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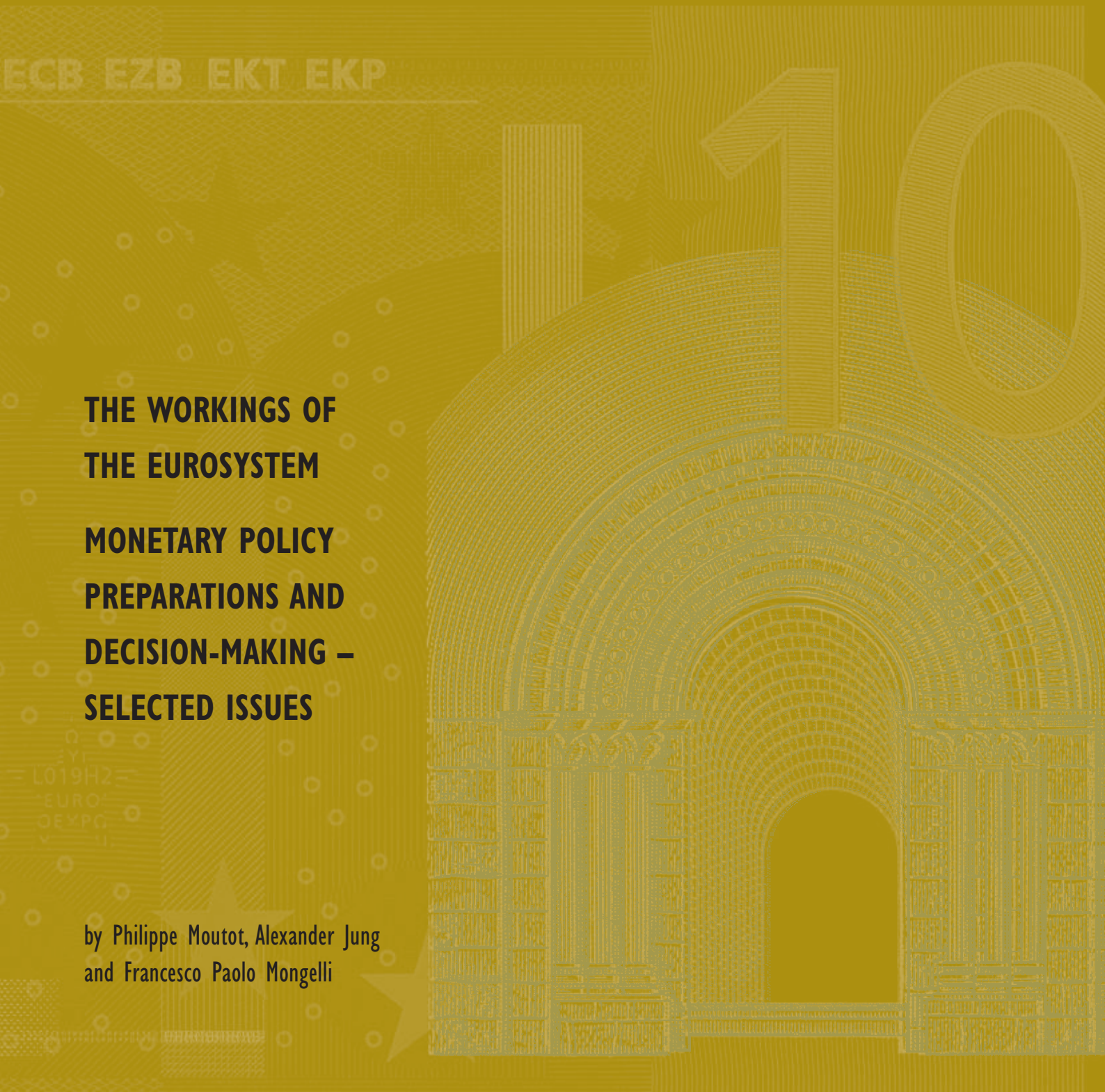

THE WORKINGS OF THE EUROSYSTEM

MONETARY POLICY PREPARATIONS AND DECISION-MAKING – SELECTED ISSUES

by Philippe Moutot, Alexander Jung and Francesco Paolo Mongelli

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In 2008 all ECB publications feature a motif taken from the €10 banknote.

