in India, South Korea and Brazil). Investments had been made in high yielding US Treasury and other government securities.

Another significant economic problem occurred in 2000, when the equities of a large number of high-technology companies collapsed. After these developments, money started to flow especially into housing markets in the US and in other countries<sup>484</sup>. China invested a high amount into US Treasury Bills and other US securities. US interest rates could thus be

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<sup>483</sup> See Nanto et al (2008), p. 7.

<sup>484</sup> See Nanto et al (2008), p. 7.

maintained at low levels. Mortgage interest rates were also low and thus very attractive for home buyers. At the same time, the popularity of securitization of assets increased, especially of mortgage debt (including subprime mortgages) into collateralized debt obligations (CDOs). Mortgage finance companies were often the mortgage originators. Their most important purpose was to write mortgages using funds that were provided by banks and other financial institutions or borrowed. They had no responsibility for loans gone bad, but were paid for each mortgage originated. It was in their interest to maximize the number of loans<sup>485</sup>.

“Essentially, securitization is a transaction structure in which loans (such as loans secured by residential real estate – i.e. mortgages) are pooled together (‘repackaged’) as collateral underlying the issuance of securities, predominantly debt securities. Securitization allows originators (such as banks) of assets (such as residential mortgages) to transform a future stream of revenue (i.e. loan repayments) into a present value pool of capital, which can then be used to support further lending. In order to be effective, this process requires investors willing to purchase the resulting securities. In the typical transaction structure, the collateral is transferred to a separate legal entity – a special purpose vehicle (SPV) – which in turn issues the securities purchased by investors and uses the proceeds from the sale of securities to purchase the pool of collateral from the originator. This is the most common structure used in the United States and in other Common Law countries around the world. In Civil Law countries (especially in Continental Europe) the norm has been for the bank to issue the securities directly with the backing of a legally isolated pool of collateral – ‘covered bonds’”<sup>486</sup>.

A possibility to cover the default risk on mortgages, especially subprime mortgages, was to purchase credit default swaps (CDSs) by holders of CDOs. “These are a type of insurance contract (a financial derivative) that lenders purchase against the possibility of credit event (a default on a debt obligation, bankruptcy, restructuring, or credit rating downgrade) associated with debt, a borrowing institution, or other referenced entity. The purchaser of CDS does not have to have a financial interest in the referenced entity, so CDSs quickly became more of a

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<sup>485</sup> See Nanto et al (2008), p. 8.

<sup>486</sup> See Arner (2009), p. 2.



speculative asset than an insurance policy”<sup>487</sup>. Without significant defaults, the issuers of CDSs could earn a high amount of fees. Technically, this was not considered as insurance, so that they did not need to have sufficient capital in order to cover the claims. Sellers of CDSs often bought themselves CDSs for the situation of default. The costs rose, however, as the risk of defaults increased. “Investors, therefore, could arbitrage between the lower and higher risk CDSs and generate large income streams with what was perceived to be minimal risk”<sup>488</sup>.

The notional value (face value of underlying assets) of credit default swaps reached \$62 trillion in 2007, while at the same time the gross domestic product of the world represented \$54 trillion. The actual amount at risk was only a fraction of that sum. The notional value of CDSs became, however, lower in July 2008 (\$54.6 trillion) and by October 2008 it fell to \$46.95 trillion. Because the number of defaults became large, bankruptcies rose. The exposures became too great for firms like AIG by October 2008<sup>489</sup>.

Thus, aspects that increased the risk of financial markets were:

- the originate-to-distribute model for mortgages. Originators of mortgages were not penalized for not taking the measures to ensure that the borrower was qualified for the loan, while investors depended especially on ratings by credit agencies and had little information about the underlying quality of loans. “The originator of mortgages passed them on to provider of funds or to bundler who then securitized them and sold the collateralized debt obligation to investors”<sup>490</sup>.
- increasing perverse incentives and complexity for credit rating agencies. “Credit rating firms received fees to rate securities based on information provided by the issuing firm using their models for determining risk”<sup>491</sup>. Such models had not been, however, tested under crisis conditions.
- the differences between traditional insurers and issuers of credit default swaps. Contracts that were actually insurance contracts were written without insurance regulation and requirements for capital adequacy<sup>492</sup>.

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<sup>487</sup> See Nanto et al (2008), p. 10.

<sup>488</sup> See Nanto et al (2008), p. 10.

<sup>489</sup> See Nanto et al (2008), p. 10.

<sup>490</sup> See Nanto et al (2008), p. 10.

<sup>491</sup> See Nanto et al (2008), p. 11.

<sup>492</sup> See Nanto et al (2008), p. 11.

To sum up, the reasons for the current financial crisis include:

- the housing bubble;
- the subprime mortgage crisis in the US;
- high amounts of leveraged debt by banks, investment houses and consumers;
- large deficits in international trade and current accounts in some countries, especially in the US;
- the accumulation of large reserves of foreign exchange;
- the search for higher rates of return by investors, deploying “hot money”;
- the significant reduction of commodity prices;
- higher interest rates against inflation;
- a slowdown of the world economic growth rates;
- globalization and thus a herd instinct;
- greater uncertainty in a world economy after half a decade of relative stability<sup>493</sup>.

Some regulatory, market and political failures that contributed to the 2008 US financial crisis were: the lack of normal bank supervisory power regarding Fannie Mae and Freddie Mac; encouraging home ownership by permitting lower bank mortgage standards; moral hazard and conflicts of interest between banks, mortgage brokers, securitizers, credit rating agencies and asset managers. The consequences of financial deregulation show that regulatory reforms are necessary<sup>494</sup>.

Stock market value reductions indicated the speed and spread of the financial crisis. The stock indices for the US, UK, Japan and Russia reached by mid-October 2008 half of the levels from October 1, 2007<sup>495</sup>. A new rule requires financial institutions to value stock according to market values (mark-to-market). Thus, the capital base of banks became lower and reduced their ability to make more loans and also maintain the required capital-asset ratios. Some equities became valueless in short time (e.g. Freddie Mac from \$63 on October 8, 2007 to

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<sup>493</sup> See Nanto et al (2008), p. 12.

<sup>494</sup> See Tarr (2009), p. 1.

<sup>495</sup> See Nanto et al (2008), p. 12.

\$0.88 on October 28, 2008)<sup>496</sup>. In September 2008 the rescue of Fannie Mae and Freddie Mac was decided.

Fanny Mae, Federal National Mortgage Association, FNMA, was founded by Roosevelt in 1938, in order to add liquidity to the home mortgage market and facilitate housing sales. It purchased mortgage from banks and provided mortgage insurance, so that banks could create more mortgage cheaper. Freddie Mac, Federal Home Loan Mortgage Corporation, FHLMC, was founded with the purpose to make loans and loan guarantees. It pooled the purchased mortgages and sold mortgage backed securities to investors. Banks were encouraged to make more loans for housing. Fannie Mae was privatized in 1968<sup>497</sup>. Fannie and Freddie were also encouraged to purchase affordable mortgages from banks after 1992, these being mortgages that did not pass the usual tests for loans, as it was previously demanded by banks that originated mortgages. Thus, sub-prime, i.e. sub-standard, mortgages and mortgage-backed securities were created. Problems occurred because insufficient reserves were put aside, taking into consideration the issued and insured securities. Insured mortgage-backed securities mean that guarantees exist for the payment of principal and interest, regardless whether the persons continue their mortgage payments or not<sup>498</sup>. Between 1998 and 2006 a housing boom could be achieved in the US and much of the world, especially because of the sub-prime loans. The values of houses increased and thus speculators joined the market and bought houses whose value was expected to increase. In the US home ownership was 69.2 percent in 2004 and then prices began to fall; in 2008 home ownership represented 67.8 percent<sup>499</sup>. In the context of crisis, Fannie Mae, Freddie Mac and AIG were taken over by the government, while Lehman Brothers and Washington Mutual failed<sup>500</sup>.

Insurance companies and even hedge funds lost value during this crisis. The bleak prospects determined credit markets practically to freeze. The confidence in financial markets became also low. In October 2008 the Libor (the London Inter-Bank Offered Rate, which is used by banks for short-term loans to each other) doubled from 2.5 to 5.1% and for a few days much

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<sup>496</sup> See Nanto et al (2008), p. 13.

<sup>497</sup> See Congleton (2009), p. 1.

