# The European System of Central Banks

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*The structure of the ESCB is similar in many ways to that of another central bank charged with conducting monetary policy on a continental scale—the Federal Reserve System.*

In the early hours of May 3, 1998, the leaders of the European Union (EU) took the most significant step toward European integration since the signing of the Treaty of Rome in 1957. In giving the green light to the economic and monetary union (EMU) of eleven of the fifteen EU members—the EU11—they took another major step toward a more unified Europe.[1] This latest development culminates a process of European integration that began shortly after World War II and that may one day lead to a Europe as politically and economically integrated as the United States is today. The substance of monetary union is that the countries in EMU no longer have distinct national currencies. A new currency—the euro—has replaced them, and monetary policy for the EU11 is no longer determined by their national central banks but by the European System of Central Banks (ESCB). (See Glossary, page 4.)

The unprecedented monetary union of such a large and disparate group of sovereign nations will pose enormous challenges to the ESCB, which consists of the recently established European Central Bank (ECB) and the national central banks (NCBs) of EU members. The ECB commenced operations on June 1, 1998, and assumed responsibility for the conduct of monetary policy for the euro area on January 1, 1999. The euro has replaced the national currencies of the EU11, and in 2002 the notes and coins that currently circulate in these countries will cease to be legal tender.[2]

The ESCB is conducting monetary policy on a continental scale. Table 1 presents comparative statistics for the United States, the EU, the EU11, and Japan. In terms of population and aggregate output, the EU11 is comparable to the United States. Should EMU eventually incorporate all fifteen members of the EU, its economic weight would significantly exceed that of the United States. Table 1 also compares the recent economic performance of the four groups. The most significant difference is the much poorer employment performance of the EU, whose unemployment rate is more than twice that of the United States. The consensus among economists is that the bulk of this unemployment is structural rather than cyclical and reflects the greater rigidity of Europe's labor market institutions.[3]

The extent to which the euro can credibly challenge the U.S. dollar's primacy in global finance will depend largely on the ECB's success in maintaining the euro's purchasing power and making it attractive to international investors. The structure of the ESCB is similar in many ways to that of another central bank charged with conducting monetary policy on a continental scale—the Federal Reserve System. In this article, I review the structure of the new central bank, sketching out key similarities to and differences from the Federal Reserve.

## THE ROAD TO EMU

EMU is the latest step in the move toward greater economic (and political) integration in Europe that began with the establishment of the European Payments Union in 1950. That entity was little more than a technical device to facilitate the reconstruction of Europe following the devastation of World War II. But it can also be seen as the first manifestation of the political will to forge closer bonds between the wartime belligerents so as to preclude future conflict. A more substantive step was taken in 1951 with the formation of the European Coal and Steel Community, which created a common market for these commodities involving Germany, France, Italy, and the Benelux countries (Belgium, Netherlands, and Luxembourg). This entity was supposed to be accompanied by stronger political and military ties (including the creation of a European army), but concerns about loss of national sovereignty led to abandonment of these plans. Instead, the emphasis shifted to greater integration on the economic front, and in 1957 the Treaty of Rome created the European Economic Community (EEC), or Common Market. Coordination of economic policies was always seen as integral to the success of the Common Market, and in 1964 the Committee of Governors of the central banks of the European Community (EC) was formed to coordinate monetary policies. The central banks of Europe have had varying degrees of success coordinating their monetary policies over the past three decades.[4]

Monetary union of EC members was proposed in 1970 in the Werner Report. While this report envisioned a monetary union by 1980, two key international developments derailed the plan. The first was the breakdown of the Bretton Woods system of fixed exchange rates in August 1971; the second was the 1973 oil crisis. The EC responded to the exchange rate turbulence that followed both events with a system of quasi-fixed exchange rates, the so-called snake, but this rapidly collapsed to an arrangement involving only a few members. The second attempt to fix exchange rates, the European Monetary System, was established in 1979. It proved more durable, although it, too, experienced a number of major and minor crises. By the mid-1980s the EC had expanded to twelve members, and in 1989, renewed interest in a formal monetary union resulted in the Delors Report.

Table 1
**Comparative Statistics on the U.S., EU, EU11, and Japan**

| | U.S. | EU | EU11 | Japan |
|---|---|---|---|---|
| Population | 263 million | 373 million | 290 million | 126 million |
| GDP (current dollars) | $6.955 trillion | $8.497 trillion | $6.809 trillion | $5.217 trillion |
| GDP (constant dollars) | $6.149 trillion | $7.203 trillion | $5.721 trillion | $3.168 trillion |
| GDP growth | 3.8 percent | 2.6 percent | 2.4 percent | .9 percent |
| Inflation rate | 2.3 percent | 1.9 percent | 1.7 percent | 1.7 percent |
| Unemployment rate | 4.9 percent | 11.1 percent | 11.7 percent | 3.4 percent |

SOURCES: Population and GDP for 1995: United Nations (1997). GDP growth, inflation, and unemployment for 1997: *OECD Economic Outlook* and *OECD Main Economic Indicators*.

