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"L'Europe se fera par la monnaie ou ne se fera pas. "
Jacques Rueff[1]

Reviewing European Monetary Unification – The path towards EMU and EMU's first years of existence

1. Introduction

Undoubtedly, the start of EMU marked a new era in economic and monetary history in Europe, dramatically changed the environment of monetary and economic policy in general, always giving rise to vivid debates in economic theory and European policy making. EMU clearly accounted for one of the most profound European integration steps – if not the most profound – in post-World War II history. Unsurprisingly therefore Duwendag et al. insisted that EMU "has no historical predecessor" and that it is unique in its nature as "…sovereign states have replaced national currencies with the euro and conceded monetary policy authority to a new, common institution." [2]

This supranational monetary policy by a single monetary authority (i.e. the ECB) – embedded in an unprecedented judicial and institutional framework (i.e. the Treaty of the European Union) – marked an unparalleled step in European monetary integration.
Overall, economic reasoning behind creating EMU was to lay foundations ensuring increased prosperity and welfare, to increase market efficiency and competition in Europe, while keeping monetary stability. Especially the latter had for many decades been a concern in Europe, bearing in mind 20th century European history and especially the highly unstable inflationary periods of the interwar years.

General consensus[3] nonetheless agrees that, despite economics being a prime motive for the formation of EMU, it also constituted a significant step towards further political integration and towards completion of a unified Europe that guaranteed lasting peace and freedom. Analysing EMU from a historical and theoretical point of view is surely an ambitious task. Just as much as EMU surpasses the spectrum of economic union and covers, in its idea and conception, political aspects, the topic still remains highly discussed. One aim of this thesis therefore is to take this variety of approaches into account and merge them into an analysis of the run-up to EMU and of its first years of existence in order to answer the question whether EMU has brought advantages or has been a success story.

[1] Rueff (1965), French economist, advisor to the government and member of the Académie Française on the occasion of his introductory speech at the Académie.
[2] See Duwendag et al. (1999), ch. 1 for a good introduction to EMU's unique 'nature'
[3] See for instance Klaus (1996), Verdun (2002), Duroselle (2002) or Peterson and Shakleton (2002)

Economic Theory…

Economic theory on monetary unions is mainly attributed to the Optimal Currency Area (OCA) theory developed first by Robert Mundell[4] and extended by various other authors[5]. The question as to whether EMU is an OCA has always been subject to intense debates. Especially early contributions stated that EMU would not constitute such an optimal area in the initial stage and the doubtful question is whether it might ever turn into one over the years and decades to come[6].

…but also political and historical factors behind opting for EMU

What were the ideas – other than economic reasoning – behind creating a single currency block within Europe? According to Verdun[7], "…the EMU process is in part a result of the changes in the global economy and the pace and nature of the wider European Integration process…" and the "…global context is crucial in explaining European Integration more generally and EMU specifically." Some go even further, claiming that it was Europe's economic and political answer to globalisation.[8]

Further aspects, as identified by Verdun and various others[9], include the view that EMU would be the logical follow-up to the completion of the European Single Market by 1992, as previewed by the Single European Act, which went into force in July 1987. Within the European context, growing trade and increasing economic interdependence led policy-makers to recognise the need for further economic coordination and cooperation. Opting for a common currency as an ultimate integration step therefore only seemed rational: a single European currency was considered to be a means to reap the remaining benefits from a Single European Market, to increase trade and to reduce transaction costs, eventually permitting a more efficient allocation of resources. With the creation of a Single Market, capital markets liberalised and a fixed exchange rate regime in place, autonomous monetary policy room for manoeuvre would have been limited or even non-existing – installing EMU therefore turned out to be the logical consequence.

Over much of the 20th century fixed exchange rates have appealed to European policy makers who wanted to use the success of the Exchange Rate Mechanism (ERM) in the European Monetary System (EMS) to protect European economies from potentially disturbing speculative attacks by financial markets. Opting for fixed exchange rates fit well into the neo-liberal and monetarist consensus on monetary policy. It was maintained that manipulating exchange rates would only lead to short-run benefits, ultimately resulting in wage and price inflation in the long-run. As a result, monetarists advocated stable or even fixed exchange rates, as well as structural reforms whose aim were the elimination of labour and product market rigidities, "instead of using exchange rate policy in the form of currency devaluation as the long-term cure of low productivity"[10].

[4] Mundell (1961)
[5] Among others McKinnon (1963), Kenen (1969), Ingram (1969), Fleming (1971), Ishiyama (1975)
[6] For example Kenen (1969) and (1995), Bofinger (1994a) or Ricci (1997)
[7] Verdun (2002), p. 3
[8] Lachs and Grünwald (1998) or Verdun (2002)
[9] For instance Pelkmans (1997), Eichengreen (1993), Eichengreen (1998)
[10] Hix (1999), p. 295 ff.

From a ‘non-German point of view’, EMU was thought by some member states to be a way to break the quasi-hegemonic monetary policy role of Germany, whose Bundesbank was setting interest rates that had to be followed by other member states in EMS. As we will see, the ECB statutes and policy undertakings very much resemble the pre-EMU Bundesbank style of monetary policy.

A final point to be borne in mind concerns the historical context and the changing face of world politics with the demise of the Soviet Republic and the re-unification of Germany. In view of the latter, EMU also became a way to commit Germany closer to Europe and *vice versa*: In return for giving up the deutschmark and its independent monetary policy, Germany only agreed to the implementation of EMU on certain conditions to be met by all potential member states, i.e. the respect of economic convergence criteria and the setting-up of an independent – Bundesbank-style European Central Bank (ECB).

This thesis will attempt to review European monetary unification while reuniting all these approaches helping to explain the creation of EMU. Considering the variety of factors coming into play, i.e. economic and theoretical reasoning, European and world politics and the overall historical context during the process of European integration, this thesis will try to show why EMU was the logical last step in European monetary integration and will furthermore try to look at economic facts and findings in order to assess EMU’s first years of existence.

Offering a definite answer whether EMU has so far been a success story in European economic policy making, just as the Currency Union and the Single Market Programme were, may be a bit too early, but a first indication nonetheless seems possible and desirable. So far it seems that EMU member states have undertaken serious efforts to make EMU work. However one must admit that commitment has been different from country to country and some countries fare better than others. Overall though it is undisputed that the euro has become a global currency and that it has helped to solidify EMU’s and the EU’s role as a global economic player.

Certainly, the empirical part of this thesis – considering that EMU is less than a decade old – cannot yet be exhaustive, nor will it claim to be able to offer a definite conclusion. Hopefully though it will give us an idea about where EMU stands right now and where EMU is heading to, identifying potential future problems and areas where reforms and changes have to take place in order to ensure the smooth functioning of EMU in the future.

2. A short historical overview: post-World War II Europe

The European Union (EU) as we know it today only came into existence on 1 November 1993 after the signing of the Treaty of the European Union (TEU) in Maastricht on 7 February 1992. The EU reunited the European Coal and Steel Community of 1952, the European Economic Community established in 1957 and Euratom under one umbrella.

The integration process – culminating in the creation of EU and EMU – in the decades following the Second World War was, as we will see, motivated by political, economic, historical and security factors and it was, over the years, advocated by a large number of European and international policy leaders.

Historically one can say that European integration started with economic reconstruction, which was on one hand considered to be the only possibility to allow Europe to grow and evolve under stable domestic circumstances. Sound economies were considered to be essential to avoid the poverty trap and nationalistic tendencies to arise again, as it had happened in the interwar years in Germany and Austria. This reconstruction process was mostly ensured through external assistance provided by the winning parties of the World War. This assistance however was conditioned on certain factors to be fulfilled, among others the pledge of European nations to open up to international trade and to avoid the implementation of protectionist measures in the economic policy decision making process.

The particularly problematic German-French relation after the war was thought to be solved by the particular character of institutional arrangements taken in 1952: the European Coal and Steel Community (ECSC). The ECSC's aim was to facilitate the reconstruction of the most important industries that had been destroyed, while putting them under supranational control. On one side this particular set-up ensured France and Italy to have surveillance capabilities over relevant industrial sectors of the former enemy Germany and, at the same time, it gave Germany the opportunity to regain at least some say over relevant industries. According to Artis and Lee[11], one other main feature of the ECSC was the establishment of a free trade area (FTA) with the aim of creating a common market, of removing any remaining barriers to trade, tariffs or quotas, and to modernise European industries while restricting subsidies. The ECSC was meant to provide the essential framework for reconciliation and rehabilitation between previous enemies.

2.1 The Treaty of Rome, the EEC and Euratom

One further important step in European integration was the signature of the Treaty of Rome in 1957. The Treaty of Rome gave birth to the European Economic Community (EEC), uniting the six founding members of the ECSC. The EEC advocated free movement of labour, a common customs policy and went further in its supranational institutional set-up. It aimed at deeper economic integration, especially through the introduction of joint policies, among others – or most prominently – the Common Agricultural Policy (CAP).

[11] Artis and Lee (1997), ch. 1, p. 14

The EEC's intention with respect to monetary integration was the establishment of a monetary zone with fixed exchange rates, harmonised macroeconomic policies and liberalised capital flows. Coordination in monetary matters was considered to be essential, considering that the end of the 1950s saw very different developments of inflation rates within European states.

The judicial statutes of the EEC nevertheless did not mention the substitution of national currency by one single European currency. Nor did it envisage any specific new feature in exchange rate policies, as, according to Gros and Thygesen[12], "exchange rate policy and balance of payment assistance (still) remained de facto an IMF domain" in times where Bretton Woods arrangements were still the dominant component of international monetary and exchange rate policies. Procedures enshrined in the Treaty of Rome aimed at complete elimination of balance of payments disequilibria and established a monetary committee with advisory status. Overall though the existence of the Bretton Woods system as the main monetary arrangement in the international monetary system did not make things urgent

The early 1960s, i.e. the years just after the signing of the Treaty of Rome, were a stable period with fairly low unemployment and still relatively low trade linkages between EEC member states – the need for, or the potential impact of exchange rate changes, would consequently only have been very limited.

However, with rising US deficits in the 1960-70s increasingly affecting Europe, European members of the Bretton Woods Agreement were not capable any more, nor willing to bring their respective economies in line with the USA or to respond adequately to the changing face of the world economy. The demise of the fixed exchange rate system under Bretton Woods opened up a period of turmoil in international financial relations, characterised by the re-emergence of beggar-thy-neighbour policies and increased currency speculation. These developments had shown to European leaders that existing institutions had become inadequate, that a European answer had become necessary to react to this unstable environment and to ensure proper economic development. In this view, Barre[13] proposed in 1968 the organisation of a monetary coordination mechanism between EEC member states.

The Werner plan in 1970 – named after Luxembourg's Minister of Finance – went even further and recommended a reduction of fluctuation margins of European currencies. Werner's proposal aimed at deepening and widening the EEC with the ultimate goal of a monetary union to be established by 1980. The plan furthermore stressed the free movement of factors of production, but emphasised that "factor mobility would have to be supplemented by public financial transfers to avoid regional and structural disequilibria from arising."[14]

Such a monetary union would ultimately require the complete liberalisation of capital transactions, the full integration of banking and other financial markets and the irrevocable locking of exchange rate parities. Implementing this plan, however, would not necessarily have corresponded to the replacement of national currencies with

[12] Gros and Thygesen (1998), ch. 1
[13] See Pelkmans (1997), ch. 2
[14] Gros and Thygesen (1998), ch.1, p. 13

one common currency and it did not recommend the establishment of a European central bank, but only a community system of European central banks.

Comparing ideas as laid out under the Werner plan to later discussions on EMU in the early 1990s (i.e. the time of the Maastricht Treaty) two main differences stand out in addition to the relative neglect of institutional features and procedures: the Werner plan paid less attention to achieving economic (or fiscal) convergence and low inflation differentials in the short-run, because initial divergences among prospective participants were simply less visible than in the 1990s.
The Werner plan's proposals were however – in contrast to the Maastricht provisions – more concerned about the longer-run risk of divergence in economic performance and policies and consequently made more radically constraining proposals to put into place an EC authority to conduct budgetary policies at the Community level and it "even introduced some potential scope for a joint incomes policy."[15]

Overall in retrospect, a sound synchronisation of policies was not possible any more at a time of several major oil crises hitting the world economy, being responsible for European economies to diverge more and more one from the other. In addition to that Duwendag[16] explained the failure of the Werner Plan to create a monetary union by the 1980s by the "too divergent views on monetary strategies and the missing willingness to concede national sovereignty" – it was therefore a too ambitious plan for this period.

2.2 The "snake in the tunnel"

Bretton Woods member states initially attempted to save their agreement by the Washington compromise agreed upon in December 1971. Its main result was the enlargement of fluctuation bands of participating currencies vis-à-vis the US dollar (USD). At the same time though, as soon as in 1971 the first exchange rate crisis broke out, European countries went further and envisioned the establishment of a fixed exchange rate mechanism within the existing system with even smaller margins of fluctuation.

In March 1972, the six EEC countries decided to implement the first stage of their original plan, agreeing to restrict the deviation of their currencies to 2.25% on either side of existing EEC parities. This narrow band within the wider dollar band (4.5% on either side) became known as the "snake in the tunnel" arrangement, initiated after the Basel Accord of 1972.

The snake achieved, at least initially, to preserve a minimum monetary order in Europe, even after the demise of the Bretton Woods Agreement. During most of its existence however the snake underwent turbulent times. As a response to the oil price shocks of 1973 and 1974 (see below Tables 1 and 2 for inflation and growth rate developments in this period) and due to divergent policy reactions by European states, respecting the fluctuation margins became more and more difficult for several countries and several parity adaptations were necessary to further commit to a fully functioning and stable exchange rate system.

[15] Gros and Thygesen (1998), ch. 1, p. 13
[16] Duwendag (1999), ch. 1

Table 1: Inflation rates (%); various countries; various years

	1970	1971	1972	1973	1974
Belgium	3.9	4.3	5.4	6.9	12.7
Denmark	6.5	5.8	6.5	9.3	15.3
France	5.3	5.4	6.1	7.4	13.6
Germany	3.5	5.2	5.5	7	6.9
Italy	4.9	4.8	5.7	10.8	19.1
Luxembourg	4.6	4.7	5.2	6.1	9.5
Netherlands	3.7	7.57	7.8	8	9.6
United Kingdom	6.4	9.4	7.1	9.2	16

Source: OECD

Table 2: Real GDP growth rates; var. countries

	1970	1971	1972	1973	1974	1975
Belgium	6.2	3.8	5.3	6.1	4.2	-1.3
Denmark	1.5	3.0	4.2	3.8	-0.8	-1.2
Germany	5.0	3.3	4.1	4.6	0.5	-1.0
France	5.7	4.8	4.4	5.4	3.1	-0.3
Italy	5.3	1.8	3.7	7.1	5.5	-2.1
Luxembourg	1.7	2.7	6.6	8.3	4.2	-6.6
Netherlands	5.7	4.4	2.7	4.9	4.1	0.2
United Kingdom	2.2	2.0	3.6	7.1	-1.4	-0.6

Source: European Commission AMECO Database

2.3 The failure of the monetary snake

In June 1972 the UK gave up on its monetary stability engagements to which it had previously subscribed, following a severe external balance crisis. In June 1973, it was the turn of the Italian lira to leave the system and to start to float freely. The same happened to France which had difficulties to surmount its balance of payments problems in the period that followed the 1st oil price shock in 1973, forcing it to let the French franc leave the system twice, from January 1974 to July 1975 and from March 1976 to April 1979 (i.e. until the start of the European Monetary System). Considering the difficulties that currencies other than the deutschmark met, one can in retrospect very well conclude that the monetary snake had predominantly been a deutschmark zone. One of the dominant reasons for the failure of the snake was the missing level of policy coordination, the fact that countries reacted very differently to external shocks and that they were faced with divergent inflation levels.

2.4 Towards the European Monetary System (EMS)

In July 1978 the European Council in Bremen discussed potential reforms of the monetary snake and laid the ground for the creation of EMS in the following year. It was commonly agreed that EMS – besides being a result of economic common sense – had political origins as well and that EMS was an attempt to resume monetary integration at a time when two groups of countries had emerged in Europe. Germany wanted to use monetary integration as a means to stabilise the European trading environment while France opted to pursue EMS together with Germany inspired by the Schmidt-d'Estaing initiative[17] to obtain more economic power and to prevent being left out of the process of European economic integration. Italy on the other hand partly recognised deepened integration as a means to inhibit or contain communist tendencies within the country and to restructure the Italian economy.

Overall though the European consensus was that EMS would become a decisive step for Europe to become more independent vis-à-vis the USA.

Policy makers according to Gros and Thygesen[18] had in mind to create a "zone of monetary stability" with a "fixed but adjustable exchange rate system", which was hoped – to say the least – to be at least as stable as the monetary snake and which should become the right response to the unprecedented inflation and exchange rate fluctuations of the 1970s while contributing to further convergence of European economies.

The EMS with exchange rates centred around a basket mechanism "was seen as requiring much less effort in non-monetary areas, because it was 'only' – even in its subsequent stage after the set-up of the European Monetary Cooperation Fund (EMCF) – a limited, defensive mechanism to improve monetary stability."[19]
Policy coordination in areas outside of the monetary sphere was not envisaged (i.e. compared to the pre EMU-debate in the 1980s and 1990s, no trade or budgetary policy coordination or policy rules were applied, nor were any plans made for the implementation of a larger community budget). EMS "didn't require the elimination of international policy divergences, but the ERM was designed to accommodate the different policies pursued"[20] i.e. some countries were permitted higher fluctuation bands and realignments were a possibility in case balance of payments imbalances went out of control:
EMS was eventually established in 1979 and incorporated all EEC currencies, with the sole exception of the British pound. The United Kingdom did not initially join the system and Ireland and Italy only after much discussion, but only under special conditions: The fluctuation bands of their currencies were fixed to be of +/- 6%.

[17] See Artis and Lee (1997), ch. 1, p. 14 ff. or Schubert (1996)
[18] Gros and Thygesen (1998), ch. 2, p. 35 ff.
[19] Gros and Thygesen (1998), ch. 2, p. 51 ff..
[20] Eichengreen (1993), (p. 1324)

Some of the main characteristics and principals of EMS were summarised by Gros and Thygesen[21] and Part[22] as follows:

- Exchange rates and intervention mechanisms: the aim of EMS was relative currency stability; the ecu was at the centre of the system as a means of settlement; currency market interventions were necessary and required, if the currency left the parity grid (in general 2.25% or 6% for Ireland and Italy); a later entry into the system was possible; adaptations were only possible if mutually agreed; mutual consultation on important exchange rate policy decisions was necessary.
- Credit and assistance systems: different credit facilities of central banks were: very short-term, short-term and medium-term interventions.
- The ecu acted as weighted currency basket, as numéraire and as settlement currency (or reserve instrument) between central banks.
- A settlement mechanism was introduced with 20% of gold and USD to be exchanged with the EMCF.
- In case an exchange rate reached the fluctuation margins, central banks on both sides were obliged to intervene to ensure a "return to normalcy" either through direct intervention on the foreign exchange rate market (i.e. through the use of ecu or US-Dollar reserves or through the buying up / selling of reserves to / from fellow central banks), through credits from the EMCF or through a commonly agreed modification of the central rate[23]. This reciprocity in market interventions constituted an important innovation compared to the monetary snake, where only the central bank of the "weak" currency would have to (re)act and intervene.

Internal stability within and through EMS

Following the oil price shocks in the 1970s, European countries just like most OECD countries went through a period of excessive price developments. With the Bundesbank meeting the best results in fighting inflation and given the importance of the German economy in Europe, it was clear that other member states would be "inspired" by or try to tie their respective monetary policies to German monetary policy. The result of common anti-inflation policies was a remarkable period of disinflation (despite national differences), as can be seen in Table 3 below.

[21] Gros and Thygesen (1998), ch. 3, p. 65 ff.
[22] Part (1993), p. 42
[23] See Artis and Lee (1997) ch. 12 for a more detailed explanation

Table 3: Inflation rates; various countries; various years; Source: OECD

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Austria	7.3	5.5	3.5	3.7	6.3	6.8	5.4	3.3	5.6	3.2	1.7	1.4	1.9	2.6
Belgium	9.1	7.1	4.5	4.5	6.6	7.6	8.7	7.7	6.4	4.9	1.3	1.5	1.2	3.1
Denmark	9	10.9	10.2	9.6	12.3	11.8	10.1	6.9	6.3	4.7	3.7	4	4.5	4.8
France	9.6	9.5	9.3	10.6	13.6	13.3	11.9	9.5	7.7	5.8	2.5	3.3	2.7	3.5
Germany	4.2	3.7	2.7	4	5.4	6.3	5.2	3.3	2.4	2.1	-0.1	0.3	1.3	2.8
Greece	13	12.4	12.6	19.1	24.7	24.5	21	20.1	18.5	19.3	23	16.4	13.5	13.6
Ireland	17.8	13.5	7.7	13.3	18.2	20.4	17.1	10.5	8.6	5.5	3.8	3.2	2.1	4.1
Italy	16.6	17.1	12.1	14.8	21.1	17.9	16.5	14.6	10.8	9.2	5.8	4.7	5.1	6.3
Luxembourg	9.8	6.7	3.1	4.5	6.3	8.1	9.4	8.7	6.4	4.1	0.3	-0.1	1.4	3.4
Netherlands	8.8	6.4	4.1	4.2	6.5	6.7	5.9	2.7	3.3	2.3	0.1	-0.7	0.7	1.1
Portugal	21.1	33.1	22.6	23.6	16.6	20	22.7	25.1	28.9	19.6	11.8	9.4	9.6	12.7
Spain	17.6	24.5	19.8	15.7	15.6	14.5	14.4	12.2	11.3	8.8	8.8	5.2	4.8	6.8
United Kingdom	16.6	15.8	8.3	13.4	17.9	11.9	8.6	4.6	4.9	6.1	3.4	4.1	4	5.2

The strengthening of policy coordination between EMS countries took place in the form of aligning currencies ‘around the head of the table’ Germany. The deutschmark effectively used to be the anchor of the system, supported by a highly inflation-adverse German Bundesbank. According to Giavazzi and Giovannini[24] "EMS, like the gold standard and the Bretton Woods system, is characterized by a 'centre' country Germany whose central bank pursues its own monetary targets independently of the policies pursued by the other members. The other countries, which have to a significant extent converged to Germany's monetary policies, have maintained limited independence by the systematic use of capital controls, and the adoption of periodic exchange rate devaluations."

A reservation however must be made to any statement claiming that Germany was fully independent of any other country’s policy actions or deviation in economic fundamentals. On the contrary there is agreement to the fact that Germany suffered from imported inflation from high inflation countries like Italy. It appears however that Germany achieved more stability in its real effective exchange rate by joining the EMS, especially vis-à-vis the US-Dollar.

With regard to inflation differentials within EMS, certain countries kept substantial inflation differentials in comparison with Germany (see Table 3 further above):
Italy and Spain for instance – while achieving significant inflation reduction over the 1980s – never had inflation rates that were as close as 2% to the lowest-inflation countries of the system in the period between 1979 and 1993. Exactly these countries were those that suffered most from the EMS crises in 1992 and 1993.

Improved but uncompleted convergence in inflation differences was, among others, tested by Gros and Thygesen who made an empirical analysis of the success of EMS. Using IMF International Financial Statistics they reached the conclusion that there was an “inflation variability reduction but not more than under Bretton Woods”[25]. Comparing member states and non-members, they concluded that EMS

[24] Giavazzi and Giovannini (1988), pp. 10 ff.
[25] Gros and Thygesen (1998), ch. 4 , p. 114 ff.

members fared well in later stages and that cohesion between member states was higher than between non-members and, e.g., Germany. Non-members were found to be converging too, but only towards higher overall average inflation rates. EMS therefore did manage to work as a disciplining device and did manage to reduce the cost of disinflation.

Exchange rate stability

In an international monetary system characterised by large exchange rate fluctuations in both the short- and long-run, EMS members were able to maintain a certain stability of parities between their currencies. Until 1992, nominal exchange rates evolved progressively towards greater stability. Parity realignments did take place and did come at a fairly frequent rate: 13 could be counted for the period between March 1979 and March 1992; their amplitude however was limited with respect to currency variations with respect to "third" currencies, such as the yen or the US-Dollar.

Overall, the history of EMS can generally be divided into four different stages (the fourth being the EMS crises themselves):

- The initial period of 1979-1983 can, in retrospect, be referred to as the "turbulent" phase, because seven exchange rate adjustments took place within this relatively short period of time. This period was characterised by tightened monetary policy in the USA and consequently high American interest rates. European policy makers faced the dilemma of either following the US and raising interest rates, or to allow their currencies to depreciate. The late 1970s and early 1980s were also a period of high inflation following the oil price shocks, with prices soaring while output levels fell and unemployment rates rose to unprecedented levels, leading policy makers to turn their attention towards deficit spending.

Currency realignments taking place were nevertheless not solely aimed at bringing economies into line just by themselves. They were also "linked to domestic policy adjustments, which made longer-term convergence feasible" (e.g. price and wage freezes)[26].