<sup>498</sup> See Congleton (2009), p. 2.

<sup>499</sup> See Congleton (2009), p. 3.

<sup>500</sup> See Ivashina (2008), p. 1.

inter-bank lending practically stopped. However, US monetary authorities decreased interest rates; this was intended to have a positive impact on lending. After the crisis broke out, investors usually fled stocks and debt instruments and often preferred US Treasury and other government securities<sup>501</sup>.

Two phases of the financial crisis can be differentiated so far:

1. Phase I.: the “subprime crisis” between mid-September 2007 (and the bank run on Northern Rock) and mid-September 2008 (and the Chapter 11 bankruptcy filing of Lehman Brothers). Six individual rescue packages for banks, which were largely exposed to the US subprime crisis and dependent on mortgage securitization, were authorized by the Commission. These aspects have been considered mainly “individual problems” needing “tailor-made remedies”<sup>502</sup>.
2. Phase II.: starting with mid-September 2008. It is a crisis of confidence. Following the bankruptcy of Lehman Brothers an unprecedented freeze in interbank lending was the consequence. “At that point, the crisis took a systematic turn and started affecting ‘even fundamentally sound financial institutions,’ a situation that prompted the Commission to recognize the likelihood of bank failures leading to ‘a serious disturbance in the economy of (Member States)’”. As a result, the Commission resorted to a rarely-used and more lenient provision to authorize national recovery plans and individual rescue measures, namely Article 87(3)(b) of the EC Treaty (‘EC’)<sup>503</sup>.

Because of contagion the present financial crisis has spread around the world. Countries are confronted with various problems. First, countries face significant credit problems. In the US for example the average loss per property was roughly \$124.000, most of it due to unpaid interest. Firms (like the major investment banks, Bear Stearns, Lehman Bros, Merrill Lynch, Goldman and Sachs, Morgan Stanley etc.) that maintain and issue prime and sub-prime mortgages and mortgage-backed securities and that have high leverage and count on ‘rolling over’ loans are confronted with negative crisis effects. Their access to credit was reduced because of the decreasing value of assets that they could use to secure loans. Thus, some firms became bankrupt without enough assets. Banks (e.g. Washington Mutual and partially

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<sup>501</sup> See Nanto et al (2008), p. 13.

<sup>502</sup> See Gerard and Louvain (2008), p. 5.

<sup>503</sup> See Gerard and Louvain (2008), p. 6.

Wachovia) that hold mortgages in regions with extreme housing bubble and that have a large amount of sub-prime mortgages were confronted with increasing risk because of the inability of some people to pay their debt and falling housing prices. A second problem refers to liquidities. Significant liquidity amounts were assured through policy measures for example in the US, UK, China and India. Third, some countries (e.g. Hungary, Ukraine, Bulgaria, Kazakhstan, Kyrgyzstan, Latvia, Estonia and Lithuania) are also confronted with debt problems. The reasons include the high total debt amount in the economy, the size of the current account deficits, dependence on foreign investment and the level of indebtedness in the domestic banking sector. Forth, several countries, like Mexico and Brazil, face currency problems. The peso in Mexico fell by 40% between August 2008 and October 2008 resulting from lower commodity prices and the exposure to US mortgage-backed securities. Brazil, like Mexico, sold billions of dollars in order to fight its currency depreciation which fell by over 35% from August 2008. Fifth, bank failures occurred in different countries (e.g. in Iceland, but also in Russia, UK and Asia: Japan, South Korea, Hong Kong, Singapore, Malaysia, Australia, New Zealand, Indonesia). Questions regarding bank supervision and crisis management in Europe and the US were raised.

#### ***6.4. The Effects on Maastricht Requirements***

The analysis of the Maastricht criteria suggests that under the premises of crisis it will be more difficult for countries to become EMU members. The fulfillment of the Maastricht criteria becomes more difficult for EMU candidate countries. EMU countries are also more preoccupied with their internal problems, so they could postpone the admission of new member states until problems have been solved and the crisis overcome.

No danger of EMU breakup is given at the moment, according to the ECB president. The creditworthiness of countries like Ireland, Greece, Spain and Italy could, however, represent a burden for the Euro according to some experts.

EMU countries are confronted with the danger of increasing **budget deficits**<sup>504</sup>. Traditional fiscal policy like tax cuts and spending increases will be adopted, but also bailouts of lenders, investors and financial institutions as well as of borrowers<sup>505</sup>. The expected public deficit is of 11 percent of GDP in Ireland. Up to two-third of the EU-27 will probably have a public deficit of over 3 percent in 2009. The economic situation could, however, improve because of lower prices of raw materials.

In some countries the **inflation** could be negative for a certain period, while some economists fear even a deflation. Thus, a long-term price reduction could be the consequence. Households and businesses could postpone investments and consumption, because they will expect even lower prices. The recession could thus become even deeper and longer. The ECB intends to keep a price increase of just under 2 percent<sup>506</sup>. With decreasing prices and lower demand, firms in EMU could be confronted with problems when they have to pay loans because of lower profits. A decreasing value of their assets could also determine access to lower amounts of loans as the value of potential collateral would be reduced.

A common measure taken by the US, the Euro zone, the UK, Canada, Sweden and Switzerland consisted in an **interest rate** reduction on October 8, 2008. The provision of guarantees and capital are also important measures.

The cash amount euro zone banks park at the ECB dropped because overnight market rates became lower. On January 22 2009 bank deposits were 111.4 bn, lower with 72.7 bn, resulting from a rate of interest reduction of 100 basis points to 1 percent. Deposits decreased by 171.5 bn euro during the previous two days from 315.3 bn euro. A measure to be adopted by the ECB is to widen the corridor (meaning “the difference between the rate it pays on deposits from banks and what it receives on lending”). Two strategies could be pursued by the ECB: one regarding public inflation expectations through the policy rate or ordinary interest rate and another one concerning the private inter-bank lending markets. It should become less

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<sup>504</sup> See Financial Times Deutschland (2009), <http://www.ftd.de/politik/europa/:Trotz-Finanzkrise-Trichet-zerstreut-Sorgen-um-Euro-Zone/463829.html>

<sup>505</sup> See Roubini (2009), p. 64.

<sup>506</sup> See Financial Times Deutschland (2009), <http://www.ftd.de/politik/europa/:Trotz-Finanzkrise-Trichet-zerstreut-Sorgen-um-Euro-Zone/463829.html>

economical for banks to hold cash with the ECB instead of lending it into the money market. The overnight interest rates were reduced to 1.498 percent, halfway between the policy rate of 2 percent and the deposit rate of 1 percent on the 22<sup>nd</sup> January<sup>507</sup>. The incentives of banks to lend money to firms and households in order to increase the economic activity and permit economic growth are thus intended to be improved by reducing interest rates.

With interest rates close to zero, the economies could face the following problems: a liquidity trap, a deflation trap and debt deflation. A liquidity trap means that banks cannot stimulate the economy as their interest rates cannot be set below zero. Because of the deflation trap consumption and investment become lower, while falling prices also imply relatively high real interest rates. The demand will be reduced even further with lower incomes and less jobs. The debt deflation represents a rise in the real value of nominal debt because prices have fallen<sup>508</sup>.

Regarding **exchange rates**, Bernanke, “one of the main economic historians of the financial crises of the 1930s” considered that “countries which then depreciated their currency really came out better than those who guarded the value of their currency, which actually is not at all surprising because depreciation is a ‘beggar my neighbour’ policy. This implies that Bernanke will do nothing against dollar depreciation now and, in effect, is a proponent of exploiting China (the main US creditor) and also Euroland”<sup>509</sup>. Thus, in countries with currency depreciation, the demand for exports will increase. The result will be improved economic activity and an easier and faster overcoming of the crisis.

### **6.5. The Role of EMU Institutions**

EU institutions are significant in dealing with the crisis 2008. The requirements for further developments (e.g. an increasing importance of the ECB regarding the EMU wide supervision of the banking sector) and for deeper cooperation with international institutions have been

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<sup>507</sup> See Financial Times (2009), <http://www.ft.com/cms/s/0/920f7cd0-e880-11dd-a4d0-0000779fd2ac.html>

<sup>508</sup> See Roubini (2009), p. 64.

<sup>509</sup> See Streissler (2008), Seminar.

expressed. Thus, the political integration, which is an OCA criterion, could be further improved.