The Delors Report laid out the basic plan and timetable for monetary union that has been followed since the early 1990s. The proposals in the report were incorporated into the Treaty on European Union, which was agreed upon at a meeting of the European Council in Maastricht, Netherlands, in December 1991 and signed in February 1992. This agreement, commonly known as the Maastricht Treaty, was the most comprehensive change in the basic law of the European Community since the Treaty of Rome. It established the institutional framework for monetary policy under EMU, a timetable for the creation of a monetary union, and the criteria for countries' participation. Many academic economists and others have questioned the wisdom of a monetary union between such disparate countries, but the debate became moot with the decision to proceed.[5] However, the points made by the critics of monetary union indicate where stresses may arise in the future and the kind of challenges the ECB may face.

## INSTITUTIONAL STRUCTURES

The Maastricht Treaty established the institutional arrangements for the conduct of monetary policy under EMU. The treaty provides for the formation of the ESCB, which in many ways is indirectly modeled on the Federal Reserve System.[6] At the top of the ESCB is the Frankfurt-based ECB, which has a role similar to that of the Federal Reserve's Board of Governors. The various national central banks play a role similar to that of the regional Federal Reserve Banks.

## Glossary

**European Economic Community (EEC):** Also known as the Common Market, established by the Treaty of Rome in 1957.

**European Monetary Institute (EMI):** Created by the Maastricht Treaty to carry out preparatory work for EMU; dissolved with the establishment of the European Central Bank.

**European Parliament:** Advises the European Commission and reviews all legislative proposals; members are elected by popular vote.

**European System of Central Banks (ESCB):** Responsible for conducting monetary policy for the economic and monetary union (EMU). The ESCB consists of the European Central Bank and the national central banks of all fifteen EU members. The ESCB is governed by the decision-making bodies of the ECB.

- **European Central Bank (ECB):** The central bank for the economic and monetary union. The decision-making bodies of the ECB are the Governing Council and the Executive Board.
  - **Executive Board:** Responsible for the day-to-day functioning of the ECB and the implementation of the single monetary policy.
  - **Governing Council:** Consists of the Executive Board of the ECB and the governors of the national central banks of the states participating in EMU. Responsible for the formulation of a single monetary policy.
- **National central bank (NCB):** The individual central banks of countries in the European Union.

**European Community (EC):** Consists of the European Coal and Steel Community, the European Atomic Energy Community, and the European Economic Community. The EC became the European Union when the Maastricht Treaty took effect on November 1, 1993.

**European Union (EU):** Established by the Maastricht Treaty to deepen economic and political links between the countries of Europe.

- **Council of Ministers:** The primary decision-making institution of the European Union; consists of ministerial-level representatives of all EU states.
  - **European Council:** The name given to the Council of Ministers when it meets in the form of EU heads of state or government.
  - **ECOFIN:** The name given to the Council of Ministers when it meets in the form of EU economics and finance ministers.
- **European Commission:** The executive branch of the European Union; responsible for implementing the decisions of the Council of Ministers and proposing new measures and directions for the EU.

**Maastricht Treaty:** More formally, the Treaty on European Union; signed in 1992 by the EU heads of state, it established the framework for economic and monetary union in Europe.

- **Statute of the European System of Central Banks and of the European Central Bank:** The statute, appended to the Maastricht Treaty, detailing the structures and mandates of the ESCB and the ECB.

Monetary policy decisions are made by the Governing Council of the ECB, which consists of the Executive Board of the ECB and the governors of the participating countries' central banks. The Executive Board consists of the president and vice president of the ECB and four other members. The president of the ECB chairs the Governing Council, in essence occupying a position similar to that of the chairman of the Fed's Board of Governors. Under the Maastricht Treaty, the Governing Council is responsible for formulating monetary policy for the single-currency area, while the Executive Board is responsible for implementing monetary policy.[7] Executive Board members are appointed for nonrenewable eight-year terms, shorter than the fourteen-year terms of Federal Reserve Governors but the same as the terms of members of the Directorate of Deutsche Bundesbank.

### RELATIONSHIP OF THE ECB AND NCBS

While there are many similarities in the structures of the ESCB and the Federal Reserve System, there are also important differences. The Executive Board of the ECB will be in a permanent minority on the Governing Council, whereas the Board of Governors has a permanent majority on the Federal Open Market Committee (FOMC). All NCB governors have a vote in all policy decisions of the Governing Council, whereas with a single exception, Reserve Bank presidents participate in FOMC votes every two or three years, depending on which Bank they represent. Indeed, the relationship of the ECB and the NCBs probably bears a closer resemblance to the relationship of the Board of Governors and the Reserve Banks in the early years of the Federal Reserve System than to the situation today. For its first twenty years, power was more diffuse in the Federal Reserve System than it is now. Some critics have argued that this diffuse distribution of power and the struggle for hegemony contributed to the Fed's inability to deal with the Great Depression (see in particular Friedman and Schwartz 1963).[8]

Friedman and Schwartz (1963) contend that the distribution of power in the Federal Reserve System was a key contributor to the "ineptness" of monetary policy during the Depression. In the 1920s, the institutional structure did not present a problem as long as all regional Reserve Banks and the Board were willing to accept the leadership of the governor of the New York Bank, Benjamin Strong. But with Strong's departure in 1928, the structure became unworkable. The other Reserve Banks were no longer willing to accept the domination of the New York Bank, and the Board was not in a position to impose its will on the System. Friedman and Schwartz argue that the Board's weak position was due to the fact that it had not played a leadership role in the System in the 1920s but had instead functioned primarily as a supervisory and review body.