- The following years, i.e. the period between 1983 and 1987, were in comparison calmer with five realignments taking place, with 28 months being the longest period of stability. Emphasis was laid on nominal convergence of economies and coordination of – especially – monetary policies. These four years were a period of lower average inflation (as compared to the previous period) and of budgetary tightening. The UK under the Thatcher government became one of the prime examples of strongly restrictive budgetary policies and of a strong focus on fighting inflation and undertaking necessary steps to achieve budgetary consolidation, even at the expense of rising unemployment levels.

- In retrospect, the third period was the most stable period in the history of the EMS. Between 1987 and 1992, only one exchange rate realignment took place (see below) and EMS was even enlarged. EMS member states achieved a fairly sufficient degree of convergence in inflation and interest rates and achieved to maintain these.

[26] Gros and Thygesen (1998), ch. 3, pp. 81 ff.

Monetary coordination was strengthened, foundations for the removal of remaining capital restrictions were laid by the Single European Act (SEA) of 1987 and major economic reforms were undertaken to move towards EMU by a step-by-step approach.
At the time it appeared that EMS had become a system of quasi-fixed exchange rates, as no realignment took place during this period, except for the January 1990 lira devaluation of 3.7%. Its aim was to allow Italy to enter smaller ERM fluctuation margins. This 'new EMS' with relatively stable exchange rates can be regarded in retrospect as helping to smooth the way towards EMU. The smooth functioning of EMS in these years can perfectly be combined with the logic of the moment that principally relied on the following elements:

- The enthusiasm that gave rise to a new perspective emerging in European economic policy making, i.e. the perspective of a monetary union.
- The second element being a consequence of the institutional improvements of EMS following the adoption of the Basel-Nyborg agreements in 1987. After the signature of these agreements, the basic understanding of the functioning of EMS was improved in the late 1980s and early 1990s. The choice of interest rates as policy objectives was positively judged by markets, as it benefited from a more symmetric administration of potential tensions in the ERM, even if it entailed greater interest rate volatility.
- In addition, the late 1980s were a period marked by a progressive liberalisation of capital movements, as envisaged by the Single European Act. Goals of the SEA, according to Pelkmans[27], were a widening and deepening of the institutional framework of the European Community, a codification of existing cooperation and the completion of the Single European Market.

2.5 Towards the EMS crises

The continuation of a smoothly functioning operation mode within EMS relied on the synchronisation of business cycles in Europe, especially between Germany and the other member states of the Community, as well as a synchronisation of the economic fundamentals.

As we have seen, the room of manoeuvre of national monetary policies was reduced in EMS in a way that interest rates could not be changed to such a level that would take into account internal adjustment needs without questioning the external parity level vis-à-vis the leader of the table, i.e. Germany. This inability to manoeuvre strengthened credibility gains in the short-run, but brought instability in the medium- and long-run. To illustrate this, one has to look at the example of Spain, which seemingly had benefited ever since its entry into the EMS, despite its high inflation rate. Massive capital inflows, though, led to an appreciation of the peseta. Spain consequently did not benefit with a real improvement of its inflationary performance. In addition, the appreciation of the exchange rate led to a strong deterioration of Spain's external accounts. This situation gradually led to a credibility loss of the peseta within EMS. Exchange markets started to anticipate that Spain would only have the alternative to push the emergency button and to leave the system, as actually did happen eventually.

[27] See Pelkmans (1997), ch. 3

With respect to the synchronisation of business cycles, German re-unification constituted a massive shock for the whole of Europe. Re-unification and the conflicting policy-mix that was chosen by German authorities in its aftermath deteriorated Germany's anchor position within EMS. Certain views at the time stated that a partly and transitory revaluation of the deutschmark could have been a solution to alleviate Germany's demand surplus without accelerating inflation. A currency realignment however could have been interpreted as an abandonment of the way economic policy was chosen until that very moment. This was the reason why many countries, above all France, opposed such a possibility. The deutschmark-anchor consequently became contested: a conflict emerged between, on one side, Germany having to fight inflationary pressures and its partner states having to face recessionary tendencies with rising unemployment rates. The German "high interest rate policy" was criticised by partner states, both by those with sound fundamentals (like France) and those confronted with serious difficulties due to public (Italy) or private debt (UK).

German re-unification and the policy dilemma faced by European states in its aftermath – a time of a quasi fixity of exchange rate parities and the progress made towards a European Internal Market with free capital movement – were giving an example of the incompatibility triangle EMS participants were facing: free capital circulation, exchange rate fixity and monetary policy autonomy. All these elements eventually led the EMS to enter difficult and instable times that culminated in several exchange rate crises between 1992 and 1993 (i.e. the last of the four EMS stages).

While the 'new EMS' was characterised by a quasi fixity of parities and while the removal of capital controls in 1990 was the final step towards a full liberalisation of capital movements and an important aspect of the Single Market in Europe, the question of how to proceed with monetary policy coordination became crucial. Monetary policy coordination had been of a particular kind: it was taking a minimal and, above all, constrained form: policy alignment with the leading country. The coordination mode that had always prevailed in the system was indeed directly inspired by the German Bundesbank.
The alternative to not aligning would have possibly been punished by markets through speculative (and probably unsustainable) exchange rate parity attacks. In general, from the moment onwards where leadership is contested, the coordination constraint is not credible anymore, which was exactly what happened after German re-unification where fighting inflationary tendencies became an absolute priority. On the other hand, partner countries had other preferences explained by different domestic policy priorities that put national economies under immense pressure to devaluate: weak growth and rising unemployment. Economically, with countries being in debt and recession, perceptions by markets that currencies were overvalued was unavoidable, eventually leading to large speculative capital inflows in September 1992, the leaving of the exchange rate mechanism by the lira and the pound and the widening of fluctuation bands to 15% in August 1993.

The liberalisation of capital movements

The liberalisation of capital flows and the consequently higher feasibility of speculative attacks (with sometimes even auto-realising character) moved EMS towards the impossibility triangle.
First of all, the liberalisation of capital movements translated quite logically into an amplification of the volume of trans-border capital movements that surpassed the level of exchange reserves that could potentially be mobilised to counter such an attack. The alternative for a country whose currency losses became unsupportable was simple and easily anticipated by the market: either the country in question would let its currency depreciate, or it would raise its interest rate even further and therefore risk even higher capital inflow at a time where EMS interest rates were already at high levels in post-re-unification Germany.

The process of self-fulfilling speculation could mainly be observed in countries whose public debt level was relatively high, i.e. Italy and Spain. Higher interest rates in these countries would have translated into unsustainably high debt payment costs for the corresponding governments. Markets therefore perceived these governments to be susceptible to renounce the maintenance of exchange rate parities and saw some scope for successful currency speculation and speculative gains.

In September 1992, a speculative wave had developed in favour of the deutschmark and against the lira and the pound sterling. These two currencies left the EMS on 17 September 1992 and started to float freely. The crisis also reached France but joint interventions by the Banque de France and the Bundesbank managed to counter this movement. In late autumn 1992 speculative attacks started again – this time against the peseta and the escudo, which were devalued in November 1992. The overall credibility of maintaining parities therefore was hit by a massive blow. The year 1993 started with the devaluation of the Irish pound (30 January), while several countries had to maintain, despite unfavourable business cycle developments, their high interest rate levels.

In July 1993 a new speculative wave touched the remaining member states: attacks were at first directed at the French franc, the Belgian franc and the Danish krona. Eventually EMS members decided on 1 August 1993 to widen the fluctuation bands to +/-15%, which stopped speculation, but corresponded to a quasi “blowing up” of EMS. As a consequence, the EMS exchange rate regime became more and more like a general floating system, rather than a regime of fixed exchange rates.

2.6 The Treaty of the European Union and political circumstances as catalysts of the EMS currency crises

The appearance of convergence criteria defined in the Maastricht Treaty that was signed in February 1992 concerned on one side monetary criteria (price stability, interest rate stability and exchange rate stability) and on the other side budgetary criteria (public deficit and debt levels).

The first mentioning of such criteria allowed agents for the first time to evaluate efforts undertaken by the different countries to participate at the third stage of EMU,

the phase that was decisive to the instalment of a single currency and the setting-up of a European Central Bank.
The TEU therefore insisted on, at least some form of, policy coherence, while EMS had only relied on a certain 'dissociation' of monetary and fiscal policies.

One can say that beyond their simple definition, the convergence criteria had an announcement effect that has modified the qualitative content of the notion of credibility. Until their introduction in the TEU, credibility depended on financial markets' judgment with respect to the authorities' ability to maintain exchange rate parity. With the convergence criteria in place, credibility depended on parity maintenance and budgetary stability. Overall, the risk of loosing credibility depended on three factors:

- The criteria revealed that those countries that had benefited most from 'new EMS' credibility (i.e. Italy and Spain) were precisely those that found themselves in relatively delicate positions regarding the Maastricht criteria (i.e. with respect to high inflation and predominant budgetary situations).
- In retrospect, the appearance also shed light on the harmful dynamic initiated by the 'new EMS' with respect to budgetary objectives. In the period 1989-1993, the majority of European countries had seen their budgetary positions deteriorate with regard to the announced Maastricht criteria. The dynamism that the TEU was supposed to call forth somehow appeared to contradict the one that prevailed in the case of the 'new EMS'.
- The definition of the criteria was unclear and left some room for interpretation.

Even if it can only be interpreted as a catalyst of the crises, the negative result of the Danish referendum on the TEU on 2 June 1992 has often been identified as contributing to the currency crises of EMS. The Danish "no-vote" was interpreted by markets as the first signal that EMU would only be a possibility and not necessarily a certainty. The Danish vote was a decisive shock in times when euphoria around the project of EMU peeked. The very small majority at the French referendum in autumn 1992 could not reassure markets either. This overall credibility loss added to the problem of policy coordination, which was considered to become even more relevant in view of the consequences that German re-unification had on Europe. The business cycle 'conflict' between a German government fighting inflation and its partners, who were confronted with slower growth and rising unemployment was more and more felt by the markets. The alignment of monetary policy to German leadership was viewed to be less and less tenable and therefore appeared less credible than before.

<u>The consequences of the EMS currency crises on the way towards EMU</u>

Even though the above described currency crises led to the end of the EMS, they did not compromise the pursuit towards monetary union. The crises did not primarily affect the institutional progress of EMU either, considering that the Stage-approach borne in mind for EMU was unaffected. The second stage of January 1994 saw the creation of the European Monetary Institute (EMI), whose prime objective was to prepare the passage towards a single currency and the coordination of monetary policy in the run-up period. The currency crises did not affect either the operational phase that was crucial for the setting up of EMU: the creation of the ECB – the institution in charge of executing monetary policy and of undertaking the physical

introduction of the euro, the main elements of Stage III of EMU. These took place on 1 January 1999 and 1 January 2002 respectively.

From this point of view one could argue that the crises had been serving the realisation of EMU. They had somehow ‘cleaned up’ the exchange mechanisms, allowing the monetary integration process to go further with parities that were better adapted to respective economic conditions. The widening of fluctuation bands after 1993 introduced a certain ease that was found to be indispensable. The unbalancing role of speculative attacks could be reduced as a consequence. In 1996, the chosen strategy had finally revealed itself as worthwhile, as exchange rate volatility and short-run interest rate differentials were reduced.

Finally, the EMS exchange rate crises led to the following conclusions to be borne in mind:

- The currency crises were the consequence of the incompatibility of perfectly mobile capital, exchange rate fixity and monetary policy autonomy. They legitimised the project of monetary union, founded on the adoption of a single currency and a single monetary policy. EMU became an illustration of being the sole solution according to the incompatibility triangle.
- The second lesson learnt concerned the conditions of smooth functioning of a monetary union. The crises reminded us that it was dangerous to prematurely follow a monetary union process with too heterogeneous economies. This meant that the participation of countries that have not converged enough could potentially weaken the system. In such a case it would have been in the interest of any country to voluntarily stay out of the system, just as it initially seemed for Greece to be the case until it had improved its economic fundamentals. This could also become relevant in the case of the newer EU member states that joined the Union in 2004 and 2007 and that aim at joining the eurozone in the near future. Staying out would mean for them that they could potentially keep the exchange rate as an adjustment instrument; it would signify that aggregate demand would be more sensible to exchange rate or short-run interest rate variations; it would finally mean that business cycles could be converging, and structural reforms easier to undertake.
- The third lesson relates to the former: aiming for convergence was a necessary condition for the success of EMU. The TEU criteria possibly were not the best – being focused solely on monetary and financial questions – but they showed at least the necessity of convergence of potential EMU member states.

3. The European Monetary Union – the historical context and theoretical considerations

Before continuing our review of EMU on historical grounds, it is useful to look at economic theory in order to explain why countries would agree to give up their currencies and monetary autonomy for a single currency and for a single monetary policy conducted by a supranational institution. For this reason this section will shortly compare benefits and costs of joining such a monetary union before presenting the most important economic literature on the subject. The basis for theoretically reviewing monetary unions is, according to Verdun[28], the Optimum Currency Area Theory that undertakes a Cost-Benefit Analysis on whether a country should join a monetary union.

From the point of view of economic theory there are several arguments why sovereign states might agree to give up some levels of sovereignty and join a currency area with one single monetary authority. In the European context, with its strong emphasis on free trade, perfect capital mobility (both essential ingredients of the Single Market) and fixed exchange rates, identified by Mundell[29] as the "incompatibility triangle", conducting autonomous monetary policy is not feasible anymore, as a mere fixing of exchange rates without sufficient credibility behind it would make the system potentially victim of speculative attacks, something we have witnessed under the EMS. The only logical consequence for Europe therefore was completing monetary unification, as recommended by the Delors Committee Report in 1989. Returning to a floating exchange rate system would have thrown away all previous efforts of monetary integration and would have threatened a fair and stable competitive economic environment that was thought to be ensured by fixed exchange rates. Replacing national currencies would ultimately prevent competitive devaluations from taking place – this especially was of great interest in view of the Common Agricultural Policy Programme, whose aim was setting common prices for European agricultural goods.

Moving towards European monetary unification and EMU however unsurprisingly led to an intensive debate about the desirability and correctness of the move – especially from an academic point of view[30].
On one side, proponents argued that, economically, EMU would be the logical next step to complete the Single Market; on the other side – mainly euro-sceptical economists such as Eichengreen (2002)[31] and other American academics pointed out that EMU was an "enterprise decided upon political economy grounds", i.e. a political rather than a (sensible) economic decision.

The geo-strategic situation had changed with a re-unified (bigger and more powerful) Germany and surely contributed to other EC states aiming at tying Germany closer to Europe. At the same time these countries were benefiting from a system in which monetary policy domination by the German Bundesbank. The asymmetric functioning and German dictation of ERM were therefore reduced, even though the ECB with its strict inflation policy objective even nowadays looks more similar to the Bundesbank

[28] Verdun (2002), p. 169 ff.
[29] Mundell (1961)
[30] See for instance Bleyer (1997)
[31] Eichengreen (2002)

then any other pre-EMU central bank. Finally, for high-inflation countries (e.g. Spain or Italy), EMU remained the ultimate discipline and convergence device.

Germany, on the other hand, only agreed to give in under the condition that the future central bank would be hard-nosed with price stability being its main policy objective, characteristics that fit well for the first President (Duisenberg) and Board of Directors members (like Issing).

3.1 Theory on Monetary Unions

3.1.1 Gains from adopting a single currency – general and EMU specific

- The suppression of exchange rates would eliminate any exchange rate risk and exchange rate uncertainty negatively affecting trade, foreign direct investments and employment in export areas. Such an elimination of risks and uncertainty[32] would reduce interest rates and interest rate differentials; every member of the currency union therefore gains from capital savings that were normally dedicated to cover that risk. A stable exchange rate would help to accrue all remaining benefits from a Single Market Programme. Introducing a single currency in Europe can therefore be regarded as the logical last step of a unified European economic area. Especially countries like Italy highly benefited from adhering to EMU, as adherence removed any risk premium on interest rates due to the fact that Italy faced the same ECB interest rate as all the other member states. Italy's move towards EMU was not only credible in the eyes of agents and exchange rate markets, but it also helped to "cure" Italian public finances.
- Direct transaction costs from trans-border monetary and trade operations that go in hand with exchange operations would also be eliminated. The European Commission estimated that 0.5-1%[33] of the EU's GDP would be saved after the creation of EMU in terms of conversion cost.
- A monetary union would be beneficial to the integration of financial markets: buying euro-denominated stocks would not anymore be negatively influenced by exchange rate risks. Increased capital mobility would also oblige financial intermediaries to harmonise credit conditions more to the favour of consumers.
- The dependency on the US interest rate would be likely to fall with a strong European currency and economic area[34].
- A monetary union would translate into official reserve savings, as theorised by Robert Mundell[35]. The use of exchange reserves would only become necessary in relation to trade with countries external to the monetary union.
- Information gains related to the fact that prices denoted in only one currency create economies of scale. Comparability of prices for consumers and economic agents would be improved, the likelihood of price discrimination would be eliminated and market segmentation would be reduced.

[32] See also Menger (1892)
[33] Estimates vary according to sources and authors; Gros and Thygesen (1998) for instance estimate the effect to be around 1%.
[34] See Ochel (1996)
[35] Mundell (1961) and Mundell (1973)

- A single monetary policy would not only be "led" by one member state central bank (as under EMS), but it would rather be co-decided by a supranational body with representatives from all member states. This would potentially solve the inflation-bias problem and induce inflation convergence towards the lower end – if this supranational body, to which monetary policy has been delegated to, had a sufficient degree of credibility in its conduction of monetary policy[36]. With the necessary political will, right institutions and mandates, this would also prevent the monetarisation of debt.
  Pure supranationality however did not and does not completely apply to EMU: the ECB, despite being independent from member state pressure, was clearly built after the German role model of the Bundesbank.
- A monetary union would have more negotiation power[37] in international economic fora, like the WTO and the common currency would become an alternative to the US-Dollar, which is the case with EMU and the euro.
- Competitive devaluations of national currencies and the so-called "devaluation-inflation-spiral"[38] would be eliminated in case countries agreed to replace their currencies with a single currency.
- The presence of a single currency in a monetary union containing a vast number of countries would make speculative attacks less likely, as response mechanisms by the authorities of such a union would work better than in the case of the EMS crises that has been described further above.

3.1.2 Costs of adopting a single currency

The literature on currency unions[39] identifies the loss of monetary autonomy and the loss of the exchange rate as a policy tool to be the most important costs of joining a monetary union. To smooth or counter the negative side-effects of the former, the supranational central bank would have to attempt to average out the member states' needs in terms of inflation preferences in its policy reaction (for instance in case of an adverse shock hitting the monetary union). This, however, considering the heterogeneous characteristics of EMU member states, did not and does not always prevail for the eurozone.

With regard to the loss of the exchange rate policy tool, one would have to ask how efficient variations in exchange rates were as shock absorbers[40]. They would be effective relative to wage-price reactions in the short-run. Devaluations could be somewhat effective, but their effectiveness would be constrained to the short-run, assuming that wages and in particular prices were sluggish and only more flexible in the longer-run[41]. The problem of not being able to use the exchange rate tool would become particularly serious if wages were rigid, labour mobility low and labour market institutions would differ significantly, conditions that still apply to today's Europe and eurozone economies.

[36] See, for instance, Kydland and Prescott (1977)
[37] See Ochel (1996)
[38] Jarchow et al. (2002)
[39] Starting with Mundell (1961), McKinnon (1963), Kenen (1969), Ingram (1969), etc.
[40] See, for instance, Sachs (1984), for a critique of the efficiency of the ER as a policy tool to adjust to external shocks.
[41] Artis and Lee (1997)

The above argument especially applied to EMU members, which, in case they were exposed to asymmetric shocks, could no longer adjust their individual exchange rate. One could counter-argue though that it would just be as questionable that a flexible exchange rate would be able to offset such adverse economic shocks. Mundell[42] stated that flexible rates might also be undesirable, if, for example, there were two different regions within each country (i.e. one booming, one in recession). A change of the exchange rate would therefore not help.

3.2 Optimum Currency Area (OCA) theories

Optimum Currency Area theories offer some insight on the economic reasoning behind monetary union, trying to combine the above mentioned cost vs. benefits arguments. OCA theories identify conditions that need to be satisfied in order to make it economically worthwhile for a country or a region to join a currency area. For a country or region to join such a union, certain adaptation mechanisms would need to be implemented or ensured and member states of the currency union should satisfy similar entry criteria.

Mongelli[43] for instance offers a good introduction and overview of the basic economic literature and the different phases of OCA Theory:

3.2.1 The "pioneering phase" of OCAT with contributions from Mundell, McKinnon, Kenen:

a) Mundell's labour mobility criterion

The Optimum Currency Area theory was first introduced by Robert Mundell[44]. According to him, an "OCA is the only area where it is possible to install a single currency." The main criterion to ensure optimality of the currency area is perfect mobility of labour.

In Mundell's view, defining whether or not a monetary union were optimal, would be the same as looking if the regions of this union were characterised by perfect mobility of labour. In his model, Mundell gave the example of the two regions A and B and cited the example of a shift in demand to the benefit of B (and detriment of A). Mundell's assumptions included short-run price and wage rigidities and perfect labour mobility. In a hypothetical case presented by him, falling demand for products in region A would translate into rising unemployment in that region. Since, by assumption, prices and wage adjustments were impossible, only factor movement from A to B would make unemployment disappear in A. This would signify that inter-regional labour movements (or capital) could be substitutes to exchange rate modifications and act as a stabilising force which is needed in the absence of exchange rate flexibility.

[42] Mundell (1961)
[43] Mongelli (2002)
[44] Mundell (1961)

If however the countries had flexible exchange rates, a depreciation could occur in the country with high unemployment.

In a currency union, with countries being affected differently by external shocks, a policy response by the supranational central bank could therefore lead to different outcomes in the corresponding countries. For instance, a counter-inflation policy could have depressing effects in lower inflation, but higher unemployment regions. If, therefore, asymmetric shocks were to hit the union, countries would consequently have to accept higher unemployment or higher inflation, given that there was no more possibility of using the exchange rate tool, to have monetary policy autonomy or if wages and prices were rigid and factors of production immobile.

Within the currency zone exchange rates are fixed, but flexible with respect to the rest of the world. Mundell therefore insisted on the importance of labour mobility or wage flexibility in the adjustment processes to an external shock or external disequilibrium.

Mundell's reasoning on regions and on labour mobility was criticised by many authors, who stress that with inter-regional labour mobility already being weak, this criterion would reduce the OCA to a very small area only: under this point of view, Kenen argued that "Mundell's approach leads to the sad conclusion that an OCA always has to be small."[45]

b) The diversification criterion of the economy

Peter Kenen[46]dropped the hypothesis of mono-production (as used initially by Mundell) and considered regions with highly diversified economies, producing a great variety of goods and services. The nature of the economies implied a diversified export pattern. Kenen argued that factor mobility would not be the only OCA criterion, but that other criteria would also come into play. In his view the "diversity in a nation's product mix, the number of single-product regions contained in a single country, may be more relevant than labour mobility."[47] However, the corresponding country would need sufficient occupational mobility to reabsorb idle labour and capital (or otherwise one would not achieve domestic stability).

Overall, a diversified economy "would have less necessity to adjust to a sectoral shock, but greater ability to adjust"[48]. According to Part[49], the Single Market would increase the possibilities of substitution and intra-industrial division of labour.
In such a diversified and open export economy, negative demand effects on one good would only marginally affect the total level of exports and therefore the impact on employment would only be negligible and external shocks should average out over the different sectors. A diversified region therefore would not need to undertake exchange rate readjustments and could choose to adopt fixed exchange rates, while

[45] Kenen (1969)
[46] Kenen (1969) and (1995)
[47] Kenen (1969), pp. 49 ff.
[48] Radü (1994), ch. 5, pp. 160 ff.
[49] Part (1993)

a very weakly diversified economy necessarily would have to be interdependent and would need flexible exchange rates to react to business cycle instabilities[50].

Kocher's analysis[51] on Austria's economy during the time of EMS showed a strong degree of openness and high trade linkage with especially Germany. This was already the case under EMS and quite logically continues to be the case under EMU. On these grounds he concluded that Austria, Germany and the Benelux would be very good candidates for joining a currency union.

Based on Kenen's argument, opinions on optimality and production diversification in Europe have differed over time: While Apel[52] tended to support the European Commission's view that production was diversified enough in the EC with a dominant share of intra-industry trade, Krugman[53] claimed that further European integration would lead to a specialisation in production.

c) The criterion of the economy's openness

McKinnon[54] (1963) emphasised on the criterion of openness in his analysis on OCA. An economy would be considered to be open, if the proportion of tradable vs. non-tradable goods was high. A very open economy would experience large price fluctuations, if its exchange rate were flexible. The country would consequently have a lot to lose, if it were affected by high currency volatility and exchange risk. This approach assumed that world prices were more or less constant and that labour and capital movements would not matter that much. Given the model's assumptions, a volatile exchange rate would lead to volatile domestic prices. According to McKinnon therefore, an open economy that adopted a flexible exchange rate regime to correct any external deficit creates greater internal price instability. Indeed, if the economy was open and the exchange rate depreciated, rather than reorienting demand towards goods produced at home, the country would eventually face rising inflation, due to imported goods that become more expensive.