The solution to the financial crisis in Europe implies taking into consideration competition law and state aid. Competition law does not impede solutions against the financial crisis. Thus on October 2 2008 the approval of a €35 billion aidpackage was announced in order to rescue Hypo Real Estate Holding AG in Germany. The holding was confronted with problems resulting from its involvement in the national and international mortgage business and the adopted short-term refinancing strategy<sup>510</sup>.

The economic and financial policy are especially the competence of the 27 Member States in the EU, as no EU Treasury, centralized EU economic policy institutions or common EU financial services regulator exist. Some coordination results from the SGP. The bankruptcy of Lehman Brothers in mid-September contributed to the spread of the crisis to the whole financial system; credit institutions in Europe were also affected. The EU member states wanted urgent recovery measures. On October 7, the ECOFIN met and the member states decided upon common principles against the crisis. The Eurogroup turned the principles into a concerted plan on October 10 2008<sup>511</sup>. The Commission played a significant role in assuring the markets that rescue measures adopted by the member states were “not going to be jeopardized by EU rules”<sup>512</sup>.

The Commission was aware that it had to shorten the decision-making process regarding the authorization of rescue packages including State aids. Therefore it got involved in the design of such measures and made sure that they were State aid compatible. Commissioner Kroes, President Barroso, Commissioners Almunia (Economic and Monetary Affairs) and McCreevy (Internal Market) were given the responsibility to authorize “emergency rescue measures” for three month. Thus, the Commission could take decisions “if necessary within hours” and “at any moment in time in particular over the weekend, during the evening or at night and also on

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<sup>510</sup> See Gerard and Louvain (2008), p. 2.

<sup>511</sup> See Gerard and Louvain (2008), p. 3.

<sup>512</sup> See Gerard and Louvain (2008), p. 5.



bank holidays”. Over 20 positive State aid decisions were taken within 8 weeks after the empowerment<sup>513</sup>.

The Commission acted as a stabilizing force during the crisis and showed that the legal framework is flexible enough even for the situation of exceptional and country-specific circumstances. Measures were decided in order to permit rescuing and restructuring banks and companies in difficulty<sup>514</sup>.

It is important that the national measures do not simply export problems to other Member States<sup>515</sup>. First, all credit institutions with systematic relevance to the economy must have access to guarantees and recapitalization plans, even if they have subsidiaries and branches headquartered abroad. “Second, the Commission has insisted that State guarantees be granted with adequate remuneration from individual financial institutions and/or the financial sector as a whole; fees being set according to the degree of risk and the beneficiaries’ respective credit profiles and needs. Likewise, capital injections must be provided against property value and remunerated securities, ideally carrying corresponding rights. Third and most important, guarantee and recapitalization schemes must be tied to duly monitored behavioral constraints preventing aggressive commercial conduct on the part of beneficiaries, e.g., by introducing GDP-related, market share, or balance sheet growth ceilings, potentially combined with other safeguards aimed to address more diffuse moral hazard issues”<sup>516</sup>.

Through the involvement in the design of financial recovery plans and in individual rescue measures at national level the Commission has an important role in economic policy coordination, even though the economic and financial policy is primarily the competence of Member States<sup>517</sup>.

Some of the most important measures regard the part-nationalization and recapitalization of the banking system. Changes in the regulatory practices and management incentive structures

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<sup>513</sup> See Gerard and Louvain (2008), p. 7.

<sup>514</sup> See Gerard and Louvain (2008), p. 9.

<sup>515</sup> See Gerard and Louvain (2008), p. 11.

<sup>516</sup> See Gerard and Louvain (2008), p. 12.

<sup>517</sup> See Gerard and Louvain (2008), p. 13.

that characterize banks are expected. Questions about risk management practices also arise<sup>518</sup>. Another significant issue regards the evaluation of the system of investor protection as global bank losses exceed the 1 trillion mark<sup>519</sup>.

These developments show that EMU and EU possess strong institutions and are capable of reacting promptly and effectively under crisis premises. However, improvements are recommended especially on institutional level (for example regarding financial legislation) in order to have the possibility to recognize problems sooner and thus to prevent crisis.

### **6.6. Measures for Overcoming the Crisis**

Financial crises are historically common and can have not only economic but also political effects. They could lead to very nationalistic governments and increase the danger of a currency area breakup. Without taking adequate measures, governments can lose popularity and the acceptance for a currency area can decrease. Thus, knowing the measures that can be adopted against crises (preventive measures and specific measures for the different phases of the crisis) becomes very important. Acting in coordinated ways and helping companies that make businesses in other regions or countries (outside EMU and EU) can improve the public perception about decision taking institutions and also help overcome the crisis sooner.

Policymakers in countries usually have the following reactions:

- they deny that a crisis could take place;
- anger, blame on speculators and other outside forces; often a change in government can take place;
- bargaining;
- despair and calling for example the IMF;
- finally acceptance and the agreement of a credible plan.

Confidence that proper measures regarding the financial crisis will be adopted is central in such situations.<sup>520</sup>

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<sup>518</sup> See Mikes (2008), p. 1.

<sup>519</sup> See Burke (2009), p. 1.

<sup>520</sup> See Summers (2000), p. 11.

“Crises feed uncertainty”<sup>521</sup>. The last has effects upon portfolio decisions, as a shift from risky to riskless assets take place. It also affects consumption and investment decisions. A significant reduction of demand occurs because consumers have lost part of their wealth and they save more. Thus, it is essential that policymakers reduce uncertainty (for example by providing fiscal stimulus), undo the effects of uncertainty on the portfolio side (for example through recapitalization) and also undo the consequences of the wait-and-see attitudes of consumers on the demand side (which means to increase the incentives to spend for example through temporary subsidies to consumers who turn in an older car and buy a new car, a measure adopted for example in France)<sup>522</sup>.

The current crisis shows that EU and EMU are very important for maintaining the stability of the euro and of the currency area. Cooperation with international institutions represents also a priority. Suggestions for improvements regarding international financial cooperation and economic institutions are presented in this chapter. Appropriate measures could also determine an improvement of the OCA criteria, especially regarding financial market integration. Political integration will probably also be pushed further, as the competences of the ECB and other EU and EMU institutions will increase. Additional countries could express interest in joining the EU and EMU and also accept the Lisbon Treaty.

### 6.6.1. Regulatory Design

A proper financial regulatory design should assure: ”first, a robust financial infrastructure (especially payment and settlement systems); second, well managed financial institutions with effective corporate governance and risk management systems; third, disclosure requirements sufficient to support market discipline; fourth, regulatory systems designed to reinforce management and market discipline as well as limiting and monitoring potential risks across all financial institutions; fifth, a lender of last resort to provide liquidity to financial institutions;

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<sup>521</sup> See The Economist (January 31<sup>st</sup>-February 6<sup>th</sup> 2009), p. 76.

<sup>522</sup> See Blanchard in The Economist (January 31<sup>st</sup>-February 6<sup>th</sup> 2009), p. 76.

sixth, mechanisms for resolving problem institutions; and seventh, mechanisms to protect financial services consumers in the event of financial institution failure”<sup>523</sup>.

Measures that were especially supported by different countries include:

1. “Recapitalization: governments promised to provide funds to banks that might be struggling to raise capital and pledged to pursue wide-ranging restructuring of the leadership of those banks that are turning to the government for capital.
2. State ownership: governments indicated that they will buy shares in the banks that are seeking recapitalization.
3. Government debt guarantees: guarantees offered for any new debts, including inter-bank loans, issued by the banks in the Euro zone area.
4. Improved regulations: the governments agreed to encourage regulations to permit assets to be valued on their risk of default instead of their current market price”<sup>524</sup>.

### 6.6.2. European Reactions

On October 16, 2008, EU leaders agreed on monthly meetings in order to improve the financial oversight. José Manuel Durão Barroso, President of the European Commission, stressed the need for a “fully integrated solution” to deal with the global financial crisis. The European Council expressed the necessity of an EU-wide supervision of the European financial sector<sup>525</sup>.

The opinion was expressed that the IMF should have a more important role in preventing future financial crises. It could have a larger role in financial market regulation, for example by becoming a global supervisor of regulators. The IMF could also be “the pivot of a renewed international system”<sup>526</sup>, working with other bodies. The World Bank could also have a more important role in taking measures against future crises.