The distribution of power in the ESCB differs from that in the Federal Reserve System in other important respects as well. For example, the Board of Governors exercises a lot more power in the Federal Reserve System than the ECB exercises within the ESCB. One source of the Board's power is its authority to supervise the Reserve Banks' activities and approve their budgets and the appointment of their presidents. Furthermore, the Board of Governors appoints three of the nine directors of the regional Reserve Banks, one of whom is designated chairman of the board of directors and Federal Reserve agent.[9] The Board also appoints the deputy chairman of the board of each regional Bank.

By contrast, the Maastricht Treaty gives the Governing Council control over the Executive Board:

> The terms and conditions of employment of the members of the Executive Board, in particular their salaries, pensions and other social security benefits shall be the subject of contracts with the ECB and shall be fixed by the Governing Council on a proposal from a Committee comprising three members appointed by the Governing Council and three members appointed by the Council. The members of the Executive Board shall not have the right to vote on matters referred to in this paragraph. (Statute of the European System of Central Banks and of the European Central Bank, Article 11)

Also, the principle of subsidiarity (whereby EU decisions are supposed to be made at the lowest possible level of political authority) may pose a fundamental obstacle to centralization of power with the ECB. The importance of this principle in EU decision making should not be underestimated; it is even articulated in the preamble to the Maastricht Treaty. The national central banks could use subsidiarity as a weapon to prevent the ECB from developing expertise in areas the NCBs feel are properly their province.

The distribution of power within the ECB differs slightly from that in the Board of Governors. It is generally accepted that the chairman of the Board of Governors is more powerful than any of the other Board members.[10] Maisel (1973) attributes the power of the chairman to a number of factors. The first is his role as titular head of the Federal Reserve System and his role as its spokesman; only the chairman speaks for the System as a whole. The second is the role of the chairman as the representative of the System in other forums. The third is the inherent power of the chairman to set the agenda for FOMC meetings. Fourth, the Board of Governors' delegation of much of its supervisory power over the staff and the System to the chairman enhances the position's authority within the System. And finally, the chairman has the ability to attract votes simply by virtue of office.

The president of the ECB also possesses powers beyond those of other Executive Board or Governing Council members. The president chairs meetings of both bodies and casts the deciding vote in the event of a tie.[11] He also represents the ECB externally.[12] Under Article 109b of the treaty, the president of the ECB may be invited to participate in Council meetings and presents the ECB's annual report to the Council and the European Parliament. Perhaps the only additional source of power potentially but not currently available to the president is full control over the ECB's staff. Each of the six members of the Executive Board oversees some areas of the ECB's operations.[13] The Economics and Research Directorates, which employ the bulk of the ECB's professional economists, do not report to the president but to another board member.

## APPOINTMENT PROCESS

All seven members of the Fed's Board of Governors are appointed by the president of the United States and are subject to Senate confirmation. The Federal Reserve Act requires that "in selecting the members of the Board, not more than one of whom shall be selected from any one Federal Reserve district, the president shall have due regard to a fair representation of the financial, agricultural, industrial, and commercial interests, and geographical divisions of the country."[14] Regional Reserve Bank presidents are nominated by the boards of directors of those banks, but their final appointment is subject to approval by the Board of Governors.

The ECB Executive Board is appointed by the European Council, with nominees subject to confirmation by the European Parliament. The Maastricht Treaty does not contain any provisions about the national composition of the Executive Board analogous to those in the Federal Reserve Act. However, the reality of EU politics is such that it would be unthinkable for there to be more than one national of any EU country on the board. While the European Parliament confirms nominees to the Executive Board, in reality Parliament has little real power to reject a nominee. The governors of the NCBs are appointed by their national governments and are not subject to approval by the ECB's Executive Board.

## MONETARY POLICY OBJECTIVES

The Maastricht Treaty is unambiguous about the objective of monetary policy:

> The primary objective of the ESCB shall be to maintain price stability. Without prejudice to the objective of price stability, the ESCB shall support the general economic policies in the Community with a view to the achievement of the objectives of the Community as laid down in Article 2. The ESCB shall act in accordance with the principle of an open market economy with free competition, favoring an efficient allocation of resources, and in compliance with the principles set out in Article 3a.[15] (Maastricht Treaty, Article 105)

This mandate is qualified by an obligation to "support the general economic policies in the Community," but this support should be "without prejudice to the objective of price stability."[16] Treaty provisions dealing with the objectives of the ESCB are modeled on those in the Bundesbank Act but, interestingly, are a lot more specific about the ultimate objectives of monetary policy than is the German legislation. That act requires that "the Deutsche Bundesbank shall regulate the amount of money in circulation and of credit supplied to the economy—with the aim of safeguarding the currency" (Deutsche Bundesbank 1995, 23). Arguably, the act could be seen as giving the Bundesbank the freedom to choose between stabilizing the internal value of the currency—that is, the price level—or the external value of the currency, as reflected by the exchange rate.

