Chapter 5

European Monetary Integration: A History

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Introduction

On January 1999, 11 European Union (EU) member countries replaced their national currencies with a single European currency called the euro.[1] At that time, the euro was introduced in the form of checking and saving deposits but three years later, from January through 28 February 2002, it was launched in the form of banknotes and coins. Within two months, the euro replaced the national currencies of 12 countries, which jointly became known as the Eurozone or Euro Area (EA). Since its inception, the Eurozone has grown to replace 19 currencies and is now the second most important global currency next only to the dollar.[2]

The Eurozone economy performed well for almost a decade; its real Gross Domestic Product (GDP) grew at a relatively low but steady growth rate. Additionally, the inflation rate among the original Eurozone members converged toward a low inflation rate, which was the mission of the European Central Bank (ECB) (see, for instance, the research by Lopez and Papell, 2012; Karanasos *et al.*, 2016). Given the growth, price, and exchange rate instability plaguing the Eurozone countries for many years before the integration project started, the future

[1] The initial members of the Eurozone were: Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Portugal, and Spain.

[2] The current members of the Eurozone that adopted the euro are: Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Portugal, Slovakia, Slovenia, and Spain.

prospects for the euro in 2006 and 2007 were bright and the ECB was generally considered to have been successful in conducting monetary and exchange rate policy for the Eurozone.

Since 2008–2009, however, the Eurozone has experienced a prolonged recession that seriously challenges both the European Monetary Union (EMU) and the overall European economic integration initiative. The recession hit the Eurozone as part of the US Subprime Mortgage Crisis. The crisis then morphed within the Eurozone to become the European Sovereign Debt Crisis. This name is primarily attributed to the fact that the Eurozone countries that have been affected the most are those that experienced the highest public debt relative to GDP.

This chapter provides a historical background to the events that led a group of European countries to pursue monetary and economic integration and the events that occurred more recently that threaten to reverse those initiatives. The discussion begins with the collapse of the Bretton Woods international monetary and exchange rate system, which created an opportunity for some European countries to pursue economic integration and monetary and exchange rate stability on their own.

European Monetary and Foreign Exchange Arrangements following the Collapse of the Bretton Woods System

Established in July 1944, the Bretton Woods international monetary and exchange rate system was a fixed exchange rate regime having as anchor or reserve currency the US dollar. In the Bretton Woods system, the dollar was fixed *vis-à-vis* gold at one ounce of gold equal to $35, while all other currencies were pegged to the dollar and thus were indirectly fixed to gold. The Bretton Woods system lasted 27 years but it eventually collapsed. The underlying disequilibrium that led to the breakdown was the massive accumulation of dollars in the hands of US trading partner countries with trade surpluses. As these countries redeemed their earned dollars for gold, the US lost almost half of its gold reserves. If this situation had continued, the US would have run out of gold reserves. This led then US President Richard Nixon to unilaterally end honoring the redemption of dollars for gold on 13 August 1971. This decision marked the end of the Bretton Woods system.

The Smithsonian Agreement of December 1971 was the last effort to preserve the Bretton Woods system. It widened the fluctuation band within which the exchange rate of the currencies of a set of highly industrialized countries were allowed to fluctuate, from ±1% around the central value of the exchange rate to ±2.25%, while ending the convertibility of the US dollar for gold.[3] However, the

[3] Countries that participated in the Smithsonian Agreement include the so-called G10 countries (Belgium, Canada, France, Germany, Italy, Japan, the Netherlands, Sweden, the United Kingdom, and the United States) plus Switzerland.

Smithsonian Agreement did not last long. On March 1972, the European Community (EC) countries chose to reduce the fluctuation band of the bilateral exchange rates of their own currencies down to ±1.125% from ±2.25%. This was the point in time when European monetary integration began. This narrower band of fluctuation among the EC currencies, of ±1.125% *vis-à-vis* each other, became known as the snake. Meanwhile, the same group of the EC countries allowed their currencies to jointly fluctuate against any of the remaining non-EC G10 countries within the wider band of ±2.25%, known as the tunnel. The entire exchange rate arrangement became known as the "snake inside the tunnel." The EC countries that participated in the joint float were: Belgium, Denmark, Germany, the Netherlands, and Luxembourg. All these countries were able to achieve greater price and exchange rate stability because their central banks followed the monetary policy of the central bank of Germany (the Bundesbank). The Bundesbank was guaranteed, by the German constitution, the right to apply monetary policy to control inflation independently from the executive branch of the government. As a result, it gained credibility as a guardian of price stability, which was reflected in exchange rate stability.

Following the failure of the Smithsonian Agreement in March 1973, the Bretton Woods system collapsed and was replaced with a flexible or floating exchange rate system among high-income countries. For the EU countries, however, their path led to more limited exchange rate flexibility among their currencies and, eventually, to a common currency. But this path to greater monetary integration has earlier, and broader, origins.

From the treaty of Paris to the treaty of Rome

The end of World War II left Europe economically and socially devastated, as millions of people were killed, made refugees, or became homeless. Out of the ashes of the destruction and despair, economic recovery started to sprout. The first positive step came from the US with the announcement of the Marshall Plan by the US Secretary of State, George C. Marshall, on 5 June 1948 at a commencement speech at Harvard University, which committed substantial aid to assist with the reconstruction of Western Europe. To implement the Marshall Plan and distribute US aid across the war-torn Europe, the Organization of European Economic Cooperation (OEEC) was established in 1948. The US, however, imposed one condition to the aid recipient countries: it required they lift trade barriers among themselves to promote economic development.

Although a few European intellectuals were ardent supporters of European unification as a solution to the seemingly perpetual conflicts in the European continent, none of these ideologies were adopted by political parties or governments to make a difference. One European unification visionary was the Austrian Count,

Richard Coundnhove-Kallergi, who helped organize a Pan European Congress in Vienna in 1926. Another one was Jean Monnet, a French politician and strategist, who assisted the allies with military logistics to win both World War I and World War II. He also served as minister of planning and industrial development in the Charles De Gaulle government. He proposed the idea of joining the steel and coal markets of Germany and France under a single supranational authority. The proposal was well accepted within Germany and soon other countries, Italy and the BENELUX group (Belgium, the Netherlands, and Luxembourg), expressed strong interest to join a possible agreement. Indeed France, Germany, Italy, the Netherlands, Belgium, and Luxembourg eventually agreed to establish the European Coal and Steel Community (ECSC), a single market for coal and steel. The plan for the formation of the ECSC was announced by Robert Schuman, the French Foreign Minister, on 9 May 1950, which became known as the Schuman Declaration. This then led to the Paris Treaty, which was signed in April 1951. The objectives of the historical Treaty were to create an efficient common market for coal and steel, and to safeguard peace in the six ECSC member countries by controlling steel and coal, the basic ingredients to weaponry.

The ECSC was a unique, new organization governed by five institutions, three of which were vested with authorities in specific areas above the member states. In this respect, the ECSC differs from any other international organization that had previously been established. The ECSC was very successful as it created an efficient common market for coal and steel while also permanently cementing peace among the six European countries, particularly France and Germany, the two archenemies which had been involved in more time at war than in peace. Because of the success of the ECSC, European leaders decided to proceed with European integration into other areas. For this purpose, on June 1955 the foreign ministers of the six ECSC met in Messina, Italy, to investigate the possibility of the formation of a Customs Union (CU). The following year, the foreign ministers met in Venice, Italy, where they agreed to the formation of a CU and a common market.[4]

On 25 March 1957, the leaders of the six ECSC countries met in Rome, Italy, where they created two more communities, the European Economic Community (EEC) and the European Atomic Energy Community (EURATOM), by means of the Treaty of Rome. The EEC was a common market and a CU for all commodities other than coal, steel, and atomic energy. EURATOM created a common market

[4] The economic integration terminology here may be confusing. A Free Trade Area (FTA) allows free trade among its partners but allows member countries to set their own trade policies with others. A CU is an FTA but requires its members to adopt a common external tariff versus non-members. A Common Market is an FTA and a CU, but it also allows free movement of factors of production: capital and labor.

for atomic energy. The EEC founders set high standards for the objectives of the EEC to achieve harmonic development and balanced economic growth for all member countries (see Treaty Establishing the European Economic Community and Connected Documents, 1957). The EEC provided several policies that would complement the common market and the CU, in order to achieve its objectives on social, common agricultural, regional, and cohesion policy.

The Treaty of Rome, and additional legislation through the Single European Act (SEA), played a major role in the European economic integration project. In 1967, with the Merger Treaty, the three communities — ECSC, the EEC, and the EURATOM — were combined to form one community that is known as the EC. The EC now consists of 27-member countries and is the world's largest and most integrated regional bloc. In March 2017, the EC celebrated the 60-year anniversary of the Treaty of Rome. The EC is governed by the following institutions.

- The European Commission — (executive institution),
- The European Parliament — (since 1979 is directly elected by EU citizens),
- The Council of the European Union — (represents the governments of the member states),
- The Court of Justice — (ensures compliance with EU law),
- The Court of Auditors — (ensures sound and lawful management of the EU budget), and
- The European Council — (consists of the heads of EU state or government).

The Werner Plan

The EEC Treaty of Rome did not include provisions for monetary integration. However, in 1964, the EC Commission established the Committee of the Central Bank Governors as part of an ambitious plan aiming to establish a complete monetary union by 1971. At the Hague Summit of 1969, the European Council appointed the Prime Minister of Luxembourg, Pierre Werner, to head a committee that would investigate the formation of a monetary union.[5] The Werner Committee submitted its report the next year — in 1970 — and responded that a monetary union was feasible by 1980, in 10 years. According to the report, the monetary union would be established in three stages. The three stages of the Werner Plan were: (1) coordination of monetary and fiscal policies by the EC governments to reduce exchange rate fluctuations; (2) creation of the European Monetary Cooperation Fund (EMCF) to help governments stabilize the exchange rates when

[5] A summit is a meeting of the European Council, which consists of the heads of state of the EC members.

it was necessary; and (3) the EMCF would be transformed into the Central European Bank and the exchange rates would be irrevocably fixed.[6]

The Werner plan to launch a European monetary union was never adopted by the EC. Three main factors played a role for this.

(1) The collapse of the Bretton Woods system in August 1971.
(2) The enlargement of the EC in 1973 with the entrance of the UK, Ireland, and Denmark, which made decision-making more difficult.
(3) The 1973–1974 oil crisis, that led to substantial price increases and to recession; consequently, EC members gave up coordination of economic policies in order to focus on reducing home-country unemployment.

Although the Werner Plan was never adopted, its provisions appeared in later monetary integration programs, such as the European Monetary System (EMS) and the Economic and Monetary Union (EMU). For this reason, when the euro was introduced, Pierre Werner became known as Mr. Euro.

The EMS and the 1992–1993 Exchange Rate Crisis of the EMS

Despite the failure to enact the Werner Plan, EC member country leaders continued the initiative to proceed with monetary integration. Particularly, French President Valery Giscard D'Estaing and German Chancellor Helmut Schmidt visualized the EC as an area of monetary and exchange rate stability. For this purpose, along with these two EC country leaders, the President of the EC Commission, Roy Jenkins, decided to launch the EMS.

The European Monetary System

The EMS was not as ambitious of a program as the Werner Plan but it was a monetary program aiming to promote price and exchange rate stability, as well as economic growth. The EMS was agreed upon by the European Council in Bremen, Germany at the end of 1978, and became effective on 13 March 1979. The EMS was a very important monetary program for the EC and lasted a period of almost 20 years until the end of December 1998 (for details on the economic performance of the EMS, see Giavazzi and Giovaninni, 1989). The initial members of the EMS

[6] Note that the Werner Plan did not provide for a common currency, but irrevocably fixing the exchange rates is the same as having a common currency since no fluctuation of exchange rates takes place. In addition, the EC budget according to the plan was to increase substantially.

were the following eight countries: Belgium, Denmark, France, Germany, Italy, Luxembourg, the Netherlands, and Ireland.