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CONTENTS

ABSTRACT

The ECB's monetary policy has received considerable attention in recent years. This is less the case, however, for its regular monetary policy preparation and decision-making process. This paper reviews how the factors usually considered as critical for the success of a central banking system and the federal nature of the Eurosystem are intertwined with its overall design and the functioning of its committee architecture. In particular, it examines the procedures for preparing monetary policy decisions and the role of the decision-making bodies and the committees therein. We suggest that technical committees, involving all national central banks (NCBs), usefully contribute to the regular processing of a vast amount of economic, financial and monetary data, as well as to the consensus building at the level of the Governing Council. A federal organisational structure, including a two-tier committee structure with the Executive Board taking the lead in preparing the monetary policy decisions and the Governing Council in charge of the decisions with collective responsibility for them, as well as committee work at the various hierarchical levels, contributes to the efficiency of the ECB's monetary policy decision-making, and thereby facilitates the maintenance of price stability in the euro area. A fully-fledged committee structure has also contributed to the smooth integration of non-euro area Member States into the Eurosystem's monetary policy decision-making process.

JEL classification: E42, E58, F33 and F42

Keywords: European economic and monetary integration, monetary arrangements, central banks and their policies.

NON-TECHNICAL SUMMARY

With the launch of the euro in January 1999, responsibility for the single monetary policy in the euro area was transferred to a supranational central banking system: the *Eurosystem*. It comprises the European Central Bank (ECB) and the national central banks (NCBs) of those EU Member States that have adopted the euro. The Eurosystem is led by a decision-making body, the Governing Council of the ECB, which is in charge of formulating the monetary policy of the euro area and sets the necessary guidelines for the implementation of its decisions.

The monetary policy of the ECB has received considerable attention in recent years. This is less the case, however, for the regular monetary policy preparations and the decision-making process. This paper explains the workings of the Eurosystem's monetary policy process and the role that decision-making bodies and Eurosystem committees play therein. In this paper, we also look at the evolution of and the economic rationale underlying the Eurosystem's structure, as well as explain its federal nature.

To start with, the founders of EMU faced the challenge of having no historical blueprint for designing a supranational monetary union among sovereign states. Yet some historical lessons from other past monetary arrangements provided some important underpinning, such as that time is an essential element in the establishment of a monetary union, and that monetary unions are always subject to heterogeneity, in the presence of which sustainable convergence is essential. In addition, several success factors in central banking were taken into account during the designing of the Eurosystem, including the critical role of central bank independence and a clear policy goal (i.e. price stability) based on a constitutional mandate.

The blueprint for the Eurosystem was laid down in the Maastricht Treaty and the Statute of the European System of Central Banks and of the European Central Bank. A structure based on centralised decision-making and decentralised implementation was chosen. Within the Eurosystem, the euro area NCBs perform almost all the Eurosystem's operational tasks. On the one hand, this federal structure is effective as a number of these tasks need an underlying regional and national infrastructure that has already been established by NCBs. On the other hand, a centralised agreement by the Governing Council of the ECB on monetary policy and other Eurosystem-wide matters ensures that decisions are timely and efficient.

Monetary policy decision-making in the Eurosystem is based on a two-tier "hub-and-spoke" committee structure, with the Executive Board of the ECB taking the lead in preparing the monetary policy decisions and the Governing Council in charge of the decisions with collective responsibility for them. This hub-and-spoke structure ensures both timely monetary policy decision-making and regional involvement, and at the same time avoids the unnecessary duplication of tasks. Monetary policy decisions are based on the ECB's monetary policy strategy. In this regard, the Executive Board plays a special role, because its members take the lead in the monetary policy preparations and, as members of the Governing Council, vote on the monetary policy decisions.