The ESCB's mandate to pursue price stability contrasts with the Federal Reserve's more ambiguous mandate:

> The Board of Governors of the Federal Reserve System and the Federal Open Market Committee shall maintain long run growth of the monetary and credit aggregates commensurate with the country's long run potential to increase production, so as to promote effectively the goals of maximum employment, stable prices and moderate long-term interest rates. (Federal Reserve Act, Section 2A.1)

Maisel (1973, 66) contends that the Fed has traditionally placed more emphasis on achieving price stability than on its other mandated objectives. Many economists believe that price stability is a precondition for the objectives of sustainable growth and high employment.

In recent years there have been calls for a clearer price stability mandate for the Federal Reserve System. For example, Hetzel (1990) has supported a mandate that stipulates price stability as the Fed's primary goal. Hetzel favored the Neal Resolution (House Joint Resolution 409), introduced in September 1989, which would have required that "the Federal Open Market Committee of the Federal Reserve System… adopt and pursue monetary policies to reduce inflation gradually in order to eliminate inflation by not later than 5 years from the date of the enactment of this legislation and shall then adopt and pursue monetary policies to maintain price stability." More recently, the Mack-Saxton bill, introduced in 1995 and reintroduced in 1997, would have made long-term price stability the primary goal of the Federal Reserve System. While several Reserve Bank presidents and the chairman of the Board of Governors have testified before Congress in support of legislation to mandate price stability as the Fed's sole objective, this legislation has not gotten very far. The reasons for this are unclear: it may simply be that inflation is not currently perceived to be a major problem in the United States and that in the current low-inflation environment it would be undesirable for the Fed to de-emphasize output stabilization in its policy decisions.

## INDEPENDENCE

The ESCB is probably the most independent central bank in the world.[17] The source of this independence is manifold. At the most basic level, the fact that the charter of the ESCB is an international treaty that can only be changed with the unanimous consent of its signatories makes it very difficult to exert political pressure on the ESCB. Furthermore, the Maastricht Treaty explicitly addresses the relationship between the ESCB and the political authorities in the EU:

> When exercising the powers and carrying out the tasks and duties conferred upon them by this Treaty and the Statute of the ESCB, neither the ECB, nor a national central bank, nor any member of their decision-making bodies shall seek or take instructions from Community institutions or bodies, from any government of a Member State or from any other body. The Community institutions and bodies and the governments of the Member States

> undertake to respect this principle and not to seek to influence the members of the decision-making bodies of the ECB or of the national central banks in the performance of their tasks. (Maastricht Treaty, Article 107)

The reason for granting such strong independence to the ESCB is the overwhelming evidence that independent central banks tend to deliver relatively better inflation performance (that is, lower rates of inflation) at no cost in terms of slower real output growth or higher unemployment. Banaian, Laney, and Willett (1983) were among the first to examine the relationship between central bank independence and inflation outcomes. Subsequent work by Alesina and Summers (1993) shows that the better inflation performance delivered by independent central banks comes at no cost in terms of real economic performance. Numerous other studies (see, for example, Cukierman, Webb, and Neyapti 1992 and Eijffinger and De Haan 1996) confirm these findings.

Other provisions of the Maastricht Treaty further reinforce the independence of the ESCB. First, Executive Board members and governors of the NCBs are appointed for relatively long terms. Executive Board members have nonrenewable eight-year terms, while NCB governors are appointed for a minimum of five years.[18] The terms of the first appointees to the Executive Board were staggered from four to eight years so that subsequent terms will also be staggered. Second, the treaty states:

> Overdraft facilities or any other type of credit facility with the ECB or with the central banks of the Member States (hereinafter referred to as "national central banks") in favor of Community institutions or bodies, central governments, regional, local or other public authorities, other bodies governed by public law, or public undertakings of Member States shall be prohibited, as shall the purchase directly from them by the ECB or national central banks of debt instruments. (Maastricht Treaty, Article 104)

This prohibition is restated in Article 21 of the statute of the ESCB and ECB.

It is worth noting that some authors have recently challenged the causal interpretation of the relationship between central bank independence and inflation outcomes. Specifically, Posen (1993) has argued it is popular opposition to inflation that leads to independent central banks and low inflation outcomes. The corollary is that simply granting independence to a central bank is insufficient to generate good inflation performance unless the central bank has significant political support. Attaining such support is one of the greatest challenges facing the ESCB. There is little doubt the Bundesbank's success in pursuing price stability has been helped considerably by strong public support for the central bank's policies. The ESCB—at least initially—will not enjoy anything like the same degree of support, and this may complicate the political environment in which it has to operate.[19]

Central bank independence takes many forms. Fischer (1994) distinguishes between goal independence and instrument independence.[20] In his taxonomy, "a central bank whose goals are imprecisely defined has goal independence" (Fischer 1994, 292). Since the Maastricht Treaty makes price stability the primary goal of the ESCB without defining what is meant by price stability, the ESCB enjoys considerable goal independence. Thus, the ESCB could define price stability to mean a stable price level, or a specific (low) inflation rate, or as prevailing when "inflation ceases to be a factor in the day to day decisions of households and businesses." The European Monetary Institute (EMI) argued that a public announcement of a quantified definition of price stability should be an integral component of whatever monetary strategy the ECB pursues. In October 1998 the ECB announced that "price stability shall be defined as a year-on-year increase in the Harmonised Index of Consumer Prices (HICP) for the euro area of below 2%."[21] The ECB also announced that "price stability is to be maintained over the medium term," without defining medium term. Fischer considers a central bank to have instrument independence "when it has full discretion and power to deploy monetary policy to attain its goals." By that definition, the ESCB enjoys full instrument independence.