The EMS was a joint currency float in which member countries agreed to peg their currencies to each other and to let their currencies float *vis*-à-*vis* those of non-participating countries. The exchange rate of the French franc (FF), for instance, fluctuated with respect to the US dollar but it was pegged to the German mark.

The EMS consisted of three major components:

(1) The European Currency Unit (ECU),
(2) The European Monetary Cooperation Fund (EMCF), and
(3) The Exchange Rate Mechanism (ERM).

The European currency unit

The EMS gave birth to a new international currency, the European Currency Unit (ECU), which was used as a unit of account and for a variety of transactions in the EC. The ECU was not a legal tender, i.e., it never circulated in the form of coins and banknotes; however, it was used as a means for payments between businesses and other organizations and was also traded in the foreign exchange market. Most importantly, the exchange rate pegs at which EMS members fixed their exchange rates against each other were quoted in ECUs, although the ECU itself floated against the US dollar.

The ECU was a composite currency, that is, a currency composed of other currencies. The value of an ECU was a weighted average of the value of all the currencies that were members of the EMS. The weights were based on the size of the economy and the intra-EC trade shares of the member countries. The German Deutsche Mark (DM) and the FF shares in the euro jointly amounted to over 50%, with the DM weight equal to 33%, and the FF equal to 19.5%, respectively.[7] Once the weights were determined, the official exchange rate of any EMS currency versus the ECU could be calculated. This was known as the central rate. Using these rates, the bilateral cross-EMS currency exchange rates were also calculated. All exchange rates remained fixed but were subject for review every five years. Diverse price and wage rate movements among countries could be a reason for realignments.

The European monetary cooperation fund

The EC created the EMCF to help stabilize foreign exchange rates by intervening in the market to support misaligned currencies. Each EC member country was

[7] These figures are based for data pertaining to March 1979.

required to contribute 20% of its gold and foreign reserves to the fund; in return, countries received ECUs. EC member central banks with troubled currencies could borrow from the EMCF to buy back their own currency and avoid undesired devaluations. Central banks could borrow from the short-term facility for up to 45 days or they could borrow from the mid-term facility for two to five years. Central banks could only borrow in ECU from the fund when exchange rates had reached the limits of the band; in all other cases, central banks could support their currencies using their own national currencies or US dollars.

The exchange rate mechanism

The most important component of the EMS was the ERM. Most EC member countries agreed to keep their exchange rates within a band of ±2.25% (or a total of 4.5%) of central values.[8] This was a much wider band than the total fluctuation of 2% allowed in the Bretton Woods system. Furthermore, under the latter system, only the central bank of the weak currency country was obligated to intervene in the foreign exchange market and correct the exchange misalignment. This was carried out by simply having the central bank buy back its own currency.

Under the EMS, both central banks were required to intervene in the foreign exchange market to correct the misalignment of the exchange rate. The country of the weak currency had to buy back its own currency and the country of the strong currency had to buy the weak currency using its own currency. In this way, the deviating exchange rate was brought back to its par value much faster. It is, therefore, evident that the EMS was a regime that had more exchange rate flexibility than the Bretton Woods system. It is also correct that the EMS, by design, was a symmetric system whereas the Bretton Woods was asymmetric in terms of the way exchange rate misalignments were corrected. Both exchange rate systems nevertheless experienced speculative attacks. Currency speculators engaged in one-way massive sales of weak currencies when they knew governments would not be willing or able to defend their currency and thus devaluation was inevitable. This occurred when central banks were running out of their international reserves.

Cost and price disparities linked to the 1979–1980 oil crisis developed among the EC members, right at the outset of the launching of the EMS. Such disparities surfaced because many countries were affected and each responded differently to the oil crisis. During periods of large cost and price disparities among EC members, the EMS allowed realignments of exchange rates. Countries could devalue or revalue against another currency upon mutual agreement by changing the value of

[8] After the original eight members, Italy entered the EMU with a ±6% band. In later years the UK, Spain, and Portugal also entered with ±6% band.

their currencies *vis-à-vis* the ECU. Most of the realignments took place during the early years of the EMS. There were seven realignments from 1979 to 1983 and only five realignments during 1984–1991. In the later years, realignments were less frequent and the percent change in the exchange rates smaller. There exists strong evidence that the Eurozone stabilized prices and exchange rates (Giavazzi and Giovannini, 1989). The elimination of capital controls, which led to increased financial integration, gave rise to new cross-country opportunities for banks and insurance companies that enhanced competition and reduced prices to consumers.

The 1992–1993 exchange rate crisis

The success of the EMS in reducing inflation rates and stabilizing exchange rates encouraged European leaders to seek further economic and monetary integration. In 1986, the EU agreed to launch a new program named the Single European Market (SEM) to create a true single market for goods, services, capital, and labor. This was necessary because the Treaty of Rome (1957) retained significant barriers to intra-EC trade and to the free mobility of labor and capital among member countries. Furthermore, variation in licensing and technical requirements — such as quality and safety standards — among countries inhibited the free trade of goods and services, and the free mobility of workers and capital. The SEM program required EC countries to pass approximately 300 new laws into national law (directives) by December 1992 in order to create a true SEM (for a discussion of the Europe 1992 initiative, see Rivera-Batiz and Rivera-Batiz, 1992, as well as Baldwin and Wyplosz, 2012). The EU leaders also decided to pursue further monetary integration and adopt a common currency in the beginning of 1999. This decision was taken during the reign of Jacques Delors as President of the EC Commission, which lasted from 1984 to 1994. He was appointed as head of a committee to study the feasibility of creating a monetary union in the EC. The report of the committee, which became known as the Delors Report, gave a favorable recommendation regarding the formation of such a union. It provided the impetus for the monetary union framework and plan that was incorporated into the Maastricht Treaty, which was signed by the member countries of the EU on 7 February 1992. The Maastricht Treaty paved the way for a transition from the EMS to the European monetary union, the regime that is currently in place among a large number of EU members. A later section discusses in greater detail both the details of the Delors Report and the Maastricht Treaty.

Immediately after the signing of the Maastricht Treaty in February 1992, a few negative events occurred in the EC that reversed the positive climate created by the price and exchange rate stability that prevailed in the EC in the previous few years

under the EMS. First, the German Central Bank (the Bundesbank) increased its policy target interest rate to suppress inflation. Such contractionary monetary policy was adopted to counter the expansionary fiscal policy that was launched by the German government to help the reunification efforts of the country after the collapse of the Berlin Wall in 1989. The second negative event related to the Maastricht Treaty itself, which needed to be ratified by the individual members of the EU. In June 1992, Danish voters rejected the Maastricht Treaty in a national referendum. One of the main reasons for the rejection of the Maastricht Treaty is that voters were concerned that Denmark would be dominated by larger countries such as France and especially Germany. For many of the older voters, who lived during the Nazi occupation of World War II, "the spectre of a Germany with a murky past still lives on" (Font and Maria, 1992). The rejection of the Maastricht Treaty by the Danish voters posed a big challenge for the future of the monetary union and eroded trust on the EMS, which was perceived as a preliminary phase of the newly proposed monetary program.

The stage had been set for a severe crisis of the ERM. In fact, the crisis began in August 1992 in two European countries that were not members of the EMS or the EC: Finland and Sweden. Speculative attacks on the Finnish markka and the Swedish krone forced Finland to let its currency float instead of being pegged to the DM. The Central Bank of Sweden (Sveriges Riksbank) raised interest rates to an unprecedented level of 500% to defend the krone.

The crisis then extended to the British pound and the Italian lira. Speculators were certain that politics in the UK and Italy were such that they would be unable to defend their currencies by raising interest rates to match the contractionary monetary policy of the Bundesbank. On 16 September 1992, remembered now as "Black Wednesday," speculative attacks on the Italian lira and the UK pound intensified so much that the Bank of England was unable to maintain the pound within its band limit of ±6%; thus, the UK was forced to withdraw permanently from the ERM and it decided not to participate further in any future monetary agreement with the EC countries. Italy was also forced to abandon the ERM. The exchange rate crisis spread to almost every country in the ERM; Ireland, for example, had to raise its interest rates to 100% to prevent the devaluation of its currency, the punt, and France lost half of its reserves in its effort to defend the franc. Following the turbulent events of September, all currencies were tested and a sequence of devaluations took place. Spain and Ireland were forced to impose capital controls to protect their currencies from further speculative attacks.

But in 1993 speculative attacks continued to intensify against many currencies including the FF. The Central Bank of France (Banque de France) adopted a firm exchange rate policy of defending its national currency that became known as the "franc fort policy." This required pegging the franc to the German DM, which was

achieved at the expense of giving up the independent French monetary policy. But on 30 July 1993, the worst day in the history of the ERM, speculative attacks in many currencies and particularly the FF forced France to devalue its currency. The date of 30 July 1993 is since remembered as "Black Friday." The devaluation of the FF, however, was different from previous devaluations, as it forced the ERM to adopt wider exchange rate bands. On 1 August 1993, the European Council announced that it has decided to open the exchange rate fluctuation band for all currencies except the German DM and the Dutch guilder from ±2.25% to ±15.00%, a band range of 30%. This was a very wide range that in effect made the ERM non-binding and solved the problem of speculative attacks and the need for devaluations.

Causes of the 1992–1993 ERM–EMS crisis

Several factors have been postulated as possible causes of the 1992–1993 ERM–EMS crisis. The most popular explanation is that greedy speculators, putting their own interests above those of entire nations, synchronized their bets to force countries to devalue their currencies and gain massive profits. In fact, it is well known that George Soros, the Hungarian–American billionaire, profited handsomely by betting that the Bank of England would devalue the pound, which it did, in September 1992. But while this might be true, the reality is that speculators often base their actions on fundamental forces that lead them to assume the positions they do. Furthermore, it is the job of speculators to exploit profit opportunities and a well-designed exchange rate system cannot rely on their altruism; therefore, the fundamental cause(s) of the crisis must be sought elsewhere.

The cause(s) of the 1992–1993 ERM crisis are found in deficiencies in the design of the EMS system and on structural changes that occurred in the EC member countries' economies before and during the crisis. In every fixed exchange regime, out of "n" number of currencies, one of the currencies will have to evolve as the anchor or reserve currency. The reserve country must be willing to make its currency available to the rest of the countries when necessary to support the remaining "$n-1$" currencies so they can remain within the band. In the case of the EMS, no currency was officially chosen as anchor or reserve currency, but the currency that evolved to become the anchor was the German mark. Since 1987, all EC central banks followed the Bundesbank monetary policy, which gave them credibility regarding price stability. Such an arrangement was tacitly ratified by the Basle–Nyborg Agreement on September 1987. The Bundesbank agreed to accommodate EMS members by using the EMCF credit lines for exchange rate intervention to assist countries with troubled currencies. But the emergence of the German DM as an anchor currency for the EMS was problematic during the ERM crisis

because the Bundesbank was pursuing German national interests instead of EC interests. According to critics of the Bundesbank, the EMS needed instead a European central bank committed to pursuing European interests.

The ERM crisis was triggered when EMS countries experienced an asymmetric shock that affected the anchor country, Germany, differently from the other members. Immediately after the collapse of the Berlin wall in 1989, Germany launched a very expansionary fiscal policy in order to finance the reconstruction of the former East Germany. To finance its deficits, the German government issued bonds to the public; this reduced the money supply of the country and increased German interest rates. A European central bank could have kept the interest rates unchanged by increasing the money supply by equal amounts with the increase in the German government deficit, but the Bundesbank, which was cautious of igniting inflation, refused to do so, i.e., it refused to monetize the new public debt. But high interest rates were detrimental to the EMS partners because most of these countries were undergoing a severe recession during the same time period.