Being non-exclusive to Kenen's approach, a more open economy would more likely be closely linked with other member states of the monetary union and external shocks would more likely be symmetric. McKinnon therefore concluded that open economies with high trade integration have an interest in forming a monetary union in order not to be subject to destabilising exchange rate variations. Fixed exchange rates would in this case be preferable[55] considering that any currency depreciation would lead to imported inflation (and therefore more expensive imports). The exchange rate would therefore only be an inefficient instrument to affect real wages.
Blejer[56] supported Kenen's conclusions, referring to the endogeneity effect of trade, which would lead to more synchronised cycles.

[50] Kopp (1998)
[51] Kocher (1991)
[52] Apel (1998)
[53] Krugman in de Grauwe (2000).
[54] McKinnon (1963)
[55] See also Part (1993)
[56] Blejer (1997)

d) The criterion of fiscal integration

According to Johnson[57] (1969), a high degree of fiscal integration between regions would reduce modifications of real exchange rates. Indeed, if demand were to shift to the benefit of some region, the fall in exports from the other region would partially be compensated by contributions to a community budget (i.e. taxes that make up the federal revenues, contributions to social security, etc.). This very same region would be automatically 'compensated' by revenues obtained from the federal budgetary authority. Johnson's approach served for a long time as the basis for any call greater fiscal centrality in Europe. At the same time, though, his argument led and continues to lead to controversial debates. Unlike the USA, the EU (or EMU) does not have a federal budget of comparable size. Due to the absence of such a central budget, Germany and other countries very much insisted on prior fiscal convergence of EMU member states. Poorer countries like the Southern member states would have welcomed a federal budget to help alleviate existing regional discrepancies within the EU and EMU[58].

e) The criterion of financial integration

Ingram's criterion[59] related to financial market integration and in a broader sense to facilitated stock denotations. By removing all restrictions on capital movements, interest rate differentials would be eliminated and accordingly also exchange rate variations. Financial market integration does not necessarily imply intense commercial exchanges between countries – if these were the case, however, the use of the exchange rate instrument could become desirable again.

3.2.2 The later 'reconciliation phase' with contributions from Fleming, Ishiyama and others:

f) The criterion of inflation differentials

Increasingly approaches to the subject of monetary unification in the 1970s spelled out the harmonisation of macroeconomic criteria – among others the criterion of inflation differentials. The analysis of the inflation criterion was somewhat different from previous ones: one does not deal any more with microeconomic perturbations resulting from supply and demand conditions, but rather with a macroeconomic phenomenon. According to Fleming[60], but also Haberler or Magnifico[61], if inflation differentials between groups of regions were to be nil, this group would form an OCA. The underlying argument concerning this criterion stated that any balance of payment disequilibrium between regions would be caused by structural differences (or differences in economic development), by different social partner behaviour or by divergent monetary policies. These different elements could be synthesised in the form of inflation rates. Ever since being mentioned first, this approach was extended to other business cycle criteria (*inter alia* GDP growth rates, interest rates, balance of

[57] Johnson (1969)
[58] See, for example, Kopp (1998)
[59] Ingram (1969)
[60] Fleming (1971)
[61] Haberler (1974) or Magnifico (1973)

payments, monetary aggregates, etc.) – some of these actually 'inspiring' the TEU and the therein mentioned convergence criteria.

Approaches in terms of harmonisation of macroeconomic criteria can nevertheless evoke at least some criticism: on one side, the harmonisation of a macroeconomic criterion always concerns a point (estimate) in time. On the other side, certain harmonisation procedures could even have adverse effects by causing supply or demand shocks. If one takes the example of the Maastricht criterion on public deficit and debt levels, in both cases the reduction of these ratios to the desired level would and could (and actually did) imply a strong contraction of aggregate demand levels.

Harmonised macroeconomic-variables (*inter alia* the balance of payments, growth rates and the business cycle, inflation, interest rates) however should be desirable in case of a monetary union as they assist in ensuring the smooth functioning of the currency area, because any differences in these variables could potentially lead to different economic developments and divergent preferences within the currency union.

g) Ishiyama's cost-benefit analysis[62]

Ishiyama looked at the issue of currency areas from a different perspective. He did not state which factors might be of importance in determining whether a region was an Optimum Currency Area, but rather weighed overall gains vs. losses. Any country considering joining a currency union would be faced with such a pre-entry trade-off. Ishiyama believed that higher economic integration between member states would result in higher gains and lower costs. On the other hand he concluded that countries which are not integrated at all will find that giving up autonomous monetary policy as means of stabilisation policy will be very costly for them.

3.2.3 The 'reassessment phase' with contributions from Tavlas and others emphasised more a cost-balance analysis:

h) Tavlas' credibility approach to OCA Theory[63]

Necessary characteristics in Tavlas' view were similar inflation rates, factor mobility as a substitute of the exchange rate tool, the openness and size of the economy, the economy's diversification rate, price and wage flexibility, market integration, fiscal integration, the country's explicit need for exchange rate variability and political factors (e.g. the political will for creating a monetary union. Tavlas extended this by emphasising on the importance of the time inconsistency problem and credibility[64] levels of national authorities. For instance, through adherence to EMU, Italy solved the credibility problem, benefiting from a credible (German-style) interest rate policy.

[62] Ishiyama (1975)
[63] Tavlas (1993)
[64] See also de Grauwe (2000)

i) A monetary approach

Bofinger[65] criticised Mundell's initial OCA framework as neither being ideal, nor being applicable to the case of EMU, because it relied on unrealistic assumptions – *inter alia* a 'one country-one good' approach; nominal wage rigidity; money illusion; a too narrow focus on the asymmetry of shocks; and the ability of exchange rate adjustments to solve economic problems. In line with Tavlas, Bofinger argued that a monetary union in Europe with delegated and credible monetary policy would solve the time inconsistency problem, would lower transaction costs and would facilitate monetary shock responses. Joining a monetary union would therefore help authorities to attain higher credibility levels and it would be beneficial in terms of inflation gains.

3.2.4 The 'empirical phase' over the last 15-20 years trying to operationalise and test OCA theory empirically:

A reuniting echo from literature on the OCA Theory was that greater economic integration between members of a monetary union would improve the prospect for the union's success. Most of the literature produced in the early days, applied to today's Europe, would consequently agree that EMU was not a OCA. Europe is generally considered to be less integrated than the United States, an economy – while functioning well – also being far from an OCA according to basic OCA theory.

Considering the above mentioned theoretical approaches to OCA, optimality of a currency zone would depend on the existence of possible adjustment mechanisms, which would set in after the occurrence of asymmetric external shocks negatively affecting the monetary area. Any such adjustment mechanism would make an exogeneous re-adjustment of exchange rates abundant. Potential mechanisms were identified to be: perfect mobility of factors of production, perfect flexibility of factor prices (e.g. wages) and the existence of an automatic transfer mechanism between the central authority and affected regions.
A major drawback of the initial OCA theory is that it was developed in times when economic circumstances were significantly different from today's economic environment. It is therefore not possible to apply those theories 'one-to-one' to the present and to try to make definite conclusions about the functioning (or even the optimality) of EMU.
A further point to note with respect to currency area theory and EMU is that especially the early currency area theory mainly referred to microeconomic aspects, among others labour market flexibility, questions of allocation of resources or migration. Looking at the history of European monetary integration and in particular the run-up to EMU, one can nevertheless observe that these were often dominated by macroeconomic aspects – for instance, the emphasis in pre-EMU analysis was rather put on nominal criteria, such as inflation, interest rates and public debt and deficit rates.

[65] Bofinger (1994a)

As a consequence, adjustment criteria and equilibrating mechanisms introduced by Mundell and later contributors were increasingly scrutinised and a number of empirical tests were undertaken in order to assess their overall relevance and their special relevance with respect to the European monetary integration experiment:

Paul Krugman[66] (1991) for instance stated with respect to Mundell's labour mobility criterion that in fact low mobility might limit the risk of polarisation of economic activity. A high mobility rate could lead to a specialisation of production within the currency union, which would consequently increase the probability of the economy being hit by asymmetric shocks. If European states therefore remain less specialised (due to lower mobility) than the USA, Europe as a monetary union would need less interregional labour mobility. Mundell's missing ingredient with respect to the labour criterion would therefore be less problematic for EMU than initially thought.

Similar studies[67] questioned the stabilising role of labour mobility under a fixed exchange rate regime or under a monetary union. Interregional mobility was considered not to be sufficiently high to absorb asymmetric shocks on labour demand. The reason for that was that migration flows would not only influence labour supply, but also local consumption demand and consequently also regional labour demand by firms. Emigration from a high unemployment region would therefore not be able to automatically resolve the under-employment problems Mundell had considered.

Bayoumi and Eichengreen[68] constructed an OCA index for European countries in comparison to Germany, taking output, trade linkages and the usefulness of money for transactions into account. They found that there were three groups of countries, those which had converged, those which were converging and those with little convergence. Bayoumi and Eichengreen compared eight US-American regions with eleven EU member states in their analysis. They found that supply shocks were larger and less correlated across regions in the EU. However, when looking at core European countries only, their findings showed similar results to those of the USA. They consequently advocated their preference for a small 'core-EMU' only.

Demertzis et al.[69] examined how much of the symmetry between EMU countries was natural and how much policy induced. They argued that if a higher degree of symmetry was a result of economic policies, then the currency union might start to drift apart in real terms in the future. When looking at correlation between countries and the European average, they found that demand correlations were significant, but supply and monetary shocks showed little within-group coherence. To assess whether policy variables would matter, they looked for correlation between policy variables and economic shocks. One of their main findings showed that correlations were larger in the 1990s than in the 1980s. In the 1980s, 10-20% of monetary and supply side shocks could be attributed to the use of policy instruments, while in the 1990s this proportion increased to 25-50%. They therefore concluded that a lot of convergence within Europe could be attributed to policy measures.

[66] Krugman (1991)
[67] Among others Emerson (1991), Bayoumi (1994), Bofinger (1996)
[68] Bayoumi and Eichengreen (1996)
[69] Demertzis et al. (2000)

Data by Bayoumi and Eichengreen[70] in pre-EMU days illustrated that, in comparison to the USA, real exchange rates and real security prices varied more in Europe, both suggesting the greater likelihood of region-specific shocks hitting the economy. Security prices were important, because they reflected firms' current and expected profits. These would be different in different regions, if the regions were not fully integrated. Bayoumi and Eichengreen concluded that supply shocks in the EU were larger and less correlated across regions. Furthermore, shock responses were found to occur quicker in the USA, while Europe also lacked a federal budget comparable to the USA.

In comparison to findings of Bayoumi and Eichengreen, similar empirical surveys reviewed shock asymmetry in Europe. One survey by Belke and Gros[71] examined the extent to which external shocks may affect unemployment. They looked at twelve potential EMU participants and tested the hypothesis that shocks to the export sector of the economy would negatively influence unemployment rates. Their basic finding was that there was no significant link between export and unemployment levels. One explanation for these results could have been that the exchange rate as well as monetary and fiscal policy managed to offset any negative effects induced by economic shocks and that the resulting change in unemployment was only negligible.

Another survey by Vinals and Jimeno[72] looked at the relevance of asymmetric shocks in Europe. They distinguished and assessed the relevance of European-wide, national and regional shocks. Vinals and Jimeno measured unemployment dispersion across countries and regions and found that EU-wide shocks explained almost half of the variance in national unemployment. On a regional level, regional and EU-wide shocks accounted for about 80% of the variance, leaving only 20% to be explained by national shocks. Their results therefore claimed that asymmetric shocks were not a very important issue for a future EMU, emphasising that most shocks were EU-wide and therefore symmetric. In this case replacing national currencies with a European currency would not prove to be too costly.

In line with Vinals and Jimeno, it has always been advocated by the European Commission underlined that with time and further integration, demand shocks would become less frequent and even more symmetric, contrasting with Krugman's view[73] that sector-specific shocks would turn into country-specific shocks. The Commission has considered and continues to consider that production in EMU would become diversified enough and institutional reforms would reduce the likelihood of asymmetric shocks. This diversification of production is especially relevant for smaller EMU member states, such as Austria, accounting for a relatively higher import-export share. Furthermore, even if regional differences were to prevail, these would be countered by national policies as policy responses on the European level would be inadequate. The Commission has also until today insisted that nominal exchange rate devaluation would be useless, because it would only increase import prices and raise production costs, leading workers to claim higher nominal wages, which would ultimately offset any devaluation gain. In line with the Commission's view – in order to lay the foundations for both reducing the likelihood of asymmetric shocks and to bring

[70] Bayoumi and Eichengreen (1993)
[71] Belke and Gros (1999)
[72] Vinals and Jimeno (1998)
[73] Krugman (1991)

business cycles in line in the run-up to the introduction of the euro – European decision-makers agreed upon convergence criteria and fiscal rules as identified in the Maastricht Treaty, as will be explained further below.

Further analysis attempting to answer the question whether EMU would be an OCA was, for instance, undertaken by Pelkmans[74]. We have seen that the traditional cost-benefit analysis rather focused on costs and not on benefits. In line with Duwendag[75], Pelkmans argued that EMU was "too complex to squeeze it into a mere cost-benefit analysis" and therefore he argued that:

- EMU would not be an OCA, but neither were the USA.
- The likelihood of asymmetric shocks would be low and the use of the exchange rate as a policy tool at the national level would not be advisable, due to adverse long-run effects that would only set in after a certain time-lag: the medium-run or long-run costs of realigning exchange rates could even be negative.
- Labour mobility within sectors and between countries, but also within countries was low.
- National or decentralised fiscal policy responses in Europe would have a similar effect as the centralised federal budget system in US.
- The problem of EMU would have its source in the fact that it consisted of countries with different sizes and different degrees of openness – Europe would thus be faced with the difficult task of adopting a monetary union consisting of countries that faced different costs and benefits.

Evidence by Breuss[76] supported Pelkmans argument and added that not only labour mobility was lower in the EU than in the USA, but also that wages and prices were less flexible. However he conceded that the EU was by definition more open to external trade and that, overall, European economies were similarly diversified. With respect to trade data, Breuss argued that European economies had become very open over time. The ratio of intra-community exports to GDP outweighed 50% in Ireland, 40% in Benelux and was around 20% in Sweden, Denmark, Finland and Portugal and exceeded 10% in other member states (except for Greece with around 6%). He furthermore concluded that intra-industry trade reinforcing the advantages of openness of the economy to form a union was mainly dominant. This would support early views of Kenen and McKinnon, implying that the EU and EMU with their fairly high degree of trade diversification and openness would, even if it were not the case today, at least slowly move towards an OCA.

[74] Pelkmans (1997), esp. pp. 12 ff.
[75] Duwendag (1999)
[76] Breuss in WIFO (1996), pp. 103 ff.

Recent Eurostat[77] data (Tables 4 and 5) on Germany, France and Italy would support this argument, giving evidence on rising import and export shares over time. The trade argument is even more relevant for smaller economies like Austria, which are even more depended on foreign trade due to their lack of national resources and raw materials.

Table 4: Exports to EMU-countries (volume indices; seasonally adjusted; the year 2000 as base year; 2000 = 100)

	March 1992	April 1992	May 1992	January. 2002	February 2002	March 2002	Sept. 2006	Oct. 2006	Nov. 2006
Germany	80.86	82.36	80.64	97.74	98.06	98.25	125.84	126.62	127.16
France	73.25	73.4	73.76	89.4	89.02	92.47	97.3	96.83	95.87
Italy	71.69	70.71	70.17	96.07	96.11	95.93	103.88	104.94	101.47
Austria	4.67	4.72	4.74	6.48	6.45	6.57	7.12	6.99	7.1

Source: Eurostat

Table 5: Imports from EMU-countries (volume indices; seasonally adjusted; the year 2000 as base year; 2000 = 100)

	March 1992	April 1992	May 1992	January. 2002	February 2002	March 2002	Sept. 2006	Oct. 2006	Nov. 2006
Germany	83.87	85.3	83.62	93.4	93.8	93.7	119.29	121.63	123.03
France	74.73	75.01	74.19	89.68	89.93	91.94	105.52	105.18	103.63
Italy	72.85	72.67	73.12	98.63	99.01	99.33	115.34	115.72	113.53
Austria	4.71	4.78	4.87	6.37	6.35	6.43	7.62	7.74	7.96

Source: Eurostat

[77] Taken from the Eurostat homepage

4. Economic theory vs. political considerations?

The initial blueprint of a monetary union evolved and changed with time and with ongoing political and economic developments, especially the oil shocks in the 1970s and the EMS crises in 1992 and 1993, which illustrated the limitations of intermediate exchange rate arrangements. Most economic analysis on the subject of monetary unions was based on a cost and benefit analysis - microeconomic benefits and macroeconomic stability vs. the potential stability loss. If one was to consider the above mentioned OCA theories, one would question their applicability in case of EMU. OCA theory however still remains useful as a point of reference and a basis for any discussion or economic analysis on EMU[78].

Nonetheless, one should never forget in any analysis of EMU – besides economic theory – that the political component played a major role in the creation process of EMU. Part[79] for instance claimed that EMU was certainly not an OCA at the start, but he pointed out that theory would leave out relevant historical and political aspects. In line with that, Duwendag[80] regretted that the "theoretical approaches only give limited scope for concrete conclusions on the advantages of EMU". The optimality criteria of sufficient wage flexibility, sufficient labour mobility and a sufficiently centralised budgetary process are conditions that are not satisfied by the EU, but still EMU is alive and functioning fairly well.

4.1 From the Delors Report to the TEU

European monetary construction was given a considerable impulse in the late 1980s and early 1990s. Earlier years of economic discontent and displeasure about the European idea led to very little and slow progress in European integration, characterised by commentators as the era of general 'eurosclerosis'.
According to Duwendag[81], the Single European Act (SEA) of 1987 was responsible for giving European integration a new impulse. It extended provisions of the EEC-treaty by defining new and deepened integration aims, *inter alia* the completion of the Internal Market characterised by free circulation of goods, services, people and capital through the complete removal of remaining competition and non-tariff barriers.
With regard to services, the SEA identified the goal of freedom of establishment. This principle greatly helped the construction of a single market in the banking and financial service sector. The liberalisation of capital movements that started at the end of the 1980s and coming fully into effect in July 1990 marked the net progress of full integration of banking and finance in Europe.
With full capital mobility established in Europe, a further step towards full monetary integration became necessary, as summarised by Wyplosz[82]: "the decision to adopt a single currency is the outcome of constrained optimization. The constraint is the impossibility trilogy."

[78] See for instance Papademos (2003)
[79] Part (1993)
[80] Duwendag (1999), pp. 12 ff.
[81] Duwendag (1999), ch. 1
[82] Wyplosz, (1997), pp.8 ff.

The goal of a monetary union initially endorsed after the Hague Summit in 1969 according to the recommendation by the Werner expert group was revived at the Hanover Council meeting in April 1988. On these grounds, the European Council agreed in Hanover to set up a Committee under the chairmanship of Commission President Jacques Delors, whose aim was to study and propose concrete steps towards the creation of a European Monetary Union.

Intergovernmental discussions and negotiations culminated, being inspired by recommendations of the Delors Committee at the end of 1991, in the Treaty of the European Union, which set out the unparalleled goal of a monetary union and identified the statutes of an independent ECB, its tasks and responsibilities. The Committee Report furthermore recommended a 'stage-approach', a provisional timetable and, last but not least, identified clear accession criteria for eligibility to join EMU. Decisions made in Maastricht provided the framework on which the Council of Ministers decided upon the creation of EMU for the year 1999. The Delors Report contained a 'maximalist' conception of EMU: a single currency and consequently a single monetary policy by a supranational monetary institution.
It did not envisage the creation of so-called United States of Europe but rather to transfer the necessary sovereignty in monetary matters to EMU under the "principle of subsidiarity".

According to Eichengreen and Frieden[83] EMU was a result of "inter-state bargaining and of strategic interaction" between the participating players. For example, EMU was considered to tie Germany closer to Europe and to diminish its economic and political power within Europe. For some countries, most prominently France, one benefit was to have monetary policy not being dependent in an informal arrangement in which the French franc was subordinate to the deutschmark (as under EMS), but to have monetary policy moved to the European level, where the French central bank governor would at least have a seat at the table.
Conversely, especially for Germany, EMU was a result of 'linkage politics', i.e. EMU was the price to be paid by Germany to get concessions on the way towards a closer political union. Eichengreen and Frieden went further citing Fratianni, who stated that "…the absence of a compelling economic justification for EMU has led economists to conclude that the prime motivating force behind the Maastricht treaty was politics."[84]

In Tsoukalis' view[85], EMU was born due to a combination of factors: German *Westpolitik*, the overall concern about the survival of currency arrangements under EMS, the concern about the sustainability of CAP, the desire to safeguard fixed exchange rates and the wish to adopt a common policy approach vis-à-vis the USA.
In retrospect, the relatively quick integration moves from the SEA to the Delors Report and the TEU could also be explained by political events taking place in the late 1980s and over the 1990s: the opposition of the UK to deeper European integration, challenges facing the European Community following German re-unification and the political and economic turmoil in Eastern Europe in times just after the breaking up of the Soviet Union.

[83] Eichengreen and Frieden (1994), pp. 5 ff.
[84] Fratianni in Eichengreen and Frieden (1994), pp. 54 ff.
[85] Tsoukalis (1995)

4.2 The Treaty of the European Union signed in Maastricht

The Treaty of the European Union "reviewed"[86] the Treaty of Rome in such a way that EU would move closer towards becoming a political union. The TEU defined convergence criteria for potential EMU member states, set out the institutional structure, duties and objectives of the future ECB and defined how monetary policy would be conducted in EMU. The Maastricht Treaty also set out the timetable, as recommended by the Delors Report, consisting of the following progressive stages-approach towards the creation of EMU:

Stage I started in July 1990 and paved the way towards full capital market liberalisation, integration of banking and financial markets and prioritised closer economic coordination and cooperation, as well as identified the convergence criteria set out in the TEU.

Stage II aimed at improving macroeconomic policy coordination in Europe – for instance in monetary and fiscal, competition, structural and regional policies. It improved coordination by defining essential economic objectives and specified precise (but not contingent) rules on budgetary deficits and their financing. Despite the successive currency crises between September 1992 and August 1993 and economic difficulties, the EC entered Stage II as planned on 1 January 1994. This second Stage saw the establishment of a European Monetary Institute (EMI) in January 1994 in Frankfurt, which would eventually evolve into a European System of Central Banks (ESCB) charged with the overview of the general monetary orientation for the whole of the Community. The EMI's role was to assist improved coordination of national monetary policies, to encourage the convergence in economic fundamentals and to supervise and report progress made towards convergence.

The decision which countries would enter EMU was eventually taken in May 1998 and included eleven of the EU member states. Greece did not meet the criteria at first, but joined in 2000, while the UK, Sweden and Denmark voluntarily opted to stay out of EMU.

Stage III finally saw the irrevocable fixing of exchange rates, the introduction of the euro as single EMU currency and the ECB becoming the sole institution in EMU entitled to spell out monetary policy with the main objective of ensuring price stability within EMU.

4.3 The convergence criteria – required admission criteria for entering Stage III

It was intended that countries entering Stage III were bound to fulfil the five convergence criteria mentioned in Article 109J(1) of the TEU. The strict nature of the convergence criteria was to some degree inspired by the Delors Committee's recommendation, but at the same time strongly insisted upon by countries like Germany, whose aim was to identify strict and clear economic membership rules that were impossible to be fulfilled by Mediterranean countries. Germany feared a weak and instable monetary union, in case countries with divergent debt, deficit and inflation rates would obtain membership (for instance Italy). The German government

[86] Heise (1997)

considered the criteria together with an independently led monetary policy to be essential to create an adequate frame for the smooth functioning of EMU.
Therefore, on 1 July 1990, the European Council decided to implement mechanisms that would incite member states to conduct coordinated economic policies, enabling European countries to ensure inflation-free and permanent growth under surveillance of national budgetary policies[87].
One German mistake however – especially with respect to the fiscal criteria evoked in the Treaty – was that it only included current debt and deficit levels, but did not take into account the dynamics of debt build-up. Due to this mistake, countries like Italy managed to reduce its public deficit and its debt level and to lower interest rates up to a certain point that ensured membership: with the expectation of entering EMU, Italian interest rates converged to a lower level, leading to an increase in bond prices and capital inflow. The perspective of the euro therefore 'consolidated' Italian public finances. Italy's later return to rising debt levels however can be very much related to persisting structural problems of the Italian economy, mainly high government expenditures to finance the Italian health and pension system.

The convergence criteria as identified in the TEU[88]

- With respect to price stability, the Treaty stipulated: "The achievement of a high degree of price stability will be apparent from a rate of inflation which is close to that of, at most, the three best-performing Member States in terms of price stability."
The inflation rate of a given Member State was thus not allowed to exceed by more than 1.5 percentage points that of the three best-performing countries.

- With respect to government finances, the Treaty stipulated: "The sustainability of the government financial position … will be apparent from having achieved a government budgetary position without a deficit that is excessive. …"
This concerned compliance with respect to:

- the annual government deficit**,** i.e. the ratio of the annual government deficit to gross domestic product (GDP) was not allowed to exceed 3%, and if it were, the ratio would have to decline substantially and continuously.