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<sup>523</sup> See Arner (2009), p. 47.

<sup>524</sup> See Nanto et al (2008), p. 32.

<sup>525</sup> See Nanto et al (2008), p. 33.

<sup>526</sup> See Nanto et al (2008), p. 33.

Agreements between the US Federal Reserve and the ECB were expanded. They agreed for example about joint lending operations.

Germany was the first country that implemented a rescue package that could consist in up to \$750 billion (\$600 billion for bank guarantees and \$150 billion in state funds: \$120 billion for recapitalization and \$30 billion a provision for bank guarantees). In France the rescue package could cost up to \$500 billion (\$480 billion in guarantees for inter-bank lending issued before December 31, 2009 and valid for five years; \$60 billion to recapitalize struggling companies by permitting the government to buy equity stake). The funds will be provided by two state agencies in France. Italy announced measures including Treasury guarantees for new bonds issued by banks until December 31, 2009 and valid for five years. The approval of the Bank of Italy will be necessary and the guarantees refer to market prices<sup>527</sup>.

A “European Framework for Action” was decided by the European Commission on October 29, 2008. The three parts refer to:

1. New financial market architecture at EU level. The ECB and other central banks should thus continuously support the financial system. Additionally, rapid and consistent bank rescue plans should be adopted by member states and measures should be taken to limit the spread of the crisis.
2. Dealing with the impact on the real economy. Measures against unemployment and towards growth should be taken by member states. The EU will invest in R&D, innovation and education, to equip people for specific jobs, to help building markets at home and internationally and to enhance competitiveness by green technology and environmental goals.
3. A global response to the financial crisis. International regulatory standards, international coordination among financial supervisors, measures to monitor and coordinate macroeconomic policies should be strengthened and the capacity to address financial crises at national and multinational levels should be developed. Efficiency, transparency, accountability and the inclusion of representation of key emerging economies should be pursued<sup>528</sup>.

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<sup>527</sup> See Nanto et al (2008), p. 33.

<sup>528</sup> See Nanto et al (2008), p. 34.

### 6.6.3. Fiscal and Financial Support

The fiscal and financial support in G7 and BRIC countries as a percentage of GDP is presented in the following table<sup>529</sup>.

Overview of recent fiscal and financial support in G7 and BRIC countries, % of GDP											
	Brazil	Britain	Canada	China	France	Germany	India	Italy	Japan	Russia	United States
Fiscal stimulus*	0.2	1.1	2.0	15.0	1.5	3.1	1.3	4.3	2.0	1.1	5.8
Likely stimulus**	0.2	1.1	2.0	6.0	0.4	2.4	1.3	0.5	2.0	1.1	5.8
<b>Nature of stimulus</b>											
Infrastructure		✓	✓	✓	✓	✓	✓				✓
Tax cuts	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Non-bank bail-outs		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>Financial support</b>											
Liquidity provision	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Loan guarantees		✓	✓		✓	✓		✓	✓	✓	✓
Capital injection		✓		✓	✓	✓		✓	✓		✓
Asset purchases		✓	✓		✓	✓			✓	✓	✓
Nationalisations***		✓									✓
For an interactive version of this table, see: <a href="http://www.economist.com/stimulus">www.economist.com/stimulus</a>								*Announced **Estimated actual effect			
Sources: <i>The Economist</i> ; IMF								***Conservatorship in the US			

**Table 6: Overview of fiscal and financial support in G7 and BRIC countries**

The most adverse effects of the financial crisis occurred in the banking sector. EU banks have booked so far write-downs of more than \$200 billion. Some banks have been rescued by governments and have been partly or fully nationalized. Certain banks require recapitalization and have to sell assets. National deposit insurance schemes were decided<sup>530</sup>. 43% of banks in the Euro area tightened lending standards. Interest rates charged for new loans also increased<sup>531</sup>.

The construction sector is also confronted with problems. Housing investment decreased in 2008 especially in Spain, Germany, Italy and Denmark. House prices are considered to be

<sup>529</sup> See *The Economist* (January 31<sup>st</sup>-February 6<sup>th</sup> 2009), p. 71.

<sup>530</sup> See *Economic Forecast* (Autumn 2008), p. 29.

<sup>531</sup> See *Economic Forecast* (Autumn 2008), p. 30.

overvalued (in Ireland and the UK at about 20-30% and about 10-20% in Spain, France, Italy and the Netherlands<sup>532</sup>).

The crisis also had a negative impact on the car industry. The European Investment Bank will probably have a credit program of 400 million euro for Peugeot and 400 million euro for Renault. Low interest rate loans and guarantees for the car industry are planned, for example, in France<sup>533</sup>. The French government decided to introduce a rescue plan consisting of up to 6 billion euro for its car industry, which is nowadays confronted with reduced demand, credit crunch and lower competitiveness.

A problem of some major European companies is given by the high debt. Corporate debt in the Euro zone is \$11 trillion, 95% of the region's annual output. Problems can arise because the risky corporate loans were repackaged and sold to investors. Another problem companies are confronted with is the 40% reduction of bank lending in the Euro zone. Europeans have to issue bonds, but the yields have almost tripled. The Anglo-Swiss mining group Xstrata had to issue new shares to be able to pay down debt; however, it had to offer discounts to be attractive for investors. Moody's downgraded 249 Western European companies last year. Thomson, a French provider of video equipment and services, breached agreements with lenders on some debt. It intends to sell off businesses such as Grass Valley in order to increase its cash amount. Companies accumulated high debts also because they extended their businesses. Paris-based Lafarge, the world's largest cement maker, has a high amount of debt because it decided to extend business in Egypt. Edscha, which was a \$1.4 billion German auto-parts maker, declared bankruptcy on Feb. 2. S&P estimations are that 150 European companies could default in loans, which amount to \$65 billion, over the next two years<sup>534</sup>.

Companies that do business in Eastern Europe also face some risks. "First that bad debts rise as local customers default, particularly those that have borrowed in foreign currencies that have since risen relative to their own. Second that foreign-exchange mismatches mean the assets of local banking subsidiaries shrink relative to liabilities, eating up capital. And finally

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<sup>532</sup> See Economic Forecast (Autumn 2008), p. 26.

<sup>533</sup> See Financial Times Deutschland (2009), <http://www.ftd.de/unternehmen/autoindustrie/Kredite-f%FCr-Autobauer-EU-F%F6rderbank-verspricht-frisches-Geld/462718.htm>.

<sup>534</sup> See Business Week (February 23 2009), p. 28.

that subsidiaries face deposit runs or are unable to borrow. In any of these situations the western parent would have to step in with precious capital and liquidity”<sup>535</sup>. Important banks that do business in Eastern Europe, including Kazakhstan, Russia and Ukraine, and which are confronted with challenges because of the financial crisis, include Raiffeisen, Erste Bank, Swedbank, KBC, UniCredit Group and Societe Generale.

#### **6.6.4. Measures to Enhance EU Financial Market Integration**

The integration, openness, competitiveness and efficiency of the EU can be increased by the following steps:

- “Implementing, enforcing, and evaluating existing legislation, and ensuring that future initiatives are based on rigorous impact assessment and thorough consultation;
- Removing any remaining barriers to the free provision of financial services and circulation of capital, eliminating unnecessary costs and delivering high levels of financial stability and consumer protection and benefits;
- Enhancing supervisory cooperation in the EU, deepening relations with other financial market-places internationally, and strengthening Europe’s global influence”<sup>536</sup>.

The ECB reacted quickly to the problems of the US sub-prime mortgage market in 2007 and provided additional liquidity to the EU financial system. The “Ecofin Roadmap”, which was decided in October 2007 in the EU, includes measures for dealing with weaknesses of the financial system. The purpose of the Roadmap is to:

- “Improve financial transparency in the market by requesting that financial institutions reveal all areas where they are exposed to risk, provide basic statistics on these markets, and furnish investors with more and better information;
- Enhance financial reporting and valuation of financial products to give investors more detailed information on individual deals;
- Ensure proper valuation of assets, focusing on consistent application of international accounting standards vis-à-vis all financial intermediaries;

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<sup>535</sup> See The Economist (February 21<sup>st</sup>-27<sup>th</sup> 2009), p. 73

<sup>536</sup> See Foreign Policy (2009), p. 7.