Because of the free capital mobility introduced by the SEA — or Europe 92 as the single market initiative became known — financial capital was attracted to Germany, where interest rates were high. The flow of capital to Germany raised the relative demand for DMs and put pressure on exchange rates, which then led to the sequence of devaluations discussed earlier and the two withdrawals of Italy and the UK from the ERM. At the same time, currency speculators generated massive profits at the expense of member countries' central banks trying to prevent the inevitable devaluations.

The last country to remove its currency from the ERM was France, but this did not happen until it exhausted all other alternatives. The Banque de France first requested that the Bundesbank reduce its interest rate but such request fell on deaf ears; it then asked for loans to purchase back its own currency. This time the Bundesbank refused again because it feared that the loaned DMs would find their way home and would increase the German money supply, causing inflation. To avoid expansions of the money supply that could ignite domestic inflation, the Bundesbank regularly engaged in sterilization operations, neutralizing the impact of capital inflows on the money supply by issuing bonds, and it did not welcome additional operations connected to any loans made to other central banks.

These dilemmas illustrate well what economists now call the Unholy Trinity or Trilemma: the idea that the pursuit of fixed exchange rates, free capital mobility, and independent monetary policies is an impossibility since only two of the three are consistent with each other. Along these lines, Padoa-Scioppa (1989), a former member of the ECB executive board, elegantly describes the vulnerability of the EMS after the introduction of free capital mobility by the SEA. Padoa-Scioppa (1989) stated the EMS — after the removal of capital controls — resembled an

"inconsistent quartet of four policy objectives, free trade, full capital mobility, fixed exchange rates and independent monetary policies." Consequently, he concluded that the only long-run solution to the EMS after the SEA program was the adoption of a common European policy.

The Maastricht Treaty

As EC countries adopted legislation in the second half of the 1980s to complete the SEM, economists and politicians realized the EC would need a common European currency to prevent exchange rate crises. For this purpose, the Hanover Summit in June 1988 appointed the charismatic President of the EC Commission Jacques Delors to head a committee of monetary experts to study the possibility and draft a plan for further monetary integration.

The Delors Report

In June 1989, the Delors committee submitted its report of the study "The Report on the Economic and Monetary Union," or what later became known as "The Delors Report." The report was accepted at the Madrid Summit by the European Council.[9] The Delors Report recommended that the EMU be introduced gradually in three stages.[10] This was reminiscent of the Werner Plan, which was the first proposed European monetary program. Like the Werner Plan, the Delors Report did not visualize the introduction of a common European currency but it required the EC countries to fix the exchange rates irrevocably. The European Council decided to deal with the EMU as proposed by the Delors Report in the next intergovernmental conference (IGC) that took place in the small Dutch city of Maastricht in December 1991. European country leaders then signed the Maastricht Treaty, which would change the EC economies and the future of Europe. Meanwhile, the unknown small city of Maastricht became widely known because of the treaty.

The spirit of the treaty and the Maastricht convergence criteria

The Maastricht Treaty or Treaty on European Union (TEU) was signed in Maastricht, the Netherlands, on 7 February 1992, following the draft of the Treaty

[9] The European Council consists of the EC heads of each states or governments.

[10] Note that initials EMU stand for Economic and Monetary Union, and not as most people usually incorrectly refer to it, the European Monetary Union. The error, however, can be understood since the most important component of the Maastricht Treaty is the formation of the monetary union. The economic union, however, is not yet established or is certain to ever be fully established.

created by the European Council in that same city on 9–10 December 1991 (TEU, 1992). The Maastricht Treaty complemented the Treaty of Rome, which was established in 1957. The objectives of the Maastricht Treaty were "to promote economic and social progress which is balanced and sustainable, in particular through the creation of an area without internal frontiers, through the strengthening of economic and social cohesion and through the establishment of EMU, ultimately including a single currency in accordance with the provisions of this Treaty" (Maastricht Treaty, 1992). Note that the EC is referred as the "Union" or more properly as "The European Union" in the Treaty to denote a higher level of integration.

Membership to the EMU was not going to be automatic; only countries that could demonstrate high price stability and fiscal discipline during a transitional period would qualify for EMU membership. Candidate EMU members would need to meet five Maastricht convergence criteria and they would be evaluated on their performance on the five criteria based on a set of macroeconomic variables. The five Maastricht convergence criteria are:

(1) An inflation rate of no more than 1.5% above the average inflation rate of the three countries with the lowest inflation rates.
(2) A long-term interest rate of no more than two percentage points above the average interest rate of the three countries with the lowest inflation rates.
(3) A government budget deficit to GDP ratio of no more than 3%.
(4) A government debt-to-GDP ratio not exceeding 60% or rapidly approaching 60%.
(5) The exchange rate of each country should remain within the ±2.25% normal band of the Exchange Rate Mechanism (ERM) without a devaluation during the last two years prior to the examination.

Why did the EC country leaders choose these five particular Maastricht convergence criteria? The first criterion pertains to inflation, which is also the most important criterion. It was said that if a country met the inflation criterion all the other criteria would have automatically been met, i.e., the remaining four would have been redundant. To understand why these five criteria were selected out of so many others one must understand the politics involved in the formation of the EMU.

During the negotiations of the EMU agreement, Germany was the most populous and economically strong country in the EC; thus, it carried more weight than any other country. After World War II, Germany was able to achieve price stability and high economic growth. For this reason, all EC central banks gradually

followed the Bundesbank and gave up their national independent monetary policy. In this way, they stabilized both prices and exchange rates. After experiencing hyperinflation during and after World War I, the German government decided to render independence to its central bank, the Bundesbank, guaranteed in its federal constitution. The end result was that Germany achieved low inflation as the Bundesbank pursued a monetary policy with a single mandate of price stability. In this way, the DM evolved to be the anchor currency in the EMS.

When the negotiations about the EMU and the new European currency began, the German government and their citizens were not willing to give up their beloved DM for a new, untested currency. However, once the Germans were convinced that monetary integration was beneficial, they decided to join the EMU assuming they were able to decide the terms and preconditions of the formation of the EMU. This is how inflation became the predominant Maastricht criterion. As for the other four criteria, they were required to ensure that the low inflation goal is respected. However, many additional arguments can be made in favor of low deficits and low public debt. High public indebtedness of an EMU country can be problematic because a country that cannot pay its public debt would most likely request assistance from other EC countries, the ECB or the EU. To prevent such a possibility Germany insisted that the Maastricht Treaty include the "No Bailout Clause."

The Maastricht Treaty required all candidate EMU members to provide independence to their national central banks, as this offered a stronger assurance that countries would pursue price stability. The Maastricht Treaty set out a chronological schedule for the completion of the EMU. Within this period, the European System of Central Banks (ESCB) was created, which consists of the ECB and the National Central Banks (NCBs). The latter would lose their independence and simply become branches of the ECB upon the launching of the euro. Furthermore, the ECB, jointly with the Economics and Finance Ministers (ECOFIN), would conduct the foreign exchange policy of the Eurozone.

The EMU was introduced gradually in three stages, starting in July 1990, when capital controls were removed. The three stages are described next.

The Three Stages of the Creation of the EMU

First stage

The first stage began before the signing of the Maastricht Treaty, when all countries were required to coordinate their economic policies to reduce exchange rate fluctuations. By the end of the first stage, December 1993, all candidate countries were required to join the normal band of ±2.5% of the ERM.

Second stage

The second stage began on 1 January 1994, when the European Monetary Institute (EMI) was established in Frankfurt, Germany. The purpose of the EMI was to prepare the ground work for the launching of the EMU. The EMI was responsible for coordinating the economic policies of the candidate EMU countries. It achieved this by issuing recommendations to the countries involved. Coordination and convergence of policies were monitored according to elaborate surveillances based on economic country reports for each country that were prepared by the EU Commission and the EMI and submitted to the EU Council. Based on these country reports, the Council evaluated each candidate country's performance according to the Maastricht convergence criteria. During this stage, EU candidate member governments were also required to render independence to their central banks.

According to Article 109J of the Maastricht Treaty, the EU Council, upon receiving the recommendations regarding the performance of the candidate EMU countries, had to make a decision about when the EMU would be launched, a decision to be made by December 1996. If at least half of the countries met the Maastricht criteria, the EMU would be launched in 1997. This, however, did not happen. Instead, the Council, based on the recommendations of the EMI and the Commission, was going to make a decision to launch the EMU on 1 January 1999 if at least two countries qualified for membership. According to the December 1997 evaluations of the candidate countries, 11 countries met the Maastricht criteria. Upon receiving the opinion of the European Parliament, the Council recommended to the European Council the establishment of the EMU on 1 January 1999. The European Council accepted the recommendation on 2 May 1998 and made the historical decision to launch the EMU.

The 11 initial member countries of the Eurozone were Austria, Belgium, Denmark, Finland, France, Italy, Ireland, Luxembourg, the Netherlands, Portugal, and Spain. Greece wanted to join the EMU but failed all five criteria and was disqualified for membership; however, it kept making progress toward meeting all five Maastricht criteria. When Greece's performance was reevaluated in 2000, it was found to meet all five criteria and became the 12th member of the EMU on 1 January 2001. The UK and Denmark were both given protocols that gave them the option to join the EMU in the third stage, but each of the two countries opted out and never joined the EMU. Sweden did not render independence to its central bank or join the ERM and so it purposefully disqualified itself from EMU membership.

Table 1 shows the performance of each candidate country based on the five Maastricht Convergence Criteria that the EMI and the EU Commission presented to the Council. Data are presented for 15 countries that were members of the EU

during the second evaluation year (1997–1998). The last row shows the Maastricht Reference value for each criterion calculated or stated above. For the inflation rate, the EU Commission took the initiative of creating the Harmonized Indices of Consumer Prices (HICP) in order for inflation rates of the candidate countries to be comparable. The long-term interest rate for each country was measured by the 10-year government bond yield. The two fiscal criteria, government deficits and government debt-to-GDP ratios, were set by the Maastricht Criteria at 3% and 60%, respectively. All successful candidate countries to become members of the EMU were required to let their currencies participate in the ERM for two years prior to evaluation. In the fifth, and last, column, it is indicated by a "yes" if the EMU candidate countries met the criteria and a "no" if they did not.

Table 1. Performance of EU member states in relation to the Maastricht convergence criteria, 1997–1998.

	Inflation HICP January 1998	Long-term interest rates 1997	Deficit (% of GDP) 1997	Debt (% of GDP) 1997	ERM participation March 1998
Austria	1.1	5.6	−2.5	66.1	Yes
Belgium	1.4	5.7	−2.1	122.2	Yes
Denmark	1.9	6.2	0.7	65.1	Yes
Finland	1.3	5.9	−0.9	55.8	Yes[a]
France	1.2	5.5	−3	58	Yes
Germany	1.4	5.6	−2.7	61.3	Yes
Greece	5.2	9.8	−4	108.7	Yes[b]
Ireland	1.2	6.2	0.9	66.3	Yes
Italy	1.8	6.7	−2.7	121.6	Yes[c]
Luxembourg	1.4	5.6	1.7	6.7	Yes
The Netherlands	1.8	5.5	−1.4	72.1	Yes
Portugal	1.8	6.2	−2.5	62	Yes
Spain	1.8	6.3	−2.6	68.8	Yes
Sweden	1.9	6.5	−0.8	76.6	No
UK	1.8	7	−1.9	53.4	No
Average	1.6	6.1	−2.4	72.1	
Maastricht Reference Value	2.7	7.8	−3	60	

Notes: [a]Since October 1996; [b]Since March 1998; [c]Since November 1996.

Source: Commission Services, Summary of the 1998 Convergence Report, EURO 1999 Part 1: Recommendation.

Of the 15 evaluated candidate EMU members, 11 met 4 criteria, but not the government debt-to-GDP ratio. Because it was difficult for the countries to meet the required public debt-to-GDP ratio, the European Council waived this criterion. Therefore, the countries were only evaluated on four of the five Maastricht Treaty convergence criteria. Greece did not initially meet any of the criteria but met all 4 criteria, like the other 11 countries, when it was reevaluated in 2000.

