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# MAGISTERARBEIT

Titel der Magisterarbeit

An Economic Evaluation of the Alert Mechanism Report

Verfasser

Hanno Lorenz, Bakk.rer.soc.oec.

angestrebter akademischer Grad

Magister der Sozial- und Wirtschaftswissenschaften  
(Mag.rer.soc.oec.)

Wien, 2013

Studienkennzahl lt. Studienblatt:  
Studienrichtung lt. Studienblatt:  
Betreuerin / Betreuer

A 066 913  
Magisterstudium Volkswirtschaftslehre  
Dr. Maria Antoinette Silgoner



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## 1. Introduction

In 1999, when the euro became the new currency of eleven European countries, enthusiasm related to a new European era was tremendous. Despite initial concerns by some politicians and economists regarding the formation of a monetary union, the euro area experienced a decade of persistent growth in production and exports. Wealth seemed to spread from the core countries to the periphery of Europe. Periods of military struggles and rivalries disappeared, coordinated common goals were introduced instead. Namely, EU strove to reduce poverty and take a leading role in stopping climate changes. However, euphoria was dampened when Europe was faced with the consequences of the global economic and financial crisis. Nowadays, the newspapers and the new media are filled with news about Member States of the Economic and Monetary Union (EMU) and their difficulties in overcoming rising deficits, unemployment combined with low or even negative growth rates in production. Problems including political riots in some of the Member States and changing leaders dominate the press. Youth unemployment rates are skyrocketing, the ECB's monetary policy seemed to leave its path of a stable currency as its primary goal but was required to send out growth stimulating signals. The success of the euro seemed to come to a sudden end. Critical voices are increasingly complaining about the structure of the EMU, its rigidities and the lack of insolvency rules for Member States. To some of them it was only a matter of time when the EMU would suffer from its inability to complete its initial structure and adjust to changes over time. As a consequence, rising imbalances across the EMU Member States emerged. They further lead to asymmetric perceptions of the crisis within the EMU. In the end, it seems like the euro divided Europe into losers and winners of a common currency. The periphery countries were not given enough support when adjusting to lower inflation rates, increasing international competitiveness and implementing a more flexible industry. Guidance necessary to adjust to the economic structures of the core countries of the euro area as well as the new centralized monetary policy would have been needed. Instead, the periphery countries were left on their own, while at the same time money access was granted, reducing the actual pressure to implement reforms.

In reaction to the new risks, the European leaders realized that the rules implemented in the Growth and Stability Pact (SGP) were not sufficient enough to ensure the well-functioning of the Union. Furthermore, a more sophisticated monitoring scheme would be necessary to overcome the risks of a diverging Europe. Among other efforts, the EU institutions addressed the macroeconomic imbalances as part of the 'six pack' in November 2011<sup>1</sup>, including an 'Alert Mechanism Report' (AMR) based on a scoreboard of 10 economic indicators and the Macroeconomic Imbalance

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1 Regulation (EU) No 1176/2011 and Regulation (EU) No 1174/2011 of the European Parliament and the Council of 16 November 2011 on the prevention and correction of macroeconomic imbalances and on enforcement measures to correct excessive macroeconomic imbalances in the euro area, respectively.

Procedure (MIP) in case of alert signals followed by a further in-depth analysis. The scoreboard indicators contain five external indicators tackling imbalances and competitiveness (Current Account Balance, Net International Investment Position, Real Effective Exchange Rate, Export Market Share, Unit Labor Costs) as well as five indicators for internal imbalances (House Price Index, Private Sector Debt, Private Sector Credit Flow, General Government Sector Debt, Unemployment Rate). Altogether, these reforms should bring further coordination of economic policies and thus strengthen the ability of the ECB to react more efficiently to market shocks. It will set incentives for a further business cycle synchronization, so that the single monetary policy of the Eurosystem can benefit most Member States. Despite the fact, that the AMR, especially regarding the selection of indicators and thresholds, displays a major improvement to monitor economic developments among EMU Member States and thus contains important information for a successful coordination of economic and political decision in Europe, it turns out that it still reveals some weaknesses and has the potential to improve further.

The paper will be conducted in three main parts. In Section 1, the theoretical background to the topic will be outlined. Problems regarding imbalances, their risks as well as the optimal currency area and the EMU implementation will be discussed. Section 2 of the paper turns to an empirical analysis of a selection of indicators regarding the euro area Member States. Convergence and divergence developments are displayed. Thereafter, the new tool of macroeconomic surveillance, the Alert Mechanism Report (AMR) is explained, its ability to anticipate imbalances is tested. Finally in Section 3, the AMR will be analyzed according to economic means, followed by a conclusion in Section 4.

## **2. Macroeconomic Imbalances**

To understand the importance of a monitoring framework for macroeconomic imbalances in the European Union, it is essential to understand the consequences these imbalances may cause in a monetary union. It is further necessary to recognize the mechanisms through which imbalances can arise, in order to efficiently assess them at their origin. This section will define the term of macroeconomic imbalances and describe some mechanisms how these imbalances evolve. The focus then will be shifted to the increased difficulty of adjustment and correction of imbalances within the construct of a monetary union.

While there is no clear definition accepted by all academics, the broadest understanding would be one of divergent patterns of macroeconomic measures such as GDP, inflation or the exchange rate. However, divergent developments are omnipresent in the economy and do not necessarily

contain any harmful implications for the society. Thus, a narrowing approach focusing on imbalances that jeopardize the well-functioning of the economy seems more practical. In that sense, a “macroeconomic imbalance is the (negative or positive) position of a domestic, external or financial variable that – if uncorrected over time – will make the national savings/investment balance so unstable that it self-corrects abruptly, thereby causing significant adjustment shocks domestically, and in the case of large economies also abroad”<sup>2</sup>. Imbalances, regarding the Alert Mechanism Report, are defined in Article 2 of the regulation on the prevention and correction of macroeconomic imbalances (*REGULATION (EU) No 1176/2011*).

In principle, macroeconomic imbalances not necessarily are a threat to the economy. In general they are adjustment processes to overcome differences in the economic structure between a number of trading countries. In that sense, they are not a specific characteristic of an economic crisis. Usual adjustment phases are short and stay unnoticed, while long periods of adjustments can emerge into global recessions. Often they sustain due to political quarrels about the correct response to the economic slowdown and misbehavior due to rent seeking activities in high risk assets by the private sector (speculative activities at the stock exchange or investments in assets driven by bubbles, Dot-com bubble in 2000 or recently the real estate sector). Keynes’<sup>3</sup> response to the 'Great Depression' in the 1930s was the first theory about instruments to smoothen or to solve such economic disrupts. In principle he claims that the state should intervene in markets such as commodity markets (adjusted for demand or output gaps), financial markets and liquidity traps and finally in the labor market to ensure steady and solid employment rates. However, as Keynes used a closed economy for his theory that was adopted by Mundell and Fleming<sup>4</sup> in the 1960s, he was opposed by the Austrian school of economics<sup>5</sup>, claiming that state intervention itself deters the well functioning of free markets. To their understanding, one mechanism of imbalance developments would be state distortion of efficient markets. Artificially driven demand on the one hand side and excessive monetary flows, on the other would lead to an inefficient allocation of capital, create bubbles, increase state indebtedness and ultimately build up imbalances.

In theory, there exist several economic mechanisms in which developments could ultimately lead into an imbalances economy. The most important of them will be briefly characterized in the following. In the first mechanism, imbalances may emerge in a situation where correction for existing imbalances has actually been tried. Exchange rate adjustments are often used to correct for imbalances towards international trading partners with the aim of a short term gain in competitiveness. In the long term, however, exchange rates off the equilibrium path distort the domestic pricing system. This development can lead to a decrease in national income, a drop in

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2 See Wieser, Thomas (2011): "Macroeconomic imbalances within the EU", Oesterreichische Nationalbank, Wien

3 See John Maynard Keynes (1936): “The General Theory of Employment, Interest and money”, MacMillan, London

4 See Mundell-Flemin model

5 See Hayek, Frierich (1929):"Geldtheorie und Konjunkturtheorie", Springer, Wien (1931)"Preise und Produktion ", Springer, Wien

domestic demand and ultimately in a recession for the country. The mechanism is even fostered if countries differ in product quality, company strategies<sup>6</sup>, unit labor costs (ULC) or productivity and will also fuel divergent economic developments as the source of imbalances lies outside the exchange rate. Further, Europe's tendency to protect certain industries – agricultural, energy and construction sector for instance – supports national firms which would be most likely not competitive under free market condition. However granting state projects to those firms deters the efficient flow of capital, raises government debt and contributes to the emergence of imbalances.

A second, less harmful imbalance would arise through a mechanism most often described as the 'catching up process'. For trading partners at a different level of economic development the lagging partner would catch up in economic performance. In order to achieve such developments its GDP would have to grow at a faster pace (or alternatively decrease at a lower pace) than the trading partners. In line with the theory of inter-temporal maximization countries that start with relatively low labor costs combined with a relatively low level of development attract investment – especially from foreign investors – as it promises higher returns due to higher productivity and growth rates. As a result the less developed country experiences higher demand and exhibits a position as net debtor, as investments build up. As a consequence, the developing country experiences higher levels of inflation and wage increases, leading to real appreciation and deterring their competitiveness position. As labor costs converge, imbalances in the trade sector and the net investment position are still present. As long as the capital flow and investments are stable, both countries would benefit from trade and enhance an increase in social welfare for both countries.

Especially in the case of a monetary union, there are several implications that would foster the emergence of imbalances. One possibility would be that Member States enter the union at a different stage of development and with significant industry differences. For instance some Member States used to use inflation to reduce public debt and their economy adjusted to high inflation rates, anticipating the pattern for instance through wage bargaining. Other Member States favored a stable currency and abandoned high inflation rates. At least one type of countries has to adjust to the new settings when entering a common monetary policy. Until it does so, there is the potential for imbalances as wage developments are likely to differ – employees of former relative high inflation rates would ask for a superior wage increase than employees of a country that experienced low inflation rates in recent years – and lead to divergent competitiveness positions as the different wage developments directly influence workers productivity and cost of production. Further, differences in the Member States' economy most probably translates into divergent developments, as different real interest rates emerge through diverse inflation rates among the

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<sup>6</sup> See Florin O. Bilbie & Fabio Ghironi & Marc J. Melitz, 2008. "Monopoly Power and Endogenous Product Variety: Distortions and Remedies", NBER Working Papers 14383, National Bureau of Economic Research, Inc.

EMU. Following the loss in competitiveness, imbalances regarding trade balances, unemployment and public debt could emerge. In addition, if Member States of a Union did not fully synchronize regarding their business cycle, centralized monetary policy would either harm certain Member States developments or be ineffective as it can assess the union only as a whole. Thus, low interest rates set by the central bank could lead to a domestic boom, overheating of the economy, followed by excessive spending and overoptimism regarding future developments. Imbalances would emerge and the monetary policy would exacerbate the situation. On the contrary, high interest rates could deter a Member States' growth performance being on the downswing of its business cycle. In both cases centralized monetary policy would be suboptimal for certain countries including the danger of widening the gap among Member States.

Turning the focus on euro area Member States, an often cited pattern is that of divergent tendencies in nominal unit labour costs. As they have a direct impact on the disposable income of employees in a Member State, divergent tendencies affect domestic and foreign demand of goods and services traded. Some countries encountered low or negative nominal unit labour cost growth rates – such as Germany, Austria and Finland - after the monetary unification, thus enacting a downward pressure on domestic demand. On the other hand, some Member States experienced significant increases in nominal unit labour cost – e.g. Ireland, Italy, the Netherlands, Portugal and Spain. As a result the latter countries did not only loose in terms of international competitiveness with respect to the former and increasing domestic demand for imported goods, but also enacting an upward pressure on demand as disposable income is increasing relative to the first group. In consequence, imports to the second group of countries increase, while their exports to the first group of countries decreases, resulting in a build up of current account imbalances within the EMU and a continuous flow of money from the developing countries to the developed ones. Further, the loss in competitiveness could result into an increasing unemployment rate. To maintain the consumption level of the households, the private sector would become increasingly indebted until the developments reverse.

After discussing the mechanism behind imbalances and the effects of a monetary union on the emergence of such, it is of high interest to determine the effects imbalances have on a monetary union. All economies in Europe have experienced rising and vanishing imbalances in the past, but the picture changed for many as they entered the EMU and transferred their sovereign monetary policy rights to the European Central Bank (ECB). Before that, imbalances such as current account imbalance could be corrected by exchange rate adjustments, thus depreciating the currency in case of substantial competitiveness losses, reducing the price of the exported goods in order to foster demand. China for instance has often criticized for using its monetary policy to keep the Renminbi exchange rate artificially low to create a competitive advantage for their exporting sector,



reducing the prices of their exports. Exchange rate fluctuations among the European countries were also common until the Exchange Rate Mechanism (ERM) limited the fluctuation by a fixed margin. The following implications outline the difficulties for member states of a monetary union once imbalances emerged.

First and most obvious, nominal exchange rate adjustments in response to imbalances cannot be applied anymore, thus different channels for adjustment have to be used. This implies that the economy has to be flexible enough to balance the developments through free market channels, for instance by labor mobility. Second, monetary tools cannot be used to smoothen the pain of adjustment. While price stability is the main goal, at least for the ECB, growth enhancing programs can only be expected if in line with that goal and also meaningful to the other member states. Third, forming monetary and economic ties in a union includes the risk of contagion. Member states are not only responsible for the functioning of their economy but also share the risk of other member states. Exhibiting severe economic problems will most likely translate into the common currency and thus affect the union as a whole.

As macroeconomic developments will be outlined and discussed as part of the empirical part of the paper, the next section turns to the theoretical background of a monetary union, including benefits and cost of an optimal currency area (OCA). Further, the EMU is analyzed, compared to the OCA criteria and its shortcomings discussed.

### **3. Monetary Union and Optimal Currency Area**

It is important for the analysis to review the incentives behind the implementation of the EMU. The framework of the EMU can be best understood by looking into the theoretical background of a monetary union and an optimal currency area (OCA). Based on the theory, the realization of the EMU can be studied and eventual shortcomings pointed out. Further it helps to display, why additional tools such as the AMR are necessary for a monetary union to function efficiently. In March 1979, eight years after the demise of the Bretton Woods System<sup>7</sup>, members of the European Economic Community (EEC) agreed on maintaining stable exchange rates to foster trade and economic performance in Europe. They formed the European Monetary System (EMS) in the first stage and introduced the European Exchange Rate Mechanism (ERM). Followed by the EMU in the second stage. The idea was to constrain exchange rate fluctuation in between European Countries<sup>8</sup>. The following sections outlines the main benefits and costs of fixed

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7 After the Great Depression and World War II, the system fixed currency exchange rates to the \$US, which was directly backed by gold. In the 1970s however, the USA faced severe trade deficits accompanied by rising costs from the Vietnam War. Known as the Nixon shock, the USA unilaterally terminated the gold convertibility in 1971.

8 According to David Ricardo the economy benefits from a stable currency; A currency, to be perfect, should be absolutely

exchange rate in a monetary union. Further, some requirements and pre-conditions for a successful monetary union are described according to the OCA criteria. The section closes with an analysis of the EMU, focusing on possible shortcomings in the implementation and associated risks.

### **3.1. Cost and Benefits of a Monetary Union**

In short, the main gains from forming a monetary union can be structured in the following categories, while there are direct effects and indirect effects via intensified trade.

#### Direct effects:

1. *Reduced transaction costs*
2. *Reduced uncertainty*
3. *Increase in transparency*
4. *Decline in refinancing cost*
5. *Seigniorage revenue*
6. *Political aspects*
7. *Increase in intra-union trade*

#### Indirect benefits via trade:

1. *Extension of trade market*
2. *Increase in labour mobility*

The main cost on the other hand can be subsumed by loss of national monetary policy and thus a widely used adjustment tool in the economy. In the following, the aspects are presented in more detail.

1. **Reduced transaction costs:** In a monetary union, companies engaged in international trade can reduce their cost of exports as they abolish currency exchange costs. This is especially important in industries, where transportation and transaction costs play a crucial role.

2. **Reduced uncertainty:** International contracts between companies are often at a medium term basis. Thus the potential profits of the companies engaged in international trade clearly depend on exchange rate fluctuations. A fixed exchange rate rules out the uncertainty regarding exchange rate fluctuations and simplifies companies' planning. Thus, at the end, the reduction of uncertainty increases producers' utility and enhances trade. Trade, on the other hand, benefits consumers as well and increases social welfare of the union.

3. **Increase in transparency:** Prices of goods and services denominated in the same currency

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invariable in value." Use of a standard commodity—objections to it considered – David Ricardo, *The Works and Correspondence of David Ricardo*, Vol. 4 Pamphlets and Papers 1815-1823 [1815]

increases the comparability across country borders. This will lead to increased competition from foreign firms within the monetary union. Increased competition is expected to reduce firms profit margins and increase consumer welfare.

**4. Decline in refinancing cost:** With the introduction of a common currency in a monetary union, together with intensified coordination, the risk of a countries default is assumed to reduce. This is due to the idea, that in order to maintain a common currency, member states would have to adopt certain rules and be disciplined by other members of the union. Thus, forming a union, interest rates for government bonds would be expected to decline, leading to a reduction in refinancing cost and an increase in the domestic welfare.

**5. Seigniorage revenue:** Seigniorage refers to the gains an institution (a central bank for instance) can make if their creation of a currency is at a cost that is below the currency's economic value. As a monetary union combines the economic power of its Member States, the new formed currency displays an increased importance in international trade. The more important the Member States are in economic terms, the more important the currency gets. Main trading partner have to store a significant amount of the currency to enable frictionless trade in different currencies. Further, less important currencies could use the new formed currency as an important anchor, for instance adapting their exchange rate to changes in that currency. The higher the demand for the currency and the stronger the underlying Member States, the higher is the seigniorage to be expected.

**6. Political aspects:** Next to the economic advantages, there are several political aspects that favour the formation of a monetary union. Obviously, the more powerful the Member States of the union are, the bigger its weight will be in negotiations with other unions or countries around the world. Further, as Member States seek the same goals, conflicts and military struggles between Member States will be ruled out, reducing risk of devastating rivalries among powerful Member States. Additionally, gains from economic coordination can be a result of a union. This includes development strategies for some regions, sectors or Member States of the union aiming at strengthening the union as a whole. Assistance for Member States facing upcoming difficulties by the other Member States could also strengthen the effectiveness of the union and fosters economic performance in the long-run and display a trend to widespread harmonization among member states.

**7. Increase in intra-union trade:** A common currency would most likely increase coordination and trade among member states of a monetary union. Reasons for this can be found in the precious aspects as reduced uncertainty regarding trade agreements, higher transparency and less transaction cost. Further, increase in trade would foster economic growth of the member states and lead ultimately to a synchronization of business cycles<sup>9</sup>.

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<sup>9</sup> See Rose, A. K. (2000): "One money, one market: The effect of common currencies on trade", *Economic Policy*, 30, pp. 9-45; (2004): "A meta-analysis of the effects of common currencies of international trade", NBER Working Paper No. 10373, Cambridge.

Given an increase in trade, also several indirect benefits from further trade agreements in the EMU emerge:

1. **Extension of trade market:** Abolished trade barriers lead to an extension of the market that can be appointed by firms. Producing for a larger demand market increases efficiency and profits by economies of scale. Additionally, the increased market creates new channels of distribution including raw materials, intermediate and final consumption goods. Cross-boarder demand also reduces the risk from demand shocks. As there exist certain differences in the countries industry structures, their response to certain external effects differ. Thus addressing a diversified demand market reduces the cost from specific shocks. Further, the European Union (EU) abolished quotas and tariffs. This enhances the international trade and is supposed to increase efficiency. Additionally, consumers are able to choose from an increased variety of goods leading to increased consumer welfare as well. Liberalization of markets for international competition is considered to increase efficiency as unprofitable firms become dominated by new market entrants. Hence, the monetary union will benefit not only the economies with strong export markets but also increase domestic market performance. On the other hand, competition is considered to reduce consumer prices and thus increases social welfare.

2. **Increased labour mobility:** The market extension also holds for the labour market in particular. Increased coordination in a monetary union enables specialized labour force to move more efficiently across borders of Member States to offer their service where they promise the highest returns. Thus, not only movements as a response to economic performance – sector or national economic crises – but also the 'supply' market of the specialized work force enhance economic performance.

At the same time, the most important cost associated with a monetary union is the loss in national monetary policy – determining the price of the currency on a national level – to adjust for economic imbalances. As long-term effects of those policies are rather ineffective, it turns out to be an efficient tool for the short-term. Benefits seem to dominate the costs of a monetary union by quantity in general, but this highly depends on the structure of the countries forming the union and is difficult to determine a priori, as it also depends on qualitative aspects. Benefits can be rather low, depending on the trade relations of its Member States, while costs can be tremendous if a country ignores imbalances or is unable to adjust them. In extreme cases costs could outweigh the benefits of a monetary union and make its formation undesirable.

The next part categorizes pre-conditions that have to be fulfilled in order to ensure the successful functioning of a monetary union. It describes the structures in which benefits are considered to be the highest, or those in which costs are expected to be the worst.

### **3.2. Theory of an Optimal Currency Area**

According to Mundell<sup>10</sup>, McKinnon<sup>11</sup> and Kenen<sup>12</sup>, an optimal currency area (OCA) is an area which can be characterized by numerous exchanges between economic agents in a single currency or irrevocable pegged several currencies, causing convergence<sup>13</sup> in economic cycles, growth rate, and just a few structural difference, as well as a highly flexible economy. To their understanding, benefits are positively correlated and costs minimized with the *degree of openness, trade links to other Member States, wage and price flexibility, labour mobility, product diversification and monetary stability between member states*<sup>14</sup>, as well as highly *synchronization of business cycles* between Member States.

This section will highlight the main criteria of the OCA. Either benefits from trade or the reduced necessity for exchange rate adjustment are the driving aspects in this category.

**1. Degree of openness and Trade links:** According to McKinnon, the degree of openness is the key characteristic to determine the optimality of an area for a single currency. Openness is defined as the share of exports and imports in relation to GDP. It is easily seen that benefits such as reduction of transaction costs and reduced uncertainty in exchange rate fluctuation are the higher the more a country enacts in international trade and faces conditions under which transaction cost and currency exchanges are present. However, there are secondary effects that are not immediately identified. Hence nominal exchange rate adjustments are quickly anticipated by price and wage developments and become increasingly inefficient as an adjustment channel. Further, the smaller the country is in total size, the more open it tends to be and the higher incentives are to engage in a monetary union. Similar to the characteristic of openness, a Member State profits the most from a common currency if it maintains sophisticated and intensive trade links to the other members of the union. Most benefits are depending on the degree of trade between the countries of that area. Thus, the higher their trade, the greater the benefits.

**2. Wage and price flexibility:** Flexibility in wages is an important element in adjustment procedures once exchange rate changes and monetary policies are relinquished on national levels. In order to stay competitiveness, wages have to be flexible enough to develop among productivity levels and most important competitors. If this is not the case harmful imbalances such as rising unemployment and negative trade balances may emerge. As prices have to be able to adopt to changing conditions, its flexibility can control for inflationary pressure. The Balassa-Samuelson

10 Mundell, Robert A. (1961): "A Theory of Optimum Currency Areas", American Economic Review, 51, pp. 509-17.

11 McKinnon, R. (1963): "Optimum Currency Areas", American Economic Review, 53, pp. 717-725.

12 Kenen, P.B. (1969): "The theory of optimum currency areas: An eclectic view", in Mundell and Swoboda: "Monetary problems of the international economy", Chicago Press

13 Endogeneity Hypothesis: P. De Grauwe, F. P. Mongelli: Endogeneities of OCAs, ECB Working Paper Series, No. 468, Frankfurt 2005.

14 A stable monetary union regarding inflation is desirable for all member states, as it supports the credibility of the currency and central bank leading to a favorable Phillips curve. On the contrary, from the sight of a single member state, the more unstable the previous situation, the greater the gain from joining the union.

effect is an example in which rigidity drives up wages above productivity levels in the non-tradable sector of the economy.