Under Article 109b of the Maastricht Treaty, the president of the Council of Ministers and a member of the European Commission (the executive branch of the EU) have the right to participate as nonvoting members in meetings of the ECB's Governing Council. Furthermore, the president of the Council of Ministers has the right to submit motions for deliberation by the Governing Council. Article 109b also stipulates that "the President of the ECB shall be invited to participate in Council meetings when the Council is discussing matters relating to the objectives and tasks of the ESCB."

This arrangement echoes somewhat the early structure of the Federal Reserve System. Until 1935, the secretary of the Treasury and the comptroller of the currency were ex officio members of the eight-member Federal Reserve Board, with the secretary of the Treasury also acting as Board chairman. The Banking Act of 1935 removed both officials from the Board. As noted above, the motivation for centralizing power at the Board of Governors was to eliminate perceived ambiguities about the distribution of power in the System that were believed to have contributed to the failure of Fed policy during the Depression.[22] While the president of the Council of Ministers does not have the same degree of formal power to influence ECB deliberations as the Treasury secretary had over the Federal Reserve System in its early years, his presence at Governing Council meetings may influence the course of debate in ways that are difficult to anticipate. The ECB arrangement more closely mirrors the provision in Article 13.2 of the Bundesbank Act, whereby representatives of the government have the right to attend (without voting) meetings of the Bundesbank Council. In practice, the only time government ministers do attend Bundesbank meetings is when the annual money supply targets are being set.

The independence of the ESCB, or at least its ability to pursue price stability, is circumscribed somewhat by the fact that exchange rate policy remains the province of the Council of Ministers. Article 109 of the Maastricht Treaty stipulates that "in the absence of an exchange-rate system in relation to one or more non-Community currencies—the Council, acting by a qualified majority either on a recommendation from the Commission and after consulting the ECB or on a recommendation from the ECB, may formulate general orientations for exchange-rate policy in relation to these currencies." While the article goes on to state that "these general orientations shall be without prejudice to the primary objective of the ESCB to maintain price stability," it remains to be seen how a conflict between the two goals—fixed exchange rates and price stability—would be resolved. A decision by EU political authorities to fix the exchange rate of the euro vis-à-vis, say, the dollar would seriously compromise the ESCB's ability to conduct a monetary policy targeted solely at price stability in the euro area.[23] A similar situation prevailed in Germany before the establishment of EMU. Apparently, an understanding between the Bundesbank and the German government (the so-called Emminger Letter) temporarily released the Bundesbank from its obligation to intervene to support fixed exchange rates in the European Monetary System if such intervention threatened price stability in Germany.[24] This understanding was invoked in September 1992 when intervention to support the Italian lira threatened the Bundesbank's ability to hit its money growth targets.

However, some argue that laws can only go so far in ensuring a central bank's independence. What politicians give, they can just as easily take away. Others contend that in relationships between central banks and political authorities, personalities matter as much if not more than laws. Friedman and Schwartz (1963, 228) suggest as much in discussing the early relationship of the Fed and the Treasury. Giovannini (1993) makes a more compelling case along these lines. He argues that the ESCB's independence, as codified in the treaty and statute, is a necessary but insufficient condition for the successful pursuit of low inflation. Substantial and consistent political support is also required.

The Federal Reserve System enjoys significant independence, but, notes Maisel (1973, 24), it is "ill-defined and circumscribed." The Constitution gives Congress the right "to coin money and regulate the value thereof." Congress has delegated this authority to the Federal Reserve but could, in principle, revoke it at any time. The Federal Reserve Act has been amended and supplemented several times since its passage in 1913, although typically the changes have given the Fed greater operational independence while simultaneously increasing its accountability to Congress.

## ACCOUNTABILITY

As noted above, the ESCB is the most independent central bank in the world. The Maastricht Treaty ensures that the ESCB will not be torn between pursuing multiple objectives or subject to political pressure to take what it views as inappropriate policy actions. However, the quid pro quo of central bank independence in a democratic society is that there should be adverse consequences for the central bank if it fails to achieve its objectives. Some critics have argued that independent central banks are fundamentally inconsistent with democratic principles (see, for example, Friedman 1962).

The Maastricht Treaty imposes minimal reporting obligations on the ECB, requiring only that the ECB submit an annual report to the

European Parliament (and ECOFIN—the council of economics and finance ministers, the European Commission, and the European Council). The president of the ECB has indicated his willingness to testify before the European Parliament up to four times a year. The treaty notes that the ECB may decide to publish its decisions, recommendations, and opinions but does not impose any obligation in this regard. The treaty also provides for the ECB president and other Executive Board members to be heard by the relevant committees of the European Parliament.