All countries made tremendous progress reducing inflation and interest rates. Figure 1 shows the annual inflation rate for the 15 members of the EU during the period of 1995–1997. As can be seen, the drop of inflation in the period before 1997 was particularly significant for the Southern European countries — Greece, Italy, Portugal, and Spain — that experienced high inflation for long periods of time in the post-World War II period. Given the positive effects of low inflation on economic growth, as examined by a number of researchers over the years, such as Mundell (1965), De Gregorio (1992), Barro (1996), and Feldstein (1999), perhaps the biggest anticipated benefit of the EMU was to be gained by these higher-inflation countries.

Figure 2 presents the long-term interest rate in 15 members of the individual countries in the period of 1995–1997. Again, one can see the substantial drop in interest rates in Greece, Italy, Spain, and Portugal.

Despite the success in meeting their inflation and long-run interest rate targets, a number of countries found it difficult to reduce government deficits. Most EU countries were experiencing a recession in the early 1990s and the implementation of contractionary fiscal policies oriented to reducing budget deficits was considered to be counter-productive. However, most governments did seek to actively achieve the Maastricht budget deficit targets. Figure 3 shows the substantial reductions in measured government budget deficits as a percentage of GDP for

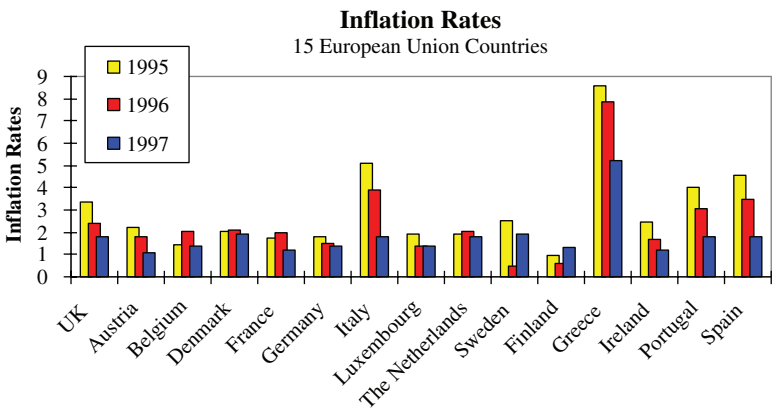


Figure 1. Annual inflation rates in the EU, 1995–1997.

Source: IMF-IFS.

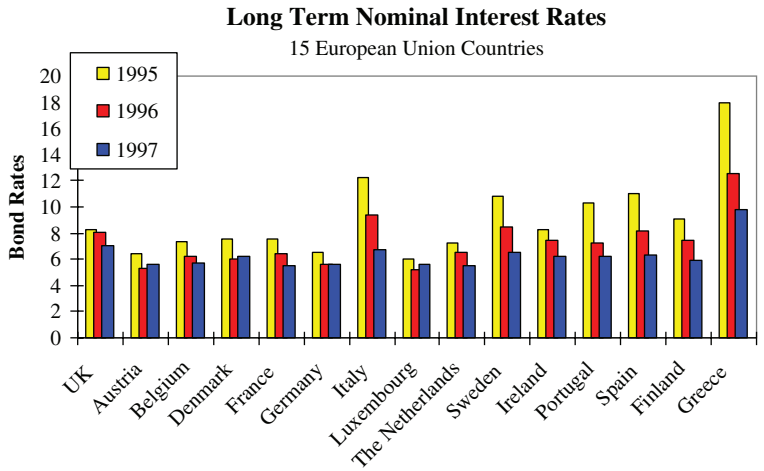


Figure 2. Long-run nominal interest rates in the EU, 1995–1997.

Source: IMF-IFS, European Econo.

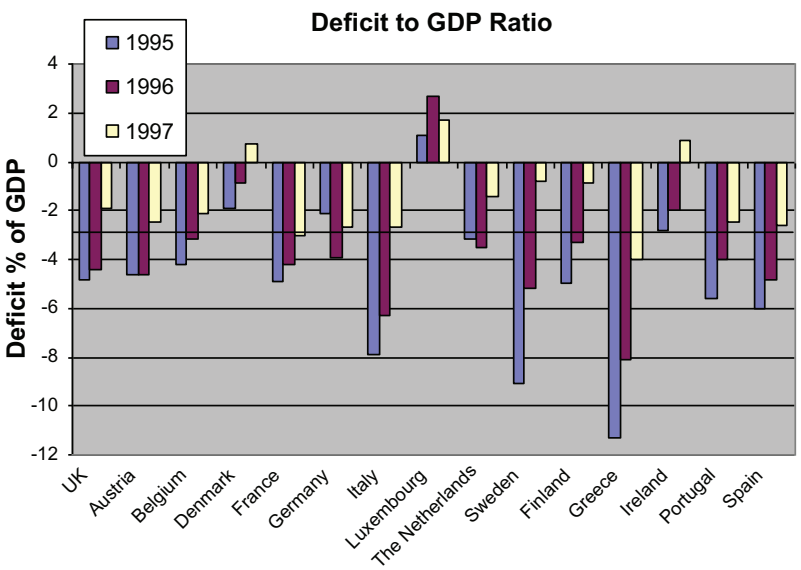


Figure 3. Government budget deficits as a percentage of GDP in the EU, 1995–1997.

individual EU countries from 1995 to 1997, which can be compared to the 3% Maastricht criterion. It should be emphasized, however, that countries considered a range of policies and tactics to achieve their objectives. Regrettably, a few of the tactics were deceptive, referred to by the media as "creative accounting."

The difficulties in reducing budget deficits also explain the fact that most countries were not successful in meeting the government debt-to-GDP ratio Maastricht Criterion. As shown in Table 1, only 4 out of 15 countries met the

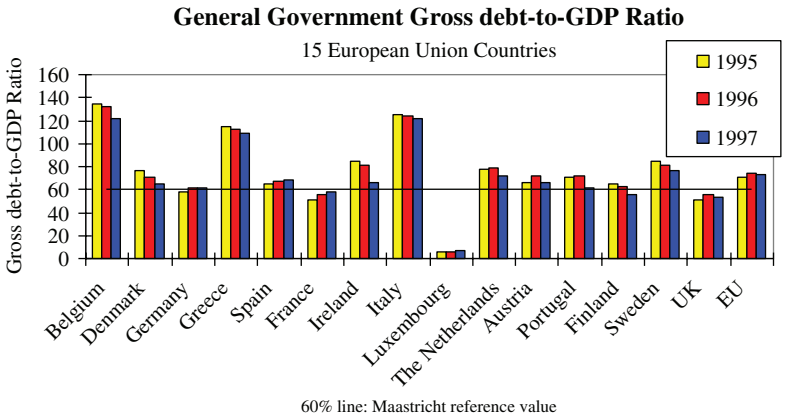


Figure 4. Government debt as a percentage of GDP in the EU, 1995–1997.

Source: European Economy, 1996.

public debt-to-GDP criterion. Even Germany, which was the country that originally requested the inclusion of this criterion as part of the Maastricht Treaty, failed to meet the standard. For several years, starting after the collapse of the Berlin Wall in 1989, Germany applied exceptional expansionary fiscal policy to help smooth the reunification process of the country. Figure 4 shows the government debt-to-GDP ratio in the EU countries overall and in individual countries during the period of 1995–1997. As Figure 4 depicts, many countries found it difficult to reduce the government debt-to-GDP ratio before 1997. As a result, the EU Council ignored the government debt criterion and evaluated candidate EMU countries in only four out of the five Maastricht criteria. This indicates that the creation of the EMU was a political decision rather than an economic one. The issues connected to high government debt would return to haunt the Eurozone in later years.

Third stage

The third and final stage in the formation of the EMU can be divided into three sub-periods.

First sub-period: 1999–2002

The first sub-period began on 1 January 1999 and ended on 31 December 2002. During this sub-period, the euro was introduced in the form of checking and savings accounts but not in the form of coins or banknotes. The national currencies were in circulation but they ceased to exist as independent currencies since the exchange rate in relation to the euro had been irrevocably fixed. They could be

considered a denomination of the euro. All new public debt was issued in euros. The ECB replaced the EMI but, nevertheless, the ECB's location was also in Frankfurt, Germany.

The name of the single European currency was decided in the Madrid Council in 1995 to be the euro, and its value was announced to be equal to one ECU. As a result, the irrevocably fixed exchange rates of the currencies in terms of the euro were the same as those in terms of an ECU.

Second sub-period: 1 January 2002–28 February 2002

The euro was introduced for the first time in the form of coins and banknotes on 1 January 2002. It was the largest-ever currency changeover, as the euro replaced 12 national currencies. As it turned out, the introduction of the euro was exceptionally smooth. Thanks to its geographic position, the French Pacific Ocean island of Reunion was the first European territory to see the introduction of the euro on 1 January 2002. The first officially recorded cash purchase was that of one kilo of lychees (a white-fleshed, prickly, skinned fruit) in a street market of the capital city, Saint-Denis, for the price of 75 eurocents. After midnight, the transaction was concluded in three seconds while the event was staged for local television cameras since the buyer, the Mayor of the city Rene-Paul Victoria, made arrangements to televise the historically important and symbolic event.

Following Reunion, Greece and Finland, the two easternmost Eurozone countries were the first EMU members to launch the euro (banknotes and coins). The central banks of both countries opened up for the historical event. In Athens, the Prime Minister of Greece, Costas Simitis, drew euro banknotes from an Automated Teller Machine (ATM). In Helsinki, the Bank of Finland opened up for an hour allowing the Finns to be among the first Europeans to receive euros in exchange for their markkas.

There was quite a bit of preparation by the ECB, in cooperation with the 12 EA NCBs, to make the euro (banknotes and coins) available to more than 300 million people. The ECB printed 14.25 billion notes (from €5 to €500) in 15 different plants. The NCBs coordinated the minting of 56 billion coins from 1 cent to €2. The total value of banknotes and coins was worth €660 billion ($558 billion). The ECB started delivering the euro banknotes to commercial banks in September 2001. If all printed banknotes were placed end to end, they would have covered the distance from the earth to the moon five times. Some 200,000 ATMs had to be converted to handle euro exchanges in the 12 EA countries. It was expected that 90% of the euros would be delivered through the ATMs. The ECB spent €80 million to educate the public on the new common currency. In addition, the EU Commission and the NCBs undertook their own educational campaigns on the

arrival of the euro. The introduction and acceptance of the euro was therefore a great success (for more details see Grant, 2001; Blitz, 2002; Zestos, 2006).

Third sub-period: 1 March 2002–present

The last sub-period spans from 1 March 2002 to the present. The EMU began with 11 members. However, by 2018, Eurozone membership had increased to 19. This is an indication that newcomers perceived the benefits from joining the EMU greater than the costs. Since the beginning, however, there have been serious concerns and differences among countries in terms of how existing institutional structures should function and whether they should be reformed and whether new institutions are needed. The recent Eurocrisis brought all these concerns to the fore as it seriously challenged the regime itself, which will be discussed later.

One of the initial matters of controversy emerged almost immediately after the EMU was inaugurated in 1999. It involved the Stability and Growth Pact.

Stability and Growth Pact

The Maastricht Convergence criteria played a role in helping countries prepare for EMU membership. Once the EMU was established, a few countries, particularly Germany, became concerned that other EMU member countries would violate the public deficit criterion by returning to old spending habits. Thus, Germany demanded that the EMU adopt the SGP, which insisted that EMU countries continue to be fiscally prudent. The SPG required member countries to maintain their public deficit to GDP ratio below 3% and their external debt-to-GDP ratio below 60% (if the debt ratio exceeds this level, then it needs to be reduced toward the target at an adequate pace). The SGP is an agreement among EMU members and it went into effect for the first time in 1999, when the monetary union was created.