3. **Labour mobility:** Labour mobility is important to adjust for changes in the economy and to anticipate the most efficient allocation. In principle labour should not just be able to move from one industry to another industry, where it yields the highest returns, but also from one country to the other if its allocation is more efficient in the latter country. Mundell argues that the higher factor mobility the less necessary are exchange rate adjustments to correct for external imbalances. This is especially important, if wages are rather rigid and downward adjustments are limited.

4. **Product diversification:** The more an economy is specialized in a certain product, shocks in that sector will harm the whole country. Kenen mentions that it is optimal for countries in a monetary union to have a diversified industry in order to absorb sector specific shocks, because corrections to imbalances may be more difficult and adjustments may be delayed as a result of the formation of a monetary union.

5. **Monetary stability:** The Barro-Gorden<sup>15</sup> model illustrates the gains from low inflation rates. Central Banks monetary policies are considered more credible and its actions more efficient. According to Fleming<sup>16</sup> a similar inflation rate among possible candidates for a monetary union lead to relatively stable terms of trades. Thus economies will develop more likely around the equilibrium and current accounts are considerably balanced. Further, similar inflation rates enables the central bank to take efficient actions that are applied to all Member States. Further, fiscal transfers would be desirable as they can ease the pain in certain regions of the union and make reforms more effective.

7. **Business cycle synchronization:** Central monetary policy is increasingly efficient as it addresses more Member States directly. Thus, when Member States experience economic growth and recessions more similar, the central bank can appoint its policy best for the whole union and for every Member State. Hence, Mundell claimed business cycle synchronization as an additional characteristic of an OCA.

Additionally, Mintz<sup>17</sup> pointed to the importance of political will as main characteristic of a monetary union, namely political will to transfer some sovereign decisions to a common supranational framework. This does not only include centralized monetary policy at the ECB but also the European Court of Justice, the European Parliament and the European Commission.

On the other hand there are doubts that a fiscal federation could be implemented as dynamic as needed to react to short-term economic shocks. Centralized decisions seem to delay reactions while economic movements seem to increase in speed and fluctuation<sup>18</sup>. Empirical studies

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15 See Barro, R.J. and Gordon, D.B. (1983): "Rules, Discretion and Reputation of Monetary Policy", *Journal of Monetary Economics*.

16 See Fleming J.M. (1971): "On exchange rate unification", *The Economic Journal*, 81, pp. 476-488.

17 See Mintz, N.N. (1970): "Monetary union and economic integration", *The Bulletin*, 4/70, New York University Press.

18 See Goodhart Charles A. and Smith, Stephen(1993:417-455): "Stabilization", *European economy: Reports and studies*, The

additionally show<sup>19</sup>, that centralized fiscal decisions seem to address more likely redistribution effects, compensating regions losing from long-term disadvantages of their economic position, than stabilizing effects in times of recessions. A more general criticism is related to problems of asymmetric information, namely adverse selection and moral hazard<sup>20</sup>, as it is widely believed that less centralization reduces incentives and possibilities for those problems to arise.

As most likely not all criteria will be satisfied for a monetary union formation, it would be interesting which criteria were fulfilled when introducing the EMU. The next section addresses the structure of the EMU, an analysis of the OCA criteria is highlighted. Further, shortcomings in the implementation and the resulting risks are discussed.

### **3.3. The Economic and Monetary Union of the European Union**

The EMU is a framework existing not only of the 17 euro area Members but also of 10 Member States not using the euro as their currency. The Union is not a closed set and the structure differs significantly from that of its initial status. With new Member State entrants and changing economic circumstances, the EMU stays open to adjustments in their constitutional framework. There exist plenty of literature addressing the question of whether the EMU is an OCA. This subsection will try to give an overview which OCA criteria are fulfilled by the EMU. Thereafter an analysis of shortcomings in the implementation and resulting risks for the union is issued.

**1. Degree of openness and trade links:** Trade among European countries exists throughout history. Countries as Italy, the Netherlands, Portugal, Spain or the United Kingdom dominated world trade in different periods of time. Mongelli<sup>21</sup> determined in his work in 2002 that EMU openness ranges in between their Member States from as high as 150 per cent of GDP in Luxembourg to as low 40 per cent in Spain. Thus supporting a great degree of openness for many Member States, however benefits from trade seem to be distributed rather unevenly though. After the introduction of the EMU studies by Rose<sup>22</sup> state a tremendous increase in intra-European trade. Given the trade performance, there are clear signs that the trade links between EMU Member States are rather intense. Regarding trade and the degree of openness, the euro area

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economics of Community public finance

19 See Fatás, Antonio (1998:251-259): "Regional non-adjustment and fiscal policy", Economic policy: Special issue, Blackwell, London

20 See Schelkle, Waltraud (2005:149-169): "Understanding new forms of European integration", Routledge, London; Hagen, Jürgen von and Wyplosz, Charles (2008): "EMU's decentralized system of fiscal policy", European economy: Economic papers, Brussels

21 See Mongelli, F.P. (2002): "'New' views on the optimum currency area theory: What is EMU telling us?", European Central Bank Working Paper No. 138, Frankfurt.

22 See Rose, A. K. (2000): "One money, one market: The effect of common currencies on trade", Economic Policy, 30, pp. 9-45; (2004): "A meta-analysis of the effects of common currencies of international trade", NBER Working Paper No. 10373, Cambridge.

seems to be a good OCA candidate.

**2. Wage and price flexibility:** Europe is often criticized for their wage rigidity compared to the USA. According to Blanchard<sup>23</sup> rigidities are excessive in Europe due to highly organized labour unions and resulting wage bargaining agreements. Further, sophisticated unemployment insurance programs and unemployment protections deter wage rigidities. Especially downward rigidities including minimum wages are present to a large extent in many EMU Member States. Especially price and wage adjustments to economic shocks are significantly slower than in the USA<sup>24</sup>. Studies of the European Commission<sup>25</sup> point at the ongoing existence of state aid to certain sectors deterring fair market competition and retarding wage adjustments. According to Issing<sup>26</sup> the prevalent price rigidity in the EMU will be a significant threat to EMU stability at one point of time. Rigidities in price and wage developments on its own seem to rather oppose the euro area as an OCA candidate.

**3. Labour mobility:** Given the rigidities in prices, it would be important for the euro area to reveal a high mobility in the labour force as a correction channel for inefficient allocations. However, Studies by Eichengreen<sup>27</sup> and the OECD<sup>28</sup> rather point to lower labour migration in countries of the EMU compared to the USA. In particular, cross-boarder labour movements seems to be low in Germany and the United Kingdom<sup>29</sup>. Labour movements in response to sector specific shocks are relatively low in the euro area as cross-country migration is rather motivated by different factors than economic shocks<sup>30</sup>. Overall, price and labour flexibility shows rather low ability to correct for imbalances and display possible problems of a central monetary policy.

**4. Product diversification and business cycle synchronization:** Different to the previous criteria, product diversification is high among most euro area countries. Studies by Bini-Smaghi and Vori<sup>31</sup>, as well as Krugman<sup>32</sup> show that the EMU is less vulnerable to sector-specific shocks and is able to absorb those shocks rather well compared to the federal states of the USA. Previous to the introduction of the EMU, several studies<sup>33</sup> would suggest that euro area business cycles are weakly synchronized. This would suggest initially focusing only on the core set of countries –

23 See Blanchard, O. (1999): "European Unemployment: The role of shocks and institutions", Baffi Lecture, Rome

24 See Bini-Smaghi, L. and Vori, S. (1992): "Rating the EC as an optimal currency area: Is it worse than the US?", mimeo, Banca d'Italia, Rome.

25 See European Commission (1999): "The competition of European Industry", 1999 Report, Brussels.

26 See Issing, O. (2000): "Europe: Common money – political union?", Economic Affairs, 20(1).

27 See Eichengreen, B. (1993): "Labor markets and European monetary unification", in: "Policy issues in the operation of currency unions", Cambridge University Press, pp. 130-162, New York.

28 See OECD (1986): "Flexibility in the labour market", OECD, Paris

29 See Thomas, A. (1993): "Saving, investment, and the regional current account: An analysis of Canadian, British and German regions", IMF Working Paper No. 62, Washington

30 See OECD (1999): "EMU: Facts, challenges and Policies" OECD, Paris

31 See Bini-Smaghi, L. and Vori, S. (1992): "Rating the EC as an optimal currency area: Is it worse than the US?", mimeo, Banca d'Italia, Rome.

32 See Krugman, P. (1993): "Lessons of Massachusetts for EMU", in: "Adjustment and growth in the European Monetary Union", Cambridge University Press, pp. 231-261, New York

33 See Bayoumi, T. and Eichengreen, S. (1992): "Shocking aspects of the European Monetary Unification", NBER Working Paper No. 3949, Cambridge;

(1996): "Ever closer to heaven? An optimum-currency-area index for European Countries", European Economic Review, 41;

Demertzis, M. et al. (2000): "Is the European Union a natural currency area, or is it held together by policymakers?",

Weltwirtschaftliches Archiv, 136(4).



Austria, Belgium, Denmark, France, Germany and the Netherlands – as these countries fulfill most OCA criteria. However, more recent studies<sup>34</sup> suggest a steady convergence of business cycles since. Overall it stays unclear whether business cycles have converged sufficiently enough to avoid endangering developments.

### **3.4. Endogeneity versus Specialization Hypothesis**

According to the endogeneity hypothesis, for member states of a monetary union it is not essential to fulfill the OCA criteria a priori because market mechanisms, after introducing a common currency would restructure the member states in a way, that the countries would form an OCA ex ante. To their understanding, the benefits from abolishing exchange rate fluctuation would fuel the process of economic integration. The integration process on the other hand would foster intra-European and intra-industry trade. This would hamper specialization trends and diversify national production, thus making a country less affected by sector-specific shocks and reducing contagion risk. As a result, business cycles would start to synchronize among members of the union. In the end, not only benefits are increasing with these developments, but also having a synchronized business cycle reduces the cost of lost monetary policy. The loss of exchange rate adjustments and revaluations among member states would not be needed anymore. In that sight, the monetary union could be extended from the core states too an even wider set of countries. During 2007 and 2011 this idea was put into practice during euro area enlargements of Slovenia, Cyprus and Malta, the Slovak Republic and Estonia<sup>35</sup>.

The idea, that the introduction of a monetary union itself reduces the risk of asymmetric shocks among member states and fosters trade and economic performance was opposed most prominently by Paul Krugman<sup>36</sup> and his theory of specialization. He argues in sight of Ricardo's<sup>37</sup> trade theory and competitive advantages due to product specialization that countries would benefit from an extension of the demand market the most by specializing and using economies of scale. In response, production structures would rather diverge than converge and the possibility of asymmetric shocks would increase. In that scenario, the loss of exchange rate revaluations to adjust for imbalances would be rather costly. However, recent developments show the increasing importance of services for production in developed economies. Especially in the case of service,

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34 See Mounfield, C. and Ormerod, P. (2001): "The convergence of European business cycles 1978- 2000", Cornell University, New York;

Massmann, M. and Mitchell, J. (2003): "Reconsidering the Evidence: Are Eurozone Business Cycles Converging?" NIESR Discussion Paper No. 210, London;

Crespo-Cuaresma, J. and Fernandez-Amador, O. (2010): "Business cycle convergence in EMU: A second look at the second moment", University of Salzburg Working Papers in Economics and Finance 2010/13, Salzburg.

35 All countries fulfilled the entrance criteria of the European Commission, however not necessarily the OCA criteria.

36 See Krugman, P. (1993): "Lessons of Massachusetts for EMU", in: "Adjustment and growth in the European Monetary Union", Cambridge University Press, pp. 231-261, New York

37 See Ricardo, D. (1817): "On the Principles of Political Economy and Taxation", London

the gain in economies of scale diminishes, contradicting Krugman's hypothesis. Further, studies show that European business cycles have rather converged since the implementation of trade agreements and especially during the 1980s and 1990s<sup>38</sup>. Additionally, data on the USA<sup>39</sup> suggest a positive impact of trade relations on business cycle synchronization and thus supporting the endogeneity hypothesis.

In the perspective that convergence would emerge automatically, the euro area Member States agreed to a set of rules to minimize the costs of maintaining the union. Member States and new entrants would have to fulfill certain criteria different to the ones postulated in the OCA theory, formulated in the Treaty of Maastricht in 1992. The treaty contains of convergence criteria in inflation – not exceeding 1.5 percentage points of inflation in the three best performing countries in the EU – and long-term interest rate – not exceeding 2 percentage points of that of the best three performing countries in terms of inflation. Additionally, budget sustainability was ensured by rules including that the running deficit shall not exceed 3% of GDP and total government debt shall be kept below 60% of GDP. The debt criteria also added to the credibility of the central bank, as it lowers the risk for unexpected inflation to finance the public sector. Further, the Stability and Growth Pact (SGP) was supposed to protect the central bank from Member States' influence to act rather in their favour than in the interest of the EMU. In sum, the Maastricht criteria function as criteria for the Member States inside the EMU, protect their interest and ensure a well-functioning, while the OCA criteria were selected to determine optimality conditions for a monetary union from the outside view of the union.

### **3.5. EMU implementation**

Next to the fact that the EMU did not accomplish all OCA criteria to the full extent, as discussed previously, the implementation of the EMU as such reveals some shortcomings.

Balassa<sup>40</sup> categorized the unification process into five different stages of integration:

At the first level, there is a free trade area where tariffs and quotas on commodities have been abolished. At the second level coordinated trade restrictions of members are set for common standards towards the rest of the world. At the third level, a common free market for capital and labor without any restraints is formed. At the fourth level, a coordination of economic policies take

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38 See Hochreiter, E. and Winkler, G. (1995): "The advantage of trying Austria's hands: The success of the hard currency strategy", *European Journal of Political Economy*, 11.

Fatás, A. (1997): "EMU countries or regions?", *European Economic Review*, 41.

Firduc, J. (2004): "The endogeneity of optimum currency area criteria and intra-industry trade: Implications of EMU enlargement", *Contemporary Economic Policy*, 22

39 See for example Fiess, N.M. (2005): "Business Cycle Synchronization and Regional Integration: A Case Study for Central America", *World Bank Policy Research Paper No. 3584*, Washington

40 Bela Balassa (1961): "The Theory of Economic Integration", *George Allen & Unwin Ltd.*, London

place. Finally at the last level, a fully fledged union incorporates unified monetary, fiscal and social policies, controlled by supranational institutions. The EMU would be classified at an advanced stage of the fourth level with supranational monetary policy (Article 8 TEC<sup>41</sup>) and economic policies at a national level (Article 98 TEC). To reach the full benefits from the euro however, it is widely accepted<sup>42</sup> that further steps towards a fully fledged union have to be undertaken.

First, the EMU is not considered to be a fully fledged monetary union. Central Bank policies can be counteracted at the national level by opposing fiscal tools. That way, the centralized monetary policy loses its efficiency power and also suffers from a loss in credibility<sup>43</sup>. “In the Eurozone, as it is widely known, economic policies implemented by supranational authorities coexist with others that remain in the hands of national governments (fiscal policy, wage determination and structural and employment policies)” (González et al., 2011). Member States are not only coping with their own policy decisions with prior objectives of own national interests but also have to take into account the actions of other Members and may need to react to those. While synergy and spill-over effects could be used more efficiently, there seems to be no easy way to prevent the decisions of national governments leading into a sum of unsatisfactory results for the EU as a whole (see Begg, 2012).

Further, not all European countries of the EMU did in the end join the Monetary Union. Therefore, bargaining power is weak as many measures have to be introduced by the whole EU in order to function efficiently. However, countries outside the euro area still often follow rather national interests instead of a whole European perspective. Instead of an area where member states discuss policies to improve the area as a whole, national interests are still the center of discussion. Policy meetings turn out to be rather an auction in which national advantages are granted to all members until an agreement can be signed. That it not neither fosters European thinking nor European convergence of and in its Member States.

Second, an important tool in smoothing adjustments is that of transfer payments. In such a mechanism, areas lagging behind or temporarily suffering from developments are supported by other strong areas. Such a social redistribution system are partly in place in Germany (west to east) or Italy (north to south), however such mechanism is unrealistic to be implemented on a European level, as long as tax income are national state properties. So far politicians in the Member States were not able to form a popular opinion of equalizing payments across country borders. Moreover, studies on the 'Mezzogiorno Problem' point to difficulties of areas catching up, even when getting supportive payments. As payments reduce reform pressure and partly shadow

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41 Treaty Establishing the European Community

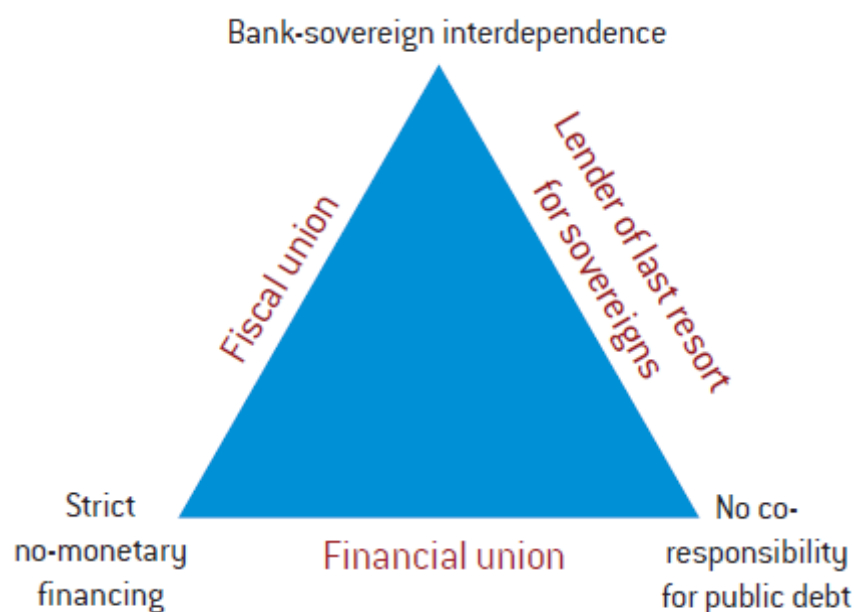
42 See for instance Mitrany, David (1943): "A working peace system", Royal Institute of International Affairs, London"

43 See Dermont Hodson and Imelda Maher (2002): "Economic and monetary union: balancing credibility and legitimacy in an asymmetric policy mix", *Journal of European Public Policy*, 9:3, 391 – 407

existing problems, it is not absolutely clear whether such payment mechanism would be truly beneficial.

Third, the framework of the ECB as a supranational institution, controlling the monetary policy and the euro area as a whole has led to a new trilemma. Based on the initial impossible trinity of Mundel's trilemma in the 1980s, concerns of a new impossibility trinity within the euro area are rising.

The New Impossible Trinity:



Source: Bruegel.

According to Pisani-Ferry<sup>44</sup>, the euro area suffers from its framework, such that it is impossible to maintain the three principles of *independent bank sovereignty* of its Member States, *no co-responsibility of public debt* for the Union or its Member States, and finally, *no monetary financing* of public debt by its central banks. Problems arising from the sovereign independence of the banking sector are due to a lack of supranational surveillance of the banking system despite the highly integrated monetary and capital markets in the euro area. As banks carry out contagion risk from one Member State to the other, a European monitoring<sup>45</sup> scheme would be more feasible as the current crisis has shown. Further, as the banking sector holds a significant amount of the public debt outstanding, the debt is not diversified against the risk of a sovereign default. "Bank holdings of government securities would not represent a risk if they were diversified, but in fact they are heavily biased towards the sovereign" (Pisani-Ferry, 2012). The second aspect of monetary financing results from Article 123 TFEU in which it is forbidden for the central banks to finance

44 Pisani-Ferry, Jean (2012): "The Euro Crisis And The New Impossible Trinity", Bruegel Policy Contribution 2012/01

45 In response to the crisis in the euro area, reforms regarding the banking sector in the EU and especially in the euro area are under permanent discussion and expected to be implemented – for instance the banking union.

the public debt of Member States. As the ECB can whatsoever purchase debt titles via the secondary market, this however displays a problem to a Member State in the Union which cannot access the market anymore to finance itself. Without sovereign monetary policy power, it could eventually become illiquid. This leads to the last problem concerning the co-responsibility of the Union or its Member States to sovereign debt. As the 'no bail-out clause' prohibits assistance to a Member State financing its expenditures, the initial framework did not consider the extreme differences in refinancing cost at the market<sup>46</sup>.

Fourthly, Member States of the EMU were approaching the Union with different economic systems. Industry structures, debt levels and inflation differed largely. Although, after the Treaty of Maastricht convergence in many economic indicators was observable, the question is whether the convergence was rather a short-term and cyclical development or whether it was a permanent adjustment. As Mundell and others predicted, the EMU is heavily struggling while facing asymmetric movements within its member states. In that sight, political leaders such as Valéry Giscard d'Estaing and Helmut Schmidt<sup>47</sup> emphasized their will to push the European integration to the next level. A detailed analysis regarding convergence towards euro introduction and macroeconomic divergence after it will be discussed in the next chapter.

Finally, besides economic means, the EMU was significantly influenced by political goals. “[T]he actual EMU was an unstable compromise between two coherent views – the German position that currency union should be postponed until a great deal of integration and economic convergence had been achieved and the French view that immediate monetary union should be accompanied by the establishment of a European economic government.<sup>48</sup> The unworkable outcome was immediate union without complementary institutions” (Grahl 2012). In that sense, the project of a unified Europe with a common currency was abused for personal gains. “EMU is about much more than a simple calculation of economic cost and benefits. For the EU, economic integration has always been a means to political unification”<sup>49</sup>. Additional, the outcome is strongly influenced by political perspectives. As the majority of Member States did not agree to transfer important political and economic decisions into the hands of the European Parliament. Until today, reluctance in transferring sovereignty and decision process to supranational institutions is prevailing. As a consequence, the EMU lacks of a political arm in its construction to complement the economic union. Former president of the German 'Bundesbank' Karl Otto Pöhl said: “Although complete political union is not absolutely necessary for the establishment of a monetary union, the loss of

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46 The problem has been tackled by the Security Market Program by the ECB in 2010, as well as the implementation of the European Stability Mechanism in 2012. However, if it can resolve the problem remains to be seen.

47 See Giscard d'Estaing and Helmut Schmidt (2000): "For a "Euro-Europe" on the continent", New perspectives quarterly: publ. for the Center for the Study of Democratic Institutions. Blackwell, London

48 See Enderlein, H. (2012): "The EU budget: how much scope for institutional reform?", ECB Occasional Paper Series No 27

49 See Deardon, S. and McDonald, F. (1999): "European Economic Integration", Addison Wesley Longman Limited, Essex.

national sovereignty in economic and monetary policy associated with it is so serious that it would probably be bearable only in the context of extremely close and irrevocable political integration”(Pöhl 1989: 136).

As the gains from a common currency and centralized monetary policy are considered optimal under OCA criteria and the implementation of a fully fledged union, the other aspects discussed also contain risks for the stability and well-functioning of the EMU. Thus, divergent patterns among Member States were neglected as no institution existed to monitor and control economic developments besides those aspects covered in the Stability and Growth Pact (SGP). On the other hand, countries used the euro to increase their demand market, regardless of imbalances. Germany for instance intensified exports into the euro area and build a significant current account surplus. At the same time, countries importing these products were facing increasing current account deficits. As long as the economy was growing, problems were ignored as every side seemed to benefit. This example reveals the Unions largest weakness. With no supranational institutions in power equipped with monitoring and correction authorities, the EMU stays vulnerable to changing economic parameters and the pursuit of national interests.