Overall, our international comparison suggests that there are many similarities between the decision-making bodies of the ECB and the monetary policy committees of other central banks but also notable differences in terms of the specific circumstances applying to the Eurosystem's structure. The optimal size of a monetary policy committee depends on various factors, such as the size of the currency area. At the same time, the size of the technical committees may exceed that of the policy committees as their main focus is on gathering information.

While today monetary policy decisions around the world are taken by a central bank committee (with rare exceptions), the Eurosystem exhibits an important distinguishing feature. The federal

structure of the Eurosystem assigns an important role to the technical committees and sub-committees at the various hierarchical levels in terms of assisting the main decision-making body (i.e. the Governing Council). Technical committees in the Eurosystem process a vast amount of economic, financial and monetary data, information and indicators as input to the deliberations of the Executive Board and the Governing Council of the ECB. The close cooperation between ECB and NCB staff within such committees enables consensus to be reached on the underlying assumptions for monetary policy decisions. Hence, the Eurosystem's committee structure allows for a large degree of regional involvement in the preparation of monetary policy decisions. Working through the Eurosystem's committees and its substructures boosts the efficiency of the deliberations of the Governing Council which sets interest rates based on consensus. This is crucial for the smooth functioning of the monetary policy process, as the decision-making bodies would otherwise spend a considerable amount of time agreeing on the assumptions. This conclusion-based approach to monetary policy-making thus contributes to the fulfilment of the Eurosystem's tasks, and ultimately to the maintenance of price stability in the euro area.

The effective level of interaction between the ECB and the NCBs in the three phases of the monetary policy decision-making process – namely *preparation, decision, implementation* – of course varies. However, in view of the federal structure of the Eurosystem, the NCBs play an important role. We take the Eurosystem staff macroeconomic projections as an example in order to illustrate the workings of the Eurosystem's technical committees when it comes to preparing timely and high-quality contributions for the main decision-making body, the Governing Council. While the staff projections represent an important contribution to the Governing Council's monetary policy decisions, the Governing Council does not interfere in the production process of these projections, which remain the sole responsibility of Eurosystem staff.

The cooperation in the Eurosystem that is achieved through the technical committee structure fosters operational efficiency and contributes to the realisation of a "system identity" and the sharing of common values. Furthermore, the fully-fledged committee structure has contributed to the smooth integration of the non-euro area Member States into the Eurosystem's monetary policy decision-making process. Hence, the current structure is facilitating successive enlargements.

"... to make all men work together, to show them that, beyond their divergences or over and above frontiers, they have a common interest."
Jean Monnet

I INTRODUCTION

With the launch of the euro on 1 January 1999, responsibility for the single monetary policy in the euro area was transferred to a supranational central banking system: the *Eurosystem*. It comprises the European Central Bank (ECB) and the national central banks (NCBs) of those EU Member States that have adopted the euro (and that make up the *euro area*).[1] It is led by a decision-making body, the Governing Council of the ECB, which is in charge of formulating the monetary policy of the euro area and sets the necessary guidelines for the implementation of its decisions.[2]

The ECB's monetary policy has received considerable attention in recent years.[3] This is less the case, however, for the regular monetary policy preparations and the decision-making process. Academics and policy-makers have now become more interested in the role of monetary policy committees, especially since the publication of novel research by Blinder (2004 and 2006).[4] Against a background of the history of the Eurosystem and the economic rationale for its development, the present paper explains the functioning of Eurosystem's monetary policy process and the role of decision-making bodies and Eurosystem committees therein to a wider audience. In particular, it reviews how the factors usually considered as critical for the success of a central banking system, as well as the federal nature of the Eurosytem, are intertwined with its overall design and the functioning of its committee architecture, with a special focus on the procedures for preparing monetary policy decisions and on the role of committees therein. The paper suggests that the Governing Council reaches decisions in a manner consistent with international standards on the functioning of monetary policy committees and that the participation of NCBs in technical committee work at various levels is indispensable for the processing and assessment of a wide range of economic, financial and monetary indicators. The latter is also instrumental in the consensus building on monetary policy decisions at the level of the Governing Council, and thereby facilitates the accomplishment of the primary objective of price stability. The existence of a committee structure at the technical level for all functional areas, with participation from delegates from the ECB and the NCBs, also facilitates the integration of non-euro area Member States into the Eurosystem's monetary policy process.