- government debt, i.e. the ratio of gross government debt to GDP was not allowed to exceed 60%, and if it were, the ratio would have to sufficiently diminish and approach 60%.

- With respect to exchange rates, the Treaty stipulated: "the observance of the normal fluctuation margins provided for by the exchange-rate mechanism of the European Monetary System, for at least two years, without devaluing against the currency of any other Member State", corresponding to fluctuation bands of +/- 2.25% and ever since the EMS currency crises to +/-15% (for some countries) with respect to the central rate.

[87] See for instance Jarchow (2002) for commentaries.
[88] The five convergence criteria as indicated are cited from the homepage: http://europa.eu/scadplus/leg/en/lvb/l25014.htm

- With respect to long-term interest rates, the Treaty stipulated: "the durability of convergence achieved by the Member State ... being reflected in the long-term interest-rate levels", i.e. the nominal long-term interest rate was not allowed to exceed by more than 2 percentage points that of the three best-performing countries

The criteria were laid out as such to ensure "…that constraints on policy implied by participation in EMU are likely to prove acceptable within the country."[89]
The aim to ensure a stability community required strict and stability oriented exchange rate- and monetary policies, but also reasonable policies by non-community actors, among others social partners, employees' and employers' associations and industry representatives. The criteria also aimed at avoiding excessive and expansive national fiscal policies, considering the potentially harmful spill-over effects on partner countries.
Reading the Treaty and especially Article 109J(1), one can hardly deny that the therein mentioned criteria were spelled out in a way that would allow for a high degree of pragmatism when it comes to the interpretation of the criteria. In retrospect, a strict interpretation would certainly have led to only a small number of countries qualifying for Stage III.

Overall, the criteria were announced in order to:

- solve the inflation bias problem of EMU,
- avoid surprise inflation to be used that would erode bond-holders' value of compensation,
- prevent competitive devaluation temptations prior to accession,
- avoid attempts for prior competition on capital gains at the expense of other countries,
- avoid the 'monetisation of debt' (through political pressure) by setting up an independent, hard-nosed and conservative ECB, resembling mostly the German Bundesbank model with the sole goal of price stability,
- tackle doubts on the effectiveness of EMU in view of excessive deficit fears and unsustainable debt rates. Fiscal discipline was especially a German concern in view of already having foregone independent monetary policy. Careless fiscal policy by high debt countries was considered to be potentially harmful for exchange rate and interest rate stability, for consumer confidence and it was thought to be a potential cause for severe financial crises.

On one side, Clement[90] argued that the Maastricht convergence criteria were based on the thesis that similar economic structures of member states would help EMU to become a zone of stability and therefore policy makers agreed to these prior monetary and fiscal convergence criteria. On the other hand critics[91] insisted on the necessity to extend the criteria to cover also structural and real-economy aspects, like the integration of labour markets, harmonised tax policy frameworks, the elimination of remaining product market barriers and the convergence of unemployment rates and living standards.

[89] Artis and Lee (1997), ch. 13
[90] Clement (2004), pp. 430 ff.
[91] See for instance WIFO (1996), Duwendag et al. (1999), Baimbridge and Whyman (2003), Clement (2004)

One of the arguments in favour of public finance criteria insisted that excessive debt and deficit levels would lead to inflationary tensions and would therefore constitute a threat to price stability in EMU. The excessive character of budgetary deficits nevertheless had to be regarded relative to the business cycle position:
In times of a recession it would be normal to see a small deficit increase in order to give an impetus to economic activity. However, if economic circumstances would prove to be harsh, adhering to a strict 3% deficit limit would not only be a difficult task, but also leave no room at all for supporting the economy in a trough. For this reason, the 3% level that prior to the start of EMU would not seem to be much of a challenge – at least at the time of the ratification of the TEU – turned out to become a level that would only be met with some difficulties by some countries (i.e. in difficult times as occurred in the mid 1990s).

Another argument with respect to the criteria related to the fear that public debt rates would compromise price stability and could potentially endanger a country's solvability level. Debt levels also had to be considered in the perspective of the ability to raise taxes and obtain tax receipts in future periods. In retrospect it therefore seemed that a country like Belgium (satisfying the inflation criterion with 1.3%), whose debt level – despite showing a tendency towards reduction – was well over 100% of GDP in 1998, would not endanger EMU, as compared to a country with similar debt levels, such as Italy or Greece.

Other clauses of the TEU had the intention to incite budgetary discipline in a less direct way than the convergence criteria. This concerned for example the prohibition of direct ECB financing of member states through the form of borrowing and of member states financing its partners directly in case of financial problems. Both cases were meant to impede the resurgence of inflation tensions in the monetary union.

The inflation criterion expressed in relative terms (i.e. relative to the three lowest inflation countries) did not pose a problem to any country, except for Greece with its inflation rate still being close 5% in 1998.
All European states engaged in anti-inflation policies in the middle of the 1980s and even engaged in competitive disinflation that lowered inflation to levels below 2.8% in 1998 (with Portugal having an inflation level of 2.8%; also see Table 8 below). The inflation criterion was justified by the fact that too large inflation differentials would tempt a high inflation country to devalue its currency in order to restore its price competitiveness, which was impossible in a monetary union.
This criterion was linked to the criterion on long-run interest rates:
Nominal interest rate differentials indeed corresponded to anticipated inflation differences[92]. The importance of these differentials therefore took account of the anticipations of economic agents.

Overall, to question the pertinence of the strict budgetary rules that were imposed with the convergence criteria does not imply a denial of the necessity of budgetary discipline. Fiscal policy had to be coordinated and disciplined in order to prevent the contamination of monetary policy. The strict rules therefore seemed to be politically necessary, even though being economically highly controversial.

[92] Fisher's hypothesis taken from http://economic.about.com/cs/economicsglossary/g/fisher_h.htm

4.4 Qualifying for the euro

Euro area candidate countries were selected at the intergovernmental conference in Brussels on 2 and 3 May 1998. Eleven countries were admitted to Stage III, which started in January 1999, i.e. Germany, Austria, the Benelux countries, Spain, Finland, France, Ireland, Italy and Portugal. Among the four countries that would not enter Stage III in the first wave, Greece would not participate for failing to meet the criteria, but eventually joined in 2001 after significantly improving its fiscal and monetary stance. The UK, Sweden and Denmark deliberately chose for political reasons not to be admitted to EMU.

All countries without exception satisfied the public deficit and interest rate criterion. Except for Finland, Ireland, Luxembourg and Portugal however, the criterion of public debt was not satisfied. Of course it was clear that the public debt stock could not be reduced at a comparably fast rate as were deficit levels.

The pound, the Swedish krona and the drachma remained outside the reference period with respect to the exchange rate criterion (March 1996, February 1998). The lira and the Finnish marka only joined the ERM in November 1996. Consequently only 10 out of 15 possible currencies did participate in the ERM in the reference period identified in the TEU. Italy's and Finland's particular case however has not impeded them from qualification.

4.5 The "policy-mix" in Europe

A single monetary policy

In EMU, the ECB is charged with the control of money creation and destruction, it sets monetary and inflation objectives, determines interest rates and liquidity for the whole of EMU, trying to average out member states' needs while conducting monetary policy. The primary objective as identified in its statutes is the maintenance of price stability at an inflation level of 2%. However, the ECB is also required to support the general economic environment in the Community, but without prejudice to the objective of price stability. The underlying reason for this very strong emphasis on price stability is the belief that monetary policy cannot have any long-lasting influence on real economic variables, such as output growth and employment. The ECB therefore formulates and executes monetary policy with the aim of providing a stable economic environment across EMU. Its interest rate choice shapes EMU economies and its statute prohibits the ECB from investing money or lending out funds to governments.

The role and policy objectives of the ECB and the ESCB have not only in the run-up to the ECB's creation, but also nowadays, been highly debated. For instance, while Germany defended and defends the ECB's role of primarily fighting inflation, France would welcome a less 'inflation-focused' central bank, which would also take into account other economic criteria in its interest rate- and monetary policy decisions. At a discussion round[93] in Berlin, German politicians once more defended the ECB, stating that inflation differences in Europe "were not the fault of the ECB, but rather

[93] Diskussionsveranstaltung Berlin (2007)

the result of insufficient adjustment of national economic policies…" while French counterparts would welcome an ECB that laid less focus on inflation and more on the business cycle.

Fiscal policies

The TEU did not spell out fiscal federalism or the transfer of significant parts of national budgets to the Community level in order to allow an augmentation of the small Community budget that currently is around 1.27% of the EU's GDP, compared to 30% in the USA. Furthermore, the 2007-2013 financial perspective only forecasts an EU budget between 800 billion and 1 trillion euro, a figure that only represents about 1.14% of the EU's GDP. Fiscal policy remains a national sovereignty in EMU and any form of financial solidarity is prohibited. Only very special circumstances, such as a natural catastrophe, would allow Community assistance to a country in financial difficulties.

Keeping national sovereignty in budgetary matters seemed necessary in order to allow countries to administer or react to asymmetric shocks that could occur in the eurozone. The possibility of intra-Community fiscal transfers however would seem to be an efficient solution, but at the same time seems highly unrealistic, as member states were already being deprived of autonomous monetary policies. Decentralised national fiscal policy in the EU was thought to be necessary in order to react to asymmetric economic shocks affecting the currency union (like the Asian stock market crisis in the late 1990s). It is obviously fairly difficult to make exact forecasts about asymmetric shocks in the future or whether EMU would increase or decrease their likelihood. One can expect that a single currency would accentuate regional specialisation or 'a better division of labour' in Europe. This however will increase the vulnerability of the different European regions from being affected by asymmetric shocks. Conversely, market integration will probably lead to more co-variation of economic activity. In case of asymmetric shocks, monetary policy could play a stabilising role, i.e. absorb asymmetric shocks and reduce pressures on fiscal policy. If a strong asymmetry of shocks would prevail, member states would be able to use fiscal policy as counter-measures.

Fiscal discipline in the eurozone: the Stability and Growth Pact (SGP)

A common view in the run-up to EMU and during its first years of existence was that the absence of fiscal coordination could potentially and severely hamper the success of monetary unification. Uncoordinated fiscal policies could lead to unwanted effects on interest rates, on capital movements and on inflation differentials and ultimately and potentially lead to a credibility crisis in EMU. For these reasons, several European countries – with Germany at the forefront – insisted on clearly defined post-Maastricht rules on public finances in order to prevent the return to fiscal laxity with respect to national deficit and debt rates. The SGP adopted by the Amsterdam intergovernmental conference[94] was considered to be a necessary 'debt-break' applying to all member states to ensure continuous fiscal discipline after EMU accession.

[94] The SGP is based on Art. 99 and 104 of the EC Treaty (with amendments adopted in Maastricht) and was adopted in 1997 at the IGC in Amsterdam

Coordination of fiscal policies in Europe did not only impose itself out of the necessity to avoid budgetary 'excess', but also to avoid EMU having a monetary bias leading to too restrictive fiscal policy without taking the form of stabilisation. A decentralised fiscal policy is effectively susceptible to externalities affecting both the initiating country and its partner states. Fiscal policy can have a stimulating effect on economic activity that does not limit itself to the country carrying out the policy. Partner states for instance see a favourable development in growth levels through an increase in commercial exchanges. The result for the country initiating the fiscal policy expansion is a deteriorating trade balance, which could effectively impede a country to engage in too active fiscal policy.

On the other hand, too restrictive fiscal policy could be harmful in case of a prolonged weakness of growth rates within EMU. For this reason it is essential that governments concerned coordinate their actions, rather than act by themselves. A coordinated effort to re-launch economic activities, for instance, would not affect the bilateral commercial balance.

The SGP appeared as a desired complement to the TEU, because fiscal discipline rules imposed by the latter were imprecise. The SGP took the Treaty's rules and improved them in order to apply them without leaving any ambiguities after EMU would start. Referring to the debate on fiscal federalism, Duisenberg[95] defended "the existence of the SGP…" that "…leads to the conclusion that EMU does not need a centralised budget. With national budget positions close to balance or in surplus, countries have ample room for manoeuvre to cope with adverse economic developments."

Another initiative taken by European authorities concerned the establishment of a new informal group of decision-makers, i.e. the Eurogroup, which is a subset of the ECOFIN Council and whose task is confirmed to be the better coordination of respective economic policies.

Fiscal discipline within EMU takes the form of prevention of excessive public deficits. If member states fail to prevent them, they expose themselves to sanctions by the Community. A public deficit is not considered to be excessive, if it remains below 3% of GDP (i.e. the TEU criterion). The SGP however specifies that breaching the 3% limit is possible, if the breaching is only of an exceptional and temporary character. This could have two origins: either a major unforeseen and exogenous event, such as a natural catastrophe, or a severe recession. The notion of a severe recession is, in its turn, also specified, even if it has to be dealt with case by case. In principle, only a drop of the GDP by over 2% *per annum* can be considered to be of an exceptional character. The question is whether a member state could ask for special treatment for a severe recession, if the reduction is between 0.75-2%.
In case of an excessive deficit, the European Council convenes and recommends corrective measures to be undertaken by the corresponding state in the following year. If the state does not comply with or succeed following the recommendations within the period asked, sanctions could be imposed, taking for example the form of reduced structural funds for the respective country.

[95] Duisenberg in Peterson (2002), ch. 8

Overall, Gros and Thygesen[96] were of the opinion that EMU members would need to follow a proper policy mix, because demand-management policies in EMU could potentially have spill-over effects on other countries, leading to a deflationary bias in other countries (i.e. policies could have the 'beggar-thy-neighbour' effect). Uncoordinated fiscal policy therefore might threaten efficient monetary policy and its price stability objective. In addition to the above arguments, Artis and Lee[97] insisted on the relevance of fiscal criteria pointing out that excessive debt rates after a fiscal expansion would potentially lead to a monetisation of debt in a political crisis and put pressure on ECB to intervene in favour of the government concerned and in solidarity with threatened banks holding government bonds.

One counter argument by Gros and Thygesen[98] to the criticism that the fiscal criteria would not allow sensible anti-cyclical fiscal policies was that "activist policy is no longer deliberately practiced in most countries because experience has shown that the lag between the time when a downward swing has occurred and when effective action can be taken is just too long". The argument is usually phrased in terms of automatic stabilisers that should be allowed to work in case of an economic slowdown. Economic agents would in this case pay lower taxes, consequently public receipts would fall.

Several authors[99] indicate that fiscal coordination would be necessary as the EU budget is too small for a credible stabilisation role. They remark that some form of fiscal federalism – a more federal European structure with centralised redistributive policies of taxing, borrowing and spending – would be desirable and could be considered as a possibility in the long run. At least decision-makers should consider ways to re-organise the financing of the Community budget. One proposal in this direction concerned the implementation of taxes on short-run speculative financial operations or on air and maritime travel to be used for Community purposes. One of the advocates of such a tax was former Austrian Chancellor Schüssel[100] who repeatedly asked for increasing the Community budget, while insisting that the overall burden for consumers should not be increased. Schüssel advocated this move parallel to a EU budgetary reform. A similar proposal was already brought forward in 1977 by MacDougall[101] who suggested in his report on European monetary integration to raise the EC budget from 0.7% to 2-2.5% in order to reduce inter-regional differences and inequalities. MacDougall argued that, by raising the Community budget accordingly to the recommended size, intra-Community inequalities could be reduced by around 40%.
Although many changes have occurred in Europe ever since MacDougall's call and although these numbers are highly out-dated, nevertheless similar ideas and reform proposals going into the same direction are brought forward today.

The EU's budget is currently at 1.27% of EU member states' GDP. Even though arguments exist in favour of greater centralisation, member states have never seemed inclined to engage in this direction. This partly reflects the difficulties to

[96] Gros and Thygesen (1998)
[97] Artis and Lee (1997), ch. 13
[98] Gros and Thygesen (1998), pp. 252 ff.
[99] See for instance Gros and Thygesen (1998), Eichengreen and Frieden (1994), Giovannini (1995), Cuadrado-Roura et al. (2002)
[100] Schüssel (2007)
[101] MacDougall in Baimbridge and Whyman (2003), ch. 7, p. 96 ff.

reconcile very diverse political preferences within the EU. According to Gros and Thygesen, the real obstacle for effective policy coordination or a move towards fiscal federalism is that fiscal policy "is determined mostly by short-term domestic political considerations. It would be very difficult for any government to explain to its electorate that it has to increase taxes and/or reduce expenditure because demand is too strong in other parts of the EU, and in some cases it might be impossible to obtain the required majorities in national parliaments, even if the government had agreed to such a move." [102]

[102] Gros and Thygesen (1998), pp. 323 ff.

5. Eurozone and country performance between 1992 and 2007

This part of the thesis aims at giving an empirical overview of the last ten to fifteen years, introducing relevant economic data in order to assess EMU's first years of existence. This assessment however will not be and cannot be exhaustive, nor will it be possible to draw definite conclusions about the future of EMU, considering its brief period of existence. Hopefully though this analysis will give a general idea where EMU stands right now and where it is heading, while enabling us to identify potential future problems that need to be addressed by European policy makers.

Considering the different national economies and analysing their success with respect to meeting the convergence criteria in the mid and late 1990s, the outlook prior to EMU was not bright for some European countries. The early 1990s were characterised by a fairly big diversity of economic fundamentals, shedding some doubt on successful convergence.

Taking for instance the year 1993 – the year of the TEU entering into force (*nota bene* that 2003 was also the year of the EMS collapse) – three groups of countries could be distinguished:

- Mainly the Southern European states being fairly far away from reaching the entry targets:
    - Greece with a public deficit of 14%, a public debt of over 110% of GDP and an inflation rate of over 14%.
    - Portugal with an inflation rate of 6.7% and a deficit of 5.6%.
    - Italy with an inflation rate of around 4.6%, a government debt of over 115% of GDP and a deficit of over 9%.
    - Spain with a deficit of 6.6% and an inflation rate 4.6%
    - Belgium with a gross government debt of over 133% of GDP and a deficit of 7% of GDP.

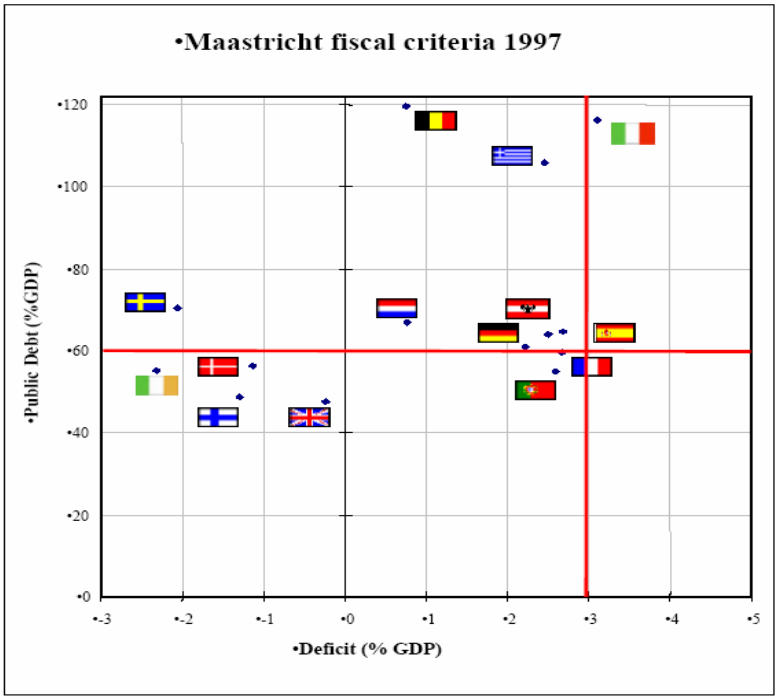
- On the other hand, the 'core' countries that respected the criteria almost in any aspect:
    - Germany with inflation of 4.4% and a deficit of 3.4%.
    - France with a deficit of 5.6%.
    - Luxembourg with an inflation rate of around 3%
    - Denmark with a gross government debt level of around 80%.
    - The Netherlands with a deficit of 3.1% and inflation of 2.6%.

- Finally countries in between or countries not yet members of the EU, missing at least one objective or criteria:
    - Austria with a public deficit of around 4.1% and inflation rate ranging around 3.6%.
    - The UK with an inflation level of around 4.3% and a public deficit of over 7.6%.

Differences in economic preconditions at the time risked to threaten the successful and sustainable implementation of EMU. It was even more worrying that some countries seemed to get even further away from the targets, rather then approaching them. This negative development occurred despite real efforts by certain member states to improve their economic and financial situation. The ongoing developments, however, were not of an irreversible nature, as they could mainly be accounted for by unfavourable cyclical developments in the period around 1993 and, among others, the repercussions of German re-unification, high interest rate and anti-inflationary policies in Germany and ramifications of the EMS currency crises.

The period between 1993 and 1998 witnessed a general improvement towards meeting the Maastricht criteria. Germany had slowly digested the effects of re-unification, being able to reduce its inflation rate from 4.4% in 1993 to 1.45% in 1996 (with only a small increase to 1.9% in 1997). The core countries' interest rates converged already in the early 1990s with the ones of the periphery following after the mid-1990s.

Graph 1 – Maastricht fiscal criteria 1997[103]



With respect to the fiscal criteria (as illustrated in Graph 1 above for 1997 and Tables 6 and 7 below), Germany was able to reduce its public deficit from 3.4% in 1993 to 2.2% in 1998. Germany was nevertheless not able to reverse the trend on public debt levels with 45.8% of GDP in 1993, 59.7% in 1997 and 60.3% in 1998.
France remained in 1998 in the circle of the lowest inflation countries (with 0.6% in 1998 even the lowest of all rates) compared to 2.1% in 1993.
Italy had neatly improved through fiscal consolidation and reduced its public deficit to 2.8% in 1998, compared to 9.1% in 1993.

[103] In Baldwin and Wyplosz (2004)

Denmark achieved in the same time a total reversal and went from a 2.8% to a nil-deficit.
One of the doubtful adherents to EMU, i.e. Greece, improved from around 14% in 1993 to a deficit of 4.3% of GDP in 1998, however still clearly missing the required level of 3%. Its inflation rate fell in the same period from 14.4% in 1993 to 4.8% in 1998 (compared to the required limit of 2.7%).
As for Austria which was not yet a EU member in 1993, it 'followed suit' with Germany, achieving remarkable disinflation, while being able to reduce its deficit, but not its public debt rate, which surpassed the 60% limit in 1998.