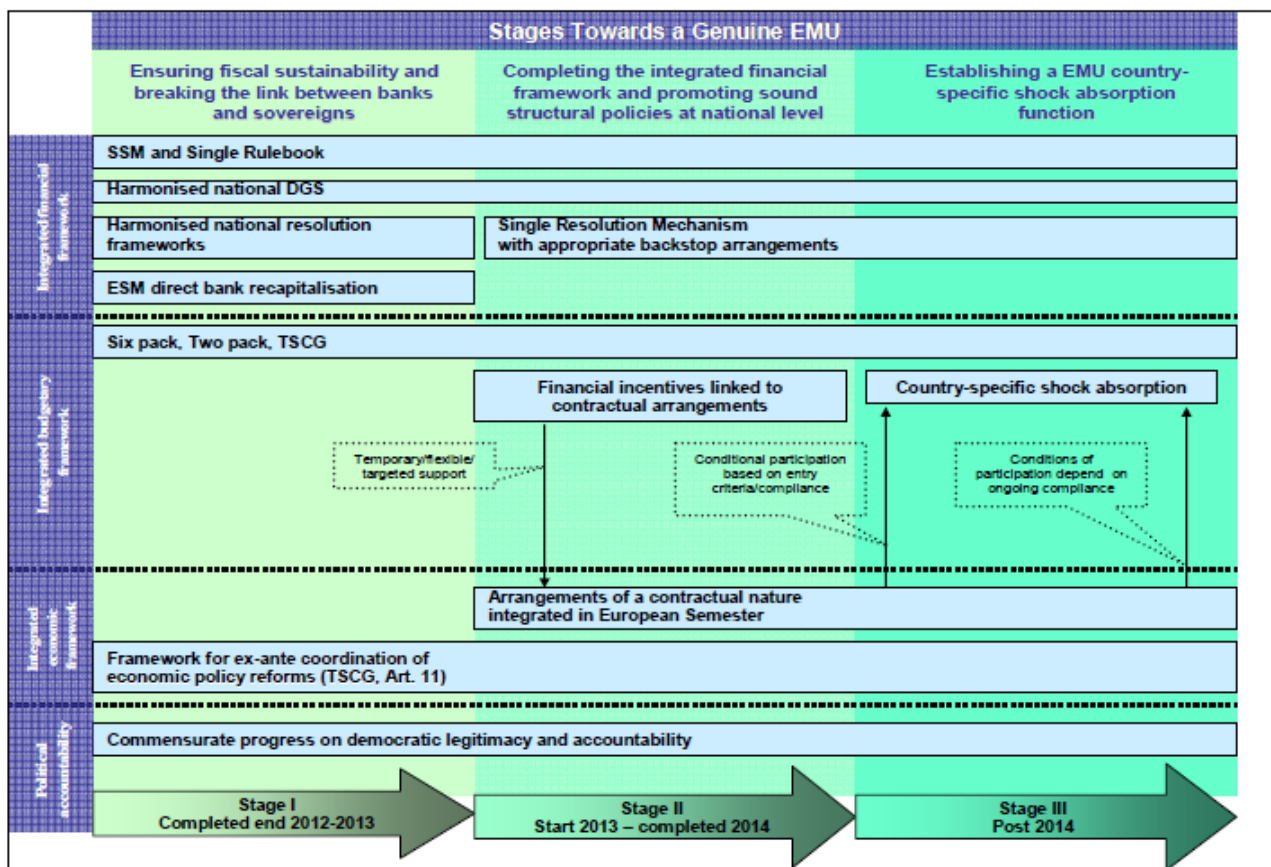
### **3.6. Roadmap towards a genuine economic and monetary union**<sup>50</sup>

In June 2012, the president of the European Council, Hermann Van Rompuy, presented a *roadmap*, in cooperation with the president of the European Commission, Manuel Barroso, the president of the Eurogroup, Jean-Claude Juncker, as well as the president of the European Central Bank, Mario Draghi, including future tasks of the Economic and Monetary Union to build a more sophisticated and stable Union. Its idea is to asses the previously mentioned shortcomings in the implementation in a three stages containing approach, “The process towards a deeper EMU should be characterised by openness and transparency and be fully compatible with the Single Market in all aspects” (Van Rompuy, 2012). The **first stage** (to be completed until the end of 2012-2013) assesses *fiscal sustainability* as well as *disconnection of banks* and their sovereign, including the 'Six-Pack' which contains the AMR. In particular it points at a stronger framework for *fiscal governance*, *improved coordination* of major economic policy decisions, as well as *centralized banking sector supervision* and a recapitalization mechanism through the European Stability Mechanism. In the **second stage**, the *integrated financial framework* should be completed as well as sound structural policies promoted until 2012-2014. Especially a set-up of a “common resolution authority”, to ensure for “bank resolution decisions [...] in the best interest of all”, a mechanism for “stronger coordination, convergence and enforcement of structural policies [...] between Member States and EU institutions” (Van Rompuy, 2012) is aimed at. The third stage

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50 See Van Rompuy, H. (2012): “Towards a Genuine Economic and Monetary Union”, European Council Report 120/12

focuses on strengthening the EMU by a *centralized shock-absorption function*. For example, the introduction of an insurance system at a centralized level to absorb specific economic shocks, or further coordination in policy decisions regarding taxation and employment. However, as the future developments contain a significant degree of uncertainty, thus, “a number of other important issues will need to be further examined” (Van Rompuy, 2012).



Source: Van Rompuy, H. (2012): “Towards a genuine economic and monetary union”

#### 4. Macroeconomic Developments approaching the EMU accession and since

This section will give a short introduction to recent developments of important macroeconomic indicators. Findings by other studies are outlined, followed by the most important developments among euro area Member States. It will be revealed that the Maastricht criteria are not sufficient enough to monitor all important developments in the euro area and provides arguments for the need of a further monitoring system.

Previous studies found that in light of the easy access to capital, the EMU fostered divergent developments among some Member States. They further display, that divergence already started

at an early stage after the euro introduction (See Essl and Stiegenbauer, 2012), while the theory of endogeneity has been detected to fuel such developments. "It may seem paradoxical, but exactly because of these prevailing expectations [convergence as forecasted by the endogeneity hypothesis], the creation of the euro ended up acting as an asymmetric shock that put in motion a process of real divergence within the member countries (see Landmann, 2011), exacerbating the core-periphery divide" (Bonatti and Francasso, 2012). The expectations that the elimination of exchange rate adjustment would lead to convergence in terms of wage increases and commodity price development, restraining countries of former high inflation out of the need to emerge new adjustment tools, was overly optimistic and is partially the reasons for the persistence of the current crisis. As convergence was driven by political intentions, it can be seen skeptical that developments prior to the EMU were of a sustainable nature. Hence, heterogeneity among Member States entering the union allowed persistent imbalances to widen after the euro had been implemented.

According to Arestis and Sawyer (2011), imbalanced developments were widely neglected and especially lead to major differences in the trade balance of Member States. To their understanding, high current account imbalances are a great threat to the union as they contain destabilizing potential. However, for many years these developments stayed unanticipated, as the whole EMU itself experienced from the very beginning an approximately balanced current account towards the rest of the world. Yet, these were not shared equally among Member States, as it turned out Germany's increasing surplus compensated for rising deficits in the periphery states (Mayer 2011). In some countries of the periphery, the sustained trade deficit can be explained, at least to some extent, by the catching-up process<sup>51</sup>. However, a key element missing in this argument is the diversity in spending behavior among Member States. Preceding the crisis, private consumption and public spending lead to an unsustainable transfer of wealth from the exporting countries to the importing ones<sup>52</sup>. Real income differentials occur to be persistent and total factor productivity remains low in countries considered to be catching up. Additionally, these countries exhibit a stronger preference towards current consumption and thus reveal a behavioral aspect causing the emergence of imbalances. According to Jaumotte and Sodsriwiboon<sup>53</sup> access to capital markets was used to overcome the gap between investment and savings position at an early stage of the EMU. In the periphery states, domestic investments exceeded domestic savings in the private as well as in the public sector dramatically, thus leading to an additional problem of unsustainable private indebtedness that was not anticipated in the early formation of the EMU.

In response to the emergence of the financial crisis, many national governments passed rescue packages in order for the financial market to stay liquid. However, as indebtedness differed largely

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51 For further details see Blanchard, Olivier and Giavazzi, Francesco (2002): "Current account deficits in the Euro area", Massachusetts Institute of Technology, Dept. of Economics, Cambridge

52 See Hans-Werner Sinn (2010): "Rescuing Europe", CESifo Forum, Special Issue 2010

53 See Jaumotte F., Sodsriwiboon P. (2010): Current account imbalances in the Southern euro area, IMF Working Paper, 10/139



between Member States, problems concerning the sovereign debt crisis appeared to be rather asymmetric.

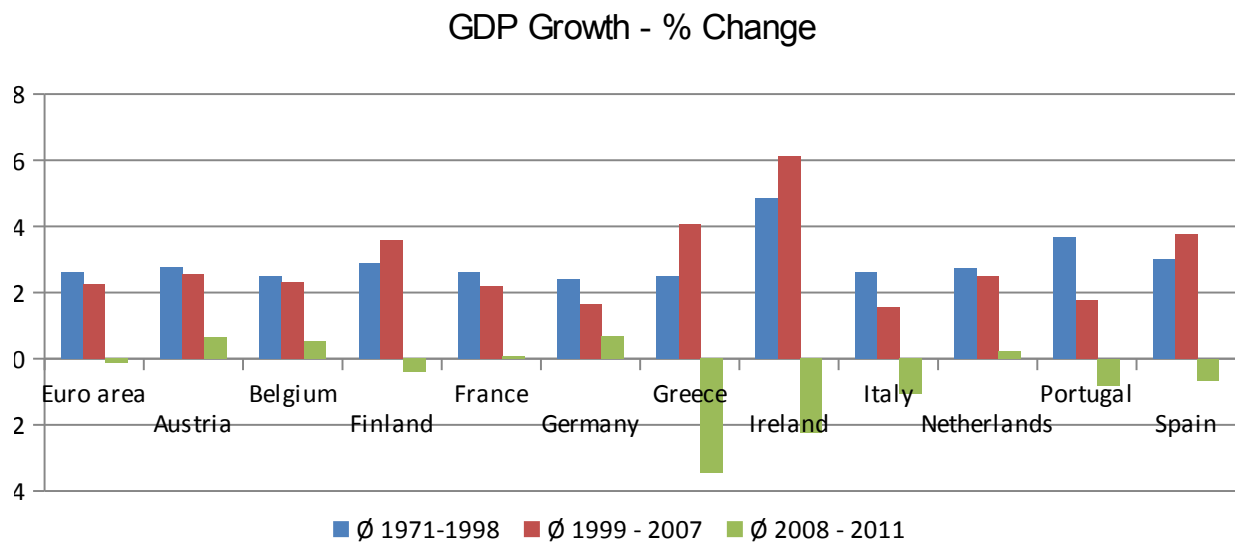
Concerning the developments, the following section will compare three different time periods for the ten founding Member States of the euro together with Greece (EA12), except for Luxembourg<sup>54</sup>. The first should display movements towards the euro accession and is expected to reveal similarities among most of the indicators in consequence to the effort undertaken to develop a common movement in those years. The second period will contain the years after the introduction of the euro and until the financial crisis in 2008. It is expected to display divergent developments in consequence to the mechanisms discussed earlier. Finally, the last period consists of the most recent years and after the financial crisis emerged. It is expected, that some of the indicators adjusted and balanced during the crisis, while other imbalances may be persistent or even widen throughout.

According to DeGrauwe (2000), the loss of exchange rate adjustment may be problematic for Member States with low flexibility if the area exhibits different growth rates (Graph 1), and differences in inflation rates (Graph 2). As the euro area experienced a growth rate of above 2% on average between 1971 and 1998, most countries developed accordingly. Interestingly, countries like Ireland, Portugal and Spain are performing well above average in that period. Between 2008 and 2011, the very same countries, will all experience negative growth rates significantly below overall euro area performance. After the euro accession, asymmetry increased as core countries such as Austria, Belgium, France, Germany and Italy experienced lower growth rates, performance in some periphery countries even improved (Greece, Ireland and Spain). In the last period it is revealed that the crisis worked as an adjustment device. Especially those countries of previous high growth rates experienced severe drops in GDP. Thus, in the end, growth rates were relatively similar over the whole period for most countries at growth rates were between 1.2 – 2 per cent. However, the difference in the single periods displays the incomplete nature of the EMU.

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<sup>54</sup> Luxembourg is a special case with its size and financial sector. It displays pattern different to all other Member States of the EMU. To focus on the main developments that led to the crisis, Luxembourg would only shift attention from the more important issues. Further, there is no data available for Luxembourg before 1999 and thus convergence prior to the euro cannot be analyzed.

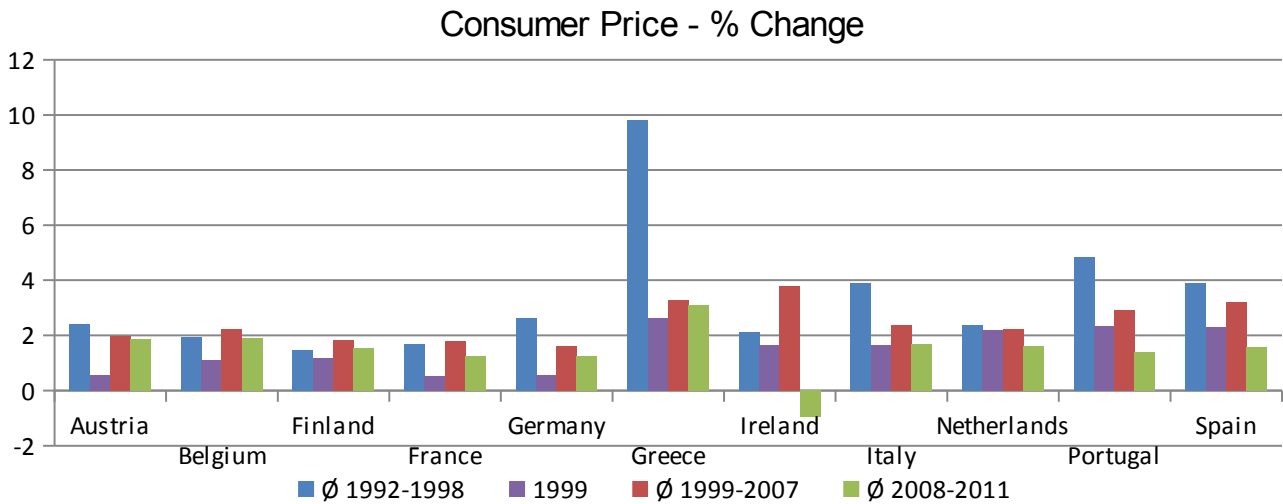
Graph 1: GDP Growth Rates



Source: Eurostat 2012 – own calculation

The second graph displays inflation developments among euro area Member States. Inflation is, especially after the loss of adjustments via the exchange rate, an important indicator for the developments in a monetary union. Different price developments easily translate into other sectors via wage developments and can cause the emergence of severe imbalances as described earlier. At first, we see that inflation rates in the core countries differs extensively with respect to periphery states such as Greece, Italy, Portugal and Spain. However, periphery states were able to reduce inflation towards the euro accession in 1999 dramatically, as required to join to the euro. However, convergence was antagonized by the core countries as they also reduced inflation significantly below the 1 per cent benchmark and thus experienced still much lower price developments. After the introduction of the euro, all Member States increased inflation rates, however, while all core Member States experienced inflation rates below 2 per cent (except for Belgium and the Netherlands slightly above), all periphery countries reveal inflation rates above 2 per cent and thus above the ECB price stability goal. The situation shows quite well the problem of the EMU with two different group developments as a higher inflation rate will translate into losses in competitiveness relative to the other Member States with lower inflation as production costs will increase and in the end will intensify problems. In that sense, the crises worked in adjusting the inflation rates to the level of Germany for Portugal and Spain and even stronger for Ireland.

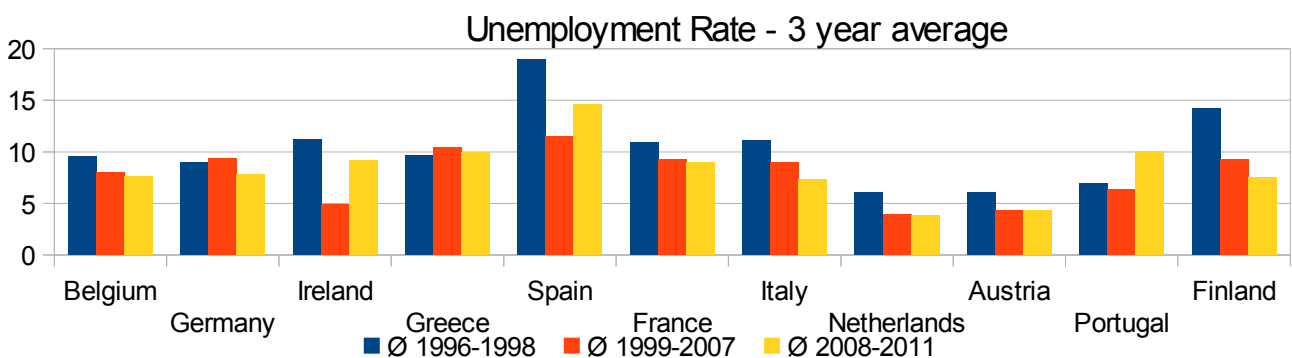
Graph 2: Inflation



Source: OECD – Main Economic Indicators 2012 – own calculation

Regarding unemployment, graph 3 shows that high growth in countries such as Ireland and Spain translated into significant drops in unemployment. Greece on the other hand experienced high growth rates together with increasing unemployment after the euro accession. What is not captured in the graph is that in 2011 for many countries unemployment rose significantly, especially in the periphery states as unemployment rates reach historic figures. Overall, the graph displays again a rather dispersed picture among Member States. Austria and the Netherlands display relatively low rates and improving developments, while on the other hand Ireland, Spain, Italy and Finland display large changes in between the time periods. As differences in unemployment rates are persistent – although alternating – it seems rather unlikely that labour force movements across countries takes place to a high degree. Further, developments in Ireland and Spain, as unemployment decreased significantly after the introduction of the euro, seem to be unsustainable as developments are reversed during the crisis.

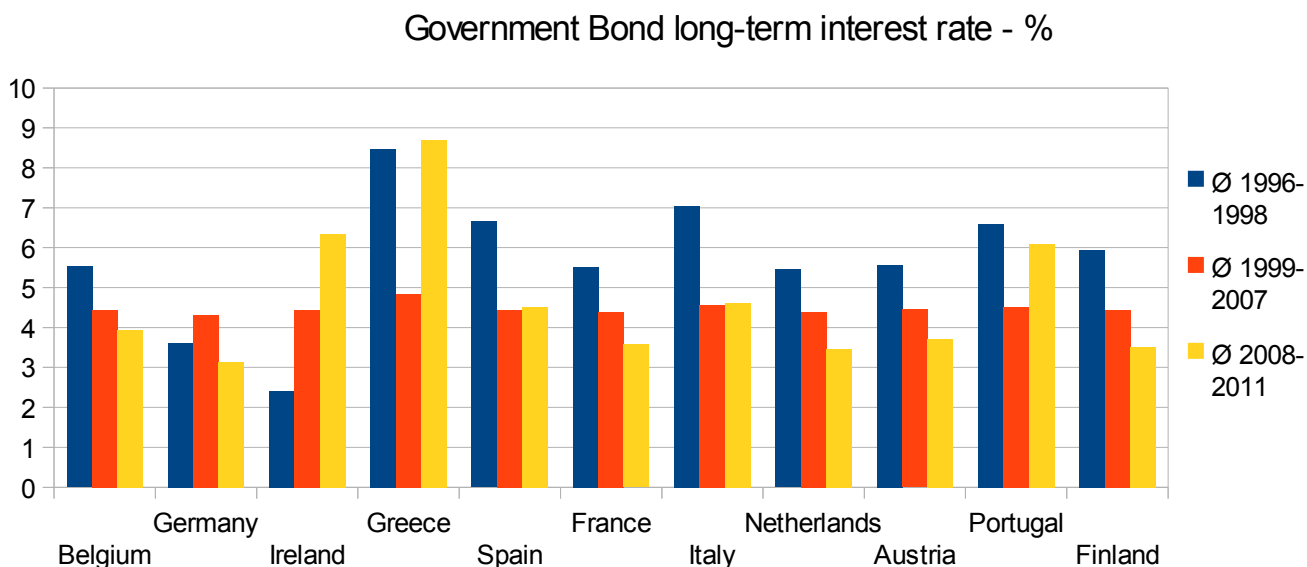
Graph 3: Unemployment



Source: Eurostat 2012 – own calculation

Graph 4 displays that after a dispersed picture in interest rates prior to the EMU, most countries were able to reduce the costs and the long-term interest rate was around 4.5 per cent for all Member States after the introduction of the euro and before the crisis. Thus the EMU indeed led to convergence in this aspect. However, after the emergence of the crisis, divergent patterns emerged as interest rates for countries under surveillance as well as Italy and Spain increased especially in 2011 and 2012. The refinancing cost display that the periphery states face a stronger challenge than the core countries. Differences will most likely translate into the economic performance in other economic areas and thus foster economic divergence. There is an intensive economic discussion about the spread in government bonds and the risk premium to periphery countries. A recent paper by the Bank of Italy<sup>55</sup> suggest that risk premia rose above the level of economic justification. However, a further convergence progress regarding the recent developments cannot be expected. As financial markets were criticized for not anticipating the real risk, it remains rather unlikely that this will change for the upcoming years as markets are rather risk averse.

Graph 4: Long-term Interest Rate of Government Bonds



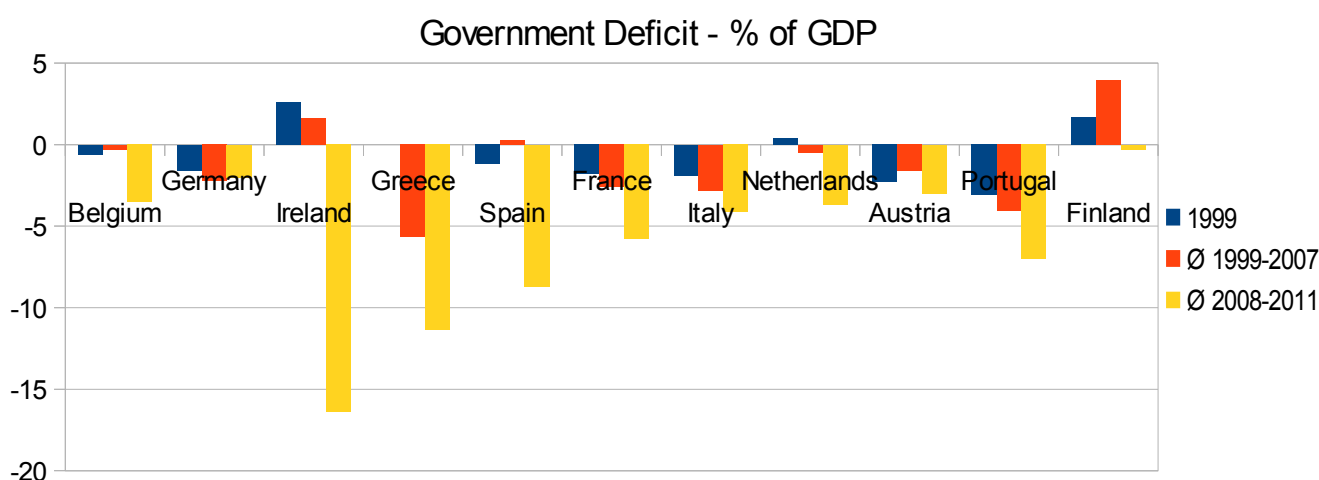
OECD – MEI 2012 – own calculation

Graph 5 displays governments current expenditure surplus/deficit in percentage of GDP. On the one hand side, it shows that most countries exhibit entirely deficits. Except for the case of Germany, which started consolidating early after the crisis supported by a strong exporting sector, the deficit worsened in the years after the emergence of the crisis. Extreme developments can be

55 Banka D'Italia (2012): "Recent estimates of sovereign risk premia for euro-area countries", Questioni di Economica e Finanza (Occasional Papers) No. 128, Rome

seen especially in the periphery states. Hence, the current challenges of the governments in the periphery states can be exemplified much better by the running deficit, than by the overall indebtedness. It also reveals the dispersion of the euro area which already started with the introduction of the euro (1999-2007) and intensified in recent years. While the periphery states share the negative developments, the sources of the public debt are different. Ireland had to invest in the banking sector to rescue their banks which drove up the expenditure while GDP growth was weak. Other countries as Spain and Portugal experienced the burst of the housing bubble and developments are strongly driven by negative growth rates in GDP.