Some prominent members of the European Parliament have called for the ECB to exceed its treaty obligations in communicating with the public. Randzio-Plath argues that

> in addition to publishing its annual and quarterly reports the ECB should be required to make public its decisions and the reasoning behind its monetary policy actions. The decisions of the Executive Board meetings should be made public on the same day. The Bank should explain why the decision has been taken as well as how the decision is linked to, and affects other policies. Minutes should be published, as should the voting behavior of the members, on the day of the subsequent meeting of the Executive Board. Detailed minutes should be published at the latest five weeks after the meeting. The reasons for decisions should be clear and public. Transparency is needed in a democracy. (Randzio-Plath 1997–98, 24)

There is little doubt that transparency is crucial to the success of a central bank. However, how best to achieve this is not always obvious. The FOMC's current practice is to announce policy changes as soon as they are made. Immediately after each meeting the FOMC issues a statement that a decision was made to lower or raise rates, or merely noting that the meeting ended, if the decision is to leave rates unchanged. The FOMC publishes the minutes of each meeting shortly after the subsequent meeting.

The ECB does things differently. For a variety of reasons, there is considerable resistance to publishing minutes and the voting records of Governing Council members. Perhaps the most important reason is the need to insulate Council members from domestic political pressures. While the Executive Board and the NCBs have statutory independence from domestic and Community political institutions, publication of voting records and the minutes of Council meetings may lead to pressure to vote along national lines rather than in the interests of the euro area as a whole. Issing (1998) argues that the Maastricht Treaty requires keeping the votes of the Governing Council confidential. He cites Article 10 of the statute, which states that "the proceedings of the meetings [of the Governing Council] shall be confidential. The Governing Council may decide to make the outcome of its deliberations public." Issing contends that insofar as the votes of individual Governing Council members can be considered part of the proceedings rather than part of the outcome, the treaty prohibits their publication. Others argue that the votes could just as easily be considered part of the outcome rather than part of the proceedings and that publication of votes would enhance Council members' ability to resist domestic political pressures.[25] It remains to be seen whether the ECB's decisions on confidentiality will foster or impede the development of its credibility.

## STRATEGY

A strategy for monetary policy can be defined as a rule whereby a central bank responds to developments in the economy to attain its final objective. After much preparatory work on possible strategies, the EMI concluded that the only realistic options for the ESCB were monetary targeting or inflation targeting.

According to the EMI, one of the key attractions of monetary targeting is "that it clearly indicates a responsibility of the central bank for developments that are more directly under its control." An additional attraction of monetary targeting is that this strategy was successfully pursued by the Bundesbank before EMU. Adopting monetary targeting might therefore help the ESCB inherit some of the Bundesbank's credibility.[26] The strategy's primary drawback is the high degree of uncertainty about the likely behavior of monetary aggregates in the euro area following the start of monetary union.

Inflation targeting is attractive because ultimately price stability is the responsibility of the central bank.[27] Indeed, many newly independent central banks, such as the Bank of England and the Reserve Bank of New Zealand, have opted for inflation targets as a means of rapidly acquiring credibility for their commitment to price stability. The primary drawback of an inflation-targeting strategy is the difficulty of forecasting inflation at the relevant horizons. Because monetary policy actions only affect inflation with a long and variable lag (of eighteen months to two years), accurately forecasting inflation at long horizons is crucial to the success of an inflation-targeting strategy.

However, the two strategies overlap significantly in their implications for the day-to-day conduct of monetary policy. Both strategies are forward-looking in their emphasis and aim to control inflation by acting preemptively. Where they differ most is in their implications for the ESCB's communications policy—that is, how the ESCB goes about explaining its actions to the general public. Under a monetary-targeting strategy, the ESCB would explain and justify its actions primarily by reference to the behavior of the money stock vis-à-vis some target range. Under inflation targeting, the ESCB would explain and justify its actions by reference to the forecasted behavior of inflation vis-à-vis some target level.

Because of the many uncertainties accompanying the start of EMU, it is not surprising that the ESCB opted for a mixed strategy that combines elements of inflation targeting and money targeting. This is the "stability-oriented monetary policy strategy" announced by the ESCB in October 1998, whose key elements are a quantitative definition of price stability, a prominent role for money with a reference value for the growth of a monetary aggregate, and a broadly based assessment of the outlook for future price developments.

Adoption of a mixed strategy might seem to defeat the purpose of articulating a strategy in the first place. One of the most important reasons for formulating and adhering to a strategy is that doing so makes monetary policy actions more transparent and easier to communicate to the public. The simpler the strategy, the easier that communication. Under a rigid monetary-targeting strategy, a central bank need only point to money growth in excess of its target to justify increases in interest rates. Under a mixed strategy, the situation would be more complicated because the central bank would have to spell out in detail how it would respond to different scenarios. In particular, the central bank would need to explain what it would do if growth in the money stock were signaling that a tightening of monetary policy would be appropriate, while the inflation forecast was signaling that an easing of monetary policy was appropriate. Having to detail all these contingencies makes it considerably harder to communicate with the general public, and it is only a short step from this to the look-at-everything, respond-to-everything approach to policy.