Table 6: General government consolidated gross debt; Excessive deficit procedure (based on ESA 1995) and former definition (linked series); percentage of GDP; various countries; various years

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Austria	56.1	56.1	55.8	60.5	63.4	67.9	67.6	63.8	64.3	66.5	65.5	66.0	65.8	64.6	63.9	63.5	62.2	60.6
Belgium	125.7	127.1	129.0	133.4	131.5	129.7	126.9	122.2	117.0	113.6	107.7	106.3	103.3	98.6	94.3	93.2	89.1	85.6
Cyprus							50.2	54.4	58.4	58.7	58.8	60.7	64.7	69.1	70.3	69.2	65.3	61.5
Czech Republic						14.6	12.5	13.1	15.0	16.4	18.5	25.1	28.5	30.1	30.7	30.4	30.4	30.6
Denmark	62.0	62.8	68.0	80.1	76.5	72.5	69.2	65.2	60.8	57.4	51.7	47.4	46.8	45.8	44.0	36.3	30.2	25.0
Finland	14.0	22.2	40.0	55.3	57.8	56.7	56.9	53.8	48.2	45.5	43.8	42.3	41.3	44.3	44.1	41.4	39.1	37.0
France	35.3	36.2	39.8	45.7	48.9	55.1	57.6	58.5	58.7	58.3	56.7	56.2	58.2	62.4	64.3	66.2	63.9	62.9
Germany		39.5	42.1	45.8	48.0	55.6	58.4	59.7	60.3	60.9	59.7	58.8	60.3	63.9	65.7	67.9	67.9	65.4
Greece	79.6	82.2	87.8	110.1	107.9	108.7	111.3	114.0	112.4	112.3	111.6	113.2	110.7	107.8	108.5	107.5	104.6	100.9
Hungary							71.7	62.3	60.4	59.5	54.2	52.1	55.6	58.0	59.4	61.7	66.0	67.1
Ireland	93.2	94.5	91.5	94.1	88.6	81.1	73.0	64.2	53.4	48.4	37.8	35.5	32.2	31.2	29.7	27.4	24.9	23.0
Italy	94.7	98.0	105.2	115.6	121.5	121.2	120.6	118.1	114.9	113.7	109.1	108.7	105.6	104.3	103.8	106.2	106.8	105.0
Malta							38.4	47.0	52.0	56.4	56.0	62.1	60.8	70.4	73.9	72.4	66.5	65.9
Netherlands	76.1	76.1	77.1	78.5	75.6	76.1	74.1	68.2	65.7	61.1	53.8	50.7	50.5	52.0	52.6	52.7	48.7	47.7
Poland							43.4	42.9	38.9	39.3	35.9	35.9	39.8	47.1	45.7	47.1	47.8	48.4
Portugal	55.3	57.7	51.7	56.1	59.0	61.0	59.9	56.1	52.2	51.4	50.4	52.9	55.5	56.8	58.2	63.6	64.7	65.4
Slovakia						22.0	30.8	33.5	34.4	47.5	50.2	48.9	43.3	42.4	41.5	34.5	30.7	29.7
Slovenia							21.0	21.4	22.1	24.6	27.6	28.3	29.1	28.6	28.9	28.4	27.8	27.5
Spain	42.6	43.4	45.9	57.2	59.8	62.7	66.8	65.3	63.2	61.5	59.2	55.5	52.5	48.8	46.2	43.2	39.9	37.0
Sweden	42.0	50.1	63.3	70.7	73.2	73.0	73.0	70.0	67.6	62.2	52.3	53.8	52.0	53.5	52.4	52.2	46.9	42.1
United Kingdom	33.4	33.8	38.7	44.7	47.9	51.0	51.2	49.6	46.6	44.0	41.2	38.0	37.4	38.8	40.3	42.2	43.5	44.0
Bulgaria								105.1	79.6	79.3	73.6	66.2	53.6	45.9	37.9	29.2	22.8	20.9
Romania									18.0	24.0	23.9	23.2	25.0	21.5	18.8	15.8	12.4	12.8
EU15	53.2	53.8	56.2	62.9	65.3	69.6	71.5	69.8	68.0	67.1	63.1	62.2	61.5	63.0	63.3	64.5	63.3	62.2

Source: European Commission, AMECO Database

Table 7: Excessive deficit procedure; change of debt percentage of GDP at market prices; various countries; various years

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Austria	-2.4	-2.9	-1.9	-4.1	-4.8	-5.6	-3.9	-1.7	-2.3	-2.2	-1.5	0.0	-0.5	-1.6	-1.2	-1.6	-1.4	-0.9
Belgium	-5.2	-6.0	-6.8	-7.0	-4.7	-4.4	-3.8	-2.0	-0.8	-0.5	0.1	0.6	0.0	0.1	0.0	-2.3	0.2	-0.1
Cyprus									-4.1	-4.3	-2.3	-2.2	-4.4	-6.3	-4.1	-2.3	-1.5	-1.4
Czech Republic						-13	-3.3	-3.8	-5.0	-3.7	-3.7	-5.7	-6.8	-6.6	-2.9	-3.5	-2.9	-3.9
Denmark	-1.0	-2.4	-2.2	-2.8	-2.5	-2.9	-1.9	-0.5	0.0	1.3	2.3	1.5	0.2	0.0	2.0	4.7	4.2	3.7
Estonia				9.5	4.3	0.4	-1.9	1.7	-0.3	-3.6	-0.2	-0.3	0.4	2.0	2.3	2.3	3.8	3.7
Finland	5.2	-1.4	-5.6	-7.8	-6.0	-6.2	-3.5	-1.2	1.7	1.6	6.9	5.0	4.1	2.5	2.3	2.7	3.9	3.7
France	-1.5	-2.0	-3.8	-5.6	-5.6	-5.5	-4.1	-3.0	-2.6	-1.7	-1.5	-1.5	-3.2	-4.1	-3.6	-3.0	-2.5	-2.4
Germany		-3.2	-2.7	-3.4	-2.5	-3.2	-3.3	-2.6	-2.2	-1.5	1.3	-2.8	-3.7	-4.0	-3.7	-3.2	-1.7	-0.6
Greece	-16	-11	-13	-14	-10	-10	-7.4	-6.6	-4.3	-3.4	-4.0	-4.9	-5.2	-6.2	-7.9	-5.5	-2.6	-2.4
Hungary							-4.6	-6.1	-8.0	-5.4	-2.9	-4.0	-8.9	-7.2	-6.5	-7.8	-9.2	-6.8
Ireland	-2.2	-2.2	-2.4	-2.3	-1.5	-2.0	0.0	1.3	2.4	2.7	4.6	0.8	-0.4	0.4	1.4	1.0	2.9	1.5
Italy	-11	-9.7	-9.2	-9.1	-8.8	-7.4	-7.0	-2.7	-2.8	-1.7	-0.8	-3.1	-2.9	-3.5	-3.5	-4.2	-4.4	-2.1
Latvia	6.8	5.7	-0.5	2.2	-1.3	-2.0	-0.5	1.4	-0.6	-5.3	-2.8	-2.1	-2.3	-1.6	-1.0	-0.2	0.4	0.2
Lithuania				-0.8	-0.9	-1.6	-3.3	-11.9	-3.1	-2.8	-3.2	-2.1	-1.9	-1.3	-1.5	-0.5	-0.3	-0.4
Luxembourg	4.1	1.5	0.6	1.3	2.3	2.4	1.2	3.7	3.4	3.4	6.0	6.1	2.1	0.4	-1.2	-0.3	0.1	0.4
Malta									-9.8	-7.6	-6.2	-6.4	-5.5	-10	-4.9	-3.1	-2.6	-2.1
Netherlands	-4.9	-2.7	-3.7	-3.1	-3.6	-4.3	-1.9	-1.2	-0.9	0.4	2.0	-0.2	-2.0	-3.1	-1.8	-0.3	0.6	-0.7
Poland		-8.5	-6.4	-4.1	5.8	-4.4	-4.9	-4.6	-4.3	-2.3	-3.0	-5.1	-5.0	-6.3	-5.7	-4.3	-3.9	-3.4
Portugal	-4.7	-5.5	-2.7	-5.6	-5.6	-5.2	-4.5	-3.4	-3.0	-2.7	-2.9	-4.3	-2.9	-2.9	-3.3	-6.1	-3.9	-3.5
Slovakia				-31	-6.0	-1.8	-8.6	-6.7	-4.8	-6.4	-12	-6.5	-7.7	-2.7	-2.4	-2.8	-3.4	-2.9
Slovenia										-2.0	-3.9	-4.3	-2.5	-2.8	-2.3	-1.5	-1.4	-1.5
Spain	-4.1	-4.2	-3.9	-6.6	-6.0	-6.5	-4.8	-3.3	-3.1	-1.3	-0.9	-0.5	-0.3	0.0	-0.2	1.1	1.8	1.4
Sweden	4.0	-1.1	-7.3	-11	-9.5	-7.5	-3.3	-1.6	1.1	1.4	3.8	1.6	-1.2	-0.9	0.8	2.1	2.2	2.2
United Kingdom	-0.9	-2.2	-6.0	-7.6	-6.6	-5.7	-4.1	-2.1	0.1	1.2	4.0	1.0	-1.6	-3.2	-3.1	-3.1	-2.8	-2.6
Bulgaria		-13	-5.4	-10	-5.4	-3.4	-1.8	5.3	1.7	0.4	-0.5	0.2	-0.2	-0.9	2.2	1.9	3.3	2.0
Romania									-3.2	-4.5	-4.6	-3.3	-2.0	-1.5	-1.5	-1.4	-1.9	-3.2
EU15	-3.4	-4.0	-4.9	-5.9	-5.3	-5.1	-4.1	-2.4	-1.7	-0.7	1.0	-1.1	-2.2	-2.9	-2.6	-2.3	-1.9	-1.5

Source: European Commission, AMECO Database

Robert McKinnon was one of many commentators praising the restrictive character of the Maastricht convergence criteria requirements, insisting that only formal criteria would help to curb fiscal debt and deficit levels. In particular Mediterranean countries with high public debt rates needed to show strong commitment to the Maastricht criteria in the mid-1990s and indeed achieved remarkable progress in order to ensure eligibility to EMU. Germany's main 'worry' in the run-up to EMU, i.e. Italy, managed to qualify despite the fact that the criteria were designed by Germany in a way to keep Italy out of EMU. Italy however managed to benefit from the higher credibility level in prospect of joining EMU. At the same time Italy introduced a strict consolidation programme to rehabilitate public finances. Overall, however, McKinnon reproached the 'creative accounting' methods, among others used in Italy, but also in countries like France, which used the privatisation of France Télécom to reduce the budget

deficit and public debt. On the other hand, despite less dramatic public deficit and debt rates, Austria too used privatisation of public assets to help eligibility for EMU. McKinnon went on arguing [104] that the "bulk of this fiscal adjustment in EU countries was structural rather than cyclical" – much of this being the effort of joining EMU.

As for the year 2006 (see also Graph 2 to 4), deficit and debt rates still showed a divergent trend with Spain and Ireland having a budget surplus while Germany, France or Italy were close or even exceeding the 3% SGP-limit with France forecasting a nil-deficit for 2012 at the earliest.
A similar trend is visible with respect to public debt rates in Belgium, Greece and Italy clearly surpassing the 60% SGP-limit, while Ireland and Spain show levels of well under 30% of GDP.

Table 8: Consumer price index; annual percentage change; various countries; various years

	1990	1991	1992	1993	1994	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Austria	3.3	3.4	4	3.6	3	1.9	1.3	0.9	0.6	2.3	2.6	1.8	1.4	2.1	2.3	1.4
Belgium	3.4	3.2	2.4	2.8	2.4	2.1	1.6	0.9	1.1	2.5	2.5	1.6	1.6	2.1	2.8	1.8
Czech Rep.	..	..	11.1	20.8	10	8.8	8.5	10.7	2.1	3.9	4.7	1.8	0.19	2.8	1.9	2.6
Denmark	2.6	2.4	2.1	1.3	1.9	2.1	2.2	1.8	2.5	2.9	2.4	2.4	2.1	1.2	1.8	1.9
Finland	6.1	4.3	2.9	2.2	1.1	0.6	1.2	1.4	1.2	3	2.6	1.6	0.9	0.2	0.6	1.6
France	3.2	3.2	2.4	2.1	1.7	2	1.2	0.6	0.5	1.7	1.6	1.9	2.1	2.1	1.7	1.7
Germany	2.7	4.1	5.1	4.4	2.7	1.4	1.9	0.9	0.6	1.5	1.9	1.4	1	1.7	1.9	1.7
Greece	20	19.5	15.9	14.4	10.9	8.2	5.6	4.8	2.6	3.2	3.4	3.6	3.6	2.9	3.6	3.2
Hungary	28.4	34.8	23.6	22.4	18.8	23.5	18.3	14.2	9.9	9.8	9.1	5.3	4.7	6.7	3.6	3.9
Ireland	3.3	3.2	3.1	1.5	2.4	1.7	1.4	2.4	1.6	5.6	4.9	4.6	3.5	2.2	2.4	3.9
Italy	6.5	6.3	5.3	4.6	4.1	4	2	1.9	1.7	2.5	2.8	2.5	2.7	2.2	2	2.1
Lux.	3.3	3.1	3.2	3.6	2.2	1.2	1.4	0.9	1	3.1	2.7	2.1	2	2.2	2.5	2.7
Netherl.	2.5	3.2	3.2	2.6	2.8	2	2.2	1.9	2.2	2.4	4.2	3.3	2.1	1.2	1.7	1.2
Poland	..	76.7	46.1	36.9	33	19.8	14.9	11.6	7.2	9.9	5.1	1.9	0.7	3.4	2.2	1.3
Portugal	13.8	10.5	9.4	6.7	5.4	3.1	2.3	2.8	2.3	2.9	4.4	3.6	3.3	2.4	2.3	3.1
Slovakia	..	..	9.9	23.3	13.4	5.8	6.1	6.7	10.6	12	7.3	3.1	8.6	7.5	2.7	4.5
Spain	6.7	5.9	5.9	4.6	4.7	3.6	1.9	1.8	2.3	3.4	3.6	3.1	3	3	3.4	3.5
Sweden	10.4	9.4	2.4	4.7	2.2	0.5	0.7	-0.3	0.5	0.9	2.4	2.2	1.9	0.4	0.5	1.4
UK	6.9	7.5	4.3	2.5	2	2.5	1.8	1.6	1.3	0.8	1.2	1.3	1.4	1.3	2	2.3
EU 15	5.3	5.5	4.5	3.8	3	2.5	1.8	1.4	1.2	1.9	2.3	2	2	1.9	2.2	2.2

Source: OECD

With respect to inflation rates, the eurozone overall witnessed a general reduction in the years after the euro's introduction with countries like Germany faring better than Greece or Ireland (see Table 8). In the initial period after the introduction of the euro, however, inflation picked up slightly, especially in Ireland and the Netherlands, due to a sharp oil price increase, the initial sharp depreciation of the euro, rising food prices following the animal disease surge and indirect taxes. However, one can still say that the initial euro years saw some degree of price stabilisation in the eurozone.

[104] McKinnon in Baimbridge and Whyman (2003), ch. 6, pp. 81 ff.

Honohan and Lane[105] nonetheless insisted that inflation divergence in EMU was higher than expected. They cited differentiated demand shocks and different productivity growth as being the responsible factors. With respect to the former, Honohan and Lane claimed that member states were differently exposed to international trade with non-eurozone countries and therefore differently affected by movements in international currency markets. Ireland, for instance, was much more affected by and dependent on trade generated from the USA (and therefore by currency movements of the US-Dollar) than Luxembourg.

Existing differences and causes for inflation divergence can also be attributed to benign structural factors, divergences in cyclical positions and national fiscal policies, the exposure to the external environment and to country-specific labour and product market rigidities in or labour institutions. One final factor accounted for were property booms in several countries that occurred in several countries (e.g. Ireland or the UK).

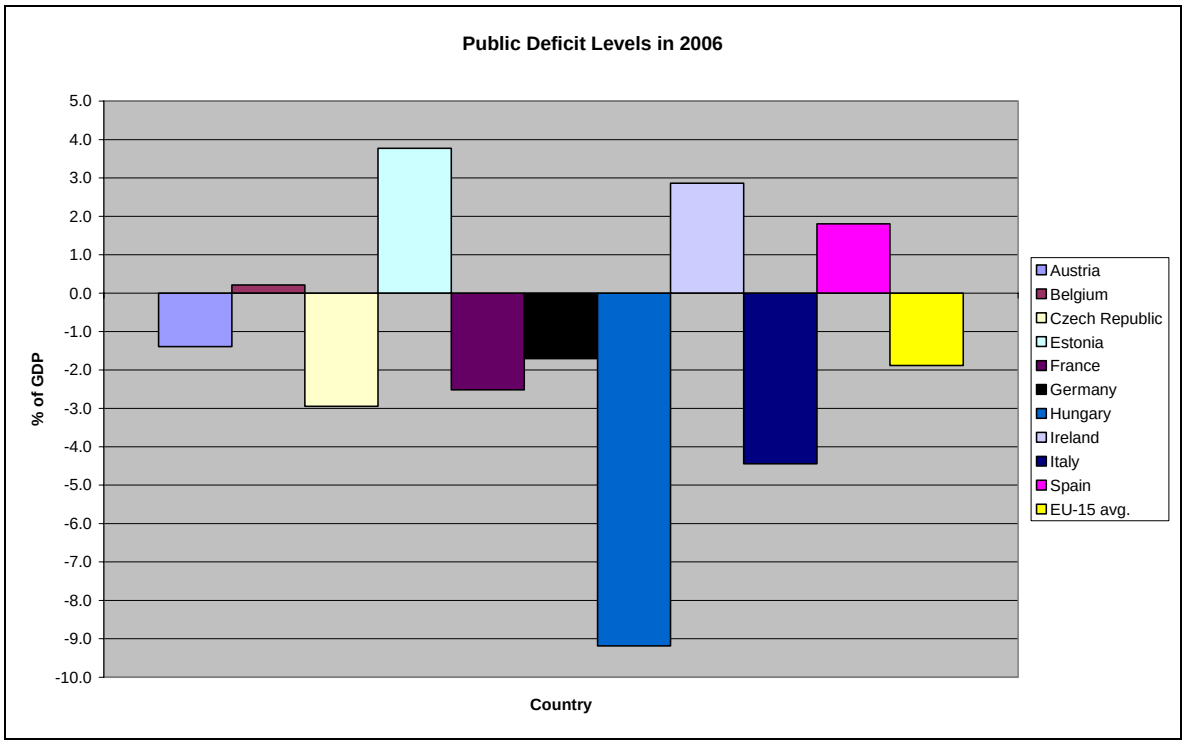
Overall the last two years – especially though the end of 2007 and the beginning of 2008 – saw a considerable rise in eurozone inflation rates to levels well over the ECB objective of 2%, with inflation rates as high as 3.5% in February 2008 in some EU countries.

With respect to the new EU member states we can observe a similarly strong divergence with regard to key economic variables:

- The 'good pupils' of the twelve new EU member states, i.e. Slovenia, Malta and Cyprus, which already joined the eurozone as the newest three members in 2007 and 2008 respectively, showed deficit and debt rates that were close to the Maastricht and SGP criteria.
- Other new member states continue to struggle and do not appear to be able to consolidate public finances in a way that would allow them to join the eurozone any time soon.
- Hungary for instance shows little improvement with respect to the public deficit, which even exceeded the 9% level in 2006.
- The Baltic States on the other hand fare better with Estonia and Latvia even generating a surplus in 2006.
- Poland, the biggest of the new member states, only failed to meet the deficit criterion in 2006 and 2007 by a few tenths of a percent and appears to follow a successful path towards eventual EMU membership.
- Our Czech and Slovakian neighbours – considered to be the next wave of entrants to EMU together with the Baltic States – are faring quite well after having introduced strict budgetary cuts and consolidation steps and reduced debt rates to levels of around 30% and deficit rates to just over 3%.

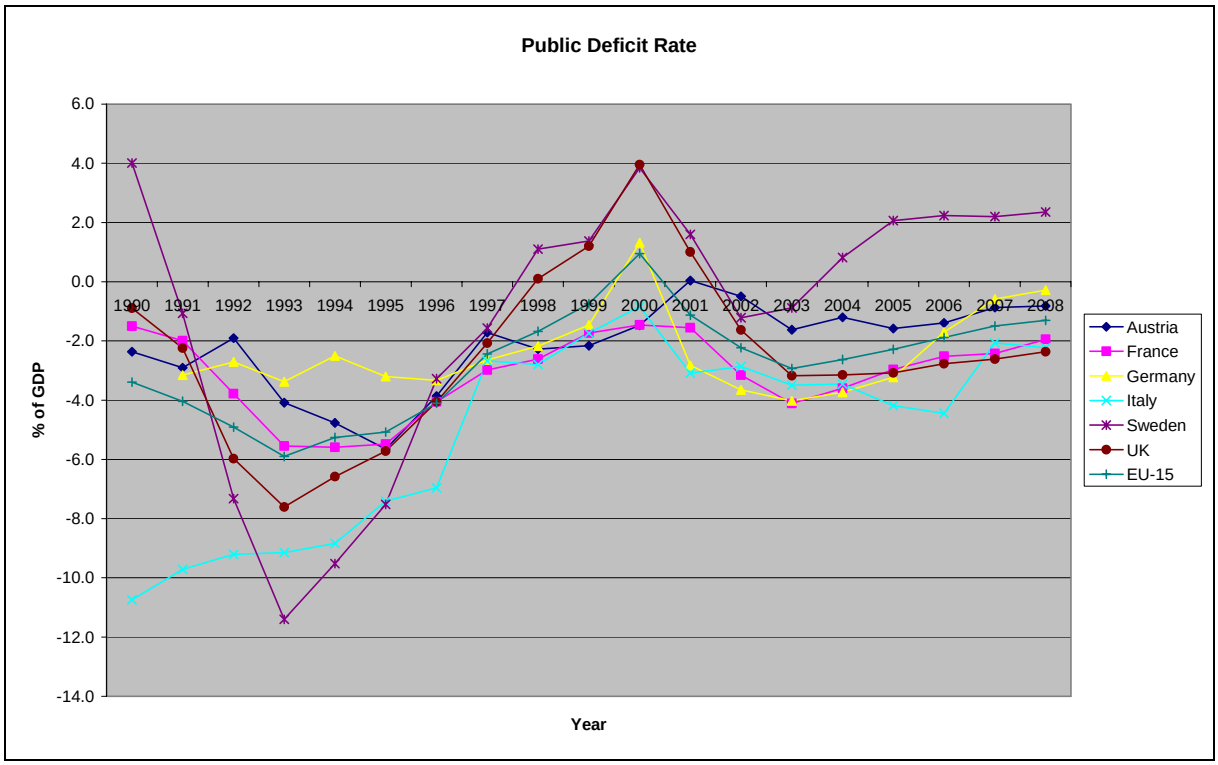
[105] Honohan and Lane (2003)

Graph 2



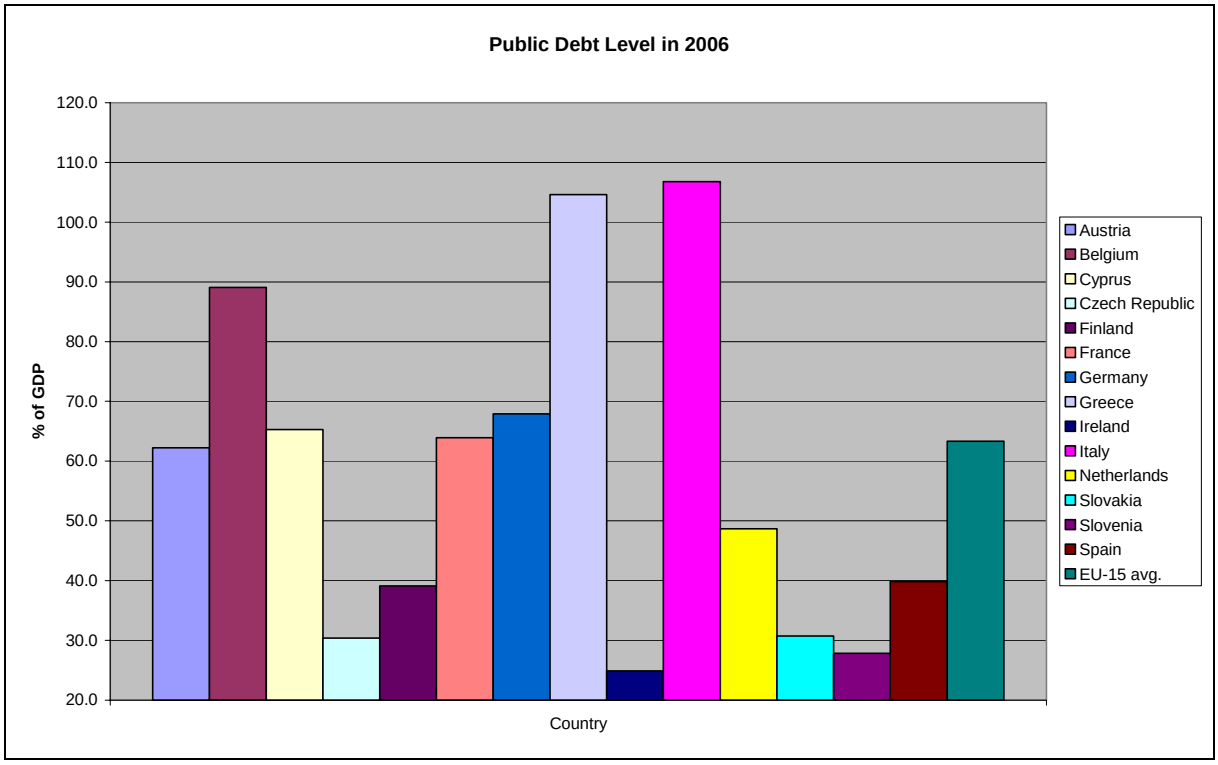
Source: OECD

Graph 3



Source: OECD

Graph 4



Source: OECD

With regard to non-EMU-members, one can observe a fairly similar pattern:

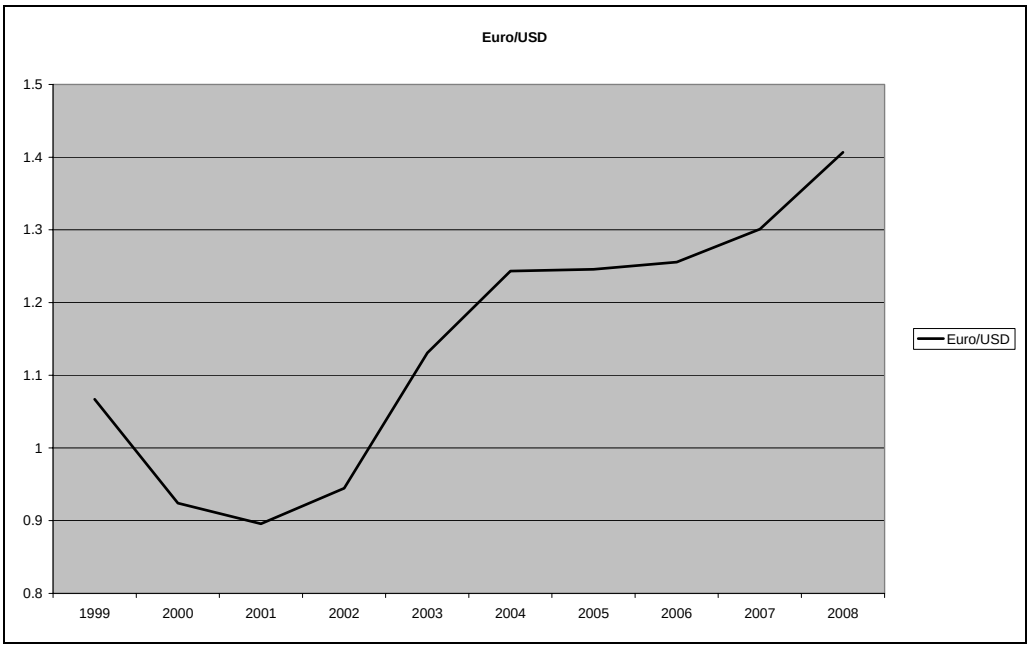
- Denmark, despite not joining EMU, followed other EU member states and undertook successful and concrete steps to consolidate public finances. Its current public debt level is as low as 30% of GDP, while at the same time it achieved to incur a clear budget surplus with over 3%.
- Sweden's case is similar to Denmark, however less pronounced with a debt level of around 46% and a lower budge surplus of 2.2% in 2007.
- The UK's case is somewhat different from the above two: on one side, the UK under Prime Minister Gordon Brown lowered debt rates to just over 40% of GDP; on the other hand it is still incurring budget deficits close to 3%.