- Strengthen the prudential rules for banks in the context of managing liquidity risk, concentration risk, and off-balance sheet exposures;
- Investigate structural market issues, including the role played by credit rating agencies and their potential failures in the context of financial turmoil<sup>537</sup>.

The Single Euro Payment Area (SEPA) will permit the banking industry to shift to an integrated euro payment system from the 31 national payment systems by November 2009. Technical, legal and commercial barriers will be eliminated and cashless cross-border payments will become easier.

The Market in Financial Instruments Directive (MiFID), in force since November 2007, gives exchanges, multilateral trading facilities and investment firms in Member States a “single passport”. This allows them to be operational throughout the EU if they have authorization in their home country.

The EU directive regarding deposit guarantees will be revised. The minimum level of deposit guarantees throughout the EU will increase from Euro 20,000 to Euro 50,000 in the first year and to Euro 100,000 thereafter. The payout period will be three days and not three month anymore in the situation of bank failure.

Proposed changes regard capital requirements for banks<sup>538</sup>. Banks will be encouraged to use increased capital reserves to meet regulatory requirements, but also to make loans to businesses<sup>539</sup>. However, limits on loans to any one party are also recommended in order to reduce risk exposure. The supervision of banks operating in more than one EU country should also be increased.

Suggestions are made to change accounting standards, so that assets should be valued according to their intrinsic value over time and not only based on the current market price.

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<sup>537</sup> See Foreign Policy (2009), p. 7.

<sup>538</sup> See Foreign Policy (2009), p. 7.

<sup>539</sup> See Financial Times (2009), <http://www.ft.com/cms/s/0/1433134a-e75d-11dd-aef2-0000779fd2ac.html>.

For the Credit Rating Agencies (CRAs), legally binding registration should be imposed as well as the supervision of the policies and procedures followed. This should take place through European regulators<sup>540</sup>.

Regarding banking refinancing, the ECB tightens the conditions. Beginning with March 1 2009 it will accept asset backed securities only if they have AAA rates. ABS can also no longer be used as collateral for an ABS paper. By using ABS banks could get liquidity from the ECB in a repo transaction<sup>541</sup>.

Two further measures which are also very important in order to increase the optimality of OCA have been discussed: the introduction of Euro bonds and an EMU wide supervision of the banking sector by the ECB.

The possibility of the introduction of Euro bonds was discussed, but Germany rejected it because of differences of risk premium between EMU countries (the risk premium is lower in Germany than in Spain, Greece, Ireland, Portugal and Italy because of the public deficit and competitiveness). Countries with a high creditworthiness could determine lower interest rates for other countries. According to Germany, the SGP provision of 3 percent deficit should be held. Paris does not share this view in the context of crisis and affirms that the risk premium becomes more important<sup>542</sup>.

The ECB president said that he “stood ready” to take European bank supervision responsibilities. According to his statement it would not be very difficult to grant the ECB the necessary legal powers. This could be essential for preventing financial market crises in the future. In Brussels a meeting took place with the purpose of making proposals for a European financial supervisory system<sup>543</sup>.

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<sup>540</sup> See Foreign Policy (2009), p. 7.

<sup>541</sup> See Financial Times Deutschland (2009), <http://www.ftd.de./unternehmen/finanzdienstleister/Verbriefungen-EZB-erschwert-Bankenrefinanzierung/463373.html>.

<sup>542</sup> See Financial Times Deutschland (2009), <http://www.ftd.de./politik/europa/Risikoaufschl%E4ge-in-Euro-Zone-Steinbr%C3%9Cck-lehnt-Plan-f%C3%9C-Cr-Euroanleihe-ab/463578.html>.

<sup>543</sup> See Financial Times (2009), <http://www.ft.com/cms/s/0/88e473d6-e826-11dd-b2a5-0000779fd2ac.html>.

### **6.6.5. Economic and Financial Cooperation between the EU and the US**

Even though the EU and the US are different currency areas, cooperation between the two is very important especially because of the challenges imposed by globalization. The crisis that began mainly in the US shows that the linkages between countries increased during the last years significantly, so the crisis spread globally, leading to the need of stronger economic and financial cooperation.

The EU-US transatlantic economy is worth \$4 trillion and represents the most integrated economic relationship in the world. The EU and the US are essential for influencing growth, trade and prosperity. 12 percent of the world population lives in the EU and US and the two regions account for close to 40 percent of global trade and nearly 60 percent of world GDP.

Cooperation is essential for promoting trade and investment and to eliminate unnecessary regulatory burdens. Annual presidential summits have been organized since 1990 between the EU and the US in order to clarify aspects of bilateral relationship. At the 2007 summit “The Framework for Advancing Transatlantic Economic Integration” was signed. The purpose was increasing economic integration and growth. Decisions regarding regulatory cooperation, capital market integration, investment, innovation, protection of intellectual property rights and secure trade were adopted.

The EU-US Financial Market Dialogue was established in 2002. The scope was to achieve common goals like the international equivalence and convergence of accounting standards, open and efficient markets as well as further integration. The Dialogue can help to take decisions about regulations. It involves the European Commission, the US Treasury Department, the US Securities and Exchange Commission, Federal Reserve Board of the US and representatives of EC’s internal market.

A significant role for the EU-US integration is played by the Transatlantic Economic Council (TEC) which was established at the 2007 EU-US summit<sup>544</sup>.

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<sup>544</sup> See Foreign Policy (2009), p. 8.

All these possibilities of cooperation are very important in order to take decisions and to deal with the crisis and to improve the optimality of the currency areas.

#### **6.6.6. G-20 Measures**

At the G-20 summit measures to stabilize the world financial system and to improve the international regulatory framework were discussed. The following action plan was decided “to (1) address weaknesses in accounting and disclosure standards for off-balance sheet vehicles; (2) ensure that credit rating agencies meet the highest standards and avoid conflicts of interest, provide greater disclosure to investors, and differentiate ratings for complex products; (3) ensure that firms maintain adequate capital, and set out strengthened capital requirements for banks’ structured credit and securitization activities; (4) develop enhanced guidance to strengthen banks’ risk management practices, and ensure that firms develop processes that look at whether they are accumulating too much risk; (5) establish processes whereby national supervisors who oversee globally active financial institutions meet together and share information; and (6) expand the Financial Stability Forum to include a broader membership of emerging economies”<sup>545</sup>.

#### **6.6.7. Purposes of Measures**

The measures aim at:

- restoring confidence. The measures taken include interest rate cuts, in some cases unprecedented measures to rescue financial institutions that are viewed as “too big” to fail, injections of capital, government takeovers of important financial institutions, guarantees of bank deposits and money market funds by governments and easing of mergers and acquisitions.
- increasing economic activity and coping with flight of capital from regions affected by the crisis. Financial packages have been provided by the IMF and others for Iceland (\$2.1 billion), Ukraine (\$16.5 billion), Hungary (\$25.1 billion) and Pakistan (\$7.6

billion). Some other countries confronted with major economic problems in the context of crisis are Belarus and other countries of the Former Soviet Union, Mexico, Argentina, South Korea, Indonesia, Spain and Italy<sup>546</sup>.

- changes in the financial system to reduce risk and prevent future crises. Long-term solutions against financial crises are searched. Thus, meetings as the Bretton Woods II. and the G-20 leaders Summit on Financial Markets and the World Economy on November 15 2008, in Washington DC took place. In the US, some problematic aspects that have been identified and against which measures are planned include: “weaknesses in fundamental underwriting principles; the build-up of massive risk concentrations in firms; the originate-to-distribute model of mortgage lending; insufficient bank liquidity and capital buffers; no overall regulatory structure for banks, brokerages, insurance, and futures; lack of regulatory ties between macroeconomic variables and prudential oversight, and how financial rescue packages should be structured”<sup>547</sup>. Questions that occurred were, for example, whether countries should agree to cede authority to an “international watchdog” and regulatory agency, as well as whether more “Europeanized” (i.e. in accord with Europe’s practices) financial markets should exist<sup>548</sup>.
- dealing with political and social effects of the financial turmoil. The financial crisis shows that along with the US, major European leaders play an instrumental role in handling the crises and the importance of non-industrialized nations in dealing with global issues is also increasing<sup>549</sup>.