Graph 5: Government Deficit

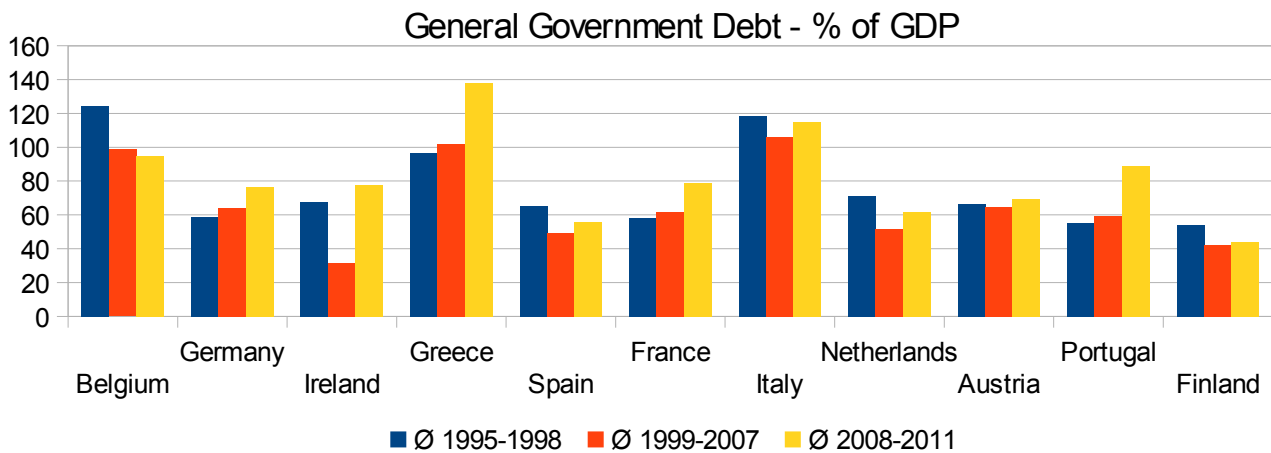


Source: Eurostat 2013 – own calculation

Government indebtedness (graph 6) displays that the EMU consists of countries with high debt ratios – Belgium, Greece, Italy and most recently Portugal – while other Member States have been revealing relatively low indebtedness – Germany, Ireland, Spain, France, Netherlands, Austria and Finland. Thus, next to the problem of diversity in euro are Member States indebtedness and thus deterring convergence, it displays the overall problem of Member States compliance with the euro area rules. Despite the early success in reducing debt by Belgium, Portugal or Spain for example, the most recent developments display severe problems in public finances. The often mentioned success of the former countries however, turn out to be driven by GDP growth, supported especially through employment and growth in the construction sector. The emergence of a housing bubble in this countries thus first lead to a significant decrease in public debt, followed by a strong increases during the global economic crisis. For these countries growth in the construction sector turned out to be unsustainable. While recent increases are fostered by low or negative GDP growth, even countries as Germany or Austria increased their indebtedness. The developments exemplify the interdependence of several indicators and the shortcoming of focusing only on public

debt without analyzing the driving forces behind. The high indebtedness worsened by rescue packages introduced by several countries is now a severe problem in the euro area.

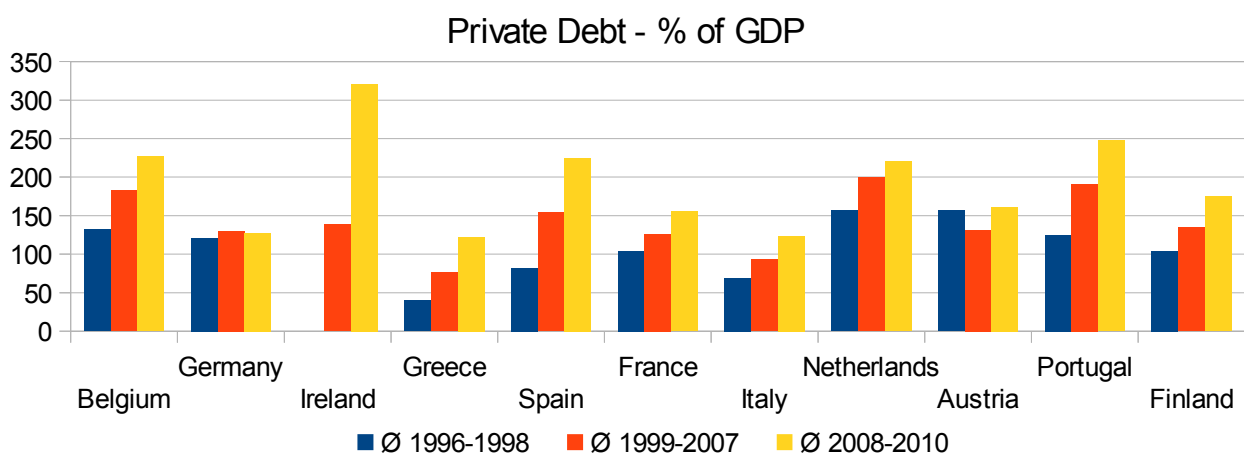
Graph 6: Government Debt



Source: Eurostat 2013 – own calculation

Graph 7 shows that private indebtedness has risen in all Member States, except for Austria and Germany, since 1996. After the introduction of the euro, most Member States display similar levels of indebtedness, while Belgium, Portugal and the Netherlands show the highest level of indebtedness. However, increases were the strongest among Ireland (more than doubled since EMU introduction), Greece (three times as high as before the euro), Spain (more than doubled) and Portugal (more than doubled). However, it should be noticed that developments in the periphery states are intensified by drops in GDP and do not necessarily imply excessive increases in borrowing.

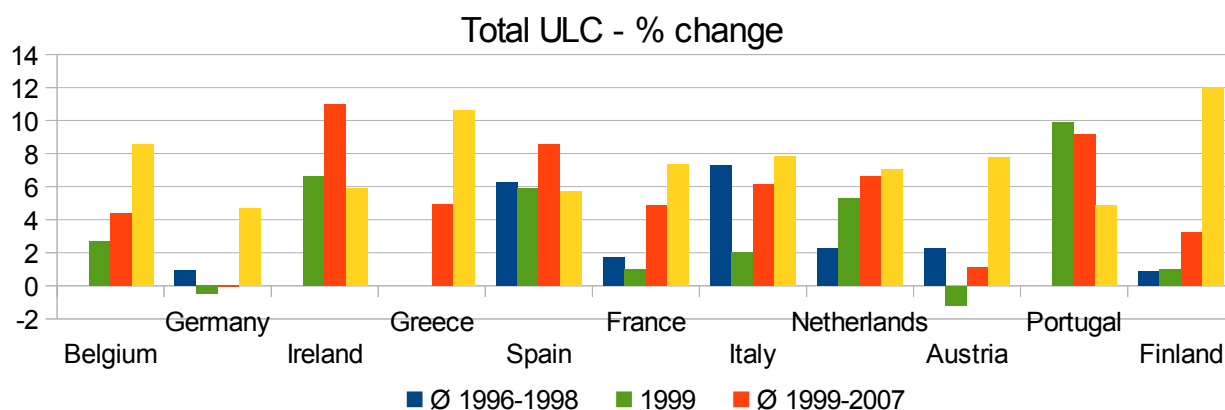
Graph 7: Private Debt



Source: Eurostat 2013 – own calculation

Unit labour costs (ULC) are considered to be a good proxy to determine a countries change of competitiveness. Many economists believe that the loss of competitiveness in the periphery states is the cause for the persistence of the current crisis. As data is not available for all countries, developments after the euro accession are compared to 1999. At first we can see, that the years 1999-2007 are characterized by higher increases in ULC than in 1999. However, there are extensive differences in the degree of increases. Germany and Austria experienced decreasing costs in 1999. Further, they experienced negative or respectively low increases until the crisis. Belgium, Greece, France and Finland display moderate increases in the second time period while Ireland, Spain and Portugal display excessive increases above 8 per cent on average. As it is expected that developments will translate into trade performance, the loss of competitiveness for the periphery countries is severe. Since 2008, ULC increased to a higher degree than before in all Member States. As Austria and Finland show explosive increases, Germany displays still rather low increases trying to further improve their competitiveness position compared to other Member States as the export sector is very important to the German economy.

Graph 8: ULC

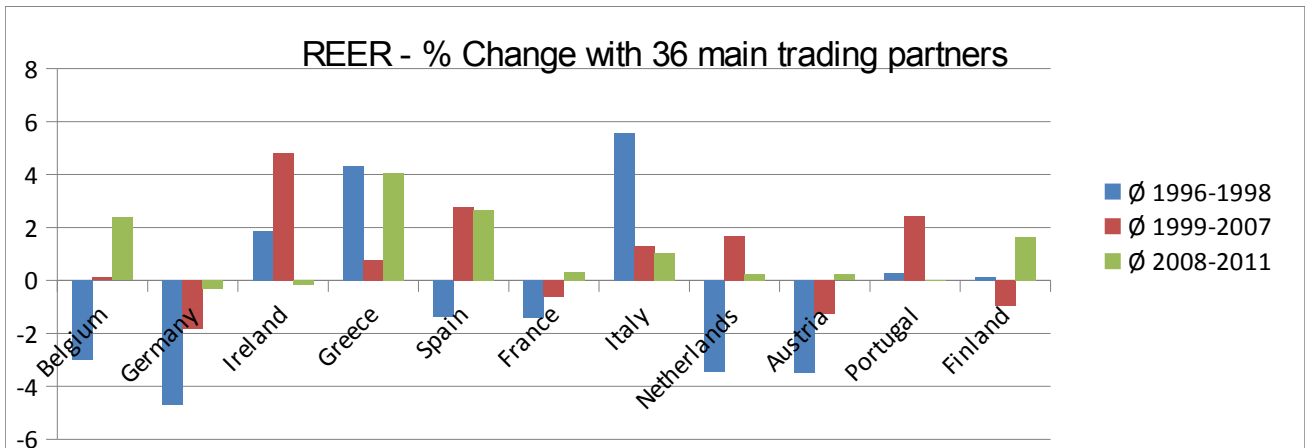


Source: Eurostat 2012 – own calculation

Additionally to the ULC, the real effective exchange rate (REER) is considered a proxy for competitiveness relative to the main trading partners of a country. A negative REER displays gains in price competitiveness, while increases lead to a loss compared to the trading partners. It can be seen that prior to the euro, dispersion among Member States was large, ranging from below -4 per cent to above +5 per cent between 1996 and 1998. Still after the euro accession, changes differ largely between Member States. Core countries as Germany, France, Austria and Finland display negative developments, especially the periphery countries experienced losses. Both graphs 7 and 8 show the difference between Ireland and the other struggling countries: Ireland managed to improve its relative position in consequence to the crisis, while such adjustment did not take sufficiently place for the others. Further it displays the increasing problems regarding Belgium and

France, as they continuously reveal deteriorating competitiveness positions. Greece demonstrating the largest increase in the period after the crisis, even worsened the already unfavorable situation.

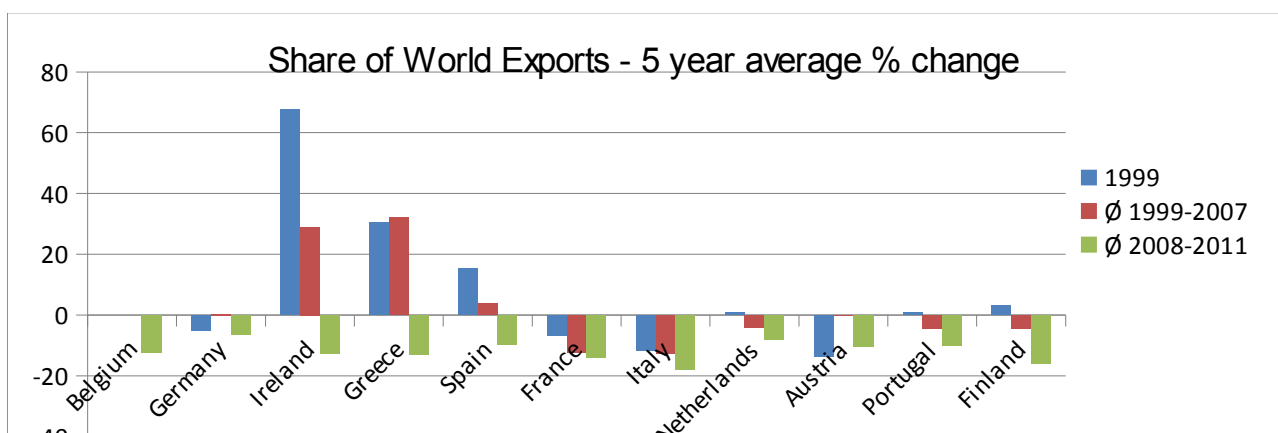
Graph 9: REER



Source: Eurostat 2012 – own calculation

At first, graph 9 displays that countries such as Ireland, Greece, Spain, Finland, as well as Portugal and the Netherlands to a lesser degree experienced rising world shares, while most of the core countries experienced losses in 1999. However, after the introduction of the euro, trade performance of Germany, Austria and Greece improved, as for most other Member States, it worsened significantly. Since 2008, all Member States experience a loss of world export shares as the rising exports of the BRICs (Brazil, India and China) overshadow relative performance in the euro area. However, it is important to notice that at least relatively the trend of catching-up countries was not able to sustain after euro introduction and the periphery countries experienced the most intense relative losses.

Graph 10: Export Market Shares

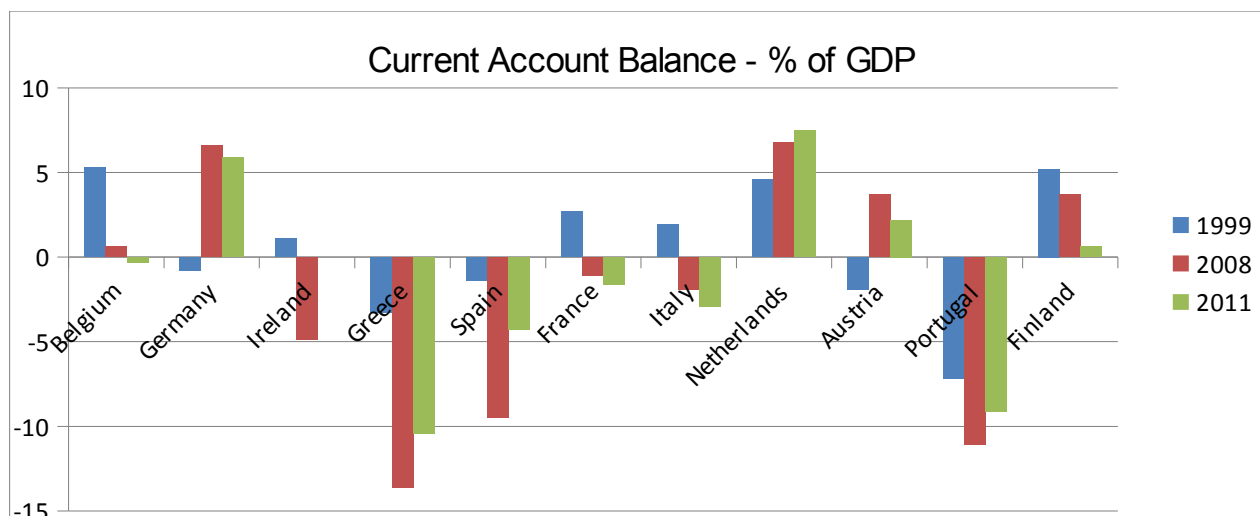


Source: Eurostat 2012 – own calculation



The current account balance in graph 10 shows that dispersed performance was given already in 1999 when introducing the euro. Most core countries as France, Italy, Finland, and Belgium experienced a positive balance sheet, the periphery states displayed negative one (Greece, Spain and Portugal). As these differences are partly explained by catching-up developments of less developed economies, the differences were supposed to vanish over time and with the introduction of the euro. However, it turned out that after a decade of the euro, differences have intensified rather than disappeared. The crisis adjusted developments to some degree, as imports dropped in the periphery countries and thus exports decreased in core countries, leading to some degree of convergence. Further, the graph shows that trade gains from the formation of the EMU are distributed unevenly. Clearly, countries with a strong exporting sector as Germany, Austria and the Netherlands benefited from the extension of the demand market and reduced transaction costs. On the other side, the easy access to imports in the periphery states ruined the domestic industry due to losses in competitiveness and lower demand. Thus convergence seems only be possible if adjustment will meet mid-way in between strong exporting core countries and strong importing periphery countries close to balanced budget. However, as long as excessive surpluses are present, convergence will be deterred.

Graph 11: Current Account



Source: Eurostat 2012

The previous section shows that part of the convergence process prior to the introduction of the euro has been reversed in the years since (inflation, interest rate and public indebtedness). In consequence, severe macroeconomic imbalances evolved including raising indebtedness of the public and private sector, losses in competitiveness and export performance translating into GDP growth and employment. While the crisis led to an adjustment in some indicators displayed, other differences have intensified leading to problems for the monetary union and its centralized policy.

It can be seen that some of the adjustment has been antagonized by the core countries increasing the problems for the periphery countries.

#### **4.1. Importance of imbalances regarding the crisis**

The reason why the imbalances need to be monitored lies in the fact, that they cause divergent developments. This was revealed most impressively during the global economic crisis as Member States of the EMU were hit to a different extent. The economic slowdown became extreme in the periphery states, while countries as Austria, Germany or the Netherlands recovered two years after the crisis, exhibiting positive growth rates. The strongest effect of the crisis resulted in a loss of credibility in the banking system, the solvency of EMU Member States and temporarily even in the euro as such.

This caused marked anticipation of the existing imbalances within the Union and led to increasing interest-rate spreads. In a time at which investments were on hold, lenders withdrew their investments from the most vulnerable member states as they became more risk averse. This struck those countries with a high net borrowing position and current account deficits. As the credit channels dried out, the funds floating out of the country intensified the economic recession. Overly optimistic investments failed, this resulted in a burst of a bubble in the construction sector, but also reduced general consumption behavior. In consequence banking loans could not be paid and the government had to introduce rescue packages for their banking sector leading to a rise in public expenditure and government indebtedness. This in turn increased refinancing cost for the governments. Countries with a weak competitiveness position were not able to ease the pain by exporting goods to the emerging countries which still revealed relatively constant growth rates. In that sense, the extent to which Member States were involved in the crisis highly depended on their imbalances. Current account deficits and negative net investment positions increased the risk of monetary outflows. High public debt decreased the options for the government to create growth enhancing circumstances. Fast increasing housing prices together with high private indebtedness increased the pain after the bubble's burst and economic recession. Fast increasing production cost decreased competitiveness and thus the ability to substitute for the drop in domestic demand by exporting goods and services.

According to the European Commission (2008), business cycle fluctuations, divergent pattern in financial and labor markets as well as price developments inside the EU provide lessons that macroeconomic developments are closely linked to economic performance. Agreement was reached that macroeconomic imbalances became so important determinants for the economic performance of the Union that they needed to be put under surveillance<sup>56</sup> on a supranational level.

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<sup>56</sup> See Becker, W. (2008): "The euro turns ten. Growing up", Deutsche Bank Research. EU Monitor. Frankfurt am Main

## 5. Macroeconomic surveillance

In response to the current crisis and emergence of dispersed difficulties within the EMU, the European Commission, together with the European Parliament, the European Council and the European Systemic Risk Board, implemented a tool that should balance macroeconomic developments of the EU and especially in the euro area. In consequence it would ensure that a centralized monetary policy can be applied in line with the interests of the whole union. Imbalances shall be detected and corrected in time, before risks for the Member State or the Union can emerge. The implementation has been embedded in the 'sixpack' that was voted on in the European Parliament and came into legislation in December 2011. It comprises four reforms tightening the rules of the SGP and the 'excessive debt procedure' (EDP) - including the reverse of the former voting procedure into a 'qualified majority voting' (QMV) according to which sanctions will be adopted unless a majority vetoes it to strengthen the enforcement of the rules. The last two reforms of the 'sixpack' address the introduction of a similar mechanism as the SGP for macroeconomic imbalances more generally – the 'excessive imbalance procedure' (EIP). As imbalances within the euro area started to build up and reached a harmful extent over time, that the decision to monitor macroeconomic imbalances for all Member State more closely was made and put into work in an annual Alert Mechanism Report (AMR). The key element of the AMR is the scoreboard of 10<sup>57</sup> macroeconomic indicators, to monitor the main competitiveness developments among EMU Member States. According to the Commission, the scoreboard shall identify and address highly rigid labor and product markets. Further, structural reforms shall reverse losses in competitiveness.

Macroeconomic imbalances are therefore defined as “any trend giving rise to macroeconomic developments which are adversely affecting, or have the potential adversely to affect, the proper functioning of the economy of a Member State or of economic and monetary union, or of the Union as a whole” (Council of the European Union, 2011a). However unlike the EDP, once the scoreboard signals a warning for a Member State, regarding one or several indicators, a further in-depth analysis is issued to rule out misleading actions due to faulty signals. Thus an automatic alert is accompanied by 'economic judgment' including further economic indicators aiming at improving the quality before an in-depth analysis is proposed.

### **5.1. AMR and EIP**

The framework for the AMR is based on a European annual survey and integrated into the European Semester, reporting fiscal and macroeconomic developments. Countries subject to

<sup>57</sup> For the 2013 report, the growth rate of liabilities of the financial sector has been added to the scoreboard and debt-to-equity ratio has been included into the economic reading to account for the missing financial sector indicator. Commission Staff Working Document 389/12

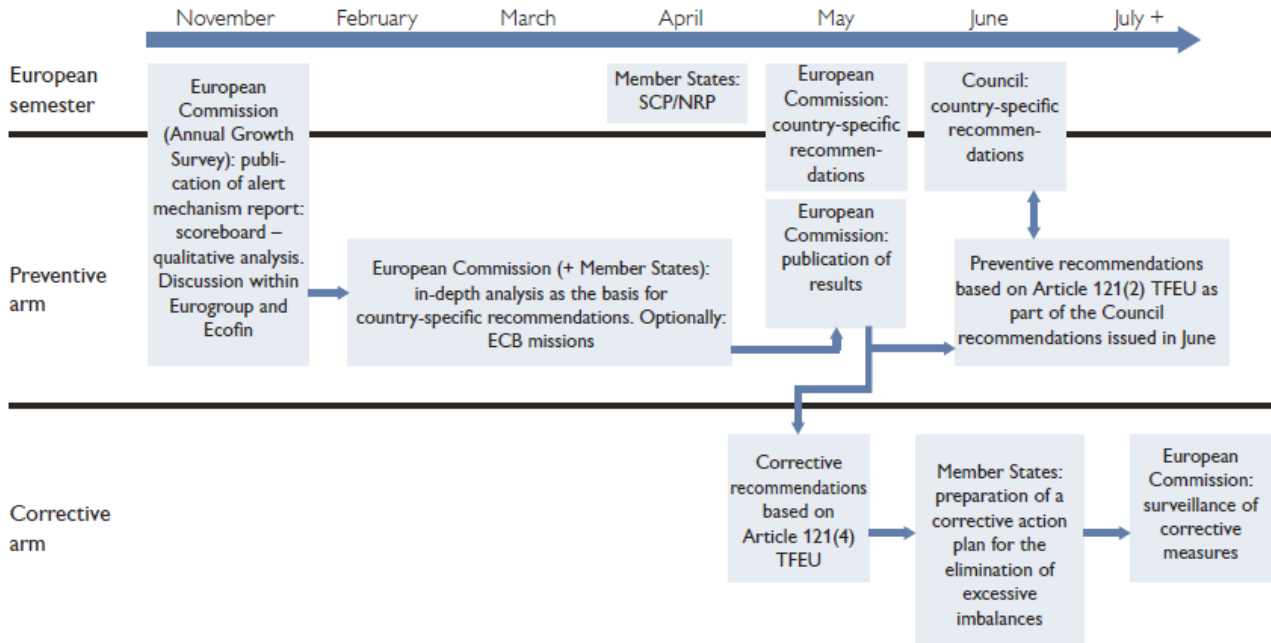
another surveillance program are excluded from the corrective arm of the excessive imbalance procedure as competences should not intervene in between different European institutions. In 2011 the European Commission<sup>58</sup> published the main aspects a surveillance scheme should reflect. At first, indicators should display the most important aspects with respect to imbalances and their impact on competitiveness deterioration. Further a warning system shall be implemented consisting of a combination of stock and flow variables as well as appropriate thresholds. These thresholds will be based on percentiles regarding past data from developments among Member States. It was stressed that the scoreboard should be functioning as a communication tool with the public and thus needs to be limited in the number of indicators, transparent and easily understood. After the experiences with Greek data, it was emphasized that the statistical quality of the collected data has to reveal the highest standards and should be comparable on a global basis. Due to disagreement among the Member States, an explicit indicator for wage increases as well as financial market indicators were missing in the first report in 2012, but can be added at a later stage. Financial market indicators have been added in the 2013 report. The ten (11) indicators the scoreboard is based on can be adjusted at any point in time if necessary in order to keep it updated with changing economic dynamics. The same holds for the thresholds, while it is till to be seen whether they are defined in the best possible way. However while the scoreboard consists of ten (11) main indicators to present a transparent mechanism, the in-depth analysis and the economic reading will include a handful of other indicators related to the ten topics in order to take the most accurate decisions for the data available.