5.1 EMU: so far a success story, but intra-eurozone divergences remain

Considering the overall state of the eurozone and the difficult economic environment at the time of the euro's birth, EMU appears to have successfully reacted to the common shocks experienced by its member states, among others the bursting of the dot.com bubble, the global shock after the 9/11 terrorist attacks, the surge in global commodity prices and the persistence of global imbalances.

In the eyes of the European Commission[106], "EMU eliminated currency turmoil, helped growing domestic price stability…and policy coordination helped to reduce national policy-induced shocks." The Commission goes on saying that "in the past eight years, the euro established itself as a stable and strong currency" evolving into "a pillar of the international monetary system, changing the face of capital markets". In the Commission's view, the current development of the euro (with a Euro/US-Dollar exchange rate of currently over 1.45; see Graph 5) is not as worrying as perceived by European exporters, as the Commission welcomed it as a positive sign of the strength of the euro, benefiting European imports.

Graph 5



Source: OECD

The Commission[107] however regrets "continued subdued and disappointing growth and persistent divergences in growth and inflation", which could potentially render policy co-ordination in Europe more difficult and "complicate the task of the common monetary policy in EMU." With regard to the latter, especially the different paths of Germany on one side, and Ireland and Spain on the other side are worth noting. For instance German growth rates – before the sub-prime- and global credit crisis at the end of 2007 and beginning of 2008 – seemed to have picked up (from 2% in 1999 to 2.7% and 2.5% in 2006 and 2007 respectively). While still being higher than German

[106] European Commission (2006), pp. 3 ff.
[107] European Commission (2007c)

growth rates, Ireland and Spain saw a considerable reduction in growth rates over the last six to seven years (with Ireland witnessing a reduction from over 10% to around 5%; see also Table 9 below).

In its 2008-2009 economic forecasts the Austrian Institute for Economic Research WIFO[108] attributed the slowdown in growth rates to the deterioration of international framework conditions, to the general slowdown of business activity, the 2007 financial crisis, the euro appreciation that hit European export industries and high raw material and oil prices. In particular the latter increased during the latter half of 2007 for several reasons[109]: a surge in oil demand in emerging economies like Brazil, Russia, India and China, rebel attacks in Nigeria, rough weather in Mexico and political turbulences in late 2007 in Pakistan, Algeria, Venezuela and Iran.
As a consequence WIFO projected a fall in the Austrian growth rate from 3.4% in 2007 to 2.2% in 2008 and 2% in 2009. In spite of that, beneficial labour market conditions were thought to prevail in the eurozone and unemployment rates were considered to remain at the record low of around 7%, with employment still increasing.

Fears that the 2007-2008 sub-prime crisis and the corresponding US-slowdown would fully affect the eurozone and would lead to a Europe-wide recession were repeatedly played down by European policy-makers[110], as economic fundamentals seem solid and trade losses to the USA would be compensated by trade increases with emerging countries like Brazil, Russia, India or China. The record inflation rate that is currently well over 3 % however remains a main worry. Despite the ongoing slowdown in growth rates and the US credit crisis, the ECB continues to resist any interest rate reduction in view of high inflation rates, as compared to the Fed, which lowered US interest in January 2007 in two steps by a total of 1.25% to a current level of 3%, while US Congress approved at the same time a 150 billion US-Dollar emergency package to counter recessionary tendencies. In particular the former step has led to many controversies in the USA: while markets welcomed the Fed's step, fearing that the USA would move into a recession, several academics[111] have criticised the FED for ignoring the real problems of the US economy and for undertaking a risky policy that could potentially have big side effects in later years.
Overall, real GDP growth witnessed a relatively modest performance since 1998 and three groups of countries can be distinguished. Real GDP growth rates converged at the time of the euro-introduction, but started to diverge thereafter with Italy having low GDP growth under 2%, while Luxembourg had very high growth rates in the post-euro-introduction years ranging around 5-6% (see Table 9 and Graph 6 below). Factors responsible for this trend could either be the ongoing catching-up process of some European economies, but also divergences in the contributions of the domestic and foreign sectors of growth.

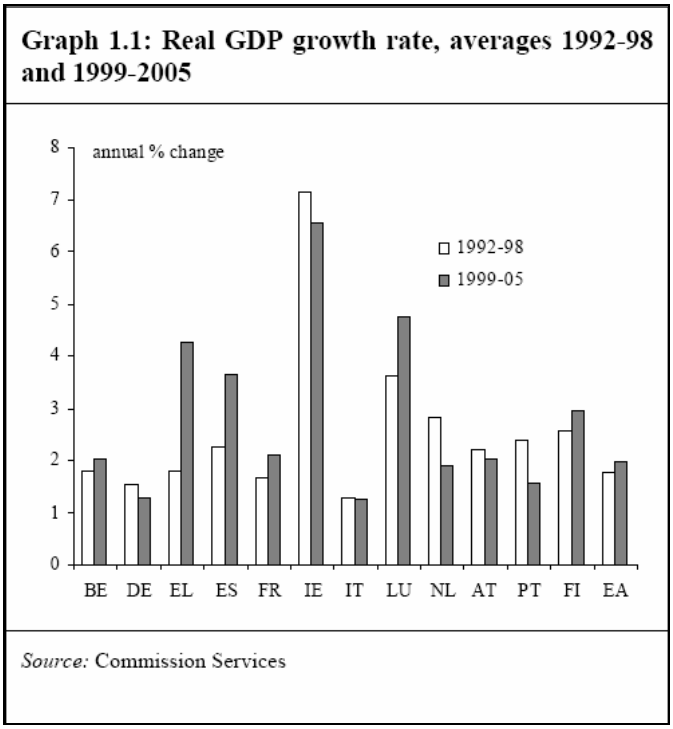
[108] WIFO Economic Forecast (2007)
[109] Taken, among others, from various International Herald Tribune and Financial Times issues in January/February 2008.
[110] Among others by Commissioner Almunia (Financial Times; January 2008), who considered EMU to be too independent and too strongly inter-linked by trade, or by Eurogroup President Juncker (Financial Times; February 2008), who did not see a danger for recession in Europe, despite a slowing down in growth rates and record inflation levels.
[111] Among others Walter, Schwarz; taken from various International Herald Tribune and Financial Times issues in January/February 2008.

Table 9: Real GDP growth rate (%); (at 2000 market prices)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Austria	3,5	3,5	4,6	3,6	2,4	0,3	2,7	1,9	2,6	1,8	3,6	3,3	3,4	0,8	0,9	1,1	2,4	2,0	3,1	2,9
Belgium	4,7	3,5	3,1	1,8	1,5	-1,0	3,2	2,4	1,2	3,5	1,7	3,4	3,7	0,8	1,5	1,0	3,0	1,1	3,1	2,3
Cyprus				0,7	9,7	0,7	5,9	9,9	1,8	2,3	5,0	4,8	5,0	4,0	2,0	1,8	4,2	3,9	3,8	3,8
Czech Rep.				-11,6	-0,5	0,1	2,2	5,9	4,0	-0,7	-0,8	1,3	3,6	2,5	1,9	3,6	4,2	6,1	6,1	4,9
Denmark	-0,1	0,6	1,5	1,3	2,0	-0,1	5,5	3,1	2,8	3,2	2,2	2,6	3,5	0,7	0,5	0,4	2,1	3,1	3,2	2,3
Estonia							-1,6	4,5	4,4	11,1	4,4	0,3	7,9	7,7	8,0	7,1	8,1	10,5	11,4	8,7
Finland	5,1	5,4	0,1	-6,2	-3,7	-0,9	3,6	3,9	3,7	6,1	5,2	3,9	5,0	2,6	1,6	1,8	3,7	2,9	5,5	3,1
France	4,6	3,9	2,7	1,3	1,8	-1,1	2,0	2,2	1,1	2,2	3,5	3,2	4,0	1,9	1,0	1,1	2,3	1,2	2,0	2,4
Germany					2,2	-0,8	2,7	1,9	1,0	1,8	2,0	2,0	3,2	1,2	0,0	-0,2	1,2	0,9	2,7	2,5
Greece	4,3	3,8	0,0	3,1	0,7	-1,6	2,0	2,1	2,4	3,6	3,4	3,4	4,5	5,1	3,8	4,8	4,7	3,7	4,3	3,7
Hungary					-2,1	-0,6	2,9	1,5	1,3	4,6	4,9	4,2	5,2	4,1	4,3	4,1	4,9	4,2	3,9	2,4
Ireland	4,3	6,2	7,6	1,9	3,3	2,7	5,8	9,8	8,0	12,5	9,5	11,6	10,2	5,8	6,0	4,3	4,3	5,5	6,0	5,0
Italy	4,2	3,4	2,1	1,5	0,8	-0,9	2,2	2,8	0,7	1,9	1,4	1,9	3,6	1,8	0,3	0,0	1,2	0,1	1,9	1,9
Latvia				-12,6	-32,1	-11,4	2,2	-0,9	3,8	8,3	4,7	3,3	6,9	8,0	6,5	7,2	8,7	10,6	11,9	9,6
Lithuania				-5,7	-21,3	-16,2	-9,8	3,3	5,1	8,5	7,5	-1,5	4,1	6,6	6,9	10,3	7,3	7,6	7,5	7,3
Lux.	8,5	9,8	5,3	8,6	1,8	4,2	3,8	1,4	1,5	5,9	6,5	8,4	8,4	2,5	3,8	1,3	3,6	4,0	6,2	5,0
Malta					4,7	4,5	5,7	6,2	4,0	4,9	3,4	4,1	6,4	-1,1	1,9	-2,3	0,4	3,0	2,9	3,0
Netherl.	3,0	4,8	4,1	2,4	1,5	0,7	2,9	3,0	3,4	4,3	3,9	4,7	3,9	1,9	0,1	0,3	2,0	1,5	2,9	2,8
Poland				-7,0	2,5	3,7	5,3	7,0	6,2	7,1	5,0	4,5	4,2	1,1	1,4	3,8	5,3	3,5	5,8	6,1
Portugal	7,5	6,4	4,0	4,4	1,1	-2,0	1,0	4,3	3,6	4,2	4,8	3,9	3,9	2,0	0,8	-0,7	1,3	0,5	1,3	1,8
Slovakia						7,1	6,2	5,8	6,9	5,7	3,7	0,3	0,7	3,2	4,1	4,2	5,4	6,0	8,3	8,5
Slovenia				-8,9	-5,5	2,8	5,3	4,1	3,7	4,8	3,9	5,4	4,1	2,7	3,5	2,7	4,4	4,0	5,2	4,3
Spain	5,1	4,8	3,8	2,5	0,9	-1,0	2,4	2,8	2,4	3,9	4,5	4,7	5,0	3,6	2,7	3,0	3,2	3,5	3,9	3,7
Sweden	2,6	2,7	1,0	-1,1	-1,2	-2,0	3,9	3,9	1,3	2,3	3,7	4,5	4,3	1,1	2,0	1,7	4,1	2,9	4,4	3,8
UK	5,0	2,2	0,7	-1,4	0,2	2,3	4,3	2,9	2,8	3,0	3,3	3,0	3,8	2,4	2,1	2,7	3,3	1,9	2,8	2,8
Bulgaria					-7,3	-1,5	1,8	2,9	-9,4	-5,6	4,0	2,3	5,4	4,1	5,6	5,0	6,6	6,2	6,1	6,1
Romania				-13,1	-8,7	1,5	3,9	7,1	3,9	-6,1	-4,8	-1,2	2,1	5,7	5,1	5,2	8,5	4,1	7,7	6,7
E12joined	**4,2**	**4,0**	**3,6**	**2,6**	**1,5**	**-0,8**	**2,5**	**2,4**	**1,5**	**2,6**	**2,8**	**3,0**	**3,9**	**1,9**	**0,9**	**0,8**	**2,0**	**1,4**	**2,6**	**2,1**
E15joined	**4,2**	**3,6**	**3,0**	**1,9**	**1,2**	**-0,4**	**2,8**	**2,5**	**1,7**	**2,6**	**2,9**	**3,0**	**3,9**	**1,9**	**1,1**	**1,1**	**2,2**	**1,5**	**2,6**	**2,2**
Japan	6,8	5,3	5,2	3,4	1,0	0,2	1,1	2,0	2,7	1,6	-2,0	-0,1	2,9	0,2	0,3	1,4	2,7	1,9	2,2	2,3
USA	4,2	3,5	1,7	-0,2	3,3	2,7	4,1	2,5	3,7	4,5	4,2	4,5	3,7	0,8	1,6	2,5	3,9	3,2	3,3	2,2
Turkey	2,1	0,3	9,3	0,9	6,0	8,0	-5,5	7,2	7,0	7,5	3,1	-4,7	7,4	-7,5	7,9	5,8	8,9	7,4	6,1	4,9

Source: European Commission, AMECO Database

Graph 6



Source: European Commission (2007a)

The question however remains whether divergent developments and adjustment difficulties with regard to public finances, inflation and growth rates are due to a lack of implementing the necessary policy actions in order to strengthen fiscal policies or due to a lack of undertaking necessary structural reforms with respect to labour, product and financial markets.

Among potential reasons responsible for ongoing significant divergences, the Commission[112] identifies:

- Shifts in real effective exchange rates during the first years of EMU, including a strong decline in interest rates during the run-up to euro introduction and a relaxation of credit constraints on housing following an improved access to credits in more integrated European financial markets.
- German re-unification, which had a sizable impact on relative competitiveness within the euro area.
- A continuous lack of wage and price flexibility that have contributed to prevent any speedy equilibrium adjustment.
- Differences in EMU member states in succeeding to tackle the significant ageing problem affecting public expenditure levels.
- Differences in the ability to react to an increasing level of international competition.
- A substantial diversity in growth components and underlying economic fundamentals (*inter alia* external demand being a relatively more important growth component in Germany vs. domestic demand accounting for the main share of economic growth in Spain).

[112] European Commission (2007b)

- Investment rates that vary significantly across the eurozone. The 1990s saw a general drop in rates as a result of a substantial economic downturn and the burst of the dot.com bubble in 2000, with investment rates only starting to rise again in 2004-2005.

Comparing competitiveness levels and the current account balances measured by real effective exchange rates (or REER) with respect to the rest of the euro-area (using an index based on nominal unit labour costs), the European Commission goes on identifying the following groups of countries that have emerged: countries in surplus, such as Germany, Austria, the Netherlands (with a significant external demand component) vs. Greece, Ireland, Spain and Portugal (with low real interest rates and an increasing domestic demand level).

Finally, financial markets knew a considerable degree of integration, among others through the introduction of the same set of rules governing European financial markets, equal access and equal treatment and the internationalisation of financial products.

Trade exchanges in EMU

The eurozone is a highly interlinked economic area with high intra-regional trade. As we have seen, intra-community exports accounted for more than 50% in Ireland and over 40% in Benelux.

According to Milward[113], the common market in Europe and the commercial power of the EU are the most intriguing and attractive part of European integration. In 2001, the EU accounted for 19.5% of total world exports and 19% of total world imports, compared to the USA with 15.7% and 23.7%.
Despite the fact that significant steps were taken to widen and deepen European integration, e.g. several enlargements, the Single Market Programme and the EMU project, the EU and EMU are not yet a politically united entity and differences in several areas of national policies exist – for instance with respect to foreign policy preferences, preferences on social systems, etc. It remains undisputed however that the EU is a trade power of global importance and general consensus states that the euro will be beneficial to further increases in trade linkages between member states.

One interesting question with respect to trade is however what effect EMU has had and will have on trade exchanges of eurozone countries with EU members that are not members of the eurozone. Some estimates on trade creation and trade diversion show only minor effects, attributing most of the trade effects to the Single Market Programme and other economic policy programmes, rather than to EMU exclusively. Other estimates[114] show considerable trade creation induced by the single currency.

In one of Rose's first estimations on currency unions[115] he found the trade effects of a currency union to be particularly large. Rose claimed that increased trade would be one of the few undisputed gains from forming a currency union, as it would eliminate exchange rate volatility, while reducing transaction costs at the same time.

[113] Milward (2005)
[114] For instance Rose (2000) or Rose (2001a)
[115] Rose (2001b)

One of the main criticisms of Rose with regard to prior work on trade effects of currency unions was that these studies mainly concentrated on exchange rate volatility effects on trade. According to this approach, a common currency for Europe would only increase trade by a minor fraction, given that exchange rate volatility was already small under EMS. Together with Frankel, Rose instead used a 'gravity' model[116] that led to the conclusion that the currency union effect on trade was potentially very large, using cross-country data sets and singling out two countries with the same currency. The regression model in use included income levels of the two respective countries, the geographic distance between them and a number of additional (and economically relevant) variables, one being a dummy variably, if the countries of interest used the same currency. Another relevant variable was exchange rate volatility measured as the standard deviation of the percentage change in bilateral nominal exchange rates. With data on over 180 countries and consequently over 33,000 trade flow observations for five different years (1970, 1975, 1980, 1985, and 1990) Rose found that:

- The higher GDP or GDP growth was for the country pair, the greater was trade between them,
- The lower the distance between the country pair, the higher was trade,
- Sharing borders, language or belonging to a regional trade agreement also increased trade by an economically and statistically significant amount,
- If countries were to use or to adopt the same currency, trade exchanges would tend to be disproportional large – up to three times as much as with other comparable economies not being members of the same currency scheme. This effect, Rose concluded, would even surpass the advantage of eliminated currency volatility, which was evidently found to have a negative effect on trade.
- He also stated that a common currency would also represent a credible and strong commitment by national authorities to long-term integration.

Rose's findings were criticised for being unrealistically high. Several re-estimations of the currency union trade effect, using different approaches with different samples and variables, however always led Rose to conclude that there was a strong currency union effect.

In line with Rose, Micco et al.[117] found similar – yet smaller – significant results. They estimated the currency union effect on intra-euro area trade, modelling a panel data set from 1992-2002 including data on bilateral trade for 22 countries – among those the 12 eurozone member states. They found a 4-16% trade increase effect for eurozone member states already in the first years of EMU's existence. However, this trade effect was not found to be of the same size for all EMU member states. The effect was for instance even negative for Greece, but strongly positive for the Netherlands. One further statistically significant conclusion of Micco et al. was that trade growth not only took place with respect to other eurozone members, but also with respect to non-EMU (but EU) members and with respect to the rest of the world. The trade increase for those two groups was found to be similar as for other EMU members.

[116] Frankel and Rose (1997)
[117] See Micco et al. in Baldwin et al. (2003)

Baldwin[118] criticised the above results and attributed the findings to false modelling and econometrical misspecification. According to him, trade and trade creation effects of the euro were lower than in Rose's and Micco's analysis, but still positive, ranging from 7-9 %. He furthermore insisted that any trade effect was above all accentuated by the Single Market Programme.

Table 10: The current account balance; % of GDP, various years

	1985	1986	1989	1990	1991	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Austria	-0.6	-0.1	-0.9	-1.2	-0.4	-1.7	-0.8	-1.0	-1.0	-0.3	2.5	1.7	2.1	2.9	3.7	3.2	3.1
Belgium	1.7	2.3	2.0	2.7	4.4	5.5	5.1	5.2	4.2	4.1	5.0	4.5	3.6	2.5	2.3	2.7	2.9
Cyprus	.	.	.	.	.	-4.7	3.1	-1.7	-5.3	-3.3	-3.7	-2.2	-5.0	-5.6	-5.9	-5.6	-5.4
Czech Republic	.	.	.	1.7	0.7	-6.1	-2.1	-2.5	-4.7	-5.3	-6.1	-6.5	-6.3	-2.7	-4.1	-3.0	-2.7
Denmark	-3.2	-1.5	0.9	2.1	2.9	0.6	-0.9	1.9	1.4	3.1	2.5	3.4	3.1	3.6	2.4	1.9	2.3
Estonia	.	.	.	.	1.2	-11.4	-8.7	-4.4	-5.3	-5.0	-10.4	-11.5	-12.5	-11.1	-13.9	-15.1	-14.7
Finland	-2.2	-2.8	-5.3	-4.7	-1.4	5.4	5.6	7.8	8.4	9.4	10.0	5.9	7.7	4.9	5.9	6.1	5.8
France	-1.7	-1.6	-1.5	-0.3	0.8	2.5	2.3	2.5	1.1	1.2	0.8	0.2	-0.6	-2.1	-2.0	-1.9	-1.8
Germany	4.0	4.5	0.4	.	.	-0.5	-0.7	-1.2	-1.6	0.0	2.2	2.0	3.9	4.2	4.7	5.6	5.7
Greece	0.7	-0.3	-2.1	-0.2	-0.8	-2.1	-3.5	-5.7	-8.8	-9.2	-9.7	-10.0	-9.5	-9.2	-11.4	-11.0	-10.5
Hungary	.	.	.	.	-8.0	-7.0	-9.1	-9.6	-8.4	-6.0	-6.9	-7.9	-8.4	-6.8	-5.9	-3.5	-2.2
Ireland	-0.2	0.6	-0.4	0.4	3.7	1.6	-0.9	-1.1	-1.7	-1.7	-1.4	0.0	-1.0	-3.1	-2.6	-3.9	-4.4
Italy	-0.3	-0.7	-2.0	-2.4	0.9	2.9	1.9	1.0	-0.1	0.3	-0.3	-0.9	-0.5	-1.2	-2.0	-1.7	-1.7
Latvia	.	.	.	12.7	17.8	-5.6	-9.7	-9.0	-4.8	-7.6	-6.6	-8.2	-12.9	-12.6	-21.1	-22.4	-21.0
Lithuania	.	.	.	.	-3.1	-9.8	-11.6	-10.9	-5.9	-4.7	-5.1	-6.8	-7.5	-6.9	-10.7	-12.4	-13.4
Lux.	12.3	14.8	12.3	14.5	12.7	10.4	9.2	8.4	13.2	8.8	11.6	8.0	11.8	11.1	8.6	10.5	11.9
Malta	.	.	.	.	.	-6.1	-6.0	-3.4	-12.5	-3.8	2.7	-2.8	-6.4	-8.3	-6.3	-5.6	-4.4
Netherlands	2.6	3.5	3.0	2.2	4.7	5.8	2.4	4.2	6.3	5.2	6.0	6.1	8.6	7.1	9.9	9.2	9.1
Poland	.	.	-3.8	0.3	0.2	-3.4	-3.8	-5.1	-5.8	-2.8	-2.5	-2.1	-4.4	-1.7	-2.2	-3.1	-4.3
Portugal	0.3	-2.6	-2.0	-2.3	-2.1	-6.3	-7.4	-8.9	-10.7	-10.5	-8.6	-6.5	-8.0	-9.6	-9.8	-9.5	-9.0
Slovakia	.	.	.	.	-4.1	-9.1	-9.3	-3.7	-2.3	-7.1	-7.3	-2.1	-2.5	-7.9	-7.7	-4.2	-3.7
Slovenia	.	.	8.5	7.3	2.2	0.3	-0.6	-3.3	-2.8	0.2	1.1	-0.8	-2.6	-2.0	-2.7	-2.4	-2.3
Spain	-0.2	-1.3	-3.7	-3.7	-1.2	0.1	-1.1	-2.7	-4.0	-4.3	-3.8	-4.0	-5.9	-7.5	-8.5	-9.1	-9.7
Sweden	0.6	0.3	-1.5	-2.6	-1.3	4.3	4.0	4.2	4.1	4.6	5.3	6.6	6.5	5.8	7.0	7.5	7.5
United Kingdom	-1.8	-4.2	-1.8	-2.1	-1.8	-0.1	-0.4	-2.4	-2.6	-2.2	-1.6	-1.3	-1.6	-2.4	-3.4	-3.9	-4.1
Bulgaria	.	.	-4.3	-7.4	-9.4	3.5	-0.2	-4.8	-5.6	-6.1	-2.4	-5.5	-6.6	-12.0	-15.8	-16.6	-17.2
Romania	.	.	.	.	.	-6.3	-7.3	-1.7	-4.1	-5.7	-1.1	-4.8	-5.0	-8.7	-10.3	-12.1	-12.3

Source: European Commission, AMECO Database

[118] Baldwin (2006)

5.2 Adjustment mechanisms to improve economic conditions and future policy priorities

In absence of independent, national monetary policies or of the ability to use interest rates or the exchange rate as national adjustment mechanisms to economic imbalances, improving the national competitiveness level becomes a key adjustment mechanism in EMU. A deterioration with respect to relative costs – for instance a falling relative productivity or adverse wage developments (for instance rising unit labour costs) – would consequently worsen a country's relative position and competitiveness in comparison to other EMU member states. Due to the nature of fiscal policies in the eurozone, which are, by contrast to the federal US-system, a national responsibility, smoothly functioning market mechanisms are even more important to ensure competitive outcomes for any nation state. This is one of the reasons why structural reforms, especially in labour markets, have to remain a top priority for European policymakers.