Again, the contrast with the way the Federal Reserve conducts monetary policy is instructive. At present the Fed does not employ either a monetary-targeting or inflation-targeting approach. Monetary targets have not played an important role in U.S. monetary policy since at least the early 1990s. And the Fed has never formally adopted inflation targeting as a strategy, at least not to the extent that, say, the Bank of England has. However, the Fed is a lot more forward-looking in its deliberations than it was in the 1970s.[28]

Why the Fed does not feel the need to articulate a strategy for monetary policy is an open question. One reason may be that the Fed has done reasonably well controlling inflation and building credibility without a formal strategy, and as long as that continues, it sees no need to change. This is consistent with the view that debates about strategy are most intense in central banks that need to rapidly acquire credibility for their commitment to price stability.

## MONETARY POLICY TOOLS

The ESCB has three instruments available for the conduct of monetary policy. It engages in open market operations, offers standing facilities, and requires credit institutions to hold minimum reserves. Open market operations play a central role in the conduct of monetary policy. The ESCB has five types of instruments available for the conduct of open market operations, the most important of which is reverse transactions. The ESCB also has the option of using outright transactions, issuing debt certificates, making foreign exchange swaps, and collecting fixed-term deposits. Open market operations are initiated by the ECB but are conducted through the NCBs. The ECB decides on the instrument to be used in all open market operations and on the terms and conditions for their execution. This highly decentralized approach to monetary policy operations is in marked contrast to the Fed's practice of conducting all operations through the New York Reserve Bank.

The ESCB offers standing facilities to provide and absorb overnight liquidity, signal the general stance of monetary policy, and bound overnight market interest rates. These facilities—a marginal lending facility and a deposit facility—are available to eligible counterparties on their own initiative as long as they fulfill the relevant conditions. Only financial institutions subject to the reserve requirement may access the standing facilities (and participate in open market operations based on standard tenders).

The Fed does not provide comparable facilities.

The ESCB transacts in a wide range of financial assets in conducting monetary policy operations. These assets are not necessarily restricted to the debt liabilities of national governments, but they are required to satisfy certain criteria so as to protect the ESCB from the risk of losses on its monetary policy operations.

Finally, the ECB has set a reserve requirement ratio at 2 percent, with the reservable components of the liability base consisting of overnight deposits, deposits with agreed maturity up to two years, deposits redeemable at notice up to two years, debt securities with agreed maturity up to two years, and money market paper. The ECB allows financial institutions to deduct a lump-sum allowance of 100,000 euros from their reserve requirement. The ECB remunerates reserve holdings at an interest rate corresponding to the rate of its main refinancing operations, with interest paid on the first business day after the end of the reserve maintenance period.

## CONCLUSIONS

The launching of EMU is probably the single most important development in international monetary relations in the past fifty years. If monetary union succeeds, the euro may one day challenge the U.S. dollar's dominance in international transactions. The sheer size of the single-currency area will fundamentally alter international monetary arrangements. How the euro fares against the dollar will depend on the relative performances of the ESCB and the Federal Reserve in maintaining price stability in their respective territories. The ESCB starts with the advantage of an unambiguous mandate for price stability based on an international treaty that can only be altered with the consent of all its signatories. However, the diffuse distribution of power within the ESCB may make it difficult to resolve the conflicts of national interests that some academic critics of EMU believe doom the undertaking to failure. By contrast, the Federal Reserve System does not have as strong a mandate for price stability, but its more centralized decision-making structure arguably enhances the monetary policy process in the United States.

## NOTES

1 The fifteen members of the EU are Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the UK. All but four members are participating in the first round of EMU. Denmark, Sweden, and the UK are not participating for domestic political reasons; Greece failed to meet the convergence criteria laid down in the Maastricht Treaty but intends to join as soon as possible.

2 EMU countries' notes and coins will continue to circulate until 2002; however, they no longer exist as currencies in their own right but as nondecimal denominations of the euro. There are several reasons for the three-year transition before the euro acquires a physical form. First, it will take time to adapt the physical payments infrastructure in each of the participating countries to the new notes and coins. In 1995, there were some 3.15 million vending machines and 130,000 ATMs in the EU; such machines will have to be recalibrated to accept the new currency. Second is the magnitude of the task of replacing national currencies. Printing enough banknotes and minting enough coins to replace all the existing notes and coins will take time. In 1994, more than 12 billion banknotes and 70 billion coins circulated in the EU, with a combined weight of 300,000 metric tons. Minting of euro coins began in May 1998. Finally, the transition allows businesses and the general public to become familiar with the new currency before having to use it for all transactions. During the transition, the no-compulsion, no-prohibition principle governs the use of the euro.

3 For a recent analysis of the unemployment problem in Europe, see Ljunqvist and Sargent (1998).

4 For this article, the significance of the Committee of Governors is that the economic unit created to support the committee would subsequently form the cadre for the European Central Bank.

5 For a textbook review of the major issues, see De Grauwe (1997). See also Feldstein (1997) and Wyplosz (1997).

6 Actually, many features of the ESCB are modeled on Deutsche Bundesbank, which is modeled on the Federal Reserve System. See Deutsche Bundesbank (1995).