The EIP timeline displays the process of the surveillance program. At first, the AMR is published on an annual base in November each year. It contains the display of the scoreboard indicators and a proposition of a country selection that should be reviewed more closely. The arguments for the proposition are based on an economic reading of the indicators supported by further economic indicators. Between February and April, a deeper analysis of the proposed country selection will take place and results will be published every May.

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58 See European Commission 2011

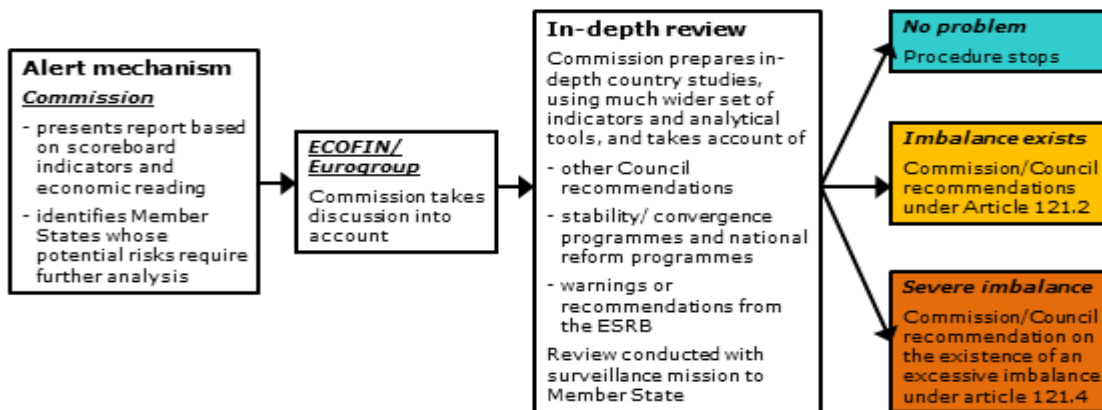
## EIP Timeline



Source: Austrian Federal Ministry of Finance, European Commission.

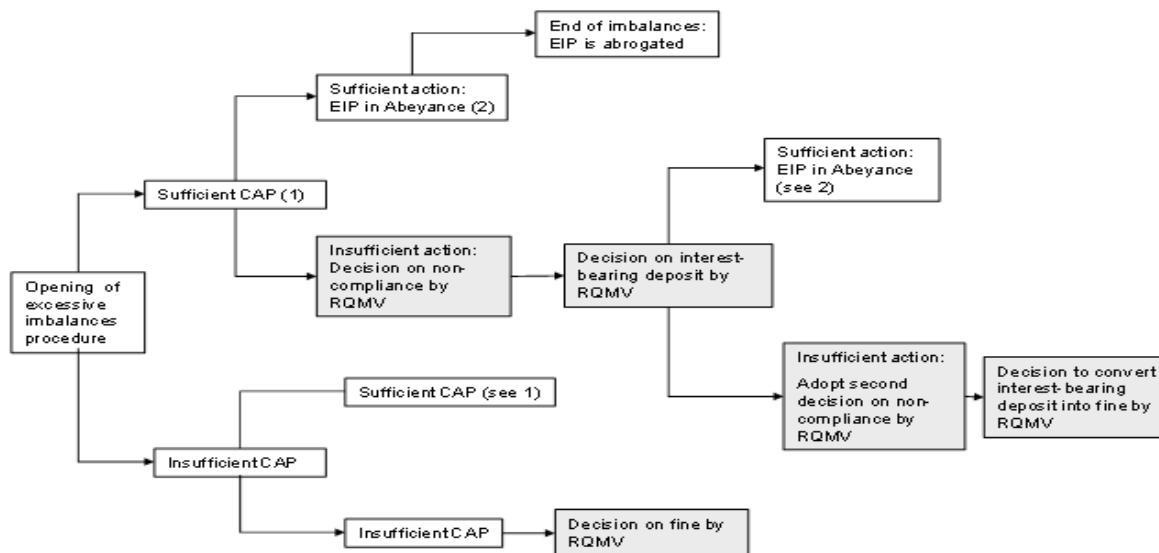
## 5.2. AMR-Process:

The AMR is supposed to detect those countries revealing potential risks. The selection of countries is based on the scoreboard results as well as the economic reading. The proposed country selection then is discussed among the ECOFIN and the Eurogroup. Further it is to be discussed for which countries an in-depth analysis will be issued. The outcome of the in-depth analysis can be followed by the following processes:



Source: European Commission

1. False signals and no risk present. No further actions.
2. The preventive arm detects imbalances which however are not excessive. Council recommendations are made. It stays to the government to implement the recommendations and no further actions follow.
3. corrective arm:

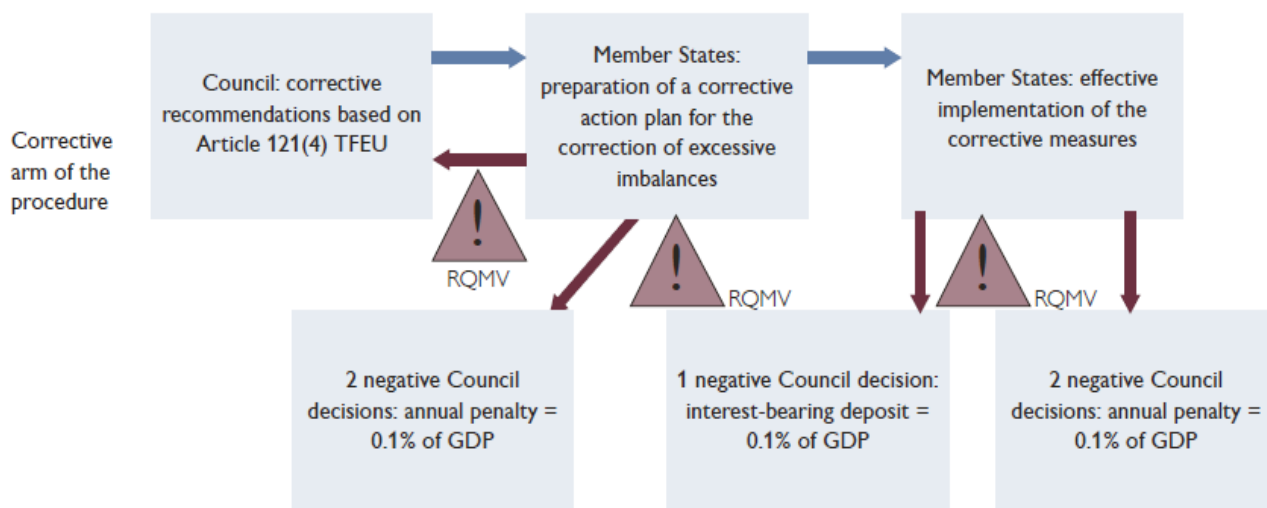


Notes: CAP – corrective action plan; EIP – excessive imbalances procedure; RQMV – reverse qualified majority voting

Source: European Commission

On behalf of Commission, in case of a violations of thresholds, a further in-depth analysis will take place. In case the in-depth analysis confirms the initial warning, national governments are encouraged to submit reforms addressing the revealed problem. After the EIP is opened, the European Commission together with the Council will make policy recommendations. This is followed by a proposition by the national government to implement the recommendations. The Commission's task is then to determine whether the corrective action plan (CAP) is sufficient. If the plan proves to be sufficient and the plan is sufficiently put into action, the EIP will be closed in the end. In case of an insufficient implementation, a voting on noncompliance will take place with the possibility to lead to a fine in the end. If the CAP on the other hand proves to be insufficient, the national government is asked to improve their plan followed by an additional evaluation. In case it would be insufficient again, a voting on a fine will be held. Sanctions are considered in the range up to 0.1 per cent of GDP.

## Sequence of Events for the Corrective Arm of the EIP



Source: Austrian Federal Ministry of Finance, European Commission.

### 5.3. The Scoreboard

As a response to the crisis, the EC passed on 13 December 2011 a governance framework including a scoreboard to monitor macroeconomic imbalances. To their understanding, imbalances referring to competitiveness positions as well as internal and external imbalances may display or trigger harmful developments within the EMU. Thus, according to these categorization, ten indicators will be monitored.

The table below shows the ten indicators included in the scoreboard of the AMR 2012. Further it reveals the data source and the thresholds including its derivation. At the end, it displays some additional indicators that will be used for the economic reading of the AMR. The following section then will discuss the Commission's incentives to select these ten economic figures.

Table 1. Scoreboard indicators and indicative thresholds (\*)

	External imbalances and competitiveness					Internal imbalances				
Indicator	3 year average of current account balance as a % of GDP	Net International Investment Position as a % of GDP	% change (3 years) of Real Effective Exchange Rate, HICP deflators relative to 35 industrial countries (a)	% change (5 years) in export market shares	% change (3 years) in nominal unit labour cost (b)	y-o-y % change in deflated house prices (c)	private sector credit flow as % of GDP (d), (e)	private sector debt as % of GDP (d), (e)	general government debt as % of GDP (f)	3 year average of unemployment rate
Data source	Balance of Payments statistics EUROSTAT.	Balance of Payments Statistics, EUROSTAT.	DG ECFIN indicator data base on Price and Cost competitiveness.	Balance of Payments statistics, EUROSTAT.	EUROSTAT	Harmonised house price index by EUROSTAT, completed with ECB, OECD and BIS data.	EUROSTAT for annual data and QSA, ECB for quarterly data.	EUROSTAT for annual data and QSA, ECB for quarterly data.	EUROSTAT (EDP - treaty definition).	EUROSTAT
Indicative thresholds	-6/-4%	-35% Lower quartile	+/-5% for EA +/-11% nonEA Lower and Upper Quartiles of EA - /+ s.d. of EA	-6% Lower quartile	-9% EA +12% non-EA Upper Quartile EA3 p.p	+6% Upper quartile	+15% Upper Quartile	160% Upper Quartile	+60%	+10%
Period for calculating thresholds	1970-2007	First available year (mid-1990s)-2007	1995-2007	1995-2007	1995-2007		1995-2007	1994-2007		1994-2007
Some additional indicators to be used in economic reading	Net lending/borrowing vis-à-vis ROW (Capital Account + Current Account balances as % of GDP)	Net External Debt as % GDP	REER vis-à-vis rest of the euro area	Export market shares based on volumes of goods; Labour productivity; Trend TFP growth	Nominal ULCs (changes over 1, 5, 10 years); Effective ULC relative to rest of euro-area Other measures of productivity	Real house price (changes over 3 years); Nominal house price (changes over 1 and 3 years) Residential construction	Indicator on change in financial liabilities of the non-consolidated financial sector and the debt over equity ratio	Private sector debt based on consolidated data		

Notes: (a) for EU trading partners HICP is used while for non-EU trading partners, the deflator is based on a CPI close to the HICP in methodology; (b) index providing ratio of nominal compensation per employee to real GDP per person employed; (c) changes in house prices relative to the consumption deflator of EUROSTAT; (d) private sector is defined as non-financial corporations; households and non-profit institutions serving households; (e) sum of Loans, and Securities other than shares; liabilities, non-consolidated; (f) the sustainability of public finances will not be assessed in the context of the MIP given that this issue is already covered by the SGP. However this indicator is part of the scoreboard because public indebtedness contributes to total indebtedness of the country and therefore to the overall vulnerability of the country. (\*) It is envisaged to develop a wider indicator of the banking/financial sector by the end of 2012.

Source: Alert Mechanism Report 2012<sup>59</sup>

## 5.4. Competitiveness

Measuring competitiveness has been discussed for a long time, as the topic contains unintended social aspects while increasing national competitiveness. Given that a country dismisses a significant number of workers in their economy, competitiveness could rise in response. However, this does not seem to be the most intended path in the EMU to increase competitiveness. Thus, competitiveness often turns out to reveal consequences on both sides of a coin, which have to be both anticipated in the economic outlook. Further, there is no common agreement among economists which indicators are relatively good in representing competitiveness. In that sight, the scoreboard displays a variety of indicators regarding cost competitiveness. However, it should be noticed that cost competitiveness is only a fraction of the total competition among countries and it is not able to reveal differences in quality competition of products for instance.

According to the European Commission (EC, 2012HL), the **real effective exchange rate (REER)**, is an indicator that is able to reflect driving forces of persistent changes in price and cost competitiveness. The REER is based on inflation and compares a country with its main trading partners. It is supposed to display the price pressure on domestic producers and thus gives an

59 After the first report, from the AMR 2013 onwards, the scoreboard is extended by a financial market indicator (growth rate of **Total Financial Sector Liabilities**)



insight on the relationship between domestic production and imported goods relative to the major trading partners. Significant imbalances among Member States are considered harmful as they impede the well-functioning of the EMU due to deterring competitiveness positions and increasing wealth transfers. It is often mentioned that it is a good indicator to explain the occurrence of economic crises<sup>60</sup>.

Another indicator that is supposed to reflect the level of competitiveness is the nominal **Unit Labor Costs (UCL)**. It monitors the price and production cost development of Member States. Relative increases compared to other countries may lead to a loss in competitiveness as production costs increase. It is considered to display harmful developments if persistent increases are combined with increasing current account deficits, while there exist a risk that domestic production will increasingly be substituted by cheaper foreign products.

The **export market shares** reflect changes in level of competitiveness towards the rest of the world. As this indicator does not only consider developments of the country itself but also takes the global developments into account, the market share can decrease although exports itself are increasing but at a lower pace than in the rest of the world. The indicator not only refers to the openness of an economy – as a beneficial aspect according to the OCA – but also includes an indicator that displays productivity at a non-price level<sup>61</sup>.

## **5.5. External Imbalances**

The **current account (CA) balance**, is supposed to be the driving force for external indebtedness or to be precise for net lending or borrowing of an economy. It displays not only trade relations to other countries but can also reflect the competitiveness position of a country while low competitiveness results into persistent deficits. A CA imbalance is considered to exert harmful pressure as it impedes the well-functioning of the EMU. However, not all persistent imbalances are considered to be harmful, as long as deficits can be financed externally – given the availability and willingness of lenders – they are considered as sustainable. This is often the case for countries in the catching-up process. It becomes problematic once no investors to finance the debt can be found. As CA surpluses are not considered to be directly harmful, its impact on other countries' deficit is often seen critical and thus the EC decided to introduce an upper limit as well. Additionally, the CA is often a significant indicator to explain the occurrence of crises in previous years.

The **net international investment position (NIIP)** reflects the net financial position with respect to the rest of the world and complements the CA. It comprises the vulnerability of an economy

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60 Reinhart C, et al. (1998): "Leading Indicators of Currency Crises", IMF Staff Papers, Vol.45, No.1

61 Melitz, Marc (2003): "International Economics: Theory & Policy", Prentice Hall International, New Jersey

towards the withdrawal of funds as it includes foreign direct investments (FDI). As the financial position itself does not reflect the upcoming expenditure position, due to the neglect of maturities on assets and liabilities, it is difficult to determine at what point the NIIP becomes risky and harmful.

## **5.6. Internal Imbalances**

The house price index (HPI), is added as a response to the current economic crisis. Developments of real asset markets have been associated with former crises and seemed to be a good indicator to forecast the occurrence of bubbles. As financial players are involved in the trade of real assets, its bust and booms are considered to be affecting the real industry sector as well. It also displays a wealth effect as properties are used as a store of wealth. Thus changing prices reflect changes in the individual wealth position and as a result, private consumption behavior may be influenced. It also partly presents larger changes in monetary and credit aggregates as higher inflation leads to increased housing prices.

Based on the recent crisis, **private sector debt** was included as an indicator. It turned out that highly indebted households are a risk for the economy and deter growth. It implies high vulnerability to changes in the business cycle as unemployment may yield default, while inflation reduces the relative debt level. According to Berkman<sup>62</sup> countries suffered more under the current crisis if their private debt level was higher. Additionally risk with respect to demographic changes and the social pension system of an economy is higher if the private sector exhibits higher debt ratios.

Frankel and Saravelos<sup>63</sup> pointed out that high **private sector credit flow** is often accompanied by economic crises. It displays the vulnerability of the banking sector to economic slowdown<sup>64</sup> and is widely accepted as one of the best proxies for crises forecasts. Gerdesmeier<sup>65</sup> describes it as a good warning signal for housing bubbles. Additionally high credit flow also implies an increased importing sector, as consumption is financed externally and thus may be linked to current account deficits (see European Commission 2010).

**General government debt** is an indicator that is already implemented in the SGP. A high overall

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62 Berkmen, Pelin et al. (2009): "The Global Financial Crisis: Explaining Cross-Country Differences in the Output Impact", IMF Working Paper No. 09/280

63 Frankel, Jeffrey and Saravelos, George (2010): "Are leading indicators of financial crises useful for assessing country vulnerability?", National Bureau of Economic Research, Cambridge, Mass

64 Sachs, J., A. Tornell and A. Velasco (1996). "The Mexican Peso Crisis: Sudden Death or Death Foretold?", Journal of International Economics, 41, pp.265-83

65 Gerdesmeier, Dieter et al. (2009): "Asset price misalignments and the role of money and credit", European Central Bank, Frankfurt

indebtedness reduces the state's ability to intervene and stimulate the economy in times of trouble. It leads to misallocation of government expenditures and may inherit the risk for tax increases. With the 'no bail out' clause in mind, highly indebted Member States of the EMU carry out contagion risk to other Member States and may deter the economic performance of the Union in itself. Further, it could undermine the credibility of the ECB and its primary goals of price stability.

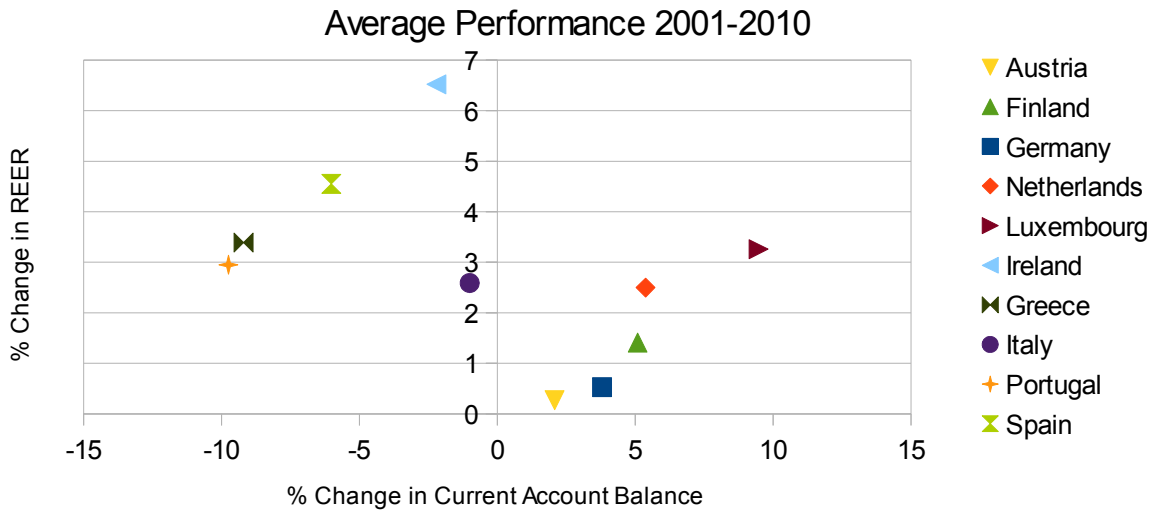
The **unemployment rate** exhibits the flexibility of an economy with respect to the labor market and its potential to adjust to changing circumstances. In general unemployment is considered to represent misallocation within an economy as actual production is below its potential. High unemployment increases government expenditure and reduces the wealth status of the society as a whole.

### **5.7. Ability to display macroeconomic divergence and forecasting power regarding a financial crisis**

After displaying the main developments of several economic measures, it is of high interest to determine, whether the AMR, or more precise the scoreboard would have had revealed the divergent patterns of EMU Member States prior to the crisis and therefore, in place could have started earlier actions, to at least decrease the intensity of the economic breakdown. For this purpose, the section will compare a group of core countries with a group of periphery states in order to analyze if divergent patterns in the scoreboard indicators will be revealed. The data will be used from the Eurostat 'Macroeconomic Imbalance Procedure Scoreboard' database.

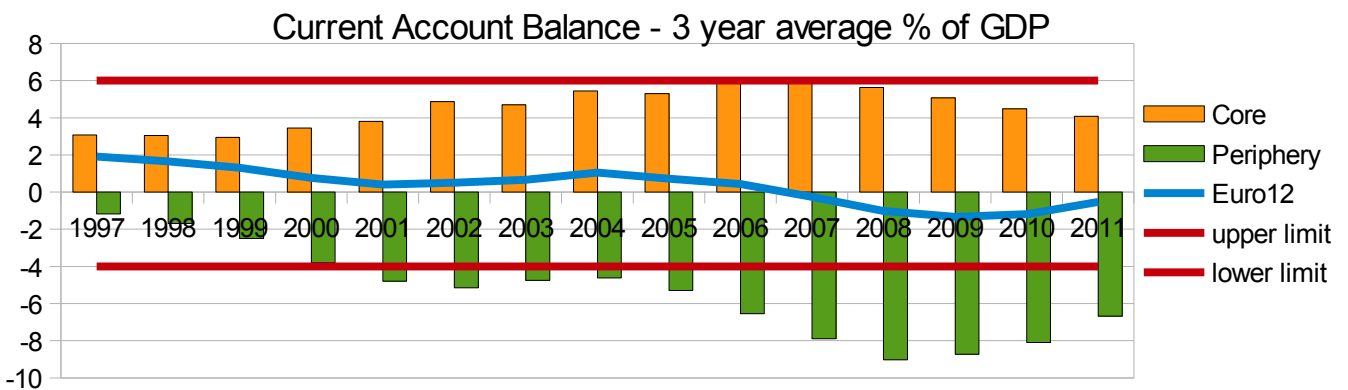
For a more descriptive overview, aggregates for the 'core countries' – *Core* including **Finland, Austria, German and the Netherlands** – and for the 'periphery states' – *Periphery* including **Portugal, Italy, Greece and Spain** – are formed and compared. Four countries exhibiting a strong trade performance as well as four countries revealing constant declines in current account balances. Although Finland is not an 'original' core state, its performance similar to the other three countries in the group and thus has been chosen. Luxembourg, while revealing a strong export sector has been excluded as it is a relatively small economy and its focus is on financial products. Further it differs in some of the indicators (e.g. private credit flows and private indebtedness) to a degree that the unweighted average would be biased significantly by these results. In the periphery group, Ireland will be excluded as it is different to the other countries in this group. Ireland's main concern was the highly indebted banking sector. Further, Ireland has implemented several reforms and the market has recently given more trust in its development than for the other periphery states. Italy also shows a different behavior in several indicators, however to my understanding while Ireland's tendency is towards improvements, Italy is more likely on a downward trend. Nevertheless, the results are rather robust to either one of the countries to be implemented in the

group. A different compilation could have been chosen, or a third group could have been introduced, while the main message will not be altered.