Apart from the aforementioned aspects, the financial crisis poses additional effects that need to be considered. The financial crisis occurs in the context of global food shortages. In developing countries the economic situation worsens and it is expected that the demand for economic and humanitarian assistance will increase further. However, the ability of the US to provide funding for aid and other programs decreases because of lower government revenues and the extremely high costs for rescue packages. Thus, the US will also lose some of its

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<sup>545</sup> See Nanto et al. (2008), p. 1.

<sup>546</sup> See Nanto et al (2008), p. 3.

<sup>547</sup> See Nanto et al (2008), p. 4.

<sup>548</sup> See Nanto et al (2008), p. 4.

<sup>549</sup> See Nanto et al (2008), p. 5.

influence regarding the requests for human and labor rights, product safety as well as other issues towards some countries. Russia, Mexico, Venezuela and other oil exporting countries will have less financing possibilities because of decreasing oil prices. Prices for commodities (e.g. beef, rice, coffee, tea) of exporters from Africa, Latin America and Asia also decrease<sup>550</sup>. Security problems in countries like Yemen and Pakistan could also increase in the context of economic problems and with lower funds available to deal with these issues<sup>551</sup>.

### **6.7. *Expectations of Further Developments***

Many bubbles exist and have only begun to burst. Vulnerabilities of financial markets include: a credit crunch that will get worse, deleveraging because hedge funds for example have to sell assets into illiquid and distressed markets thus determining falls in asset prices and margin calls, as well as the financial crisis in emerging-market economies. It is probable that the US contraction will last about 24 month. The stagnation in the US could be even longer, similar the one experienced by Japan in the 1990s. A recession of the entire global economy can be expected as a result of the US economy shrinkage. In Europe, Canada and Japan as well as in emerging markets that are connected through trade in goods, finance and currency with the developed countries, the crisis will be severe<sup>552</sup>. In these circumstances, the annual growth in China could even fall from 12 to 6 percent per year and in Brazil and South Korea the growth could drop below 3 percent per year. Ecuador, Hungary, Latvia, Pakistan and Ukraine are the most vulnerable countries and they need significant external financing.

The credit excesses that determined the crisis were global. Bubbles that exist in different countries regard not only housing but also commercial real estate mortgages and loans, credit cards, auto loans and student loans. Securitized products converted such loans into problematic financial instruments. Bubbles also occurred in local government borrowing, leveraged buyouts, hedge funds, commercial and industrial loans, corporate bonds, commodities and credit-default swaps, leading to “a dangerous unregulated market wherein up to \$60 trillion of nominal protection was sold against an outstanding stock of corporate

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<sup>550</sup> See Nanto et al (2008), p. 5.

<sup>551</sup> See Nanto et al (2008), p. 6.

<sup>552</sup> See Roubini (2009), p. 63.

bonds of just \$6 trillion”<sup>553</sup>. It is the biggest asset and credit bubble that occurred in human history. Credit losses could be \$2 trillion<sup>554</sup>.

2009 could become the first truly global recession in modern economy. The US asset-dependent growth resulted especially from homebuilding activity and personal consumption. Both sectors accounted for nearly 80 percent of US GDP. Asian economies were driven by export bubbles and had an influence upon the consumption bubble in the US. Countries such as China wanted to maintain cheap currencies and thus kept significant amounts of dollar-based assets. As a consequence, the interest rates in the US could be maintained low and credit bubbles occurred. In countries such as states in the oil-dependent Middle East, Australia, Canada, Brazil, Russia and Africa, bubble-distorted commodity prices exist. A reason for the world wide spread of the crisis is thus given by globalization which increased during the last years in the form of trade, information and labor flows<sup>555</sup>.

Another important reason for financial problems is given by Europe’s exposure to risky, emerging-market trade debt, which is six times larger than its exposure to US subprime mortgages. In Britain for example the exposure dwarfs the country’s GDP. The problem in developing economies is that they are very much export dependent and have built excess savings. However, during crises, the demand for those products decreases. In Austria the emerging market financial exposure of banks is over \$290 billion, while the GDP of the country is \$370 billion<sup>556</sup>.

Leading international banks that operate in Central and Eastern Europe try to convince governments, the EU and the ECB to adopt anti-crisis policies in the region. Measures to ease liquidity shortages and assistance in reviving lending are necessary. The Group of these leading international banks considers that support should be assured not only to new member states like Poland, but also to Serbia, Bosnia and even Ukraine. The group was brought to life by the chief executive of the Austrian bank Raiffeisen International.

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<sup>553</sup> See Roubini (2009), p. 64.

<sup>554</sup> See Roubini (2009), p. 64.

<sup>555</sup> See Roach (2009), p. 65.

<sup>556</sup> See Smick (2009), p. 67.

The economic outlook is darkening in EU states as well as in countries that are not EU members. According to a forecast of the European Commission, EU economic output is expected to decline by 1.8 percent in 2009.

The EU and the IMF already played a significant role regarding emergency financial packages in Eastern Europe. The ECB gave extended support to Hungary and Poland and the EU plays a significant role in Latvia's bailout<sup>557</sup>.

Home prices could remain low for a few years before they increase again. In the US, housing prices are nearly back down to the 1990s levels in some cities<sup>558</sup>.

Another bubble is the dollar bubble. Since the late 1990s the dollar has been significantly overvalued and led to a US trade deficit of almost 6 percent of the GDP in 2006. Eventually, the dollar could be forced to fall to levels that permit trade close to balance. However, because of the crisis there is a higher demand for dollars that are considered safe and thus the currency value increases, so trade deficit will probably rise during the recession. Higher import prices and a reduced standard of living as well as higher interest rates in order to avoid inflation could occur in the US. Defaults on prime loans, car loans, credit card debt and other forms of consumer debt can be expected as people possess less money<sup>559</sup>.

## **6.8. Conclusions**

The financial and economic crash that occurred in 2008 was the worst in 75 years. "This damage has put the American model of free-market capitalism under a cloud. The financial system is seen as having collapsed; and the regulatory framework, as having spectacularly failed to curb wide-spread abuses and corruption. Now, searching for stability, the US government and some European governments have nationalized their financial sectors to a degree that contradicts the tenets of modern capitalism"<sup>560</sup>. "For decades, much of the United

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<sup>557</sup> See Financial Times (2009), [http://www.ft.com/cms/s/0/9830fa0c-e809-11dd-b2a5-0000779fd2ac.html?ncklick\\_check=1](http://www.ft.com/cms/s/0/9830fa0c-e809-11dd-b2a5-0000779fd2ac.html?ncklick_check=1).

<sup>558</sup> See Shiller (2009), p. 67.

<sup>559</sup> See Baker (2009), p. 68.

<sup>560</sup> See Altman (2009), p. 2.



States' influence and soft power reflected the intellectual strength of the Anglo-Saxon brand of market-based capitalism"<sup>561</sup>, but in the context of the present crisis the role of the state will increase and that of the private sector will become smaller<sup>562</sup>.

The international influence of China could increase because of the crisis. The country is the strongest regarding liquidities, with foreign exchange reserves of about \$2 trillion. Its financial system is not exposed and the country's growth rate is strong even though diminished because of the crisis. Its shareholding position in the IMF could also increase<sup>563</sup>.

Regarding European countries, the impact of the 2008 financial crisis would have been significantly more negative without the EU and EMU. Because of the euro, economic stability in countries belonging to EMU could be increased. The average inflation was two percent per year and the average nominal interest rate nine percent during the first EMU decade. Since 1999, 16 million jobs have been created in EMU. In 2008, the unemployment rate represented about seven percent, which was the lowest rate in 15 years. The situation of public finances improved significantly. The average public budget deficit was 0.6 percent of GDP in 2007. The economic and financial integration increased. Internal EU trade accounts for one-third of GDP. Private and public investment is 22 percent of EMU GDP. Transaction costs were eliminated because of the adoption of the euro. The common currency euro is the second most important world currency and has overtaken the US dollar in the international bond market.

With its strong economic situation, the EU had the possibility to respond to the current global financial crisis rapidly. A rescue plan was decided which permits governments to guarantee interbank lending, provide short-term liquidity and buy into banks in order to increase their liquidity. Measures were taken to restore confidence and increase stability. Other significant measures regard the improvement of regulation, as recommended through the 2007 Economic and Financial Roadmap. New regulatory and supervisory rules for financial markets (banks,

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<sup>561</sup> See Altman (2009), p. 1.