7 Maastricht Treaty Protocol (no. 3) on the Statute of the European System of Central Banks and of the European Central Bank, Article 12.1.

8 The FOMC in its current form, with the Board of Governors enjoying a permanent majority, did not come into being until 1935. When the Federal Reserve System was established in 1914, it was thought discount lending would be the primary tool of monetary policy, with individual Reserve Banks having considerable discretion to set discount rates. It was not until the 1920s that the potential of open market operations was discovered. In the spring of 1922 the Committee of Governors on Centralized Execution of Purchases and Sales by Federal Reserve Banks was established to coordinate the actions of the System. This committee was reconstituted as the Open Market Investment

Committee (OMIC) in 1923, consisting of representatives of the Boston, New York, Philadelphia, Cleveland, and Chicago Reserve Banks, under the chairmanship of the New York Bank. The OMIC was disbanded in 1930 and reconstituted as the Open Market Policy Conference, composed of representatives from all twelve Reserve Banks. The Banking Act of 1933 established the FOMC, consisting of representatives of the twelve Reserve Banks and the seven Board of Governors members. The Banking Act of 1935 altered the FOMC's composition to give the seven Board members a vote in open market policy and, more importantly, reduce the representation of the Reserve Banks to five members. This gave the Board of Governors a permanent majority.

[9] Federal Reserve Act, Section 4.20.

[10] See, for example, the schematic diagrams of the informal power structure of the Federal Reserve System in any intermediate money and banking textbook.

[11] Statute of the European System of Central Banks and of the European Central Bank, Articles 10 and 13.

[12] Statute of the European System of Central Banks and of the European Central Bank, Article 13.

[13] European Central Bank (1998b).

[14] Federal Reserve Act, Section 10.1.

[15] Article 2 of the treaty states that "the Community shall have as its task, by establishing a common market and an economic and monetary union and by implementing the common policies or activities referred to in Articles 3 and 3a, to promote throughout the Community a harmonious and balanced development of economic activities, sustainable and non-inflationary growth respecting the environment, a high degree of convergence of economic performance, a high level of employment and of social protection, the raising of the standard of living and quality of life, and economic and social cohesion and solidarity between the Member States." Article 3a of the treaty states: "A1. For the purposes set out in Article 2, the activities of the Member States and the Community shall include, as provided in this Treaty and in accordance with the timetable set out therein, the adoption of an economic policy which is based on the close coordination of the Member States' economic policies, on the internal market and on the definition of common objectives, and conducted in accordance with the principle of an open market economy with free competition. 2. Concurrently with the foregoing, and as provided in this Treaty and in accordance with the timetable and the procedures set out therein, these activities shall include the irrevocable fixing of exchange rates leading to the introduction of a single currency, the ECU [European currency unit], and the definition and conduct of a single monetary policy and exchange-rate policy the primary objective of both of which shall be to maintain price stability and, without prejudice to this objective, to support the general economic policies in the Community, in accordance with the principle of an open market economy with free competition. 3. These activities of the Member States and the Community shall entail compliance with the following guiding principles: stable prices, sound public finances and monetary conditions and a sustainable balance of payments."

[16] Other provisions in the treaty further reinforce the mandate for price stability. First, Article 2 of the statute repeats Article 105 of the treaty. Article 2 of the treaty makes the promotion of noninflationary growth one of the European Community's objectives. Article 3 of the treaty states that the primary objective of both monetary and exchange rate policy following the start of monetary union "shall be to maintain price stability." Article 3 of the treaty also states that achieving stable prices is one of the guiding principles of the Community.

[17] Alesina and Grilli (1992) evaluate the political and economic independence of the ECB using the same criteria as other authors to construct quantitative indexes of central bank independence. They find that the ECB will enjoy the same degree of political and economic independence as the Bundesbank, which is somewhat more independent than the Fed.

[18] Statute of the European System of Central Banks and of the European Central Bank, Article 14.2.

[19] Posen (1993) is more sanguine about the ECB's prospects, arguing that it will have important political support from the European financial community.

[20] Alesina and Grilli (1992) use the terms *political independence* and *economic independence* to refer to essentially the same things.

[21] European Central Bank (1998a).

[22] See, for example, Friedman and Schwartz (1963) and Timberlake (1993).

[23] As Fischer (1994, 304) notes, "Monetary and exchange rate policies cannot be independent. Under floating rates, monetary policy affects the exchange rate. Thus the government cannot have control over exchange rate policy while the central bank has control over monetary policy. The government should have the authority to choose the exchange rate regime. If it chooses a fixed exchange rate regime, it has then essentially—though not completely—determined monetary policy. While a central bank can be more or less independent of the government in a fixed exchange rate regime, its independent ability to determine the rate of inflation and interest rates is sharply curtailed." See also Giovannini (1993).

[24] See, for example, Ungerer (1997) and Gros and Thygesen (1998).

[25] See, in particular, Buiter (1998a, 1998b).

[26] Issing (1994) argues along these lines.

[27] For analyses of inflation targeting as a strategy for monetary policy, see Haldane (1995), Leiderman and Svensson (1995), and Bernanke and Mishkin (1997).

[28] See Goodfriend (1993).

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