A further mechanism to note related to the national real effective exchange rate (REER) adjustments. If, for instance, a country suffers from recessionary tendencies or cyclical conditions relative to its trading partners or other EMU members, this country should experience lower inflationary pressures, eventually leading to a downward adjustment of prices relative to its partner countries. Relative changes in wages and prices could therefore become a shock absorber mechanism. According to the European Commission[119], beneficial developments in REER (due to wage-, unit labour cost- or productivity changes) especially occurred in countries like Germany or Austria, but less in countries like France or Italy.

One further adjustment channel to be borne in mind concerns the real interest rate channel[120] with its effects on consumption and investment decisions, as different national inflation rates and different expectations with regard to the sustainability of government finances and growth expectations continue to exist.
In the run-up period to the euro adoption one could witness a substantial convergence towards lower real interest rates, reflecting the move to lower and more stable inflation rates. One explanatory factor for this development was the increased credibility attached by markets to the "commitment by policy-makers to low inflation and to the loss of any exchange rate risk and the commitment to substantial fiscal consolidation." [121] This was – as already pointed out above – particularly pronounced in Mediterranean countries like Italy, which benefited of the credibility of low EMU interest rates in order to qualify for the euro.
Currently however it is possible to distinguish distinctive groups of countries in EMU: for instance Germany, Austria, France and Belgium have above-average real interest rates; Ireland, Portugal, Greece, Spain and Italy below-average ones.

Further adjustment possibilities relate to national fiscal and structural policies, where the former can mitigate negative effects induced by economic shocks, and the latter can enhance adjustment efficiency in order to maximise the productive potential.

[119] European Commission (2006), pp. 79 ff.
[120] For further discussions on real interest rates see also Mélitz (1995)
[121] European Commission (2006), pp. 114 ff.

Bearing in mind that Europe is very much affected by an ageing population, by demographic change and by increasing international competition as a side-effect of globalisation, it is obvious that Europe and EMU require substantial structural reform programmes in order to remain competitive. The Lisbon Strategy and the 2005 mid-term review, which simplified and re-launched the Lisbon Agenda, as well as ongoing discussions about new integrated policy guidelines, national reform programmes and R&D targets, are prime examples for structural reforms sought after by European governments and institutions. The question however remains whether, and if, how much, EMU has contributed to more labour-, product- and financial market flexibility or whether the move towards flexibility was rather a by-product of the Single Market Programme. With respect to European product markets, eurozone markets still remain highly regulated in comparison with the UK, the USA or Japan. Progress however has been made since 1999 with the adoption and implementation of the internal market programme, larger intra-euro-area trade flows, stronger competition policies and the liberalisation and opening of network markets.

5.2.1 Labour markets in EMU and labour market reforms

An interesting question with respect to European labour markets relates to how EMU will affect labour markets and labour market institutions and whether the centralisation of monetary policy will have a significant influence on wage-setting, but also on labour market reforms[122].

Calmfors[123] looked at how the first few years of EMU affected incentives for labour market reforms in Europe. He built on the assumption that European unemployment is largely structural and that reforms would cause the natural unemployment rate to fall. It is often argued that, as policy tools in EMU are limited, member states were forced to reform labour markets to deal with economic challenges. However, Calmfors argued that this does not necessarily need to be the case. Assuming that some form of inflation bias existed, governments and central banks would care about both inflation and unemployment and the central bank would be willing to accept higher inflation, if unemployment could be decreased. If there were inflexible labour markets in a country, then there would be the direct cost of higher unemployment. This would be the same, irrespective of whether a country was inside or outside the monetary union: if it was not a member of EMU, it would have the additional cost of higher inflation, since the corresponding central bank would increase inflation to fight unemployment. Under EMU however, this could not be the case, as the ECB would only react to general European unemployment trends and not country-specific ones. The cost of inflexible labour markets would consequently be greater for a country outside of EMU and thus incentives for reform would and should be greater. However, in absence of any inflation bias, if central banks were not willing to trade-off inflation for unemployment, labour market reforms would not have a direct effect on inflation rates. Incentives for reform would be, in this case, identical for both countries inside and outside EMU.

[122] See, for instance, Kauppinen (1998)
[123] Calmfors (2001)

With regard to wage setting, Eichengreen[124] predicted that EMU would have to discipline wage setting and wage demands by social partners through more credible and predictable monetary policy. The latter would lower overall inflation and also potentially lead to lower unemployment levels. Indeed, employment rates and employment growth are currently at relatively high levels. With respect to employment rates, one can observe a strong correlation between employment growth and real GDP growth over the period of 1992-2005, with only some national nuances.

Necessary improvements with respect to wages and wage developments in EMU

Another interesting question in addition to possible effects of EMU on collective bargaining and wage discipline concerns how EMU would affect participation and employment rates. Overall, EMU should bring improved framework conditions for employment-compatible wage bargaining behaviour. According to Pichelmann[125], evidence indeed shows considerable wage discipline in EMU member states with nominal unit labour cost inflation falling at an even higher rate than price inflation. He concluded that social partners "appear to have taken the price stability objective set by the ECB" on board[126]. At the same time he added that the absolute dispersion of nominal wage growth across countries also diminished. Cross-country differences however still remain and fully harmonious wage developments are not (yet) occurring. This real wage moderation induced by social partners' wage restraint – also in view of rising international competition – has eventually contributed to more dynamism in job creation in recent years, increasing employment rates in Europe.
Within the next coming years with EMU and Single Market Programme effects fully setting in, labour markets are bound to become more flexible within EMU. By then they will be characterised by decreased rents, a change in the form of wage bargaining and negotiation processes, further labour market reforms with respect to employment benefits and protection and with respect to the nature of labour contracts.

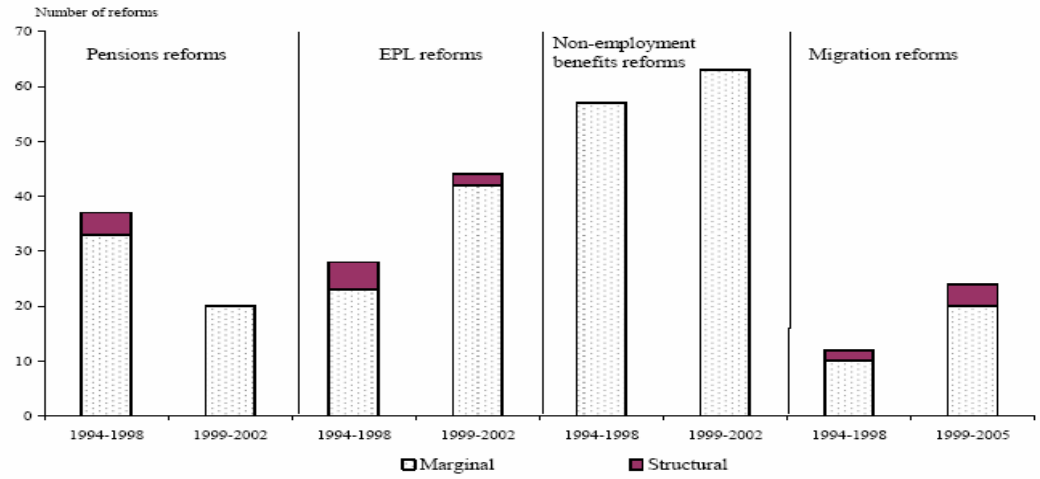
Policy priorities…with respect to labour markets

Smooth functioning of EMU and future characterisation of EMU as a OCA will depend on whether prevailing wage and price rigidities will be reduced, making factor prices a potential absorption tool in case of idiosyncratic shocks. Adjustment in European labour markets translates mostly in labour layoffs, while wages tend to be sticky downwards due to trade union resistance – at least in the short run. Structural reforms in European labour markets (among others with regard to wage setting mechanisms, pension reforms, welfare and unemployment benefits, employment protection legislation, labour taxation and migration policies; see Graph 7 and 8 below), combined with further product market integration that will have spill-over effects into labour markets, will therefore be essential to yield the necessary 'flexibilisation' of labour.

[124] Eichengreen (1998)
[125] Pichelmann in Buti and Sapir (2003), ch. 11, pp. 281 ff.
[126] Pichelmann in Buti and Sapir (2003), ch. 11, pp. 281 ff.

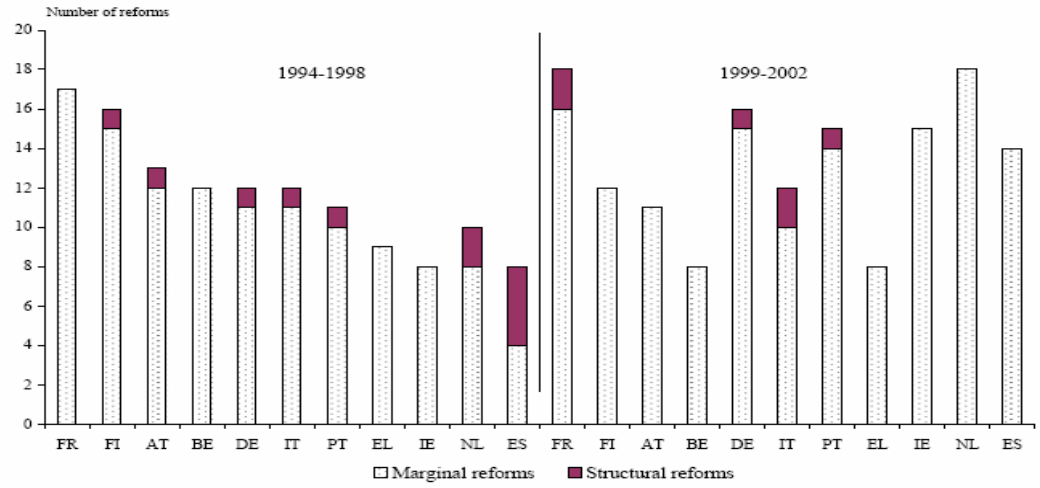
Graph 7: Reforms in the euro area[127]

Graph 5: Reforms in the euro area (number of marginal and structural reforms)



Note: Calculations based on the Fondazione Rodolfo DeBenedetti (FRDB) Social Reforms Database.
Source: Commission Services

Graph 6: Reforms in euro-area countries (number of marginal and structural reforms)



Note: Countries are ranked in decreasing order of the number of marginal reforms. Calculations based on the FRDB Social Reforms Database.
Source: Commission Services

[127] Taken from European Commission (2007b)

Graph 8: Structural reforms in euro-area labour markets[128]

Table 4: Structural reforms in euro-area labour markets, 2004-2005

Policy area	Main developments in the euro area as a whole
Active labour market policies	- Gradual shift from passive to active policies - Redirection of active labour market policies towards more effective job search and early activation - More focus on targeted policies
Welfare benefits	- Only limited action was undertaken in 2005 in the field of unemployment and welfare-related benefits (housing benefits, social assistance)
EPL	- Reforms continued to be lagging in many Member States, especially in those countries characterised by tight employment regulation and where the measures adopted during the pre-1999 years aimed at increasing flexibility at the margin of the employment contract with potentially detrimental segmentation effects on the labour market
Taxation	- Cuts of labour taxes targeted at low income to reduce inactivity and unemployment traps for low-income earners
Pensions	Not much focus on reforms of early-retirement, sickness, disability and old-age pension systems, for which substantial reform programmes were adopted in a number of Member States in previous years
Wage bargaining	- Only timid efforts, mainly in Germany and Spain, to keep wage moderation and to make wages more responsive to sectoral and local cyclical conditions
Working time	- Introduction of innovative working time arrangements, both to reconcile work and family life and to promote a more flexible work organisation at company level
Immigration and mobility	- some measures to improve the integration of third country nationals, to simplify the procedures for entry and regularisation or to develop a flexible employment permit system focused on the economy's skills and labour needs.

Note: Data from Labour Marker Reform Database (LABREF).
Source: Commission Services

Product market integration and competition, according to Buti[129], has a "homogenisation effect on heterogeneous labour market environments" – in other words product market integration is ultimately leading to structural changes in labour market institutions. If institutional adjustments cannot be guaranteed, structural unemployment will remain a significant problem in Europe leading to substantial productivity and employability effects. Adequate, but not too strict product and labour market regulations are therefore essential to cushion shocks.

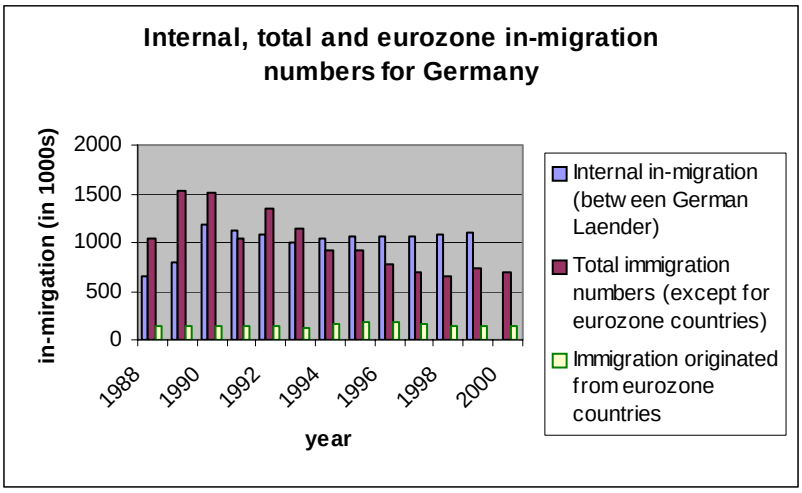
Necessary improvement of labour markets – mobility and migration rates

Several studies on labour markets[130] keep insisting on the continuous weakness of intra-European labour mobility. Mobility in Europe has always been low for historical, cultural, social and political reasons and the fact that there are language barriers may explain why Europe knows, in comparison to the USA, an intrinsically low mobility level of workers. A consensus however exists that this low mobility is comparable to mobility levels at the regional and country-level.

[128] Taken from European Commission (2007b)
[129] Buti (2003)
[130] Among others Eichengreen (1998), Tassinopoulos and Werner (1998), Papademos (2003)

For instance when looking at net migration rates in Germany[131], one can see that intra-eurozone migration from and to Germany constitutes only a very small portion of total immigration. Internal migration is about four to five times larger than immigration from EMU, but compared to the USA, internal migration is still significantly lower (according to Krueger[132]: 3% for the US compared to 1% for most European countries). Migration and mobility rates will probably pick up a bit in the coming years, especially once the temporary restrictions regarding the freedom of movement of the new EU member states will have expired. Nevertheless US-like mobility rates are unlikely to be reached.

Graph 9



In order to improve the functioning of EMU in the long-run, one aim with respect to labour markets will be to improve intra-European labour mobility through mobility schemes and programmes. Such mobility measures for instance relate to education and life-long-learning programmes. In this context, the inter-university student exchange programme ERASMUS that recently had seen its 1 millionth exchange student should be noted. In addition to these programmes, improving working conditions and facilitation of Europe-wide social security and pension coverage are important to note.

5.2.2 Regional differences

The EU has a system of structural funds that aims at reducing structural differences between regions and at increasing overall cohesion. This is particularly relevant with regional unemployment differentials being higher in Europe than in the USA, while disequilibrium adjustment is slower[133]. Eichengreen for instance showed that output growth is more correlated in the US with a higher impulse response after an economic shock has hit the economy. At the same time, wage elasticity with respect to wage differentials and regional unemployment are higher in the USA while

[131] Data taken from the "German Statistical Yearbook" and from "Recent Demographic Developments in Europe" by Eurostat.
[132] Krueger (2000)
[133] See for instance Eichengreen (1990) and (1998), Krugman (1991), de Grauwe (2002)

adjustment-responses in Europe only tend to be similar to the US when it comes to the long-run.

In order to reduce the probability of asymmetric shocks hitting the economy, the smoothing out of regional differences within Europe in order to achieve cohesion is therefore not only desirable, but also necessary. The current volume of structural funds, the lack of a federal EU-budget allowing for intra-European transfers and the accession of new member states in bigger need of receiving structural funds will make it even more important to introduce adequate policy responses.

5.2.3 The ECB and monetary policy

The main goal of the ECB, as established in its statutes, is the maintenance of price stability, which is considered to be the ECB's best contribution to sound economic growth. Credibility levels play to this respect an important role, because "a lack of anti-inflation credibility for the ECB" would lead to a short-run "deflationary pressure in EMU"[134]. Harsh anti-inflationary monetary policy, as executed especially in its early years, was required to ensure inflation convergence within EMU and necessary for the ECB to build up a high reputation level as.[135]A strong central bank therefore is essential to solve the time consistency problem that could adversely affect a successful monetary policy in EMU and at the same time this helped preventing costly inflation to society. Overall, this also contributed to reducing uncertainty in financial markets.

Nevertheless, there are weaknesses and criticism with respect to the ECB: critics state that having price stability as the sole policy target with rigid quantitative rules has been unfavourable to investment and economic growth, due to high interest rates. Furthermore, there is regular criticism on the near fully independent statute of the ECB and the resulting lack of accountability[136]. While the Fed and the Bank of England depend on federal government backing and policy guidelines, the ECB is not only independent with regard to decision-making, but the absence of significant control and consultation possibilities make the whole monetary policy formulation process seem fairly intransparent. Especially in the presence of the SGP, more transparency in monetary policy would be desirable.

5.2.4 Fiscal policy

On the fiscal side, EMU started out with the clear pledge for fiscal sustainability under voluntarily imposed fiscal rules that would induce countries to reduce both debt and deficit levels. Both fiscal credibility and structural necessities played a large part in this. On one side, high debt levels were considered to adversely affect the real side of the economy, raising capital costs and reducing investment, affecting business confidence and laying ground for an eventual debt crisis. On the other side, budget deficit control was an important contributor to achieving fiscal discipline and credibility

[134] See Krueger's chapter in Blejer (1997)
[135] See Buti and Sapir (2003)
[136] See for instance recent criticism in the media on the ECB objective and its set-up made by French President Sarkozy.

in the run-up to, and the actual functioning of EMU. High deficits were tabooed by decision-makers as an unjust and unfair way to achieve competitive advantages over other countries and therefore rules-based deficit reduction was considered necessary to avoid political business cycles and national spill-overs. Deficits as such were not forbidden, but the aim of the Maastricht convergence criteria and the SGP was to avoid excessive deficits and potential debt crises.

The breaching of the 3% by Germany and France around 2004-05 led to heated discussions on the sense and the strength of the pact, especially in the summer of 2004 when the ECOFIN Council did not agree on punitive action on these countries. In July 2004, the European Court of Justice decided that the Council should not depart from the treaty's provisions, yet conceded that it had "some discretion from European Commission's recommendations"[137]. This obviously contributed to shed even more bad light on an already very controversial pact and risked to create structural imbalances and affect adversely the "credibility and stability of the euro"[138]. Calls by former European Commission President Prodi[139] (who called the pact "stupid, rigid and imperfect" in October 2002) for more intelligent mechanisms and flexibility finally led to a softening of the pact in the spring of 2005 when the Commission agreed on more flexibility by referring to "new criteria", i.e. more tolerance on deficit levels, if the country

- had relatively low debt levels,
- was a net-payer to the EU,
- was pledging to undertake reforms in labour markets or pension systems,
- was undertaking investment efforts in R&D in view of the Lisbon agenda.

The last to years however saw considerable improvements of public deficit levels within EMU, with only France, Greece, Italy and Portugal struggling to adhere to the 3% limit. Germany and Austria however – despite not being able to meet a nil-deficit currently have deficit levels well below 2% (see Table 7 above). Despite the ongoing controversy accompanying any discussion on the SGP and its usefulness, critics of any softening of the SGP – especially European institutions, the ECB and national central banks – referred to the loss of credibility and reproached governments to potentially weaken the euro, while at the same time showing unwillingness for undertaking necessary and urgent structural reforms. This is in line with Buti and Sapir[140] who claimed that the SGP did leave "sufficient manoeuvre space" and that it was necessary to avoid spill-over effects of policy-induced asymmetric shocks. With fiscal policy remaining a national prerogative, there is definite need for European countries to commit to multilateral surveillance mechanisms and to address structural rigidities. Without a central budget system in place allowing for fiscal transfers, EMU needs "at least effective co-ordination"[141] as budgetary spill-over through import channels and interest rate differences could negatively affect EMU. Avoiding too large tax and interest rate differences, as well as business cycle synchronisation and policy convergence, are necessary in order to reduce the probability of concentrated asymmetric shocks hitting EMU countries and the SGP could be the necessary commitment tool to achieve convergence within EMU.

[137] Der Standard, July 2004
[138] See Buti and Sapir (1998)
[139] Der Standard, October 2002
[140] Buti and Sapir (1998)
[141] Eijffinger and de Haan (2000)

5.2.5 Financial integration

Another final important aspect of European integration process was capital market liberalisation and the integration of national financial markets with harmonised practices, recognised national rules to increase competition and minimum insurance rules. Full financial integration was considered to be a necessary requirement for the completion of an internal and integrated market, as financial capital flows in a fully integrated market would foster adaptability and constitute an important adjustment mechanism in EMU.

With respect to bonds and equity markets, a harmonisation of regulation and the elimination of differences in the legal, regulatory and tax framework, all constitute an important factor for the smooth functioning of EMU and facilitate the adjustment process in case of asymmetries. According to de Grauwe[142], the occurrence of a shock that pushes down stock market prices in the presence of one integrated market would affect holders in the whole union and not only in one country – i.e. risk would be shared across the union. Stable rules are considered to be important to control the potential risk of contagion – therefore, policymakers have to commit themselves to implement and strengthen already existing cross-border and cross-sector supervision. This becomes even more urgent after the recent sub-prime and credit market crisis that spread from the USA to Europe and led to significant stock market contraction in European countries.

[142] De Grauwe (2002)

6. Concluding remarks and an outlook into the future

This thesis has tried to show that EMU constitutes a unique experiment with no precedence in monetary history. The setting-up of EMU marked the ultimate step of economic integration by replacing national currencies with a single European currency while helping to create an economically strong Europe. In Jonung's view[143] EMU practically affects "every area of economic policy making in Europe: it will influence the allocation of resources, the distribution of income, stability and growth, as well as the formal and informal institutions on labour, product and financial markets within the euro area."

So far, empirical data has shown positive signs and trends, especially in the run-up period to euro adoption, where countries have undertaken significant steps to consolidate public finances and to lower inflation rates. Initially, the outlook in the early 1990s prior to EMU was not bright with fairly big differences with respect to successful convergence towards the Maastricht criteria. These differences would have threatened the successful and sustainable implementation of EMU. A reversal of this trend however was noticeable in the period between 1993 and 1998 with a general improvement towards meeting the criteria.

Ever since the euro's introduction, the eurozone witnessed at first a general reduction in inflation rates – yet with national differences. Over the last two years however, a considerable rise in eurozone inflation rates to levels well above the ECB objective of 2% could be noted. At the same time, consolidation of public finances was undertaken at different speed levels and some countries were more successful than others. While Benelux-countries or Finland have coped well, big countries especially have had significant problems in meeting the required deficit and debt criteria.

Looking at the first few years of EMU however, it appears that EMU has successfully reacted to the common shocks experienced by its member states, among others the bursting of the dot.com bubble, the global shock after the 9/11 terrorist attacks, the surge in global commodity prices and the persistence of global imbalances.

Considering the complexity of the issue and the variety of factors responsible for its creation, economic theory as such would doubt that EMU in today's form would conform to such an optimum currency area. But exactly the complexity of EMU and the variety of factors playing in were responsible that theoretical consideration, which – although being taken into account and still somewhat serving as a basis of discussion – were after all not decisive and could not prevent the creation of a monetary union on Europe. EMU's unique nature shows that not only economic factors have played a role in forming EMU, because economists in particular have been very critical with respect to foregoing autonomous monetary policy and to replace national currencies by a single European currency.

In order to ensure that EMU will continue to work smoothly and function even better than so far, it is therefore essential that certain conditions are fulfilled and problems are being tackled in the years to come.

[143] Jonung, Lars, in Buti and Sapir (2003), ch. 16, p. 409

One of the main questions, considering the ongoing divergence of European economies in some areas and the fact that policy challenges still need to be addressed, relates to whether EMU member states will be able to undertake urgent structural policy reforms.

Some of these structural reform necessities concern:

- Ensuring a prudent budgetary policy, which is in line with the SGP, and which is essential in order to allow for budgetary consolidation in 'good times'.
- Reform public finances to ensure long-run fiscal sustainability while securing the welfare state.
- Take the necessary steps to achieve more flexibility in product markets.
- Accelerate financial market integration.
- Undertake reforms with respect to labour markets that aim at higher participation, more flexibilisation and less rigidities, better education and more moderate wage setting internalising implications of the monetary union.
- Reinforce economic policy coordination with fellow EMU member states.