<sup>562</sup> See Altman (2009), p. 2.

<sup>563</sup> See Altman (2009), p. 3.

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other lenders, hedge funds, private equity) are expected. Economic reforms in order to increase the optimality of the EMU will continue<sup>564</sup>.

Aspects that hindered even more negative consequences of the crisis for EMU were the monetary policy of the ECB, the Lisbon Strategy for Growth and Jobs and the Stability and Growth Pact<sup>565</sup>.

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<sup>564</sup> See Foreign Policy (2009), p. 1.

<sup>565</sup> See Foreign Policy (2009), p. 4.

## 7. Opinions

In this chapter different opinions are presented regarding the question whether EMU is an optimum currency area. The aim is to illustrate different views regarding the question analyzed in this paper, which shows that there is no real consensus concerning the matter.

J. E. Meade (1957) supported the view according to which flexible exchange rates would be more effective than a common currency in Europe because of the lack of labor mobility<sup>566</sup>.

Scitovsky (1958) thought that a common currency should be supported because it would lead to a greater degree of capital mobility. Further steps are, however, necessary in order to achieve higher labor mobility<sup>567</sup>.

De Grauwe writes that, "...from an economic point of view, a monetary union involving all EC member countries is a bad idea. The economic costs of a monetary union are likely to be larger than the benefits for a significant number of countries"<sup>568</sup>. His argument is that the EMU countries cannot use the exchange rates as instruments of stabilization policies. Opinions against this point of view are that the exchange rate policies do not help against real monetary shocks, and the fact that the flexibility of prices and wages will increase within the EMU<sup>569</sup>.

The reason for taking the risk and setting up EMU, through the Maastricht Treaty of 1991, was politics. According to Martin Feldstein, who is a critic of the single currency, "political leaders in Europe seem to be prepared to ignore these adverse consequences because they see EMU as a way of furthering the political agenda of a federalist European political union... The adverse economic effects of EMU and the broader political disagreements will nevertheless induce some countries to ask whether they have made a mistake in joining. Although a sovereign country could in principle withdraw from the EMU, the potential trade sanctions and other pressures on such a country are likely to make membership in EMU

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<sup>566</sup> See Meade (1957), quoted in Mundell (1961), p. 661.

<sup>567</sup> See Scitovsky (1958), quoted in Mundell (1961), p. 661.

<sup>568</sup> See De Grauwe (1994), p. 87.

<sup>569</sup> See Tomann, H. (2007), p. 19.

irreversible unless there is widespread economic dislocation in Europe or, more generally, a collapse of peaceful coexistence within Europe<sup>570</sup>.” According to this point of view, EMU is not justified from an economic perspective. In order to be able to survive, major steps towards a federal Europe are required, e.g. a common defense and common foreign policies, the harmonization of taxation and labor market regulations.

Another important view on this issue is expressed by Baldwin and Wyplosz: “We have reached two important conclusions. First, Europe is not exactly an optimum currency area; it does well on some but not all of the criteria. Second it is not just labor mobility that is insufficient but, more generally, the labor markets that display significant rigidity, especially in the large countries. In these countries, the monetary union may worsen an already painful situation of high unemployment<sup>571</sup>.”

According to Baldwin and Wyplosz the main reason for EMU was to bring wars in Europe to an end and to strengthen peace<sup>572</sup>. The negotiators of the Maastricht Treaty did not concentrate on OCA theory. They intended to preserve the exchange rate stability in the context of full capital movement liberalization, to have a strong new currency, and an independent central bank. Now, the authorities rediscover more and more the importance of OCA theory<sup>573</sup>. The following question can be put: “Does the existence of the monetary union make Europe increasingly an optimum currency area? One view is that the OCA criteria are endogenous, that they will be increasingly fulfilled over time as citizens and governments learn to live with a common currency.” However, the integration in Europe is significantly lower than in the USA<sup>574</sup>.

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<sup>570</sup> See Feldstein (1997), p. 41-2.

<sup>571</sup> See Baldwin, R., Wyplosz, Ch. (2006), p. 370.

<sup>572</sup> See Baldwin, R., Wyplosz, Ch. (2006), p. 370.

<sup>573</sup> See Baldwin, R., Wyplosz, Ch. (2006), p. 371.

<sup>574</sup> See Baldwin, Wyplosz (2006), p. 367.

## 8. Summary and Concluding Remarks

The main question analyzed in this thesis is whether the EMU is an optimum currency area. A currency area can be described “as a domain within which exchange rates are fixed”<sup>575</sup>. According to Mundell, who won the Nobel Prize in part for having created the OCA theory and whose views are presented in detail, a monetary union is optimal when the factors of production, capital and labor are fully mobile. An optimum currency area means that giving up the exchange rates between participating member states is justified<sup>576</sup>.

In order to answer the question regarding the optimality of EMU, the following aspects have been presented in detail: Firstly, a description has been given regarding the current and the historical situation in EMU. Secondly, the OCA theory has been presented and depicted graphically, especially the views of Mundell, Krugman/Obstfeld and Baldwin/Wyplosz. Thirdly, the OCA criteria have been described as well as their fulfillment in the EMU. The relevant OCA properties analyzed in this paper include labor and capital mobility, price and wage flexibility, financial market integration, product diversification, economic openness, similarities of inflation rates, fiscal and political integration and homogeneous preferences. Fourthly, the Maastricht criteria, which are necessary premises for the EMU accession, have been presented, as well as the question whether it is optimal to impose these conditions for euro zone membership. At the end, significant opinions of economists have been shown regarding the question whether the adoption of the common currency euro is optimal.

It can be observed that significant positive aspects of the EMU consist in the permanent steps that are taken in order to increase the economic and monetary cooperation between EMU member countries as well as to improve the fulfillment of the OCA criteria in this currency area. Some relevant measures are aimed at increasing freedom of payment and capital movements, the removal of capital controls as well as the reduction of monetary independence. Problematic facts can, however, derive from the high number of EMU member countries and from the differences between them, determining for example a longer period for decision taking. Especially rigidities in the labor markets represent a problem in EMU.

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<sup>575</sup> See Baldwin, Wyplosz (2006), p. 367.

<sup>576</sup> See Baldwin, Wyplosz (2006), p. 351.

The OCA theory has been the subject of studies performed by important economists, including Kruman/Obstfeld and Mundell. A very important conclusion of the description of the OCA theory, made by Krugman/Obstfeld, is that a currency area is optimal when the output and employment instability after joining is lower than the efficiency gain<sup>577</sup>. In another renowned analysis of OCA theory, Mundell concludes that the EMU fulfills some of the criteria of the OCA theory (e.g. capital mobility) more than others (e.g. labor mobility)<sup>578</sup>.

The analysis of the OCA criteria mentioned in this paper shows that some of them are fulfilled in EMU (e.g. capital mobility, financial market integration, product diversification, trade openness, similarities of inflation rates), others are only partly satisfied (e.g. homogeneity of preferences) and others are rather not fulfilled (e.g. labor mobility, price and wage flexibility, fiscal transfers, political integration). The conclusion of the analysis is that although there is significant progress necessary in order to increase the optimality of the currency area (e.g. regarding the labor market) the adoption of the euro had positive effect and made for a higher degree of fulfillment of the OCA criteria. Some of the possible measures that could be recommended, in order to have a more optimal euro zone, are: a common European stock market<sup>579</sup> to increase the financial market integration and an EMU wide supervision of the banking sector<sup>580</sup>; measures towards a more efficient communication (e.g. dealing with the challenges imposed by the numerous different languages in the currency union); institutional improvements to determine a higher political integration<sup>581</sup>; a further and increasing economic and monetary cooperation between present participants and also with future EMU members.

Regarding the adoption of convergence criteria, some advantages are that: low inflation determines fiscal discipline, higher credibility of the disinflation goals of the European Central Bank (ECB) and a strong currency; a lower interest rate leads to higher investments and imports and to an economic recovery; a stable exchange rate is connected to price stability; the deficit and debt criteria should for example increase the capacity of EMU

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<sup>577</sup> See Krugman/Obstfeld (2006), p. 563.

<sup>578</sup> See Mundell (1961), p. 661.

<sup>579</sup> See Aehling (2000), p. 27.

<sup>580</sup> See De Grauwe (2005), p. 191.