Four aspects stand out when analysing the workings of the Eurosystem. *First*, the European path to Economic and Monetary Union (EMU) is unique in history, as it has been based on the concept of a single market for sovereign countries. This is quite different from most monetary unions in the past, in which the prior creation of a political union (a nation state) paved the way for the establishment of a single market with homogenous conditions for enterprises and households.

Second, the Eurosystem has a federal structure, which requires, as far as possible, a decentralised set-up. For example, when designing the ECB, responsibility for a number of tasks was kept at the national level and combined with centralised (i.e. supranational) monetary policy decision-

1 Although the Eurosystem only became operational in 1998, its individual national central banks were established much earlier: for example, the Banque de France was established in 1800, De Nederlandsche Bank in 1814, the Nationale Bank van België/ Banque Nationale de Belgique in 1850, the Banco de España in 1856, the Banca d'Italia in 1893 and the Deutsche Bundesbank in 1957.

2 The NCBs from those EU Member States that do not yet belong to the euro area participate in the European System of Central Banks (ESCB) but not in the Eurosystem. To help the reader we sometime use the term Eurosystem where the Treaty mentions the ESCB: that because in practice Eurosystem is meant.

3 This point has been demonstrated in numerous publications by researchers, ECB watchers, the ECB, CEPR, and several other research institutions. See ECB (2004a) and ECB (2006a).

4 Policy-makers interest in the subject started with the speech "Come with me to the FOMC" by former Federal Open Market Committee (FOMC) Governor Meyer (1998), followed by speeches by FOMC Governor Olson (2004) and the Bank of Japan's Deputy Governor Muto (2007). Norges Bank organised a workshop on Monetary Policy Committees in 2007.

making. This mix of centralised and decentralised elements mirrors the principle of decentralisation, as included in the Statute of the European System of Central Banks and of the European Central Bank (hereinafter referred to as the Statute of the ESCB), and as implied by the ownership structure of the ECB (i.e. the NCBs are the shareholders of the ECB). The NCBs are independent with regard to their tasks, but are an integral part of the Eurosystem at the same time (see Article 14.3 of the Statute of the ESCB).

Third, European integration has evolved in stages, and it is still evolving. After the Treaty of Rome had been signed in 1957, it was several decades before a single market was established, as the national economies needed ample time to adjust to the changing market structures. The process of monetary integration has also only been gradual, following the creation of the "snake" in 1972 and the European Monetary System (EMS) with an exchange rate mechanism in 1979 and the signing of the Maastricht Treaty in 1992.

Fourth, there have been advancements in economic and monetary theory that have had implications for the wider appreciation of currency unions and best central banking practices (e.g. the enhanced role of central bank independence, transparency and improved accountability standards). For instance, the debate on the optimum currency area (OCA) theory[5] led the European Commission to adopt the "One Market-One Money" approach in the 1980s (see Emerson et al (1989)) and paved the way for an overall improved assessment of the benefits of currency unions in relation to the costs in terms of the loss of autonomy over domestic monetary policy.

The paper is organised as follows. Section 2 describes the specific factors underpinning monetary integration and the critical components for the success of a central banking system in a monetary union. Section 3 reviews the Eurosystem's design, including its evolution and committee structure. Section 4 discusses the roles of the Governing Council and the Executive Board of the ECB and compares them with the monetary policy committees of other central banks. Section 5 examines the main features of the workings of technical committees and their role in assisting the monetary policy process of the Eurosystem. Section 6 concludes. Some arguments and issues that support our discussion are presented in a set of boxes and annexes.