One other question in the European context will be how fiscal policy will be used in the future to compensate for the loss of monetary policy independence. Should the emphasis be laid onto the creation of a larger federal budget that allows for transfer payments towards regions suffering from an economic decline or should fiscal policy remain a national prerogative that has to be well co-ordinated between countries, as Buti recommended[144]. The question therefore concerns the effectiveness of adhering to the SGP and the credibility of nation states to abide by the rules of the SGP. In Zamagni's[145] view the problem with EMU is not the existence of the SGP, but rather the non-convergence of economies and economic policies.

Considering the way EMU has evolved and worked during its first few years of existence and given the somewhat mixed developments we have seen so far, one can conclude that European decision-makers need to identify and address these European problems and come up with adequate policy responses that do not threaten the framework of EMU. The success of EMU will in this context depend on the collective political willingness in the decision-making process. Credibility, according to Buti and Sapir[146], is in this respect one of the most important aspects of EMU: credible policies, credible decision-makers and credible decision-making processes are all necessary in order to ensure that EMU continues to function well. EMU requires unconditional and credible commitment, bearing in mind that it constitutes an irreversible decision. Without co-ordination of policies and discipline in the execution thereof, EMU's strength will clearly be undermined. European policy-makers are therefore well advised to follow a well-defined policy-mix, avoid fiscal laxity and commit themselves to solve relevant structural problems that are potentially harmful to EMU. The next coming years, in this respect, will be decisive in order to show whether European policy-makers will be serious and will be taking the necessary steps.

[144] For a thorough analysis of the debate see Buti (2003)
[145] Zamagni (2000)
[146] Buti and Sapir (1998)

Bibliography

Aldcroft, Derek H. (2001), The European Economy 1914-2000, 4th edition, Routledge

Allsopp, Christopher and Michael J. Artis (2003), *The assessment: EMU, four years on, Oxford Review of Economic Policy,* Spring 2003, Vol. 19, Iss. 19, pp. 1 ff.

Apel, Emmanuel (1998), European monetary integration, Routledge

Ardy, Brian, David G. Mayes, Iain Begg, Dermot Hodson and Imelda Maher ed. (2006), Adjusting to EMU, Palgrave - Macmillan

Artis, Mike and Norman Lee (1997), The Economics of the European Union, Policy and analysis, 2nd edition, OUP

Baimbridge, Mark and Philip Whyman (2003), Economic and Monetary Union in Europe – Theory, evidence and practice, Edward Elgar

Baimbridge, Mark, Jeffrey Harrop, and George Philippidis (2004), Current economic issues in EU integration, Palgrave-Macmillan

Baldwin, Richard and Charles Wyplosz (2004), The economics of European integration, McGraw-Hill

Baldwin Richard (2006) – In or out? Does it matter? An evidence-based analysis of the Euro's trade effects, CEPR

Baldwin, Richard E., Giuseppe Bertola and Paul Seabright ed. (2003), EMU: assessing the impact of the euro, Blackwell

Barell, Ray ed. (1992), Economic convergence and monetary union in Europe, NIESR

Barrell, Ray and John Whitley ed. (1992), Macroeconomic policy coordination in Europe, The ERM and monetary union, NIESR

Bayoumi, Tamim (1994), *A formal model of optimum currency areas,* IMF Working Paper No. 94/42

Bayoumi, Tamim and Barry Eichengreen (1993), Shocking aspects of European monetary integration in Torres, G. and F. Giavazzi, Adjustment and Growth in EMU, CUP

Bayoumi, Tamim and Barry Eichengreen (1996), *Ever closer to heaven? An OCA index for European Countries,* University of Berkeley Research Paper, August 1996

Beach, Derek (2005), The dynamics of European integration, The European Unions Series, Palgrave

Belke, Ansgar and Daniel Gros (1999), *Estimating the costs and benefits of EMU: the impact of external shocks on labour markets,* Review of world economics, Vol. 135, No. 1, March 1999

Blejer, Mario I. (1997), *Optimum currency areas – New analytical and policy developments*

Bofinger, Peter (1989), *Zum Delors Bericht,* Kredit und Kapital (22), pp.429-447

Bofinger, Peter ed. (1992),Europa vor dem Eintritt in die Wirtschafts- und Währungsunion, Duncker & Humblot

Bofinger, Peter (1994a), Is Europe an optimum currency area?

Bofinger, Peter (1994b), *Die europäische Währungsintegration in der Stufe II,* Wirtschaftsdienst 1994/XII, pp.627-632,

Bofinger, Peter (1996), *Die Krise der europäischen Währungsintegration: Ursachen und Lösungsansätze,* Wirtschaftsdienst 1996/I, pp.30-36,

Breuss, Fritz and Andrea Weber (1999), Economic policy coordination in the EMU, WIFO WP No. 113, May 1999

Breuss, Fritz (2000), WWU und ihre Folgen

Breuss, Fritz (2003a), Institutional, legal and economic aspects of the European Monetary Union, Springer

Breuss, Fritz (2003b), Reale Außenwirtschaft und Europäische Integration, Peter Lang

Breuss, Fritz (2006), Mehr Beschäftigung durch Wachstum auf Basis von Innovation und Qualifikation, WIFO Weißbuch, November 2006

Bun, Maurice J.G. and Franc J.G.M. Klaassen (2002), Has the euro increased trade? Tinbergen DP 2002 108/2

Buti, Marco (2003), Monetary and fiscal policies in EMU

Buti, Marco and André Sapir (1998), *Economic policy in EMU*

Buti, Marco and André Sapir (2003), EMU and economic policy in Europe, Edward Elgar

Butschek, Sigrid (1994), Schockabsorption in der europäischen Wirtschafts- und Währungsunion

Calmfors, Lars (2001), Wages and wage-bargaining institutions in the EMU – A survey of the issues, Stockholm University, Seminar Paper No. 690

Clement, Reiner, Wiltrud Terlau and Manfred Kiy (2004), Grundlagen der angewandten Makroökonomie, 3. Auflage, Verlag Vahlen

Cuadrado-Roura, Juan R. and Marti Parellada ed. (2002), Regional convergence in the EU, facts, prospects and policies, Springer

Danthine, Jean-Pierre, Paul de Grauwe, Louka Katseli and Niels Thygesen (1991), *North/South in the EMS – Convergence and divergence in inflation and RER,* CEPS Economic Policy Group

de Grauwe, Paul (1991), The Economics of Monetary Integration, October 1991, Catholic University of Leuven

de Grauwe, Paul (2002), Economics of Monetary Union, 5th edition, OUP

Demertzis, Maria, Hughes Hallet and Andrew Rummel (2000), *Is the EU a natural currency area, or is it held together by policy makers?,* Weltwirtschaftliches Archiv, Vol. 136 (October/December)

de Nardis, Sergio and Claudio Vicarelli (2003), The impact of the euro on trade – the (early) effect is not so large

Deutsches Institut für Wirtschaftsforschung (1996), *Die europäische Währungsunion, Reale Konvergenz unentbehrlich,* Wochenbericht 31/96*,* pp.515-524,

Dinan, Desmond (2004), Europe recast – A history of European Union, The European Unions Series, Palgrave

Diskussionsveranstaltung Berlin (2007), „Für und wider einer europäischen Wirtschaftsregierung“, October 10, 2007

Duisenberg, Willem F. (1988), *Exchange rate stability in Europe,* EFTA Seminar 27 January 1988

Duroselle, Jean-Baptiste (2001), Histoire des relations internationals de 1919 à 1945 (Tome 1), Armand Colin

Duroselle, Jean-Baptiste and André Kaspi (2002), Histoire des relations internationals de 1945 à nos jours (Tome 2), Armand Colin

Dutta, Manoranjan (2004), EU, the euro and the optimum currency area reconsidered

Duwendag (1999), Dieter, Karl-Heinz Ketterer, Wim Kösters, Rüdiger Pohl and Diethard B. Simmert, Geldtheorie und Geldpolitik in Europa, 5.Auflage, Springer Lehrbuch,

Dyson, Kenneth ed. (2002), European States and the Euro, OUP

Dyson, Kenneth ed. (2006), Enlarging the euro area, OUP

Economist, The, various issues

Eichengreen, Barry (1990), Is Europe an Optimum currency area?, CEPR Discussion Paper, No. 478

Eichengreen, Barry (1993), *European Monetary Unification,* September 1993, Journal of Economic Literature XXXI, pp.1321-1357

Eichengreen, Barry (1998), European Monetary Unification, MIT Press

Eichengreen, Barry and Jeffry Frieden ed. (1994), The political economy of European monetary unification, Westview Press

Eichengreen, Barry, Jeffry Frieden and Jürgen von Hagen ed. (1995), Politics and institutions in an integrated Europe, Springer

Eichengreen, Barry, Jeffry Frieden and Jürgen von Hagen ed. (1995), Monetary and fiscal policy in an integrated Europe, Springer

Eijffinger, Sylvester C.W. and Jakob de Haan, (2000), European monetary and fiscal policy, OUP

Emerson Michael, (1991), Ein Markt, eine Währung – Potentielle Kosten und Nutzen der Errichtung einer Europäischen Wirtschafts- und Währungsunion

Engel, Charles and Kenneth D. West (2005), *Exchange rate fundamentals*, Journal of political economy, Vol. 113, No. 3, June 2005, pp. 485-517

European Commission (2004), EMU after five years

European Commission (2006), The EU Economy: 2006 Review, Adjustment dynamics in the euro area: experiences and challenges, November 2006

European Commission (2007a), Economic forecasts Spring 2007

European Commission (2007b), Annual Report on the Euro Area, May 2007

European Commission (2007c), European Economy No.274, March 2007

European Commission (2007d), Strategic Report on the renewed Lisbon Strategy

Fabeck, Rudolf (1994), Fiskalpolitische Koordination in der EG, Europäische Hochschulschriften – Peter Lang, Vol. 1661

Federal Reserve Bank of Philadelphia (1998), *Why is Europe forming a monetary union?,* Business Review Working Paper, November/December 1998

Financial Times, various issues

Fleming, J. Marcus (1971), *On exchange rate unification*, Economic Journal Vol. 81, Issue 323, September 1971, pp. 467-488

Fratianni, Michele, Jürgen von Hagen and Christopher Waller (1992), The Maastricht way to EMU, June 1992, Essays in international finance, No. 187

Frankel, Jeffrey A. and Andrew K. Rose (1997), The endogeneity of the OCA criteria

Frenkel, Michael and Martin Klein (1991), *Fiskalpolitischer Harmonisierungszwang durch die Europäische Währungsunion,* Wirtschaftsdienst 1991/III, pp.137-143,

Gali, Jordi and Roberto Perotti (2002), Fiscal policy and monetary integration in Europe

Giavazzi, Francesco and Alberto Giovannini (1988), Can the EMS be exported?, CEPR Discussion Paper 285

Giovannini, Alberto (1995), The debate on money in Europe, MIT Press

Glick, Reuven and Andrew K. Rose (2001), Does a currency union affect trade? The time series evidence

Gros, Daniel and Niels Thygesen (1998), European Monetary Integration, 2nd edition, Longman

Haberler, Gottfried (1974), Probleme der wirtschaftlichen Integration Europas, Institut für Weltwirtschaft an der Universität Kiel

Heise, Arne (1997), Grundlagen der europäischen Währungsintegration, 5.Auflage, Gabler Verlag

Hix, Simon (1999), The political system of the European Union, The European Unions Series, Palgrave

Honohan, Patrick and Philip R. Lane (2003), *Divergent inflation rates in EMU,* Institute for International Integration Studies (IIIS), Discussion Paper No. 5, July 2003

Ingram, James (1969) in: Mundell and Swoboda (Monetary Problems of the International Economy), Comment: The Currency Area Problem, Chicago/ London, pp. 95-100

International Herald Tribune, various issues

Ishiyama, Yoshihide (1975), The theory of optimum currency areas: a survey, IMF Staff Papers 22

Jarchow (2000), Hans-Joachim and Peter Rühmann, Monetäre Außenwirtschaft I – Monetäre Außenwirtschaftstheorie, 5.Auflage, UTB Wirtschaftswissenschaften

Jarchow (2002), Hans-Joachim and Peter Rühmann, Monetäre Außenwirtschaft II – Internationale Währungspolitik, 5.Auflage, UTB Wirtschaftswissenschaften

Johnson, Harry G. (1969), *Inside money, outside money, income, wealth and welfare in monetary theory,* JMCB

Kauppinen, Timo ed. (1998), The impact of EMU on industrial relations in the EU, Finnish Industrial Relations Association Publ. 9

Kenen, Peter (1969), The Theory of Optimum Currency Areas: An Eclectic View, in: Mundell, Robert ed., Monetary Problems of the International Economy, Chicago/ London, pp. 41-59

Kenen Peter B. (1995), Economic and monetary Union in Europe, CUP

Kenwood, A.G. and A.L. Lougheed (1999), The growth of the international economy 1820-2000, 4th edition, Routledge

Klaus, Václav (1996), *Die Europäische Währungsunion – Ihre ordnungspolitischen und fiskalpolitischen Konsequenzen,* Europäisches Forum Alpbach, Speech from 28 August 1996

Kocher, Paul A. (1991), *Die Theorie der optimalen Währungsräume – Beurteilungskriterien für die Adäquanz eines Wechselkurs-Regimes,* Wirtschaftspolitische Blätter 5-6, pp. 625-633

Kopp, Thomas (1998), Die europäische Wirtschafts- und Währungsunion aus Sicht der Optimal Currency Area Theory

Kramer, Helmut (2003), *Memorandum zur Reform des SWP,* WIFO

Krueger, Alan B. (2000), From Bismarck to Maastricht: the march to European Union and the labor compact, NBER Working Paper 7456, January 2000

Krugman, Paul (1991), Geography and trade; MIT Press

Krugman, Paul and Maurice Obstfeld (2000), International Economics, De Boeck

Kutos, Paul (1994), Lohnpolitik und europäische Integration

Kydland, Finn and Edward C. Prescott (1977), *Rules Rather than Discretion: The Inconsistency of Optimal Plans*, Journal of Political Economy: 473–492.

Lachs (1998), Thomas G. and Doris Ritzberger-Grünwald, Der Euro – Europas neue Währung, Holzhausen

Langedijk, Sven and Werner Roeger (2007), Adjustment in EMU, European Commission Economic Papers No. 274, March 2007

Levitt, Malcom and Christopher Lord (2000), The political economy of monetary union, The European Union series, Macmillan Press

Magnfico, Giovanni (1973), *European monetary unification,* Wiley, New York

Masson, Paul R. and Mark P. Taylor ed. (1993), Policy issues in the operation of currency unions, CUP

McKinnon, Ronald I. (1963), *Optimum Currency Areas*, The American Economic Review, vol. 53 (1963), pp. 717-724

Mélitz, Jacques (1995), *The current impasse in research on optimum currency areas*, EER 39 pp. 492-500

Menger, Carl (1892), Beiträge zur Währungsfrage in Österreich-Ungarn, in ‚Schriften über Geld und Währungspolitik', Gesammelte Werke, 2. Auflage, J.C.B. Mohr, Tübingen

Milward, Alan S. (2005), Politics and Economics in the History of the European Union, Routledge

Mongelli, Francesco Paolo (2002), "New" views on the OCAT: What is EMU telling us?, ECB Working Paper Series No. 138, April 2002

Moravcsik, Andrew (1998), The Choice for Europe, Cornell University Press

Moss, Bernard H. (2005), Monetary Union in crisis, Palgrave-Macmillan

Mundell, Robert (1961), *A Theory of Optimum Currency Areas*, The American Economic Review, vol. 51, pp. 657-664

Mundell, Robert (1973) in H. Johnson and A. Swoboda, A Plan for a European Currency, pp. 143-173, The Economics of Common Currencies, London: George Allen & Unwin Ltd.

Mundell, Robert (2000), *A Reconsideration of the Twentieth Century*, The American Economic Review, Vol. 90, No. 3, June 2000, pp. 327-340

Ochel, Wolfgang (1996), *Die europäische Wirtschafts- und Währungsunion – Chancen und Risiken,* IFO Schnelldienst, pp.21-34, 9/96

OECD (2000), EMU one year on

Papademos, Lucas (2003), Policy challenges of euro area enlargement, Speech, Athens, April 11, 2003

Paraskewopoulos, Spiridon (2001), Erste Erfahrungen und Perspektiven der Europäischen Währungsunion, Duncker & Humblot

Part, Peter (1993), Österreich und die Europäische Wirtschafts- und Währungsunion

Part, Peter (1994), Die Koordination nationaler Fiskalpolitiken in einer europäischen Währungsunion

Pelkmans, Jacques (1997), European Integration – Methods and eco analysis, NOU - Longman

Persson, Torsten (2001), Rose critique

Peterson, John and Michael Shackleton (2002), The institutions of the European Union, The new European Unions Series, OUP

Poole, William (1970), *Optimal choice of monetary policy instruments in a simple stochastic macro model,* Quarterly Journal of Economics Vol. 85

Presse, Die, various issues

Radü, Axel (1994), Fiskalpolitik in einer EG-Währungsunion, Europäische Hochschulschriften – Peter Lang, Vol. 1481

Ricci, Luca. A. (1997), A model of an OCA, IMF WP June 1997

Rose, Andrew K. (2000), *One money, one market: estimating the effect of common currencies on trade*, Economic Policy 2000

Rose, Andrew K. (2001a), EMU and UK trade

Rose, Andrew K. (2001b), Currency unions and trade: the effect is large, Economic Policy Vol. 16(33), pp. 449-461

Sachs, Jeffrey (1984), *Real exchange rate effects of fiscal policy,* NBER Working Paper Vol.1255

Sala-i-Martin, Xavier and Jeffrey Sachs (1991), *Fiscal federalism and OCAs: evidence for Europe from the US*, NBER WP 3855, October 1991

Schmidt, Christian and Thomas Straubhaar (1995), *Maastricht II: Bedarf es realer Konvergenzkriterien?,* pp.434-442, Wirtschaftsdienst 1995/VIII

Schubert, Ludwig (1996), *EMU needs a socially balanced fiscal policy and an active labour market policy,* Friedrich Ebert Foundation, Research Institute, Division of Foreign Policy Research

Schüssel, Wolfgang; spotlight europe 2007/08, Bertelsmann-Stiftung – Centrum für angewandte Politikforschung

Standard, Der, various issues

Stocker, Ferry (2001), Der Euro, 2.Auflage, Oldenbourg Verlag

Story, Jonathan and Ingo Walter (1997), Political economy of financial integration in Europe

Tavlas, George S. (1993), *The 'new' theory of optimum currency areas,* The World Economy 16(6), pp. 663-685

Tassinopoulos, Alexander and Heinz Werner (1998), *Mobility and migration of labour in the EU,* in: European Centre for the Development of vocational training, Luxemburg 1998

Thygesen, Niels (1990), *From the EMS to EMU – how and why?,* Open Economies Review 1, pp.201-227

Torres, Fernando and Francesco Giavazzi (1993), Adjustment and growth in the EMU

Tsoukalis, Loukas (1977), The politics and economics of European monetary integration, George Allen and Unwin Ltd, OUP

Tsoukalis Loukas (1995), The new European Economy, OUP

Ungerer, Horst (1990), *The EMS, 1979-1990,* Konjunkturpolitik (36/6), 1990, pp.329-362

Utzig, Siegfried (1991), *Der Weg in die Europäische Währungsunion – Eine institutionsökonomische Analyse,* pp.132-136, Wirtschaftsdienst 1991/III

Verdun, Amy (2002), The Euro – European Integration Theory and Economic and Monetary Union, Rowman & Littlefield Publishers

Vinals, José and Juan F. Jimeno (1998), Monetary Union and European unemployment in Frieden ed., The new political economy of EMU, Rowman & Littlefield

von Hagen, Jürgen and Manfred J.M. Neumann (1991), *RER within and between currency areas: how far away is EMU,* April 1991, Indiana Center for Global Business Discussion Paper 62

Wagner, Helmut (1997), Europäische Wirtschaftspolitik, 2.Edition, Springer

Wallace, Helen, William Wallace and Mark A. Pollack (2005), Policy making in the European Union, OUP

Whyman, Philip, Mark Baimbridge and Brian Burkitt ed. (2006), Implications of the euro – A critical perspective from the left, Routledge

WIFO (1996), *Auswirkungen der Wirtschafts- und Währungsunion,* November 1996

WIFO (2007), Economic forecast for 2008-2009

Wyplosz, Charles (1997), *EMU: Why and how it might happen,* pp.3-22, Journal of Economic Perspectives Vol. 11, No. 4, Fall, 1997

Zamagni, Vera (2000), Dalla rivoluzione industriale all'integrazione europea. Breve storia economica dell'Europa contemporanea, Il Mulino

Appendix

Abbreviations

CAP	Common Agricultural Policy
ECB	European Central Bank
ECSC	European Coal and Steal Community
EEC	European Economic Community
ESCB	European System of Central Banks
EMCF	European Monetary Cooperation Fund
EMF	European Monetary Fund
EMI	European Monetary Institute
EMS	European Monetary System
EMU	European Monetary Union
ERM	Exchange Rate Mechanism
EU	European Union
FTA	Free Trade Area
IGC	Intergovernmental Conference
IMF	International Monetary Fund
OCA	Optimum Currency Area
OCAT	Optimum Currency Area Theory
R&D	Research and Development
SEA	Single European Act
SGP	Stability and Growth Pact
TEU	Treaty of the European Union
ToA	Treaty of Amsterdam
ToR	Treaty of Rome

Abstract

The start of EMU marked a new era in economic and monetary history in Europe, dramatically changed the environment of monetary and economic policy in general, always giving rise to vivid debates in economic theory and European policy making. Overall, economic reasoning behind creating EMU was to lay foundations ensuring increased prosperity and welfare, to increase market efficiency and competition in Europe, while keeping monetary stability.

Despite economics being a prime motive for the formation of EMU, other factors, such as politics, the historical context, but also theoretical considerations, were responsible for the replacement of national currencies with the euro.

This thesis tries to take into account the variety of factors coming into play and attempts to offer an insight on this significant step in European monetary integration, while also assessing the first few years of EMU's existence, which give a somewhat differentiated image of its success: prior to the euro's introduction, efforts have successfully been undertaken to consolidate pubic finances and lower inflation rates, yet ever since the adoption of the euro in 1999 (or the physical introduction in 2002), member states have started to somewhat drift apart again.

The question remains whether these divergent developments and adjustment difficulties with regard to public finances, inflation and growth rates are due to a lack of implementing the necessary policy actions in order to strengthen fiscal policies or due to a lack of undertaking necessary structural reforms with respect to labour, product and financial markets.

The overall conclusion of this thesis is that addressing these divergent developments will be essential in order to ensure the smooth functioning and the success of EMU.

Zusammenfassung

Der Beginn der Wirtschafts- und Währungsunion (WWU) markierte eine neue Ära in der europäischen Wirtschafts- und Währungsgeschichte, veränderte drastisch Wirtschafts- und Währungspolitik in Europa und wurde – sowohl vor und nach deren Entstehung – Gegenstand zahlreicher hitziger Debatten.

Wirtschaftliche Ziele der WWU waren es, eine adäquate Basis zu legen, welche Wohlfahrt und Prosperität garantiere, Effizienz und Wettbewerb der Märkte erhöhe und gleichzeitig Stabilität der Währungsmärkte sicherstelle. Wiewohl wirtschaftliche Aspekte ausschlaggebend gewesen sein mögen, spielten andere Faktoren – unter anderem politische, der historische Kontext und theoretische Überlegungen – eine Rolle bei der Ablöse nationaler Währungen durch den Euro.

Diese Arbeit versucht diese verschiedenen Faktoren zu berücksichtigen, diesen wichtigen Schritt der europäischen Währungsintegration näher zu erläutern und gleichzeitig auch die ersten Jahre der WWU zu beurteilen, welche ein gemischtes Bild bieten: vor der Einführung des Euros wurden erfolgreich Schritte unternommen, öffentliche Finanzen zu konsolidieren und Inflationsraten zu senken, aber seit der Einführung des Euros in 1999 (beziehungsweise der physischen Einführung in 2002) hat sich gezeigt, dass sich die WWU-Mitgliedsstaaten wirtschaftlich wieder langsam von einander entfernen beginnen.

Die essentielle Frage ist daher, ob dieser Trend und die Anpassungsschwierigkeiten mancher Länder in Bezug auf öffentliche Finanzen sowie Inflations- und Wachstumsraten ihren Ausgangspunkt darin haben, dass notwendige politische Schritte zur Stärkung von Fiskalpolitiken nur ungenügend angegangen wurden oder ob das Fehlen notwendiger Strukturreformen in Bezug auf Arbeits-, Güter- und Finanzmärkte dafür verantwortlich sind und waren.

Abschließend betont diese Arbeit die Wichtigkeit, dass genaue die aufgezeigten, divergierenden Trends und Anpassungsschwierigkeiten beseitigt gehören, um in Zukunft das Funktionieren und den Erfolg der WWU sicherzustellen.

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