<sup>581</sup> See Treaty of Lisbon (2007).

countries to react to adverse shocks. Disadvantages regard especially the fact that the convergence criteria are very strict and the restrictive fiscal policy can be very expensive. The analysis of the convergence between EMU member states shows that convergence is stronger between countries that joined the ERM from the beginning<sup>582</sup>. In the new EU member countries there is a tendency towards increasing convergence<sup>583</sup>.

The specific situation in some EU members (Romania and Bulgaria) as well as in candidate countries (Croatia and Turkey) has been also presented. The goals of these countries during the transition period include: “stabilization of inflation, control over budget deficit, price liberalization, adoption of a single exchange rate, current account convertibility, opening to trade and capital movements, building up banking and financial systems, establishing property rights, ending soft-budget constraints, setting up market-based welfare systems”<sup>584</sup>. The following common developments could be observed in these countries, also as a result of their intention to become EU and then EMU members: high economic growth because of investments and privatization; increasing wages and social transfers; a strong credit growth; higher consumer and economic confidence; increasing competitiveness; increasing discipline regarding the fulfillment of economic criteria like price stability; increasing optimality (significant steps that can lead to a higher fulfillment of the OCA properties are taken, for example by satisfying the Maastricht convergence criteria)<sup>585</sup>.

There are two important economic views regarding the issue whether it is optimal to impose the Maastricht convergence criteria as conditions for the accession to EMU: the representatives of the traditional Keynesian macro economy and of the OCA theory consider that the convergence criteria and the Stability and Growth Pact are too strict and very expensive, while representatives of economic policy and public choice share the opinion according to which the convergence criteria are significant in order to increase the credibility and to reduce the spill-over effects between different EMU countries<sup>586</sup>. The fact that countries do have to satisfy the Maastricht criteria before joining the EMU determines the

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<sup>582</sup> See Buseti, Forni, Harvey and Venditti (2006), p. 6.

<sup>583</sup> See Kocenda, Kutun and Yigit (2005), p. 1.

<sup>584</sup> See Wyplosz (2004), p. 7.

<sup>585</sup> See European Commission Economic Forecast (2007), p.4 ff.

<sup>586</sup> See Andrejovic (1998), p.2.

fulfillment of the OCA criterion of similarity of inflation rates even before the states become part of the currency union. The political conditions that must be achieved in order to become an EU member are essential and lead to an increased attainment of the OCA criterion of political integration. However, opinions regarding an EMU and EU breakup must also be considered. Eichengreen (2007) believes that “it is unlikely that one or more members of the euro area will leave in the next ten years and that the total disintegration of the euro area is more unlikely still”<sup>587</sup>.

The impact of the crisis 2008 on EMU represents another significant aspect. The financial crisis can pose challenges for currency areas like the US and EMU for example because of mistakes in financial market regulation. Other countries, especially China, whose financial sector is not so exposed to the present crisis, could increase in significance. Knowing the reasons and developments of the financial crisis can help to take measures in order to overcome its negative consequences as well as adequate preventive measures in the future. The crisis could lead to an improved design of the financial system in currency areas. Financial crises are also significant because they make Maastricht criteria more difficult to fulfill and can theoretically increase the danger of EMU breakup or weaken the currency area if adequate and coordinated measures are not adopted. The role of EMU institutions is therefore essential. It shows how important political integration is and how this OCA criterion can be improved despite the crisis (e.g. through increasing competences of EMU institutions in order to deal more efficiently with the crisis). Taking adequate measures is very important from different points of view: from a political (for example by increasing the optimality of the currency area through a higher acceptance by different states) but also from an economic perspective. This crisis could become even worse, for example because of the high amount of consumer loans that have to be paid by the population (i.e. possible defaults could occur in the context of increasing unemployment) as well as because of further bubbles (like the dollar bubble). However, the crisis should be seen as an opportunity to improve and strengthen EMU and EU and not to increase the possibility of a breakup of the currency area.

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<sup>587</sup> See Eichengreen (2007), p. 1.



The economic views regarding the question whether EMU is an OCA differ significantly. Some economists, e.g. J. E. Meade<sup>588</sup>, De Grauwe<sup>589</sup> and M. Feldstein<sup>590</sup> favor flexible exchange rates and not the euro because the OCA criteria are not fully fulfilled in EMU. Baldwin and Wyplosz<sup>591</sup> share the opinion that the EMU fulfills some of the OCA criteria, like trade openness and product diversification, while other factors like labor mobility and fiscal transfers are not fulfilled. According to these authors, the homogeneity of preferences is only partly fulfilled. Scitovski<sup>592</sup> supports a common European currency, for example because of higher capital mobility.

The conclusion is that although there still are important steps to be taken in order to increase the optimality of EMU, there are significant benefits from a common currency area that justify the adoption of the euro and the sustained efforts to improve the economic and monetary situation in EMU member countries.

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<sup>588</sup> See Meade (1957), quoted in Mundell (1961), p. 661.

<sup>589</sup> See De Grauwe (1994), quoted in Tomann (2007), p. 19.

<sup>590</sup> See Feldstein (1997), quoted in Baldwin/Wyplosz (2006), p. 370.

<sup>591</sup> See Baldwin/Wyplosz (2006), p. 367.

<sup>592</sup> See Scitovski (1958), quoted in Mundell (1961), p. 661.

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## Abstract

In this thesis aspects of the European Economic and Monetary Union are presented, especially from the perspective of the theory of optimum currency areas. Conflicting opinions regarding the criteria that have to be fulfilled in order to meet the requirements of an OCA as well as regarding the question whether EMU is an OCA are described. According to Mundell some of the criteria of the OCA theory (e.g. capital mobility) are fulfilled by EMU more than others (e.g. labor mobility). Eichengreen (2007) considered, however, that the total disintegration of the euro area is unlikely.

It also will be shown that the adoption of the euro contributed to a higher degree of fulfillment of the Optimum Currency Area criteria. The purpose of low inflation rates has been generally reached, in some cases even before the countries became members of the currency union given the requirements of the Maastricht Treaty. It is also shown that the convergence is strongest between countries that introduced the Exchange Rate Mechanism earlier.

Regarding the political conditions for EU membership, they are important from the perspective of the OCA theory because they contribute to an increased achievement of the OCA criterion of political integration. Finally, the impact of the crisis of 2008 is discussed. The conclusion is that the crisis should lead to measures that increase the optimality of EMU and EU and not determine a higher possibility of breakup of the currency area.

## Zusammenfassung

In dieser Arbeit werden Aspekte über die Europäische Währungsunion präsentiert, vor allem aus der Perspektive der Theorie Optimaler Währungsräume. Gegensätzliche Standpunkte über die Kriterien, welche erfüllt werden müssen, um die Anforderungen Optimaler Währungsräume zu erfüllen, sowie bezüglich der Frage ob die Europäische Währungsunion einen optimalen Währungsraum darstellt, werden beschrieben. Mundells Meinung ist, dass einige der Kriterien der Theorie Optimaler Währungsräume (wie zum Beispiel die Kapitalmobilität) mehr als andere (wie zum Beispiel die Arbeitsmobilität) erfüllt werden. Eichengreen (2007) schlußfolgert, dass die totale Desintegration der Eurozone unwahrscheinlich ist.

Es wird gezeigt, dass die Einführung des Euro zu einem höheren Grad der Erfüllung der Kriterien optimaler Währungsräume beigetragen hat. Das Ziel der Inflationsreduzierung wurde im allgemeinen erreicht, teilweise sogar vor dem Beitritt zur Währungsunion, aufgrund der Bestimmungen des Vertrages von Maastricht. Es wird ausserdem gezeigt, dass die Konvergenz am stärksten ist zwischen Ländern welche früher den Wechselkursmechanismus eingeführt haben.

Die politischen Bedingungen für eine EU Mitgliedschaft sind wichtig aus der Perspektive der Theorie optimaler Währungsräume, weil sie zu einer verbesserten Erfüllung des Kriteriums optimaler Währungsräume führt bezüglich der politischen Integration. Schließlich wird der Impakt der Krise 2008 diskutiert. Die Schlussfolgerung ist, dass die Krise zu Maßnahmen führen sollte, um die Optimalität der Europäischen Währungsunion und der EU zu steigern und nicht um eine höhere Wahrscheinlichkeit der Desintegration der Währungsunion zu bewirken.



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