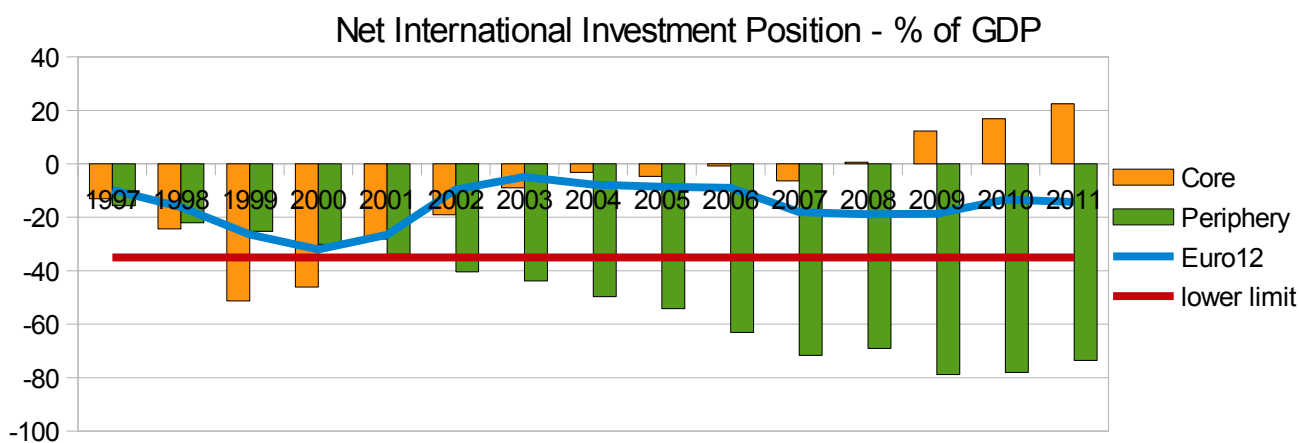


Source: Eurostat 2012 – own calculation

Groups are formed by the unweighted average of its members, thus the size of the country is neglected as the purpose is to display the country's development. For simplicity, the indicators are sorted by its ability to display divergent developments into three parts. Starting with the first part in which clearly the two groups move in opposite directions. The second part displays developments in which the groups exhibit developments that strengthen imbalances. The last part shows those indicators which, in this aggregate, are not able to display the different extent to which the two groups are affected by the current crisis.



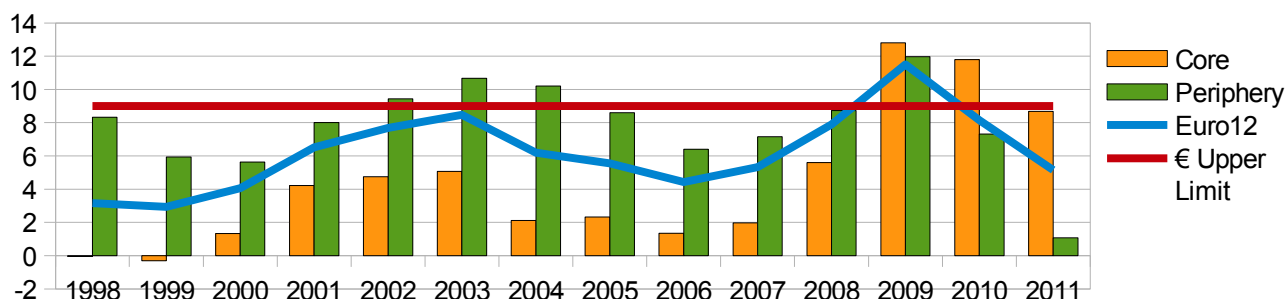
Source: Eurostat 2012 – own calculation



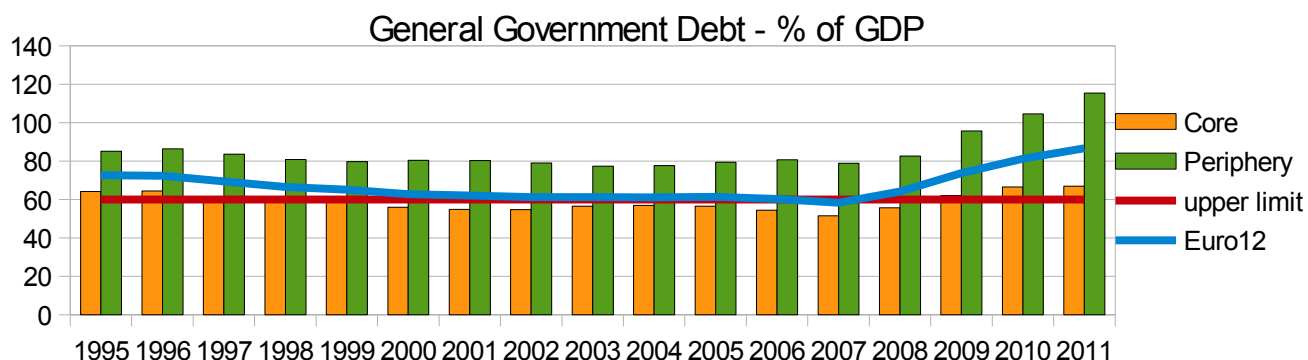
Source: Eurostat 2012 – own calculation

The current account balance and the net international investment position show that indeed, developments between countries of the core group and that of the periphery have different trends. An improving tendency for the core with a current account surplus and with a net lending position, while the periphery experienced the opposite. Regarding the crisis, the current account balance sheet is converging, implying an adjustment during the crisis. Additionally, the current account balance shows that the crisis led to a correction and convergence can be seen in 2010 and 2011.

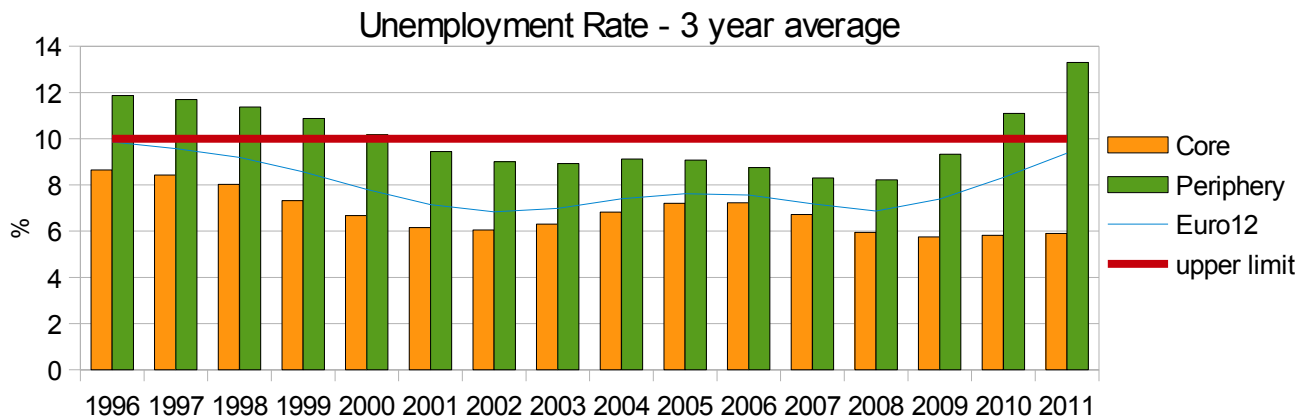
### Nominal Unit Labour Costs - 3 year average % change



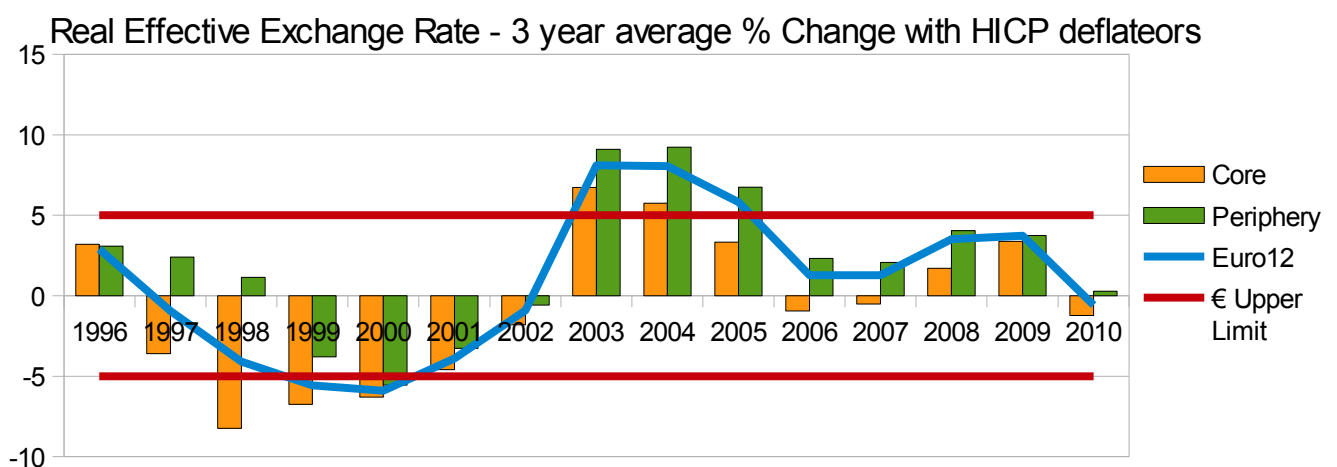
Source: Eurostat 2012 – own calculation



Source: Eurostat 2012 – own calculation

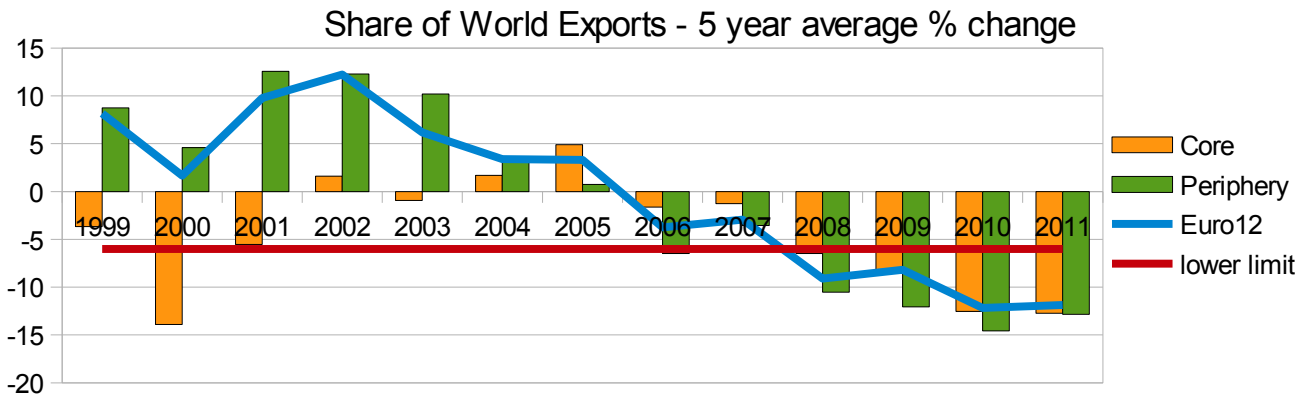


Source: Eurostat 2012 – own calculation

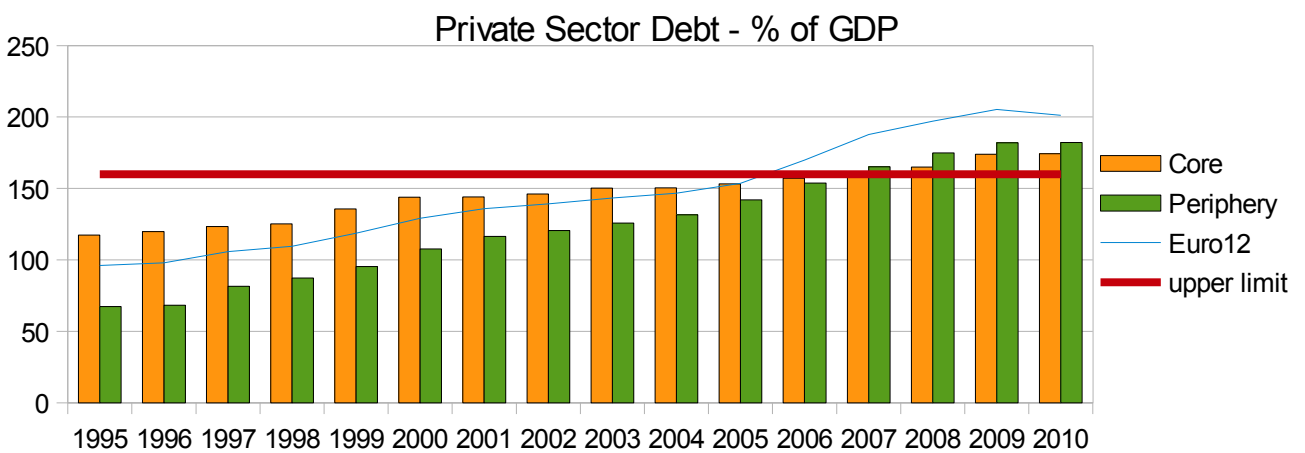


Source: Eurostat 2012 – own calculation

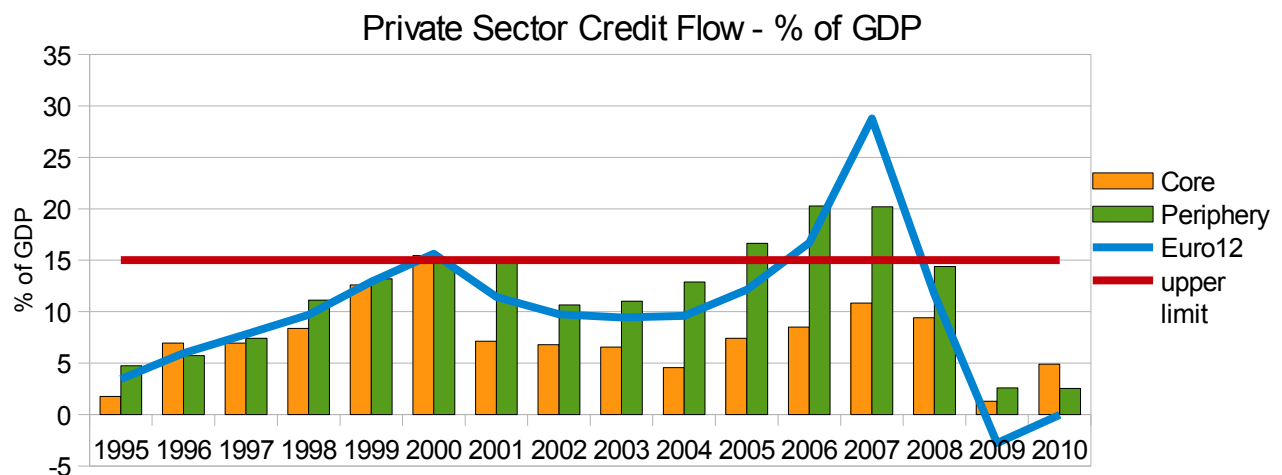
The four graphs including – nominal unit labour cost, general government debt, unemployment rate and real effective exchange rate – display divergences only partially. Government debt and unemployment rate seem to move similar between the core and the periphery, while they differ in the extent of changes – periphery performance exceeds that of the core group. Nominal unit labour cost (NULC) and real effective exchange rate on the other hand, although displaying level differences as well, exhibit a build up of imbalances as these indicators are flow variables. This suggest that for the latter indicators the two groups experienced significant divergence, leading to a deteriorating competitiveness position of the periphery with respect to the core countries. Again, NULC display a correction mechanism of the crisis, as core cost increases exceed those of the periphery since 2009.



Source: Eurostat 2012 – own calculation



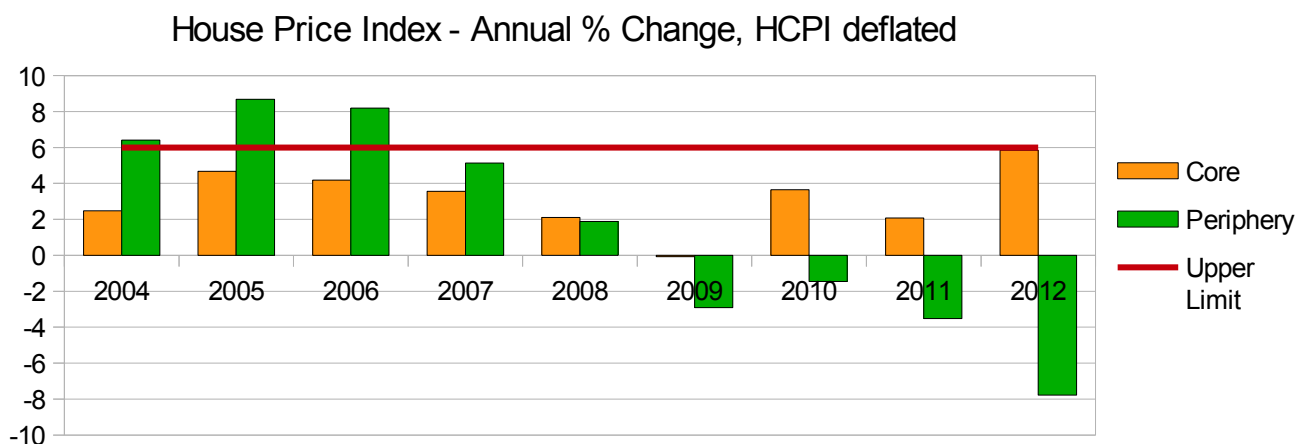
Source: Eurostat 2012 – own calculation



Source: Eurostat 2012 – own calculation

Finally, the last three indicators display an ambiguous picture in the developments. The share of world exports exhibits losses for the periphery relative to core, starting in 2002 and decreasing

tendency after the crisis. Private indebtedness reveals larger problems for the countries in the core group than for those in the periphery, although both developments are unfavorable and most likely unsustainable in the long run. Differences in the private sector credit flow are rather small but intensified prior to the crisis with an exception of 2007 where Luxembourg shifts the core group to very high level.



Source: Oesterreichische Nationalbank 2013 – own calculation

The house price index (HPI) displays two important implications. First it shows that the rise in housing prices exceeded in the periphery between 2004 and 2007, while violating the threshold in the first three years. Thus, the indicator reveals harmful developments for the periphery states, while the core experienced relatively constant growth rates around 3 percentage points. This also supports the assumption that growth was driven by overly optimistic behavior in the construction sector, playing an important role in the debt to GDP reduction in those years. The burst of the housing bubble also pushed private indebtedness of the periphery countries over the threshold. The global economic crisis corrected for the price developments in the housing market and the periphery states experienced falling prices since. The second implication on the other hand shows, that the increased money supply in the euro area lead to a strengthened investment in the housing market in the core states. As a result property prices went up in the core states leading to a divergent development of the core and the periphery post to the global economic crisis. Such developments give further rise to the question of the emergence of a housing bubble in the core states.

Overall it seems that, even with a simple average of two groups, more than half of the indicators display persistent differences and divergence between both groups. Thus the scoreboard does anticipate imbalances rather well prior to the crisis.



On the other hand, a study<sup>66</sup> by the economic institute of Halle examined the forecasting ability of the scoreboard, as a set combined of ECB and European Commissions proposals. In their analysis they use a signals approach in which each indicator sends out a warning in time t and country k, once exceeding a pre-defined threshold, a method commonly used. All indicators combined produce a pseudo-probability of a crisis. They define a criterion for crisis as “extraordinarily high default risk premiums, which can be measured by the difference between the yield of of a country's bond and a proxy for a safe investment<sup>67</sup>”. The quality of a set of indicators is then determined by its accuracy of correct forecasting of a crisis, and the probability of a wrong forecast. They use a 24 month time horizon for the warning system, meaning a forecast is correct if the prediction occurs within the next 24 month. Finally, the authors applied the signals approach for the time period between January 1999<sup>68</sup> until April 2011. According to their findings, the scoreboards ability to forecast a financial crisis correctly is relatively low and thus, it offers a rather unsatisfying result in this particular aspect. While they also state, that the broadest set of indicator inherits the highest predictive power, thus the result may be biased be the number of indicators used in each set of indicators.

	BMW	ECB	European Commission	Allianz
Probability of correct crisis forecast	37%	30%	20%	62%
Probability of correct crisis/ non-crisis forecast	90%	88%	78%	96%

Source: Allianz Euro Monitor 2011 – Economic Research and Corporate Development

## 6. General Criticism

The general criticism of the MIP will be divided into the following categories:

1. Legal aspects and accountability
2. Reform power of sovereign states
3. Conflicting goals
4. Short-term effects of reforms
5. Threshold and asymmetry

66 IWH Discussion Paper No. 12 (2011): “Macroeconomic Imbalances as Indicators for Debt Crises in Europe”, Halle

67 To avoid an exchange rate bias, the authors used the average yield of AAA-rated countries of the EMU as a proxy for a safe investment.

68 As Greece entered in 2001 the euro area, for Greece the examination starts in January 2001

6. Time lag and backward looking
7. Cyclic aspects
8. Financial market disturbance
9. Sanctions

### **1. Legal aspects and accountability:**

The excessive imbalance procedure is based on two EU regulations - regulation (EU) No 1176/2011, which applies to all Member States of the EU and addresses the prevention and correction of macroeconomic imbalances, and regulation (EU) No 1174/2011 which refers to correction procedures for excessive imbalances in the euro area and applies only to those countries in the euro area. The latter contains the sections for sanctions while it does not seem to be clear whether the European Union has the legal right to fine Member States because of misbehavior (See Höpner and Rödl, 2012). It is argued that the regulation finds legitimacy in Article 121 (6) Treaty on the Functioning of the European Union (TFEU) according to which the European Parliament and the Council of Europe are appointed to implement tools to monitor imbalances and encouragements to intensify economic coordination. Article 121 (3) and (4) TFEU are the legal basis for the alert mechanism report, the scoreboard and recommendations. However the article contains nothing concerning sanctions or fees in case of misconduct. Although the additional Article 136 (1b) TFEU authorizes the Council to supervise economic developments, according to Höpner and Rödl (2012) it does not legitimate sanctions.

As a more sophisticated legal analysis is beyond the scope of the paper, it lowers significantly the effect of such a mechanism if the European Court of Justice would outlaw the appliance of sanctions and undermines the incentive structure. Therefore, criticism on the legal aspects should be mentioned here, although they will not be further discussed. As it remains up to the Commission to adjust the scoreboard and/or add new indicators, the selection is exposed to politically influenced actions and lobbyism. In a diversified Union this could become problematic in case of an indicator selection that represents single interests instead of common ones and the scoreboard being used to enforce, in fact harmful, economic policies. Such behavior has been criticized in the media while German authorities stress the importance of competitiveness but themselves are not willing to cut exports to the good of the union as a whole. Problems concerning accountability refer to the fact, that the Council can reject a reform plan of a Member State and thus, actively interferes with the democratic elected government in that country. As the Council can also send out recommendations, this effect is even stronger as it allows the Council to influence social reforms or pension schemes. For that reason requests on involving the European Parliament in the EIP decisions are not without reason (see Gros, 2010).

## **2. Reform power**

“Private sector credit expansion is certainly an important indicator of macroeconomic imbalances that can predict overheating housing markets and unsustainable current account deficits. But fiscal authorities cannot easily do anything about this particular indicator. They can at best support monetary and regulatory authorities, for instance by levying taxes on housing transactions if a sharp increase in private credit fuels a bubble in mortgage markets. [...] the present EU/EMU governance framework depends too much on the monitoring of fiscal authorities who may neither be the culprits nor have the instruments to rein the culprits” (Schelke, 2011). A problematic aspect seems to be the fact that even if imbalances are recognized, it will be hard for the local government to address them (also see Höpner and Rödl, 2012; Stieglbauer and Essl, 2011). Indicators as unemployment rate or unit labor costs are developed by the economy itself with limited influence for the government. As government incentives can be used to sustain employment over a short-term period (short-time work compensation payments), the public sector itself as an unproductive employer cannot directly influence employment decisions. Reforms, nevertheless are laid out for future corrections and take time to deploy their full potential.

Further, Greece for instance, is criticized for its massive public sector employment, so it can be assumed that public employment is not seen as an efficient action to overcome unemployment. Similar arguments can be found for the housing price developments or private debt and credit flow. These areas can be addressed only indirectly which may lead to violation of other indicators – for instance government debt as a result of a reduction in unemployment. Additionally, indicators will be influenced by global dynamics. In times of a global recession, unemployment will most likely rise within a country although the reason lies out of reach. All external indicators thus will be influenced and not necessarily represent harmful domestic developments. Further problems can be easily seen as many reforms will contain short-term costs for the citizen and thus bear the risk of losing voters, and political quarrels. As a result the implementation could have the opposite effect as it was supposed to have. Instead of strengthening the economic coordination and convergence this may lead to an opposing atmosphere within the population of the EU and retard European unification.