5 See the seminal contributions of Mundell (1961), McKinnon (1963) and Kenen (1969). An OCA is defined on the basis of several properties, including trade openness, the mobility of labour and other factors of production, price and wage flexibility, diversification in production and consumption, similarity in inflation rates and inflation preferences, and financial integration. Sharing these OCA properties – among countries wanting to form a monetary union – reduces the usefulness of nominal exchange rate adjustments among them by reducing the impact of some types of shock or by facilitating the adjustment thereafter. For recent surveys, see De Grauwe (2005), Mongelli (2005) and Tavlas (2002).

2 THE FACTORS UNDERPINNING MONETARY INTEGRATION AND THE EUROSYSTEM

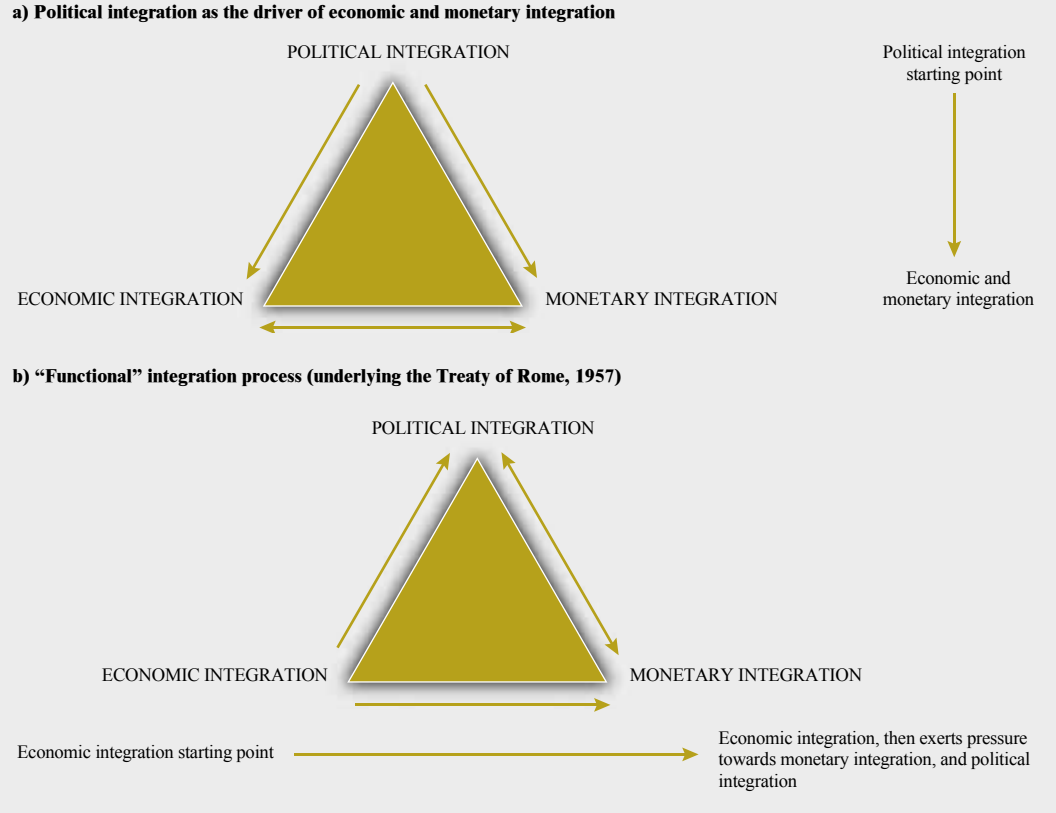
At the outset, the founders of EMU faced a key challenge: there was no historical blueprint for designing a supranational monetary union involving several sovereign countries. A single monetary policy without a nation state had to be built on new foundations. In this respect, it was helpful to take into account lessons learnt from other monetary unions and from "best" central banking practices concerning monetary policy preparations and decision-making.

2.1 GENERAL FACTORS UNDERPINNING MONETARY INTEGRATION

The Treaty of Rome entails a "functional" integration process that is contingent on progress in terms of economic integration (see Chart 1). This was to be an entirely new path towards monetary union. Differences in national situations needed to be taken into account when designing the central bank structure in order to minimise the likelihood of tensions arising from safeguarding national interests.