But its enforcement has been spotty at best. In reality, when small EMU countries such as Portugal and the Netherlands violated the SGP, they were forced to comply, but when large countries such as France, Italy, and Germany violated the SGP, they "froze the mechanics" of the treaty. Even when the European Court of Justice found large countries guilty of this act, they still did not comply. In fact, many inside the EMU criticized the SGP for establishing a very rigid fiscal rule which made counter-cyclical fiscal policy difficult for EMU countries to implement.

Consequently, the EMU country leaders reformed the SGP in 2005, instituting changes that watered down the original rules. The targets for both budget deficits and debt-to-GDP ratios were now country-specific and could vary depending on

"the economic and budgetary position and sustainability risks of the Member State." Some prominent economists argued at the time that the breakdown of enforcement of the SGP could potentially lead to future fiscal crises that the EMU was not prepared to handle. Harvard economist Feldstein (2005), for example, wrote that there is an "inherent conflict between the simultaneous existence of a single currency for the countries of the European Economic and Monetary Union (EMU) and the independent fiscal policies of those countries. The Stability and Growth Pact was an attempt to reconcile that conflict [but] EMU governments have chosen to ignore the Stability Pact's constraint on budget deficits and [have] sought to undermine it by changing the rules themselves … the agreement reached at the end of March 2005 by the European Council … effectively abandons the Stability Pact and leaves the way open to much larger sustained deficits."

Eurozone Monetary Policy

Another area of controversy that erupted during the Eurocrisis is related to monetary policy. The Maastricht Treaty entrusted monetary policy to the euro system, which consists of the ECB and the NCBs. The monetary policy is exercised by the Governing Council. The governing council consists of 25 members; six are members of the executive board and 19 are the Governors of each country's NCB. The six members of the ECB executive board implement monetary policy on a day-to-day basis. Monetary policy is implemented by the NCBs as they are familiar with the financial markets in their respective countries. NCBs, however, do not have any authority vested upon them regarding monetary policy. They can be considered branches of the ECB.

The ECB was created to be an independent central bank, with the explicit goal of avoiding any direct fiscal influences of the EU itself or any individual country governments on EMU monetary policy, which would reduce its credibility in maintaining price stability (Fratianni and von Hagen, 1993). Neither the EC itself, as an institution, nor the member states may dictate any actions of the ECB or of the NCBs. Following the same model as the Federal Reserve in the United States, although the EC does have input into the selection of ECB Board members, the tenure of these Board members is long (eight years) and the Governors of the NCBs also have relatively long (five years) renewable terms. Finally, the ECB has operational and budgetary independence from other institutions. It has its own resources, obtained from the monetary policies it carries out and the services it provides.

The ECB utilizes three instruments to apply monetary policy. These instruments include required reserves, the Permanent Standing Facilities, and open

market operations. The traditional approach of the ECB in applying monetary policy is through directing interest rate changes. Thus, two interest rates are set by the Permanent Lending Facility. These interest rates are the Marginal Lending Rate and the Marginal Deposit Rate. The first is the maximum interest rate charged by the ECB to financial institutions when they borrow money from the ECB under different contracts. The Marginal Deposit Rate is the interest rate financial institutions receive when they deposit (park) funds with the ECB. The Marginal Deposit Rate recently became negative as the ECB discourages banks from depositing funds with it instead of making loans.

The most important monetary instrument involves open market operations. Particularly through the ECB's Main Refinancing Operations, financial institutions borrow funds from the ECB; at the same time, the ECB buys high quality securities from financial institutions to be held as collateral. The interest rate on such loans is called the Repurchase Rate (Repo) and is the most important interest rate set by the ECB to conduct monetary policy.

Over the years, the ECB monetary policy has been criticized for a number of reasons. One serious concern has related to the mission of the ECB. As established by its charter, the ECB's central mission is to maintain price stability within the Eurozone. On this basis, the Governing Council of the ECB established an inflation target of 2% as the basis for its monetary policy. But this overwhelming concern with the control of inflation is a key difference between the Federal Reserve in the US and the ECB. The Fed has as its central goals not just price stability but also reducing unemployment, controlling interest rates, and supervising the financial system. As Europe entered into recession in the late 2010s, the need to expand the goals of the ECB to reducing cyclical unemployment and stimulating the Eurozone became a major issue of contention.

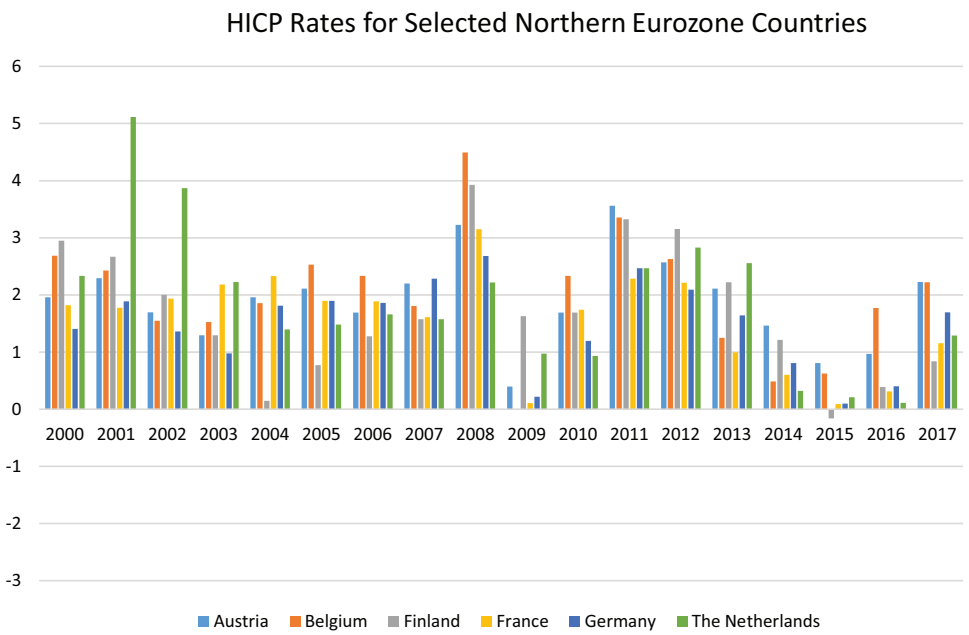
The explosion of the European Sovereign Debt Crisis has led to a series of substantial reforms in the institutional mechanics of the EMU. The reforms respond to serious weaknesses present in the original architecture of the union. Many economists understood that the EMU had over-emphasized the benefits of the monetary union while leaving unresolved many of its key problems.

The EMU was anticipated to have a substantial positive impact on long-run economic growth due to its potential effects on reducing transaction costs and increasing trade among the countries members of the union, as well as by inducing greater macroeconomic stability through the pursuit of a credible, low-inflation monetary policy. On both accounts the EMU appears to have been successful. In terms of transaction costs, the EMU may have saved tens of billions of euros worth of costs that would have had to be undertaken by traders involved in exchanging currencies among member countries if the EMU had not existed. And

in terms of the effects of exchange rate stability in stimulating international trade, a review of this literature published by Andrew Rose in 2008, finds that: "there is evidence that currency unions have been associated with increased trade in goods, though its size is much disputed. Using data on pre-EMU currency unions (such as the CFA franc zone), Rose (2000) first estimated the effect of a currency union on trade, and found a tripling of trade. More recent research, however, has resulted in a literature which has almost universally found smaller estimates which are still of considerable economic size … with currency unions increasing trade between 30% and 90%."

Another of the benefits of a currency union is that it will reduce inflation by forcing countries whose central banks are adopting exuberant monetary policies to abandon such policies and adjust to the monetary union-wide inflation rate (Alesina and Barro, 2002). This benefit would be stronger for economies which have had distortionary sovereign monetary policies (a history of hyper-inflation, for instance) and it assumes that the country joins a monetary union with stable monetary policy. This has been the case for members of the EMU, where low inflation and interest rates — which had already converged during the period previous to the creation of the EMU — were maintained in its aftermath. Such convergence can be seen in Figures 5 and 6.

But despite the benefits of creating a monetary union, many economists had noted early on that there were also potential dangers attached to such regimes, especially if certain preconditions did not exist or if certain institutions were not created at the same time as the common currency (Rivera-Batiz and Rivera-Batiz, 1994; De Grauwe, 2016). One of the key difficulties of a monetary union is that if the member countries are economically dissimilar or have specialized in different sectors of production, a common currency — by preventing exchange rate adjustments — would make it more difficult to adjust to economic disturbances. The issues can be appreciated best by analyzing how two regions — say North and South — react to an exogenous shift in demand away from the South and toward goods produced in the North. This disturbance, would — everything else being constant — tend to generate greater exports, increased output and perhaps more inflation in the North, but it would cause reduced exports, recession and perhaps deflation in the South. In a system of flexible exchange rates, as demand for the Northern country rises, so does demand for its currency and, therefore, an appreciation of the Northern currency relative to the currency of the South would ensue. This change in currency values would help the adjustment of the two countries, as it would switch demand for goods and services back to the South, offsetting the aggregate demand effects of the initial disturbance. Under a monetary union, however, these exchange rate changes would not be possible,