## **3. Conflicting goals**

Some of the indicators have conflicting potential (also see Niechoj, 2011). For instance as current account surpluses could be reduced in principle by domestic market stimulation, debt position might be worsened. On the other hand a reduction in government debt could increase unemployment and reduce output. Similar to these, many indicators bear the potential to affect others, once artificially redirected. Further, improved economic performance could lead to reduction

in unemployment. This on the other hand will drive up wages, inflation (anticipated in the REER) and in the end asset prices, such as house prices. Investment in house prices together with a well performing economy drives up the optimism, and thus reduces risk aversion. That drives up private credit and leads to an overheating economy. In the end it could also worsen the current account balance as competitiveness is hampered by high increases in unit labour cost. Fiscal consolidation on the other hand should be combined with monetary support to prevent that the Member States' economy will fall into a downward loop.

#### **4. Thresholds and asymmetry**

Thresholds need a good economic judgment to appoint the problem. In case of a threshold set to low, many concerns are raised causelessly. In case of a threshold set to high, it loses its purpose and does not reveal an information on harmful developments (see Begg, 2012). Nevertheless, the strong focus, especially on competitive indicators, has been criticized as being politically influenced (see Klatzer and Schlager, 2012; 2011; Torój, 2012) The selection exclusively points to the struggling countries as being the source of problems and addresses a one-sided fiscal consolidation program, ignoring the social aspects to a significant degree, as coordination and support from other Member States profiting from the earlier developments is desirable but weak so far. Thresholds are criticized as they are derived from empirical statistics and do not necessarily contain any economic meaning (see Pusch and Grusevaja, 2011). As there is no common agreement for example to what extent private debt is sustainable and at what point it becomes harmful, the same holds for other indicator as well. Unfortunately for most indicators, the real threshold of dangerous developments can only be determined ex post. Using a short term average reduces the intensity of changes. This could deter the recognition of harmful developments but on the other hand reduces the frequency of false warnings.

Criticism has also been raised as indicators are not constantly assessed with upper and lower limits, as well as asymmetric thresholds for upper and lower bound (see also Welfens and Monnet, 2012; Niechoj, 2011). However it makes sense to address the indicators with limits only in the direction of harmful developments. Problematic is the case of the current account balance as a surplus does not comprise any risk for the country itself but may rise some problems in their trading partners economy. In general it remains to be seen if there is any economic reasoning for a lower and an upper bound as well as differences in thresholds. The thresholds as such do not reveal long-term economic effects. They do not incorporate causal relations and external effects are neglected and thus may be misunderstood by the public. They are mainly derived by statistical means and represent quantiles.

It further has been questioned if for the case of different economies with different characteristics – welfare scheme, pension funds, taxation and level of development for instance – a homogeneous

'one-size-fits-all' approach is sufficient (see also Torój, 2012; Höpner and Rödl, 2012)). However this concern seems to be shortsighted as the indicators only reflect part of the economic picture and a synchronization indeed is desired.

In general, the indicators should contain the same thresholds for economies at a similar stage of development. Further a deeper convergence process should be the long-term aim among the euro area and the same thresholds are a first step in that direction. The question of asymmetry is furthermore an ideological one. It determines where politicians want to move with the euro area or the EU as a whole (see Klatzer and Schlager, 2011). Is the goal determined by competition driven advancements, namely losses in competitiveness are due to a nation on its own and need to be solved by the nation itself, or is the idea to form a union with further social integration, solidarity and economic coordination desired? Although it is often easier to assess external problems from both sides to ease the pain, the implementation of the scoreboard shifts the reform burden entirely on one Member State and rather deters coordination.

## **5. Short-term effects of reforms**

Implementing reforms, although beneficial in the long-term often contain negative short-term implication. The euro area set convergence criteria prior to the accession of the EMU and thus implemented incentives to overcome the short-term pain for the long-term goal. However, after the accession, many Member States of the EMU hesitated to push reforms further and ended up in an unfavorable position. As before, reforms to gain back competitiveness in the long-run will contain short-term sacrifices. With no support from the EMU or its Member States, reforms for those countries with the highest need of those, will be most painful. Cutting wages and laying off workers in order to increase competitiveness will result in the short term into increased unemployment, reduced domestic consumption and thus negative growth rates. Public debt will be most likely increase especially in terms of GDP. That means that the situation is likely to worsen before there is light at the end of the tunnel. However, there is always the risk of social turmoil, pressure on politicians and the possibility that reforms will be delayed or stopped completely if there are no incentives given from the outside. Therefore, it would be best in the interest of the EU institutions to grant the necessary support that gives the national governments the time and space to implement the required reforms.

## **6. Time lag and backward looking**

In a research paper by the 'Deutsche Bank<sup>69</sup>' attention is drawn to the fact that a scoreboard approach is always backwards looking (see Heise, 2011). Not just that past imbalances are

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<sup>69</sup> See Deutsche Bank Research 2011

revealed, the selection of indicators are based on past experience. However, as the economy is under permanent dynamic changes, it is likely that more or different indicators have to be included for the future (see Niechoj, 2011). Further the time lag between the occurrence of an imbalance, the revelation, the Commission's recommendation compliance or sanctions can be rather large. Overall, it is disputable if that is sufficient in a dynamic economy and thus points to a more systematic problem within in the EU. Future developments are always difficult to assess on the economic level as they are always coupled with uncertainty, thus forecasts should be excluded from the signaling device.

## **7. Cyclic aspects**

The fact that business cycles influence the development of the indicators makes it necessary to implement it in the economic reading. Thus alert signaling in a cyclical slow down should be addressed differently as significant imbalances during a period of economic growth (see Welfens and Monnet, 2012; Heise 2011)). Problems may not be as severe as signals suggest or, on the other hand, imbalances occur but are hidden by the business cycle and thus cannot be assessed in time. Further it may be meaningful to adjust the threshold or the indicator if biased by the business cycle. This would yield the advantage of not rising any concerns on the financial market by wrong signals. On the other hand reforms can be addressed and problems outlined even in economically good times. To some extent this has been done by using a short-term average over three years in many cases. However business cycles are longer lasting than three years, and thus averages appoint the problem only by part.

## **8. Financial market disturbance**

Concerns are raised that the scoreboard signal could lead to a disturbance at the financial market even before a further analysis has been undertaken (see Torój, 2012). Thus it must be assured that Member States are not the victim of overreactions by financial markets as the scoreboard can interfere with expectations. The revelation of an imbalance should solve the problem at an early and easier stage but it should not lead to the emergence of new problems due to the financial market decisions. However, the market's reaction to correct signals should be a good incentive for the country under pressure to take the necessary steps to either prevent or quickly resolve emerging imbalances.

## **9. Sanctions**

Many critics address the aspect of sanctions. Not only that the EDP demonstrated that sanctions

are not easily applicable - and it remains to be seen if the reversed qualified majority voting resolves the problem - it is also doubtful that monetary fines are the best way to address countries displaying persistent imbalances (see Begg, 2012). Often it is argued that instead of sanctions for misconduct, incentives should be created to ensure compliance with EC recommendations. For instance a framework could be created in which countries, not displaying any imbalances, could be allowed to issue 'Eurobonds'. Although the idea that a shared liability reduces refinancing costs sounds tempting, it should be recognized that it is a tool to remove the free market mechanism to evaluate an asset's risk and corrupts the financial market signals. It takes reform pressure away and eliminates a signaling channel of the economic performance of a country.

Gros (2010) offers an alternative incentive in making accessibility to the EFSF dependent on the compliance with Commission recommendation. This would create a beneficial aspect, while incentives for reforms are set, financial aid is offered and available for the countries to smooth costs of the reform. But whether a causal link can actually be implemented stays in question and it limits the role of the EFSF as many countries would be excluded. Access may be needed on short notice while it cannot be recognized if recommendations have been implemented. To a lesser extent, with regard to the performance of the country in question, an additional risk premium on monetary aid from the crisis mechanism could be applied. Schelkle (2011) argues in the same directions, saying that "it is in my view illusory and politically counterproductive for the EU to try and punish sovereign member states for imbalances that governments cannot be held completely responsible for" (House of Lords). Another problem with respect to sanctions is, that if the fines are set too low, not enough incentives have been created. If they are set too high, then they worsen the public sector deficit.

A more general problem appoints the external imbalances. As they are externally influenced, the scope of the scoreboard could be too narrow as it mainly addresses the euro area and the European Union. Although intra-european trade is highly significant and increased after the introduction of the euro, so did the global trade activity. Thus a framework beyond the EU seems desirable as international decisions are closely related to each other. This can be seen in the current situation as the crisis itself started out with a housing bubble in the domestic market of the United States. As it has been outlined, imbalances, although bearing more risks for a monetary union, can express harmful developments on an international level. However it seems unrealistic that such a monitoring system on a higher level, although discussed on the G20 level, can be installed. Even if it would be possible, Member States would most likely not accept any sanctions in case of non-compliance. Pusch and Grusaveja (2011) also point at the costs aspect of the implementation. Of course data collection at a high quality level contains costs and so does the economic interpretation, recommendation and in-depth analysis. Torój (2012) calculated in an impulse-response analysis the costs of reform implementation for certain scenarios. He found out,

that compliance with current account thresholds would be welfare decreasing, due to a decrease in consumption of 0.105% for euro area countries, and 0.033% for countries outside the euro area. But overall these costs seem neglectable, compared to the costs carried out due to the current crisis.

The European Commission mentions in 2012<sup>70</sup>, “The adjustment of external imbalances and the repair of household and corporate balance sheets have been rather painful, particularly in Member States which experienced large imbalances prior to the crisis. This adjustment has been largely driven by the developments in domestic demand, and has often been associated with a significant rise in unemployment levels”. Meanwhile, it seems rather unlikely that developments will be anticipated in advance to the emergence of harmful imbalances in other economic areas, not covered so far, given the scoreboard at its current design, even if the Commission points out its option to adjust. The framework as a whole seems not flexible enough to address this task. It should be recognized that the scoreboard will not lead to a new level of economic performance without any economic disruptions.

Further, as Lucas<sup>71</sup> has criticized that knowing the indicators and thresholds, economic agents will adjust and push the problem onward to another sector, where it could stay unnoticed until significant imbalances have built up. Although the Commission stresses that the compliance with economic policy measures is more important than the numerical interpretation, it lacks transparency and leaves room for interpretation and politically influenced decisions. Thus it seems predictable that the indicators of the scoreboard will not be sufficient to address future developments. Additionally to the criticism above, the scoreboard is missing on an indicator to measure the different price developments within the Member States, such as harmonized index of consumer price. An inflation indicator is also important to the stability of the financial sector.

“Price stability is an anchor of financial stability; among other negative effects, high inflation disrupts the fundamental role of the financial system of allocating resources efficiently and creates uncertainty about fundamentals, thus affecting negatively investors’ choices. Unit labor costs are only one component of inflation, therefore the inflation rate measured via the harmonized index of consumer prices, benchmarked also against the weighted euro area average for the relevant countries, would add useful information to the scoreboard.” (European Systemic Risk Board (ESRB), December 2011). According to the ESRB: “The scoreboard should include short term liabilities (the sum of liabilities maturing within one year) for the unconsolidated financial sector, net of bank deposits, as a share of total liabilities.”

So far it is not clear how many thresholds have to be violated to enter the in-depth analysis or which indicator combinations are considered extremely risky, as the decision remains in the hands

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70 See European Commission 2012, p.13)

71 Lucas Critique, see Lucas, R.E. (1976): “Econometric Policy Evaluation: A Critique”, Carnegie-Rochester Conference Series on Public Policy



of the EC in coordination with other EU bodies. The selection of in-depth analysis from the AMR thus seems to some extent arbitrary and politically driven. It also seems favorable to combine financial aid to countries experiencing imbalances together with reform pressure, to smooth the pain during implementation.

## **7. Indicator specific criticism**

### *Current Account Balance*

Especially the current account balance indicator has been addressed for criticism on the asymmetric approach. Unlike most of the thresholds the upper limit of 6% is not derived by statistical means but has been implemented as a compromise between the European Commission and Member States with a strong exporting industry. While this reveals some inconsistency in the approach it also displays the political aspect and influence on the indicators. The current account balance thus cannot claim to be independently derived as an indicator in the scoreboard. Meanwhile the thresholds are criticized as putting more pressure (entirely) on the deficit countries while the current account balance is an indicator influenced by plenty of countries and not exceptionally by one Member State. A one-sided approach bears higher costs for the deficit countries in the short-run and decouples cause and effects (see Klatzer and Schlager, 2011).

Further it excludes cooperation in this area if the recommendations are only sent to the deficit countries. A coordinated solution to the problem may be easier to implement, faster and less expensive than if one country has to bear the whole costs alone. However a mistake that is often made in this argument is that the European Union is not a closed market on its own. The idea that wage increases in Germany will strengthen the domestic demand and increase imports to Germany, resulting in a balanced current account for Germany and the other states, lacks of logical elements in several aspects. At first unjustified wage increases in Germany could deter economic growth, leading to increased unemployment and thus an increased demand for imports is unrealistic. Secondly, even in the case where demand for domestic products would be strengthened by an increasing demand from other Member States, revealing more generous wage developments, specific consumption habits will not change abrupt and dramatically. Thus, price increases not necessarily mean that the domestic products will be substituted by imports. At third, again even if such a scenario would occur and German consumers turn out to be thrifty and unconcerned with quality aspects, even then there is no reason why these substitutes should come from those countries running a deficit now. If Greek products cannot compete in the international market with Chinese or Brazilian products, there is no reason to believe that Germany would start to import products from Greece once the domestic products exhibit increasing prices. In the end those policies would deter the EU current account balance leading to an aggregated deficit. Thus,

instead of strengthening the EU, the opposite will be accomplished and the EU will experience significant losses in international competition (also see Bruegel, 2010).

Further, a current account imbalance itself does not reflect any harmful development for the country as such. Thus penalizing such a behavior seems absurd. On the other hand the emphasize of the Commission on exports may support the impression, that by strengthening the export sector in every Member State would solve the problem, and promise the EU a bright future. However it is unlikely that all EU Member States can reach a current account surplus especially not if they all try at the same time. This could only work if the rest of the world would be in a deficit position, which is unrealistic, at least in the short run.

Additionally, it has been argued that the current account balance is in fact not a good proxy to measure the external competitiveness of a country (Begg, 2012). While the current account balance includes an import-export ratio with respect to goods and services, it also contains the income transfers according to citizenship – factor income and remittance – and transfer payments. The first indeed represents to some extent the ability of a country to compete on the global market, the latter two on the other hand do not. Factor income rather displays the ownership structure within the economy and according to comparative advantages<sup>72</sup>, the capital should flow into those investments promising the highest returns. It thus should be a desirable situation in the EU and not be penalized. Further it is not out of discussion that a country with a weak domestic sector and strong exports reveals a high level of cost competitiveness, nor if it is a favorable condition to aim for with respect to other Member States. Wages are only part of the cost equation and cost only part of the overall competitiveness. Low wage developments signal only slow increases in welfare for the employees, while strong exports reveal profitability for the business sector. This could result into social tension within countries and society. As a discussion of fairness is beyond the scope of the paper, one has to keep in mind a fair distribution in society as an optimal condition for economic performance.

An interesting aspect is also whether imbalances only within the euro area or EU should be appointed. For the idea to synchronize the business cycle to create a condition for a one-fits-all monetary policy, it makes no sense to look upon current account (im-)balances beyond intra-European trade. Although the indicator reflects international competitiveness and is a useful indicator to analyze an economy, economic convergence and coordination cannot be seen among the trade relations of Austria with China for instance. However, global imbalances, if recognized, would indeed reveal interesting information on the performance of certain countries or areas compared to others. Further the risk of a global eruption could be foreseen more easily. Further a deeper analysis of what products in particular are imported and which are exported could help to identify weaknesses. For example some countries specify in intermediate goods while Germany is mainly exporting final consumption goods. It should be thus considered in the analysis as those

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72 See Ricardo, David(1977): On the Principles of Political Economy and Taxation, Olms Verlag, Frankfurt

products react differently to economic shocks as well as price changes.

According to Collignon and Esposito (2011), Germany and the Netherlands are emerging manufacturing centres, while France and Italy experienced a period of de-industrialization, focusing on non-tradable goods. Depending on the level of development or other characteristics, a current account deficit is not necessarily unsustainable. In general it should be considered sustainable as long as investors are willing to finance the deficit. Countries in a catching-up process often display high current account deficits. Goodhart (2010) mentions that an unsustainable deficit in the long run is undesirable, even for the surplus countries, as they risk to lose their investment in these countries. Thus market mechanisms could be able to adjust these imbalances. The monitoring of national current account developments could also lead to a 'race to the bottom' in order to compete among Member States and would thus strengthen national borders instead of supporting the integration process and leading to internal social imbalances.

In order to assess the critique on the composition of the current account balance, export-import ratios or the trade balance could be used. However for most countries, the figures do not change the picture significantly, as net transfers are usually relatively low. Further the domestic market developments could be monitored as an additional indicator to ensure a sound development and reduce criticism on the externally oriented base of the current account balance.

#### *Net International Investment Position*

Similar as in the current account case, the catching-up process in Member States results into high net borrowing positions. The economic reading should also include the net external debt (NED) which contains only debt that has to be repaid including interest payments. Therefore it might be a good indicator to signal the investment risks of a state. Critics of an asymmetric approach considering upper and lower limits can be addressed with the same arguments as in the current account balance. Although in general a high extent of lending to a specific country increases the risk of economic contagion, risk diversification should not be penalized. Neither does a high net lending position contain harmful patterns for other States.

#### *Share of World Exports*

As the fast growing countries, especially China reveal a strong exporting sector, many countries are already violating the threshold of 6%. Thus it may be reasonable to adjust the limit as the development is not seen explicitly dramatic in most countries as well. Unlike the current account balance, the market share partly contains a measure of the type of a product that the country is specifying on. Thus dramatic decreases may not only be due to increasing production costs, but also due to a lack of innovation among the countries' goods.

## *Nominal Labor Costs*

The indicator determines the relative increase of nominal wages with respect to productivity growth. It is supposed to reflect competitiveness in form of prices. A wage increase with respect to trading partners raises production costs compared to competitors and reduces exports, it may also increase imports as employees are considered to have a higher disposable income. However as this indicator is assessed with an upper limit it reflects the incentive to control the increase of wages in some countries (see DeGrauwe, 2012). Such interference is unpopular, often criticized as a spoil of workers and its intention could also reduce payments in the social sector as tax revenue may be reduced. This could create an imbalance or widen the gap of wealth among society. This is often seen critical as the EC intervenes with national decisions, undertaken by governments elected by democratic means (see Klatzer and Schlager, 2011).

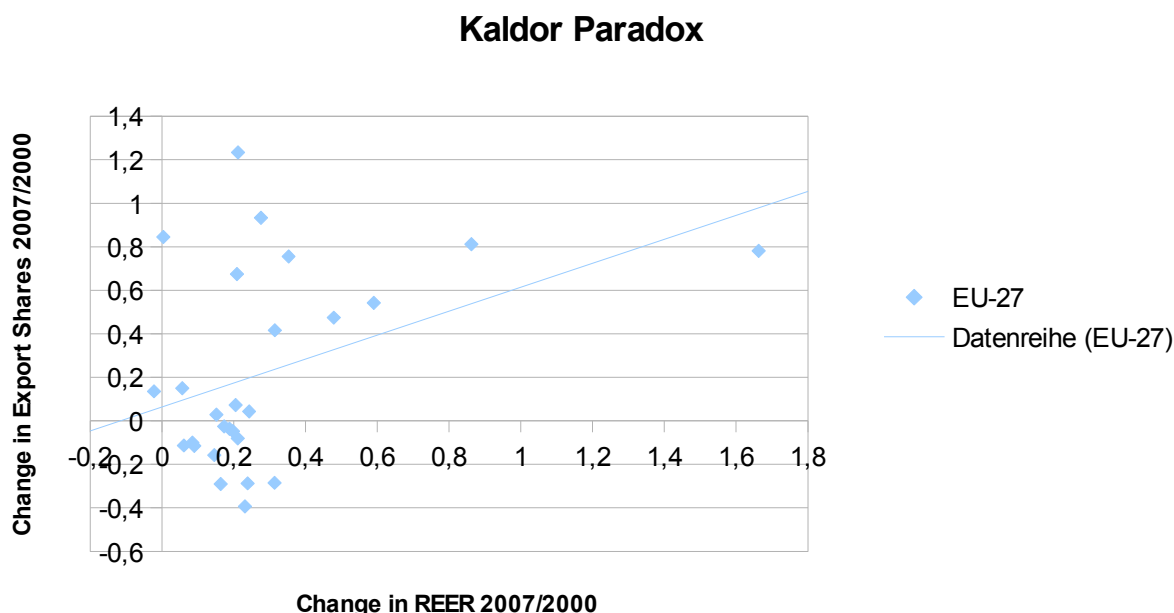
An aggregated indicator as the three year average over the whole economy also distorts a country's real competitiveness position. The reason for such a bias is the fact that competition only occurs in those industries of tradable goods. According to the Balassa-Samuelson effect, labour costs tend to increase faster in non-tradable sectors. An aggregate of both, the tradable and the non-tradable sector would thus exaggerate the cost competitiveness of a country. Member States as Spain or Portugal experienced high increases in labor costs in the construction sector while intra-european competition is low in that area. As a result, the pure aggregated numbers would overstate the true developments and could cause damage to the economy if adjustments would be implemented.

In addition, as nominal unit labor costs are defined as labor costs per nominal output, an aggregate contains no information whether the numerator or the denominator in the equation drives the development. It is often cited that in response to the crisis, intra-euro area divergences especially those of unit labor costs have decreased. As this holds true for the aggregate, in Spain and Portugal for instance this is due to the fact that employment – especially in the construction sector – has been decreased significantly. And in consequence labor costs have decreased and productivity increased compared to the other Member States. However, this does not reveal any changes in the competitiveness nature. This can be well seen if one looks at the sector specific employment numbers compared to unit labor costs by industry. A direct consequence of the increased productivity is increased unemployment shifting the problem to another indicator. Attention should be also paid to the production developments in the sector of increased productivity. As increased unemployment and decreasing GDP accompany the periphery states, it seems questionable if their competitiveness position in fact improves recently.

By definition, unit labor costs contain only the costs for employees. Thus, the number of self-employed over- or underestimates the real costs in the economy. Many statistics try to decompose the cost aggregate, while the assumptions made – for instance same wages/income and costs for

self-employed and employed persons – often lack the economic reality. Thus a change in self-employed numbers has an impact on the labor cost aggregate. A major shortcoming is also the fact, that only changes in unit labour cost are monitored, neglecting the fact that many Member States are at different levels. However, if all countries would now reveal the same developments regarding growth rates, due to their different starting positions, divergence and not convergence would be the consequence. Therefore, it is important to relate growth rates of unit labour cost to its level. Additionally, an analysis with respect to the main competitors – determined by a similar exporting structure – would be of more use than just plotting general developments.

The shortcoming of this indicator is outlined simply by what is called 'Kaldor's paradox' in which Kaldor<sup>73</sup> reveals a positive correlation between increasing unit labour cost via the REER and also increasing trade performance for industrialized countries. As there are discussions to explain the Kaldor paradox, the graph below shows, that the relationship between total unit labour costs and export shares as a proxy for trade competitiveness is inverse to what it is intended to reveal.



Source: Eurostat 2012 – own calculation<sup>74</sup>

73 See also Felipe and Kumar (2011): “Unit Labor Cost in the Eurozone: The Competitiveness Debate Again”, Levy Economic Institute of Bard College, Working Paper No. 651.  
 Sánchez and Bermejo (2006): “Competitiveness and Kaldor Paradox: The Case Of Spanish Service Sector”, Universidad de Alcalá, Working Papers 06/2006.  
 Carlin, Glyn and Van Reenen (2001): “Export Market Performance of OECD Countries: An Empirical Examination of the Role of Cost Competitiveness”, The Economic Journal 111, pp. 128-162, Blackwell.

74 The exchange rate between non euro area countries and those of the euro area has been fixed at the level of 2005 in order to correct for exchange rate fluctuation.

Overall, the decision for an aggregated indicator on unit labor costs seems unsatisfying and an indicator on a sectoral level combined with employment and production figures would lead to a more accurate competitiveness measure. Further, in times of economic slowdown nominal labor cost compared to productivity could be increasing simply due to a loss in productivity. In that case adjustments will be extremely painful as they would lead to nominal wage cuts. Interference in the social sector by the European Commission could lead to tensions and movements deterring further European integration and coordination.

### *General Government Debt*

The indebtedness of a country can be brought back to a sustainable level in two different ways. The one that is mentioned most often is to cut expenditures to drive back the debt. This will occur on a path of low growth as publicly generated growth impulses will be reduced. Further, incentives for investments or business starts will be lowered. Another way would be to increase the GDP to a level that the debt share is lowered significantly. This way requires a fast growing path and could be achieved via increasing exports. However, those countries lacking of a developed exporting sector are left only with the first choice of low growth.

Finally, it has been discussed whether the implementation of implicit government debt such as future payments to the social security and pension system should be included. While it is a good indicator to estimate the upcoming costs of society it is not a real figure and has no direct current implications. However as it may cast light on problems of countries with decreasing population, such as Italy, it may be at least included in the economic reading. While excessive debt will be penalized, running deficits during periods of economic booms could be addressed as well. Ensuring that the Member States are capable to smooth the process in the next crisis and reduce the overheating of the economy.

### *Unemployment rate*

The unemployment rate indeed is displaying a macroeconomic indicator that gets continuously more relevant in the periphery countries. However, it would be much more practical to break down the aggregate and control for differences in age cohorts. Some countries face specific problems with unemployment among the advanced aged population. Others, such as Spain or Greece face tremendous difficulties with youth unemployment (see Welfens and Monnet, 2012) – as half of their work force<sup>75</sup> below the age of 21 is out of labour. Revealing the most problematic cohorts also could make it easier for policy makers to address the problem as if only aggregated figures are used.

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75 December 2012

## *House price index*

Results from the index are difficult to assess as historically, values are subject to large variations. Further, as there is no common reporting standard for the Member States, the quality of the data may differ largely between Member States. The house price index furthermore is an aggregated indicator again and contains no information about developments in larger cities compared to rural areas and thus may not be able to address the problem of prevent real estate bubbles properly. Another aspect is that the market differs largely between Member States, displaying different level of importance of the economy and different probabilities of the emergence of bubbles. Thus it can be questioned whether the indicator can indeed reveal upcoming risk.

## **8. Indicator Suggestion**

The EC specifies the following indicators as included in the economic reading and further analysis of the scoreboard:

- Annual percentage change in growth rate of **real GDP**
- Gross **fixed capital formation** as percentage of GDP
- **Gross domestic expenditure on research and development** as percentage of GDP
- **Current account balance** as percentage of GDP. Balance of Payments (BoP) data used
- **Net lending/borrowing** versus the rest of the world as percentage of GDP and BoP data used
- **Net external debt** as percentage of GDP
- **Foreign direct investments inflows** as percentage of GDP
- **Net Trade Balance of energy products** as percentage of GDP
- A three year average percentage change of **REER against the euro area** (Euro17)
- Annual percentage change in **export market shares in volume**
- Annual percentage growth of **labor productivity**
- Annual percentage growth of **employment**
- A ten year average percentage **change in nominal unit labor costs**
- A ten year average percentage change in **effective UCL versus the euro area**
- A three year percentage change in **nominal house prices**
- **Residential construction** as percentage of GDP
- **Private sector debt** as percentage of GDP using consolidated data
- **Financial liabilities** of the financial sector using non-consolidated annual growth

The following indicators display a range of alternative figures to be implemented in the scoreboard. In case the EC already uses the indicator in the economic reading, arguments will be made in favor of a direct implementation in the scoreboard. They will be organized by 4 Categories, namely labour and social, economic performance, financial and fiscal indicators. For each indicator there will be a short definition, its economic rationale as well as a discussion of possible thresholds and problems concerning data accession and quality.

### **Labour And Social Indicator:**

1. A **Disaggregated unemployment** indicator, that breaks down the unemployment rate into age cohorts, as well as gender cohorts.

*Economic Rationale:* It would display not only current problems concerning high unemployment but a high youth unemployment also reveals upcoming problems when the 'lost generation' will enter the labor force at a later stage or emigrate. Further, the aspect of gender discrimination will be addressed. Differences in work compensation for male and female does not only reveal a social imbalance and an important future task to resolve for Europe, the implications of decreasing birth rates and demographic changes as well as the increased efficiency of companies with a dispersed gender staff make it an economically important aspect to tackle. Unlike the general unemployment figure this indicator would reveal much more information and directly could point sources of social imbalances.

*Thresholds:* In general, only upper thresholds for the age cohorts are meaningful, similar to the general unemployment already implemented in the scoreboard. In principle the same thresholds or the same calculation rules to determine a threshold could be used. For the gender threshold there should be an upper and a lower threshold revealing the deviation from male to female unemployment. These thresholds should create a relatively small band of fluctuation as there is no reason why one or the other gender should display a significantly higher unemployment rate. To eliminate constant false signaling due economy adjustments, an average over a period from 3 years should be used. Finally, both, the total unemployment rate, as well as the change of such should be monitored.

*Data* should be easily available in all Member States with the same degree of quality as the general unemployment rate.

2. An Indicator for **informal labour** displays the degree to which labour is used in the economy without legal registration.

*Economic Rationale:* Such indicator would provide on the one hand side a measure of embezzled



tax revenue<sup>76</sup>, while on the other hand it could reveal sector specific problems<sup>77</sup> in legal employment. A study by Schneider<sup>78</sup> in 2002 presented estimates for informal labour at 18% of GNI on average in OECD countries. Further, the indicator would contain information about fraud regarding unemployment payments.

*Thresholds:* A threshold should set an upper limit after which significant failures are reached. As no informal labour is preferable, limits should be set relatively low in terms of total employment.

*Data* on this indicator will be difficult to gather<sup>79</sup>, especially at a similar high level of quality among all Member States. In response, the indicator would contain significant uncertainty. For that reason it is also difficult to determine an exact threshold.

**3. Labour market participation** represents an indicator for the degree to which citizens take part of the legal labour market.

*Economic Rational:* Unlike the unemployment rate the participation rate adds information on the general degree to which citizens participate in work or in a search for work. This information is important as the unemployment rate as such could bias the general perception of reality. A low unemployment rate combined with low participation does not reveal a favourable state for an economy. It further links to some degree the unemployment rate and the amount of informal labour. As such, the participation rate could be an indicator that is explicitly included in the economic reading.

*Thresholds:* Thresholds should be set with a lower limit and could contain of an aspect of change of total participation. Further, as for the unemployment rate, a subdivision into gender and age cohorts would be desirable. The threshold should be oriented at the natural unemployment rate or the NAIRU.

*Date* availability as well as quality should be accessible at a reasonable state among all Member States.

**4. Sectoral unit labour cost** weighted by trade performance display the cost competitiveness of a Member State regarding the cost of labour. As the aggregate of the ULC indicator in the scoreboard contains also wage developments of the non-tradable sector, trade-weighted sector ULC display developments only in the industries, actually being under competition with other

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76 See Schneider, F. and Buehn, A. (2012): "Size and Development of Tax Evasion in 38 OECD Countries: What do we (not) know?", CESifo Working Paper Series 4004, CESifo Group Munich.

77 See Schneider, F. and Buehn, A. (2012): "Shadow Economies in Highly Developed OECD Countries: What are the Driving Forces?". IZA Discussion Papers 6891

78 See Schneider, F. (2002): "Size and Measurement of the Informal Economy in 110 Countries around the World", Worldbank Schneider, F. (2002): "The Size and Development of the Shadow Economies of 22 Transition and 21 OECD Countries", IZA Discussion Papers 514.

Schneider, F. (2011): "The Shadow Economy and Shadow Economy Labor Force: What Do We (Not) Know?", IZA Discussion Papers 5769

79 See Giles, D.E.A. (1999): "Measuring the hidden economy: Implications for econometric modelling", The Economic Journal 109/456, pp. 370-380

countries.

*Economic Rational:* General developments of the ULC are biased by the developments of the non-tradable sector. In consequence significant developments in certain industry sectors are hidden. Further, trade weights should be derived according to competition in certain sectors and not the overall trade between countries.

*Thresholds:* Thresholds should contain an upper limit similar to the one in the scoreboard for the nominal unit labour cost, including relative developments to the main trading partners.

*Data* on such sectoral developments are rare and contain uncertainty as their quality is decreasing with the level of disaggregation. However, as it is possible in principle to collect such data, this should not be a reason to rule out such an indicator.

5. An indicator for **wealth inequality** should display the degree to which wealth is distributed among the Member States citizens. For such purpose, a combination of existing indicators such as poverty rate, Gini-coefficient as well as a measure for the difference between the top income levels and the low income levels.

*Economic Rational:* Wealth inequality represents not only social inequalities but also the risk for tension among society. Further it is considered to be inefficient to have a high level of inequality.

*Thresholds:* An upper limit should be set such that endangering developments are anticipated early. The limits itself are difficult to determine as they depend on the indicator composition and on the perception to what degree inequality does not harm the economic development and cause imbalances in other aspects.

The *data* quality also depends on the composition of the indicator and its definition. Overall, qualitative data availability would be expected to be weak. This most certainly lowers the information and the indicators usability.

### **Economic Performance Indicator:**

1. An indicator for **Gross Domestic Product growth** displays information of the overall performance of the economy.

*Economic Rational:* The Commission decided to use annual GDP growth rates to extend the scoreboard in the economic reading. However, as the growth rate indicates the overall economic performance it would be a good factor to be displayed in the scoreboard and is commonly known by the public. Further, many recent crisis emerged after a peak of economic performance, often due to bubbles and an overheating of the economy. Thus, the growth rates could be also good signals to detect imbalances in the future. As many economic systems and social schemes require economic growth, the scoreboard should include an indicator for such developments. GDP growth exhibits wealth increases in a society as a whole and is thus often the primary goal of economic

policies. Countries experiencing difficulties often suffer from low growth or stagnation. Additionally prior to economic crisis an economic overheating can be seen with high growth rates followed by severe recessions. Further business cycle developments are displayed presenting further information for the economic reading of the other indicators. Finally, a general indicator could detect new forms of imbalances not covered by specific indicators such as house price developments.

*Thresholds:* Upper and lower limits should be implemented to detect a general problem of the economy or its overheating. The indicator should be measured as a 3 year average to allow for short term fluctuation. An upper limit should be set at a growth rate of about 3 percentage points as this seems a considerable growth. Lower limits should be cyclical adjusted and be oriented on average EU, or euro area performance. A deviation above 1 percentage points of the general development should raise some concerns.

The availability of *data* is given for all Member States as well as a high standard of quality is given for this indicator.

2. The **Output-Gap** displays the economy's business cycle and performance. It measures the difference between actual economic performance and the possible performance considering efficient use of resources.

*Economic Rational:* The output-gap would add information of the performance of the economy in terms of efficiency and adjusted to cyclical developments. Further, information about expectation on future performance is added, as the indicator reveals how close the economy moves with its potential. It is considered to have direct effects on inflation and employment as well as import and exports. Thus, the indicator provides a general performance and covers a wide range of developments. Taking the actual GDP and the output-gap, the **potential output** of a country can be derived. This further adds information of economic differences among member states. Additionally, potential output contains information on inflationary pressure if the actual output is above its potential.

*Thresholds:* An upper and a lower limit should be symmetrically implemented to detect an overheating economy as well as a high degree of inefficiency. Relative developments to other euro area Member States or euro area aggregate can be used to further determine country specific shortcomings. A major flaw of the indicator is that the output-gap is a priori unobservable. Therefore it is difficult to set accurate thresholds and draw conclusions from the results. Further the indicator has to use a filter to detrend the data (HP-Filter). This leads to additional uncertainty and an end-point problem. However, regarding the problems to generate the data, the indicator could be used in the economic reading to supplement GDP growth.

The quality of such *data* however would contain a significant degree of uncertainty as the potential of a countries performance is no accurate measure in itself. Further, the quality of the data could

differ between Member States.

3. The change of **domestic investments** relative to GDP represents the measure of how attractive the economy is to investments. It includes investments made by domestic and foreign investors in the domestic economy.

*Economic Rational:* The indicator displays how attractive the economy is for investments. Thus it contains information on future expectations as well as the degree of competitiveness the economy has compared with other Member States.

*Thresholds:* Upper and lower limits should be set as imbalances within the Union are to be detected. Thus not only a loss in competitiveness reveals a divergent development but also an overly attractive investment position. Of main interest would be to detect the development of performance, thus the change should be addressed. Upper and lower thresholds should be set symmetrically (same upper and lower bound) and calculated as a 3 year average. Further the exact limits require a more sophisticated analysis and are beyond the main idea given in this paper.

*Data* on the indicator should be possible to access.

#### **Financial Market Indicator:**

For the recent 2013 report, the commission added a financial market indicator to the scoreboard – annual change in total financial liabilities – as well as one to the economic reading to supplement – debt-to-equity ratio of the financial sector.

Further an indicator of the **stock market performance** could be useful to add as it shows the expected performance of its listed firms.

*Economic Rational:* Including the change in national stock market performance compared to the average performance of the other Member States' stock market could display divergent developments. Including stock market developments in the scoreboard would reduce the scoreboard's limitation in monitoring indicator specific developments. The stock market is seen as including all available information into the judgment of assets. Including information on economic developments, not covered by the scoreboard so far. This most likely provides benefits while the economy is undergoing dynamic changes with the risk of the scoreboard indicators, not revealing any harm sufficiently enough. Thus, so far ignored maldevelopments could be noticed with such indicator, reducing the risk of a hidden imbalance.

*Thresholds:* Thresholds should contain limits to upper and lower developments as imbalances and thus the deviation from the average performance would be monitored.

Regarding the stock market index, *data* is available easily.

## **Fiscal indicator:**

**1. Long-term/short-term government yield bonds** as a proxy for the refinancing costs of a EMU Member State.

*Economic Rational:* The refinancing costs although often criticized as being irrational, should represent the market perception of a countries ability to deal with their situation. The bond and share markets are often used as an early signal where the economy will move. It thus inherits several advantages with respect to the scoreboard indicators. First it is an indicator that represents the perception of future developments and thus is forward looking in its nature. As measures shall be undertaken to prevent harmful imbalances in the future such a tool is indispensable to address upcoming problems. It is further accepted that at an earlier stage, corrections will be less costly and easier to be implemented as well as accepted by the population. Secondly, the indicator represents a wider spectrum of influence on the indicator. It therefore is less limited in anticipating new harmful developments not captured by the scoreboard and can rather be applied to every recognized malformation. It gives the scoreboard the ability to determine imbalances off the competitiveness and financial aspects. Thirdly, unless many other indicators, it cannot be addressed directly by the government and thus is not subject to the critique mentioned by Lucas. The national governments can only affect the indicator indirectly through improvement of the country's overall economic position. Fourthly, the refinancing costs could complement government total debt and running deficit. As the refinancing costs represent to some degree the market's risk perception. It thus adds qualitative information to the quantitative measures of government debt.

*Thresholds:* The indicator should contain an upper limit in comparison to the average long-term government bond yield in the EMU. As the exact numerical determination of the best threshold for this particular case is beyond the scope of the paper, an interest rate that is above 3% of the average would most likely give rise to concern.

*Data* is widely available. Whether it is accurate in revealing the true risk or whether the perception of the risk is wrong has been discussed in the literature<sup>80</sup>.

**3. Implicit government debt** is a measure that takes demographic developments into account to calculate the upcoming liabilities of a country given their social security system and growth expectations.

*Economic Rational:* It represents not only the debt the Member State has accumulated so far but also what costs are upcoming. This adds a forward looking aspect to the scoreboard. It is criticized to use implicit debt since it inherits costs that have been not realized so far. However as the total

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80 Haugh, Ollivaud and Turner (2009): "What Drives Sovereign Risk Premiums? - An Analysis Of Recent Evidence From The Euro Area", OECD Economics Department Working Papers No.718  
Di Cesare, Grande, Manna and Taboga (2012): "Recent estimates of sovereign risk premia for euro-area countries", Occasional Papers 128/12, Banca D'Italia

government debt and running deficit are already implemented in the SGP, it would add useful information to the already existing. The indicator would include information on the social structure of the Member State and upcoming challenges, thus would enrich the scoreboard. Further the indicator would increase the ability to compare the different Member States with each other. As the government can directly affect most social programs, it can be used for further alignment among the Member States and business cycle synchronization.

*Thresholds:* As it is difficult to determine the sustainability of future liabilities based on demographic changes, setting thresholds is not trivial. An upper limit however could be derived by statistical means taking the average performance of the Member States into account, prior to the sovereign debt crisis.

The *data* itself is not trivial either as it contains expectations about future developments in several aspects – such as demographic changes, future growth or social expenditures.

Besides the highlighted indicators there exist several other indicators that could be discussed and should be. However, that should be subject to a different work. The section most certainly does reveal, that the scoreboard compilation is not without alternatives.

## **9. Conclusion**

After ten successful years of the euro as a common currency, the sovereign debt crisis put optimism to a sudden stop. Rising imbalances within the euro area raised concerns about the stability of the framework of the monetary union. Initial surveillance programs did not anticipate the risks induced by macroeconomic imbalances, particular for economies linked by a monetary union.

After revealing the mechanism by which imbalances emerge and the risks they spread among Member States of the euro area. The conclusion that the surveillance framework of the EMU needs to be extended by monitoring macroeconomic developments, besides fiscal constraints, has been decisive. Anticipating the changed circumstances, the European Member States agreed on a surveillance scheme, the Alert Mechanism Report. Its key component, the scoreboard, is designed to work as an alarm signaling for endangering and diverging developments among EU Member States. A simple descriptive analysis has shown, that the scoreboard is indeed able to detect diverging pattern among Member States of the euro area. Despite the fact that such implementation is a landmark in economic coordination within the European Union, the analysis of this paper highlights the major shortcomings of the created report.

The legal foundation of the AMR seems to be weak, in order to efficiently enforce compliance. The results of the first report (2012), show that although many imbalances have been detected by the

scoreboard and the inconvenient economic performance within Europe, the conclusion of the in-depth analysis have been of no further actions. Whether the reforms regarding in the voting procedure to impose sanction for non-compliance are effective remains questionable. After missing financial market indicators on the scoreboard in the 2012 report, an indicator regarding outstanding liabilities has been added. Again it seems unlikely, given the fact that the crisis has started as a financial crisis, that this indicator in itself will have enough power and contains enough information to control for imbalances in the financial sector. It further has to be criticized that most of the benchmarks for the indicators have been derived by statistical means and do not display economic reasoning. Thus, there is no reason to believe that a violation of thresholds will indeed have any danger on the well-function of either the Member States' or the Unions' economy. Although the scoreboard is subject to possible adjustments, it is not clear whether policy makers will be able to adjust the AMR, such that it stays updated to changes in the economy in time. Similarly, the time horizon between the detection and correction of imbalances seems to be large rising concerns on the report's ability to correct developments opportunely. Finally, the one-sided focus on competitiveness has been subject to major concerns. Such constraints in phases of economic distress have the potential to generate more harm than good in the short-term. It therefore seems essential to combine corrective measures imposed by the Excessive Imbalance Procedure with support from the EMU in order to smooth the short-term cost of adjustment and ensure the long-run improvement.

Next to the criticism, the paper presents a number of potential indicators to improve the scoreboard. The most important improvements would be the disaggregation of unit labour costs, as well as unemployment as the aggregates mask important imbalances in the economy. Another important element would be the extension of the time horizon to anticipate future developments. For such reasons, it would be reasonable to include an indicator on the scoreboard such as *implicit debt*, *stock market developments* or *output-gap*. Finally, the scoreboards focus competitiveness can be relaxed by including an indicator for social imbalances, such as *wealth distribution* or *informal work participation*.

Overall, the AMR is a clear improvement. It strengthens the business cycle and economic coordination among Member States. However, time will shed light on the question whether it will be efficient in detecting and more importantly correcting harmful imbalances within the Union.

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## **Abstract**

Macroeconomic imbalances turn out to contain significant risk on the well-functioning of a monetary union. The effort of the Economic and Monetary Union (EMU) to implement the Alert Mechanism Report as a monitoring scheme that can detect and correct for maldevelopments has been essential to maintain a stable framework for the upcoming challenges. However, the implementation of the scheme contains some significant shortcomings. First, the legal foundation of corrective measures and sanctions is weak to interfere with democratically elected governments and their policies. Further, the focus on competitiveness is often seen as only one side of a coin. Correction matters, despite the question of their applicability, have the potential to conflict with other goals or other indicators. The corrections also contain the risk of worsening the economic situation of a country in the short-run. In general, the scoreboard itself seems to reveal imbalances and divergent developments among Member States well, however its forecasting ability remains weak. The paper additionally proposes alternative indicators or extensions to the existing indicators on the scoreboard. Most importantly, it suggests to disaggregate measures of unit labour cost and unemployment as they mask important developments that can cause the rise severe imbalances. Finally, to account for changes in the dynamic economy, an indicator that reveals developments more generally and contains future developments should be included in the scoreboard.

## **Zusammenfassung**

Es stellt sich heraus, dass makroökonomische Ungleichgewichte bedeutende Risiken für das Funktionieren einer Währungsunion darstellen. Die Anstrengungen der Wirtschafts- und Währungsunion den Alert Mechanism Report als eine Beobachtungsprogramm zu errichten, welches Fehlentwicklungen erkennen und korrigieren kann, war maßgeblich zur Sicherstellung stabiler Rahmenbedingungen für zukünftige Aufgaben. Allerdings zeigen sich bei der Umsetzung des Programms einige Mängel. Erstens ist die rechtliche Grundlage für Korrekturmaßnahmen, sowie Sanktionen nur schwach, um sich in die Entscheidungen demokratisch gewählter Regierungen und deren Entscheidungen einzumischen. Des weiteren wird der Fokus auf Wettbewerbsfähigkeit oft als nur eine Seite der Münze gesehen. Korrekturmaßnahmen, abgesehen von der Frage ihrer Durchführbarkeit, haben das Potential mit anderen Zielen oder Indikatoren zu kollidieren. Außerdem tragen Korrekturen das Risiko die wirtschaftliche Lage eines Landes kurzfristig zu verschlechtern. Im Allgemeinen scheint das Scoreboard in der Lage, Ungleichgewichte und ein Auseinanderdriften der Mitgliedsstaaten zu erkennen, jedoch bleibt die Fähigkeit zu Zukunftsprognosen schwach. Die Arbeit bietet außerdem Vorschläge zu Alternativen, bzw. zur Erweiterung der bereits existierenden Indikatoren im Scoreboard an. Am wichtigsten ist hierbei das Disaggregieren von Messgrößen wie Arbeitsstückkosten und Arbeitslosenrate, da diese wichtige Entwicklungen, welche das Entstehen gravierender Ungleichgewichte verursachen können, im Aggregat verdecken. Schlussendlich sollte ein Indikator dem Scoreboard zugefügt werden, welcher den dynamischen Entwicklungen der Wirtschaft Rechnung trägt und zukünftige Entwicklungen antizipiert.

# LEBENS LAUF

<b>Persönliche Daten</b>	Lorenz, Hanno geboren am 06. September 1985 in Hamburg (Deutschland) Staatsbürgerschaft: Deutschland
<b>Bildungsgang</b>	1992-1996 Grundschule Carl-Goetze in Hamburg 1996-2005 Wilhem-Gymnasium in Hamburg 2003 Highschool Diplom an der Valley Central HS, New York, USA 2004 Schüleraustausch ans Colégio Visconde de Porto Seguro, Sao Paulo, Brasilien  2005 – 2006 Zivildienst an der Bugenhangeschule in Hamburg  2006 – 2009 Studium des Wirtschaftsingenieurwesen an der Technischen Universität Hamburg-Harburg  2009-2012 Bakkalaureatsstudium Volkswirtschaftslehre seit 2012 Magisterstudium Volkswirtschaftslehre
<b>bisherige Berufserfahrung</b>	Praktikum bei der KRÜSS GmbH Hamburg im Herbst 2007  Teilzeitbeschäftigung bei der KRÜSS GmbH Hamburg von 2007 bis 2009  Praktikum bei der Oesterreichischen Nationalbank im Herbst/Winter 2012