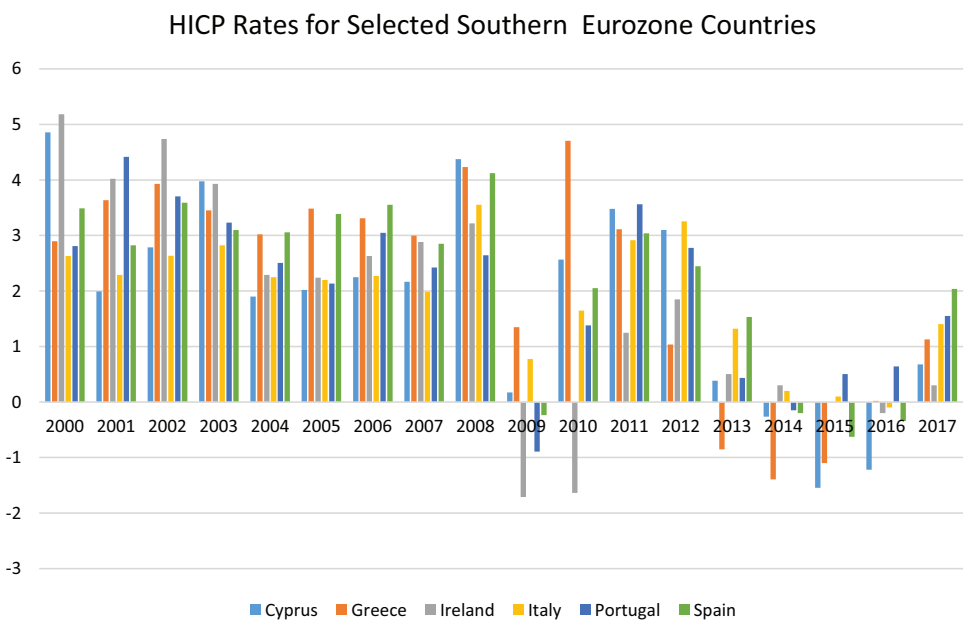
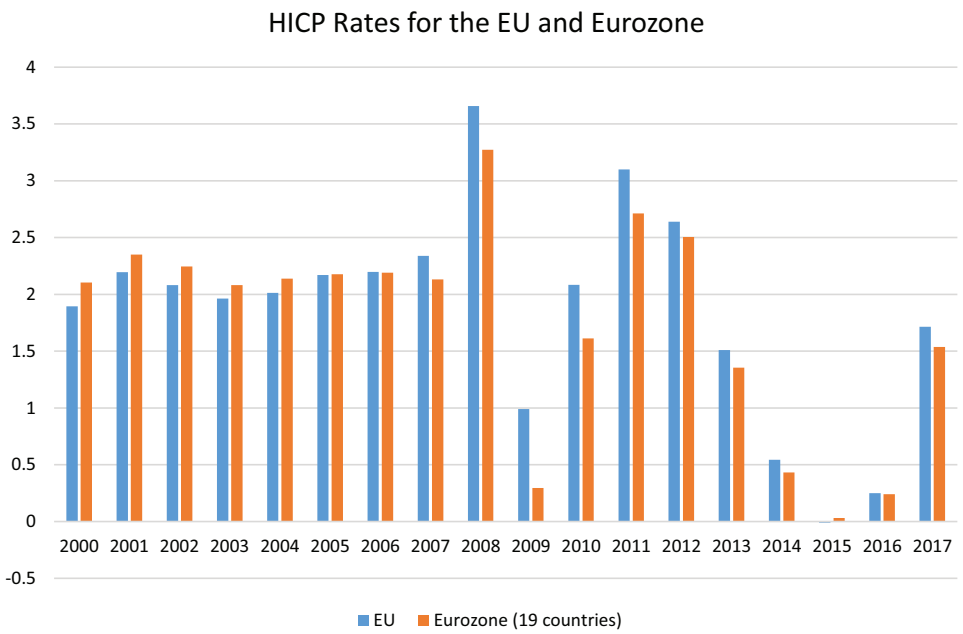
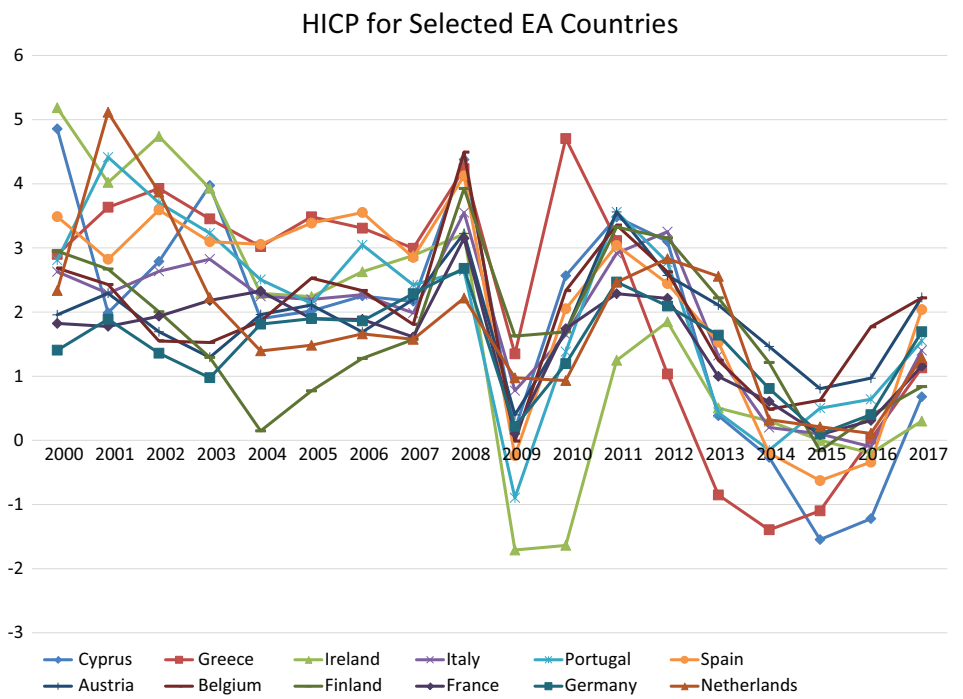


Figure 5. Inflation rates measured by the harmonized index of consumer prices, 2000–2017.

Source: Eurostat.





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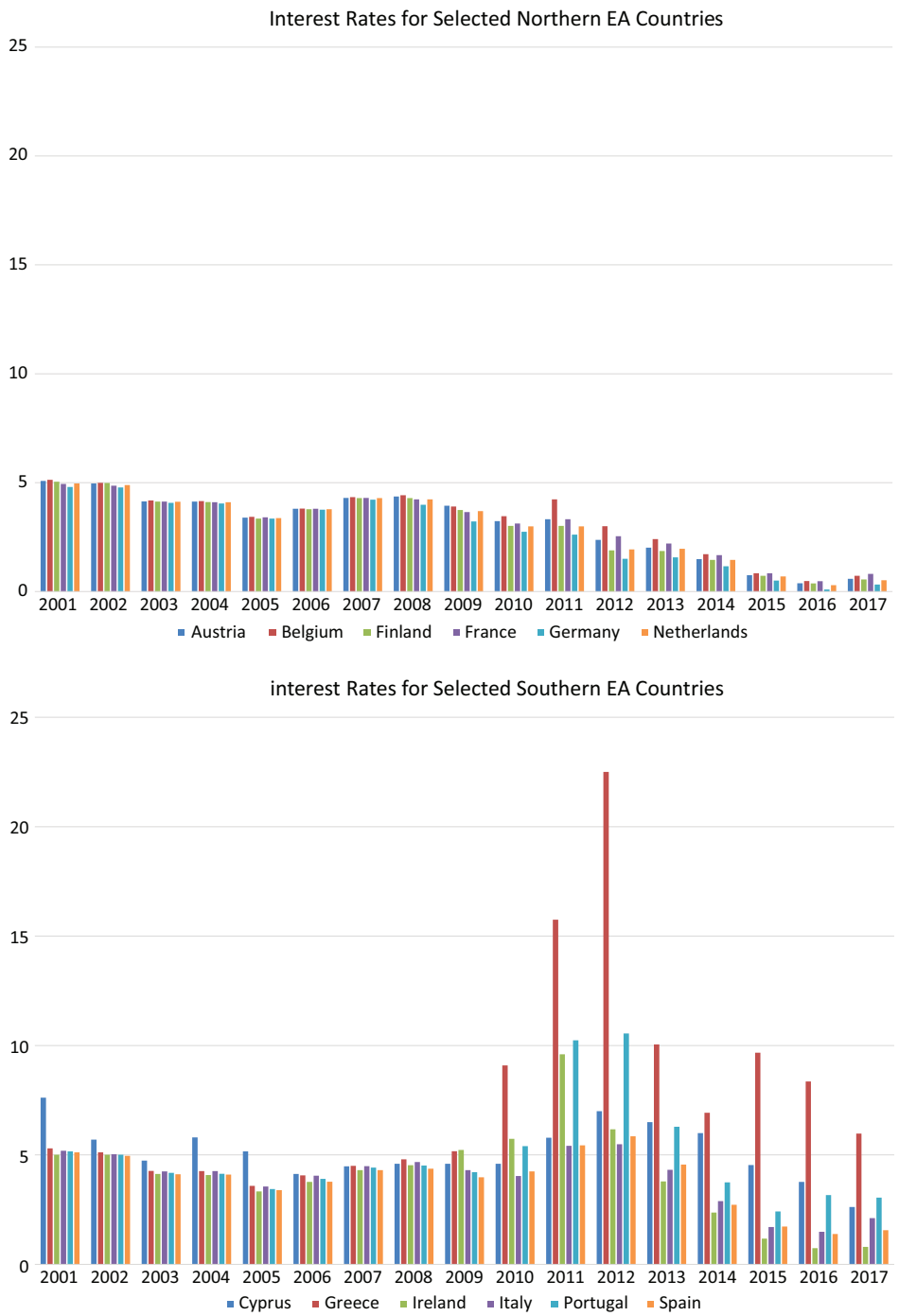
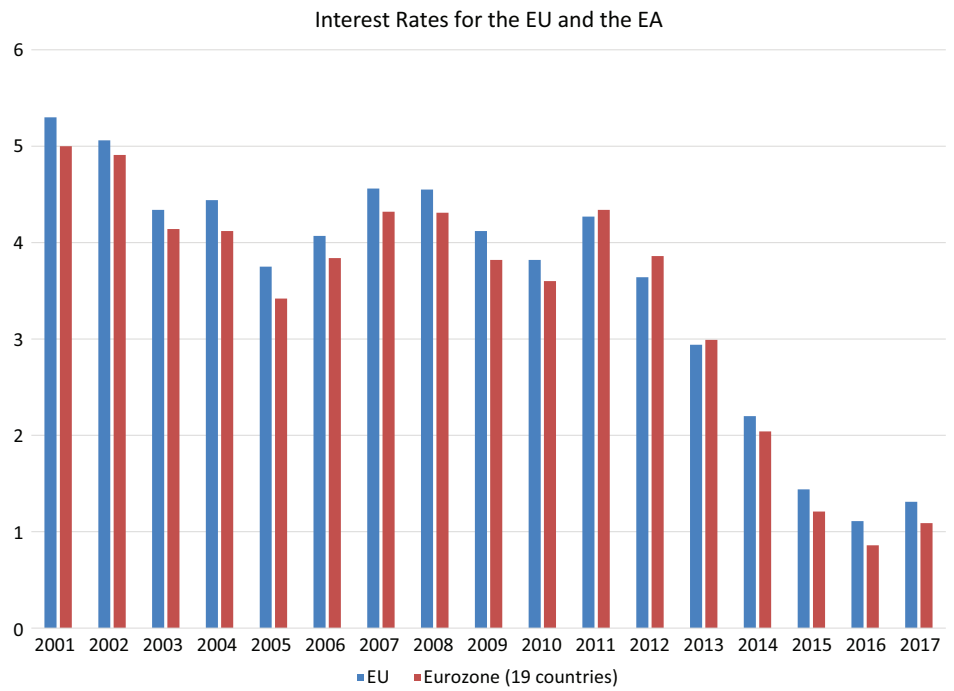


Figure 6. Interest rates measured by EMU convergence criteria, 2001–2017.

Source: Eurostat.



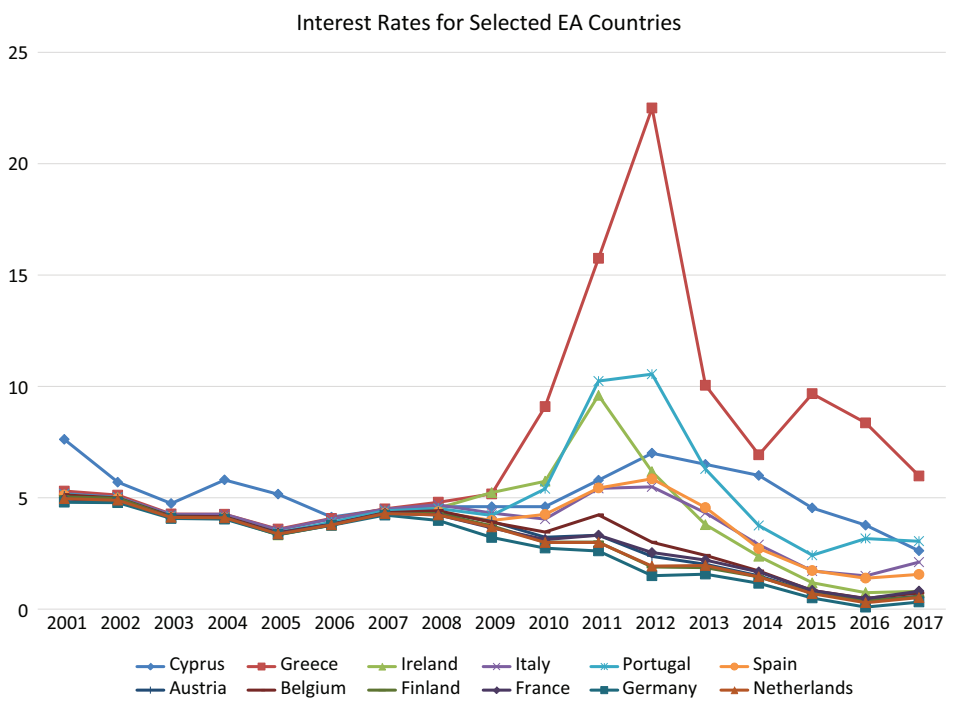


Figure 6. (*Continued*)

perhaps forcing a protracted recession in the South and maybe igniting inflation in the North.

The difficulty of economic adjustments in monetary unions where countries have different economic structures — which is the case in the EMU — is not inevitable. Exchange rate changes are not always necessary for adjustment to occur in these asymmetric situations. Columbia University economist Robert Mundell — one of the intellectual fathers of the euro and the EMU — argues that a high degree of factor mobility among member countries could alleviate the required economic adjustments (Mundell, 1961). For instance, in the example above, with free labor mobility among countries, a recession in the South and a boom in the North would result in increased migration from South to North. This mobility would alleviate unemployment in the South and allow greater production in the North without inflationary pressures. Factor mobility, then, acts as a substitute for exchange rate changes in generating economic adjustments within a monetary union. But although capital mobility increased as part of the European integration project, labor mobility has been much slower to occur.

The disparities in economic situations facing dissimilar countries in a currency union makes it complicated to generate a common monetary policy. If countries A and B form a common currency area, but country A feels that a 15% growth of the money supply is more consistent with its booming, developing economy, and country B considers a 5% money growth more appropriate to contain its high inflation rate, there is little chance a consensus will be reached on the growth of the common currency supply. Similarity and/or affinity in sociopolitical and economic spheres may be a key factor contributing to the success of a monetary union, something again that did not exist — and still does not exist — in the widely diverse EU.

If monetary policy cannot be used to deal with asymmetric shocks that affect different countries differently, then the alternative is to adopt fiscal policies. As mentioned by Mundell in his classic 1961 article on Optimum Currency Areas, noted earlier, it is essential in this situation for the currency union to adopt a union-wide fiscal policy that targets countries or regions within the common currency area that suffer from local recession. Such a policy mechanism is what the United States has. The US federal government has a variety of programs that transfer resources to various states and local governments, depending on their economic situation. If a state has a very high unemployment rate, for example, then the federal unemployment insurance fund will provide more resources to that state. So, these regional counter-cyclical fiscal policies allow a currency union to counteract the impact of asymmetric shocks. But this requires that the monetary union be accompanied by a fiscal union as well, which did not happen — and still has not happened — in the EMU.

The European Sovereign Debt Crisis

The US Subprime Mortgage Crisis entered Europe via financial and economic integration. It constitutes the first major asymmetric shock of the Eurozone as it affected two EMU groups of countries differently. Eurozone members that were lagging in international competitiveness, and/or that had accumulated excessive public debt-to-GDP ratios, were the most negatively affected by the crisis. Greece is the country that triggered the crisis when Prime Minister George Papandreou, following the victory of his PASOK party in the national elections in November 2009 informed the EU Commission that the predecessor government had purposefully understated (misreported) the projected Greek public deficit for 2009. Credit Rating Agencies (CRAs) immediately began downgrading the public debt of Greece upon the release of such news. This triggered investors to sell massive amounts of sovereign securities of Greece and other over-indebted Eurozone member countries, thus driving the price of such securities to unprecedented low levels. Such massive sales empowered the CRAs to assign junk status to the sovereign bonds of these countries.[11] Rapid downgrading of sovereign bonds triggered an unprecedented increase in interest rates, to the extent that borrowing in the market became prohibitively expensive for the governments involved.

Chancellor Angela Merkel of Germany, the economically strongest EU country, instead of announcing solidarity with Greece to calm the markets convinced the EU and the Eurozone member country leaders to bailout five financially distressed Eurozone countries. Chancellor Merkel insisted on inviting the IMF to participate in providing funding to the financially distressed Eurozone countries and supervising the bailouts (loans). Bailout recipient countries, however, were obligated to adopt austerity policies, reduce wages and pensions, and launch supply-side, pro-business policies. Such policies constitute the IMF's notorious conditionality, which the fund always imposes when granting loans to countries. Paterson (2011) characterized the decision to invite the IMF as the "first misstep" by Merkel in handling the Eurocrisis.

After Greece, four other countries — Ireland, Portugal, Spain, and Cyprus — all received bailouts in the same chronological order they are listed. With the exception of Greece, which received €80 billion directly from the Eurozone countries, the funds of the other bailout recipients were raised by issuing bonds in the financial markets. For this purpose, the EU created two institutions: the European Financial Stability Facility (EFSF), a temporary lending fund for

[11] This is something many found was an over-reaction, given that the enormous wealth of physical assets and human capital that these countries own suggested they had the capacity to repay their sovereign debts. A downgrading may have been called for but not to the extent it was.

2010–2013, and the European Stability Mechanism (ESM), a permanent lending institution.

All Eurozone countries experienced a major recession during the Eurocrisis; this is shown in Figure 7, where the Eurozone GDP growth rate of the northern and southern Eurozone countries is presented. As can be seen, the southern Eurozone countries were more negatively affected than the northern Eurozone members. This clearly indicates that the EMU is still an incomplete monetary program, and does not have the necessary macroeconomic policies to recuperate from asymmetric shocks. It is very much unlike the US, which launched expansive macroeconomic policies that helped pull it out of the Great Recession in less than two years (2007–2009).

The crisis affected Greece more than any other country, plunging it into an unprecedented crisis, unequaled in any other European country since World War II. Greece lost a quarter of its pre-crisis GDP and its unemployment rate climbed over 25% at times. The depth of the crisis is reflected by the fact that Greece remained the longest under a bailout program, whereas, the other four countries successfully exited their Memoranda of Understanding (bailouts) much earlier. Greece did finally exit its bailout in August of 2018, after 10 years under brutal and harsh austerity. The funds made available to Greece amounted to €288.7 billion, the largest bailout of any nation on record.

Although by early 2019 the unemployment rate in Greece had come down from its peak of 27.5%, it still remained very high, at around 18%. The country is still undergoing a humanitarian crisis as many of its people lack access to necessities such as food, shelter, and basic health care. Because of the crisis, Greece experienced an increase in suicides, homelessness, and poverty. These are some of the effects of applying extreme austerity programs for a period of over eight years. Wages, salaries, pensions, and other benefits to workers and retirees have been slashed several times, as the Greek government had to comply with the demands of its creditors.

One may ask why the bailout programs did not work in Greece although they helped all other countries to exit their bailouts relatively quickly and return to normal conditions. There exist special circumstances that made the Greek recovery exceptionally difficult. Since Greece was the country to receive the first bailout, it was very harshly treated by the severe terms of the bailout. This was intentionally decided, in order to discourage other Eurozone countries from easily seeking bailouts. In this way, Germany and its northern allies were aiming to resolve the moral hazard problem inherent in bailouts. In addition, Greece was the only country to negotiate a haircut of its public debt held by private creditors. This arrangement was agreed upon the strong insistence of Chancellor Merkel whose aim was to protect the taxpayers/voters. A Greek haircut had a detrimental effect on Greece as it scared investors, who quickly pulled their investments out of Greece and other southern European countries, plus Ireland, thus exacerbating the crisis via contagion (Zestos, 2016).

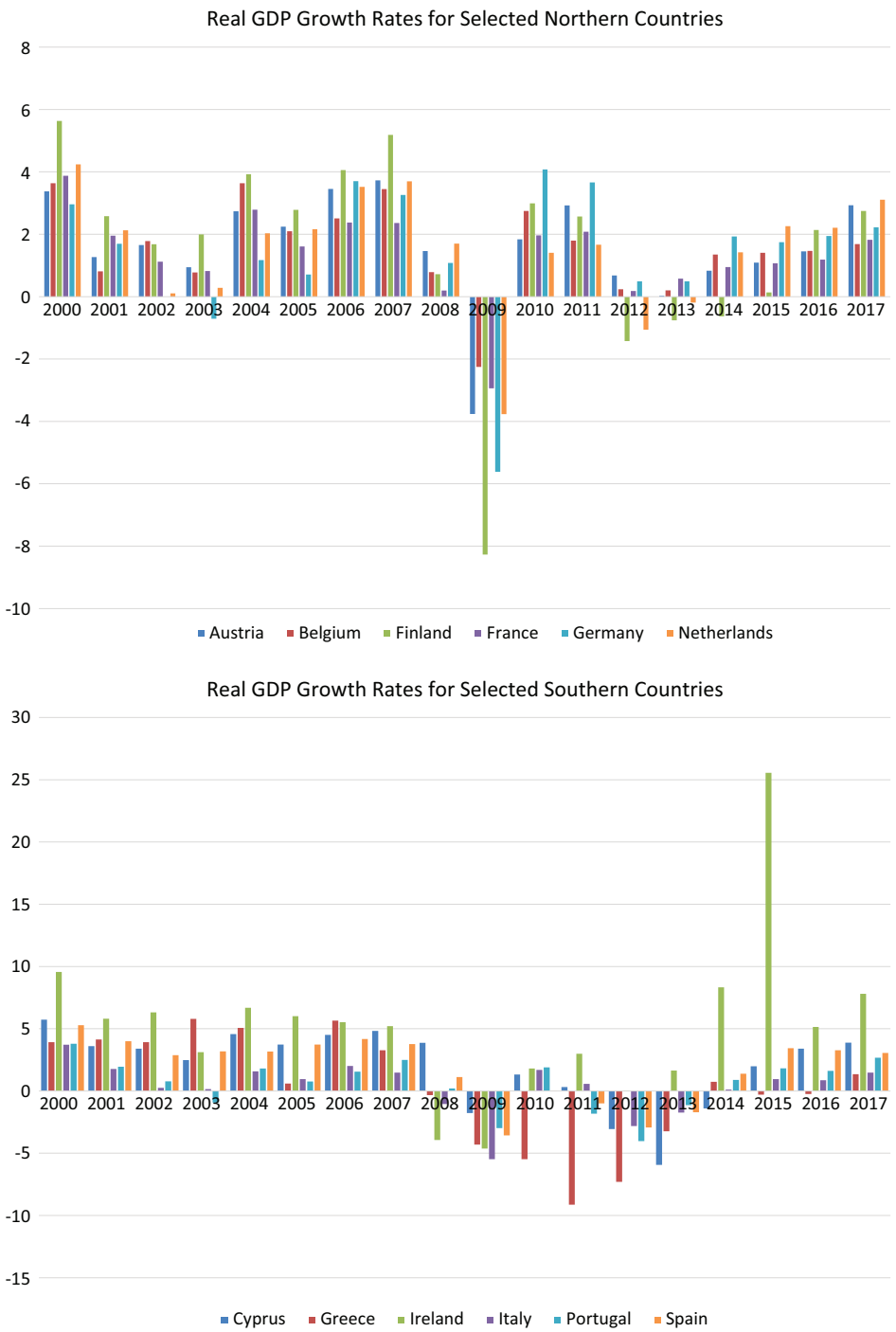


Figure 7. Real GDP growth in the Eurozone, 2000–2017.

Source: Eurostat and FRED.

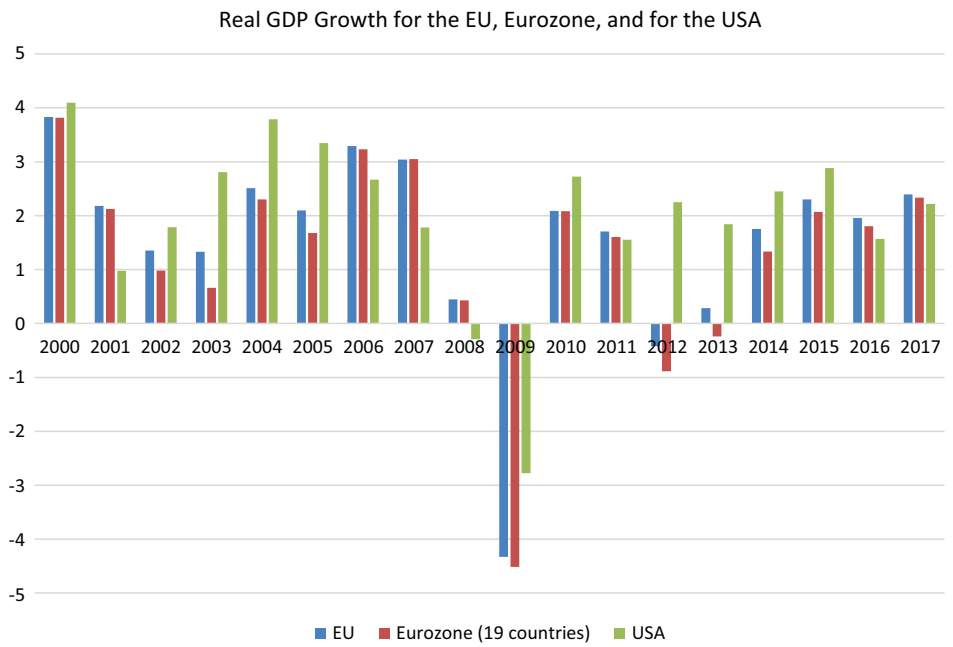


Figure 7. (*Continued*)

Another problem is that a substantial part of the funds from the Greek bailout did not really reach the industrial, agricultural, or service sectors of the economy, that is, the so-called real economy. Rocholl and Stahmer (2016) have estimated that of the three-bailout programs Greece received, no more than €10 billion went to the real Greek economy. The vast majority of the funds went to repay the creditors, or to recapitalize the Greek banks. For example, Janssen (2010) stated that the purpose of the first Greek bailout was not to save Greece but the German and French banks that had extended loans to Greece.

A main reason that the Eurocrisis has lasted so long is that the EU from the beginning of the crisis applied contractionary policies. This is unlike the US, which had launched extraordinary expansionary fiscal and monetary policies that helped it expedite its recovery in a period of less than two years. Furthermore, the Eurozone countries — according to the SPG — had to respect the 3% and 60% public deficits and debt-to-GDP ratio limits. Since application of contractionary fiscal policies according to orthodox Keynesian theory is recessionary, especially during recession times, simple arithmetic indicates the Eurozone was following incorrect fiscal policies.

Because the architects of the EMU wanted to prevent the EU from becoming a transfer union, they enacted the "No Bailout Clause" according to which no country would ever be bailed out by the EU, EU Institutions, or EU member

countries.[12] Additionally, EU country leaders kept the EU budget below 1% of the EU GDP to prevent transfers from the high income to low income countries. However, this approach prevented the ultimate objectives of the founding EU treaties, which called for the "harmonious economic development."[13] Thus, this approach disrupted convergence among EU members and is partially a cause of the crisis. The EU decided to resolve the crisis through a policy known as internal devaluation. According to this policy, financially distressed countries can exit the crisis by gaining international competitiveness through reductions in wages and prices, which aim to increase a country's trade balance. Internal devaluation worked well for Germany, which had launched the Hartz Reforms in the 2000s for this purpose.

The Hartz Reforms, launched in 2003–2005, were adopted to make Germany an internationally competitive economy. Thus, Germany introduced legislation to liberalize the labor markets by making it easier for firms to hire and fire workers and by removing all labor market rigidities that for a long time were considered a main cause of stagnation in several European countries. Such labor laws promoted a reduction in wages, pensions, and other benefits to labor by adopting supply-side pro-business policies at the expense of labor. Germany promoted precarious employment by creating low paying jobs such as temporary work, part-time jobs, contract work, agency work, plus mini and mindy jobs (Evans and Gibb, 2009). Indeed, Germany was very successful in raising production and exports while reducing unemployment.

When Chancellor Merkel and her Finance Minister Wolfgang Schäuble demanded that bailout recipient countries follow Germany's example and pursue internal devaluation as the means to cope and recover from the crisis, they were ignoring the fact that Germany's policies did not work for the overall EMU since the EU countries were trading partners to each other (Cabral, 2013). The result of the Hartz Reforms in Germany was the creation of massive surpluses for Germany and for a few of its northern allies, such as the Netherlands, and this came at the expense of the southern Eurozone countries and Ireland, which generated unprecedented trade deficits. Trade imbalances in the Eurozone were a major cause of the high public indebtedness of the southern Eurozone countries and Ireland, which was at the core of the Eurocrisis (Zestos *et al.*, 2016).

Despite its limited resources, the EU Commission launched a program to cope with the crisis, and coordinated EU country members that undertook additional programs to fight the recession. The ECB, although lagging the Fed in reducing its key policy interest rate the Repo, persistently adopted and pursued policies to

[12] The "No Bail Out Clause," however, was violated during the Eurocrisis since abiding by the Act would have meant the end of the EMU.

[13] See, Article 2, Treaty of Rome 1957.

keep interest rates extraordinary low. From 22 December 2011 to 1 March 2012, the ECB — through its long-term refinancing operations (LTROs) — provided €1.018 trillion in loans to banks of financially distressed countries. The ECB launched in addition three unorthodox monetary programs, beyond the traditional interest rate targeting. With these monetary programs, the ECB aimed to provide liquidity to the Eurozone Economy by purchasing both private and public bonds.

The securities markets programme

This monetary program enabled the ECB to purchase government bonds of highly indebted countries to keep interest rates low as demand for sovereign bonds of these countries had practically disappeared. The program was criticized by Germany for violating the "No Bailout Clause" as it was monetizing the public debt of these countries to prevent them from bankruptcy. The argument was that saving the EMU countries was a job of the EU country leaders and not of the ECB. Because of the strong criticism, the ECB was forced to prematurely discontinue the program.

Outright monetary transactions

As a response to rising Spanish and Italian interest rates, ECB President Mario Draghi announced on 26 July 2012 that he would do "everything it takes to preserve the euro." After a period of less than two months, President Draghi announced the Outright Monetary Transactions (OMTs) program, under which the ECB would buy unlimited amounts of short-term securities from financially distressed countries to provide liquidity to the banks of these countries. The OMT program was successful from the very first announcement of President Draghi in July 2012. The OMT announcement reversed the rising interest rates not only in Spain and Italy but also in many other countries. Germany opposed the OMT program; first, the President of the Bundesbank Jens Weidmann cast the single vote against it in the ECB Governing Council. Weidmann was convinced that the OMT would be inflationary; in addition, it constituted monetization of the public debt of the financially distressed countries that was prohibited by the "No Bailout Act."

The Bundesbank and Weidmann challenged the legality of the OTM program in front of the Constitutional Court of Germany. However, the Constitutional Court did not make a decision and referred the case to the European Court of Justice in Luxembourg. The ECB never launched the OTM program, but its simple announcement made it successful to reduce interest rates in the Eurozone by

creating positive expectations, without spending a single Euro to purchase sovereign bonds of Eurozone countries. In the meanwhile, President Draghi explained that neither the Securities Market Programme nor the OMT program would have been inflationary, as the ECB was going to apply sterilization and decrease the money supply for any increase in securities through another monetary program.

Quantitative easing

Once the ECB drove down its key interest rate (the Repo) on the Main Refinancing Operations (MRO) to a zero bound, it had no other option but to look for alternative monetary instruments to exercise monetary policy. After it abandoned the Securities Markets Programme, it turned to asset purchasing programs following the Fed, the Bank of England, and the Bank of Japan. This new program, Quantitative Easing (QE), was launched by the ECB on March 2015 for the purpose of purchasing €1 trillion of both private and public securities. The objective of the QE program was to provide a monetary stimulus to the Eurozone to prevent it from falling into a deflationary trap, which could lead the Eurozone economy into a prolonged recession. The QE program was to last at least till September 2016, allowing the ECB to purchase monthly securities worth €60 billion. Such bond purchases aimed to keep inflation rate below but close to 2% and providing liquidity to the Eurozone. In particular, the program purchased securities from the financially distressed countries to keep their interest rates low and prevent them from bankruptcy.

German government officials, the Bundesbank, and many German academics were against the QE monetary program. They claimed that the QE under the ECB mixes monetary and fiscal policies by monetizing the public debt of financially distressed countries. Fiscal policy — according to many in the German economic establishment — should be the exclusive job of EU country leaders and not of the ECB. But this stance has been questioned. For instance, De Grauwe and Yumeni (2015), argue that monetary policy in the ECB can maintain independence from fiscal policy. Despite the German criticism, the ECB announced in December 2017 that it would extend bond purchases until September 2018.

Because of the Eurocrisis, the EU Commission, and the EU country leaders decided to launch a Banking Union. The EMU leaders by April 2018 were able to establish the Single Supervisory Mechanism (SSM), giving the ECB supervisory authority over the EU financial system. Similarly, the EU established the Single Resolution Mechanism (SRM), an institution responsible for resolution of banks. EU leaders, however, have not agreed to create a common system of bank deposit insurance or protection, which is essential to instill confidence and certainty on the banking system. Furthermore, EU leaders are not making progress in

establishing a fiscal union, which is necessary to protect the EMU from future financial crises.

Conclusions

This chapter has presented a historical background to the events that led over time to the creation of the EMU. It also discusses the performance of the EMU and prospects for its future.

The economic history that led to the EMU is long and involved a variety of steps, including: (1) the creation of a common market and the Europe 1992 trade and investment integration initiative, (2) the EMS and the ERM, which restricted exchange rate fluctuations among European countries, (3) the Maastricht Treaty, which established convergence criteria that candidate countries to the EMU needed to satisfy, and (4) the SPG, which required member countries to maintain their public deficit to GDP ratio below 3% and their external debt-to-GDP ratio below 60% (these requirements were watered down in 2005 and later unenforced).

The EMU was anticipated to have a substantial positive impact on long-run economic growth due to its potential effects on reducing transaction costs and increasing trade among the countries members of the union, as well as by inducing greater macroeconomic stability through the pursuit of a credible, low-inflation monetary policy. On both accounts the EMU appears to have been successful.

But despite the benefits of creating a monetary union, this chapter points out that there were also potential dangers attached to such regimes, especially if certain preconditions did not exist or if certain institutions were not created at the same time as the common currency. One of the key difficulties of a monetary union is that if the member countries are economically dissimilar or have specialized in different sectors of production, a common currency — by preventing exchange rate adjustments — would make it more difficult to adjust to economic disturbances. Factor mobility can diminish this problem as it can act as a substitute for exchange rate changes in generating economic adjustments within a monetary union. But although capital mobility increased as part of the European integration project, labor mobility has been much slower to occur.

Another alternative path is to adopt a union-wide fiscal policy that targets countries or regions within the common currency area that suffer from local recession. Such a policy mechanism is what the United States has. The US federal government has a variety of programs that transfer resources to various states and local governments, depending on their economic situation. These regional counter-cyclical fiscal policies allow a currency union to counteract the impact of asymmetric shocks. But this requires that the monetary union be accompanied by a fiscal union as well, which did not happen — and still has not happened — in the EMU.

The missing pieces in the EMU that economists suggested were necessary for a common currency union to function effectively came to the surface in the aftermath of the US subprime mortgage crisis of 2007–2008. The global financial crisis generated a major asymmetric shock to the Eurozone as it had a deeper impact on those members that were lagging in international competitiveness, like Spain, and/or that had accumulated excessive public debt-to-GDP ratios, such as Greece. Over time, Greece, Ireland, Portugal, Spain, and Cyprus fell into serious financial crises and had to implement bailout programs organized by the EU and the IMF.

Recovery from the Eurozone economic crisis has been slow and it has generated enormous stress on the political systems of its member countries. One of the main reasons that the crisis has lasted so long is that EU countries enacted contractionary policies to deal with rising budget deficits and sovereign debt. Fiscal austerity was the word of the day in the EU, unlike the US, which had launched extraordinary expansionary fiscal policies that helped it expedite its recovery. The absence of an EU-wide fiscal authority that could act as a countercyclical force against the economic downturn aggravated the problem. The ECB was also slow to implement expansionary monetary policies, in contrast again to the US, where the Fed implemented immediate, massive conventional and nonconventional expansionary monetary policies. The stated mission of the ECB to control inflation led to a slow reaction to the crisis, as fears of inflation prevented it from being more proactive in seeking to counter the growing recession with expansionary monetary policy.

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