A degree of decentralisation and NCB involvement in the decision mechanism of EMU seemed to be indispensable. In European monetary history, there have been only a few examples of monetary union without political union that have proved sustainable over the long term. In the past, such frameworks were typically applied to a combination of one large and one (or more) smaller country/countries, in which the large country usually dominated. Examples include the currency unions between Switzerland and Liechtenstein, France and Monaco, and Italy and the Vatican State, plus San Marino. As for

Chart 1 Economic, monetary and political integration



the relatively recent currency union between Belgium and Luxembourg, its functioning was very much determined by the inclusion of the Belgium franc in the EMS, which was then superseded by EMU. Such monetary unions generated significant benefits for the smaller partners (that saved on minting costs and acquired better access to financial markets). From an organisational standpoint, there were few lessons to be learnt. However, some general lessons could be learnt from past monetary unions when the monetary constitution for EMU was drafted.[6]

First, political union has generally preceded economic and monetary union in most monetary union (see Chart 1a). Three often cited examples are the US monetary union of 1789, the Italian monetary union of 1861 and the pan-German currency union that was created following political unification in 1876. In these cases, the adoption of a common currency was an important vehicle for enhancing the unity of the new nation states. Political unions also dissolve. Monetary history suggests that monetary unions typically break down as a result of political forces, seldom collapsing as a result of economic factors or financial crises. In the past, monetary unions between sovereign nation states were most vulnerable to political events, such as war, political disunity or political disintegration with other areas. For example, the break-up of the Soviet Union, Yugoslavia and Czechoslovakia into two or more independent nation states led to the creation of new currencies and new central banks.

6 See Bordo and Jonung (2003), Capie and Wood (2003), Krugman and Obstfled (2000), Baldwin and Wyplosz (2006), and Eichengreen and Sussman (2000). There were also other lessons that do not play a direct role in our discussion, including the fact that mo&st monetary unions are supported by some form of a public risk-sharing facility through a federal budget (such as in the United States).

Box 1

THE EVOLUTION OF THE FEDERAL RESERVE SYSTEM

The dollar was introduced at roughly the same time as the United States were founded in 1789. Throughout much of the 19th century, however, exchange rates between individual states in the United States underwent a series of de facto fluctuations due to the excessive use of paper money of differing quality and the lack of an accepted currency in the form of gold and silver. A system of national banks was therefore instituted by the 1863 National Banking Act and was in operation until 1913. However, a series of banking panics (in 1873, 1893 and 1907) led to the creation of a more centralised banking system. In 1913, the Federal Reserve System was established by Congress which passed the Federal Reserve Act and placed it in charge of monetary policy. Against the background of severe banking panics in the United States, the Act of 1913 required monetary policy-makers to provide an "elastic currency" (meaning that the Federal Reserve System should help to avoid financial crises). Incorporating lessons learnt from the Great Depression, the Employment Act of 1946 included the Federal Reserve System in the government's obligation to prevent future recessions. The Great Inflation of the 1970s led to an amendment of the Federal Reserve Act in 1977, and the first explicit recognition of price stability as a goal for the central bank as part of a "dual mandate".[1]

1 As stated in Section 2A of the Federal Reserve Act: *"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 economy'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"*. The mandate is interpreted as meaning that the role of the Federal Reserve System is to keep inflation low and stable.

The United States were split into 12 Federal Reserve districts that did not coincide with individual states or even groupings of states (in fact, many states are apportioned to two or more geographical districts). This geographical organisation of the Federal Reserve System was the result of a compromise to balance the interests of the banks in the heartland against the interests of the New York financial community. Sustainable central banking systems are capable of adapting to and exploiting changes in the economic environment. For example, Regional Reserve Banks in the United States maintained the right to set discount rates independently for around 20 years. During this period, the institutional structure functioned as long as all Regional Reserve Banks and the Federal Reserve Board were willing to accept the leadership of the Governor of the New York Bank. When the Great Depression hit the US economy, however, the time was ripe for new institutional reforms that could settle regional monetary policy disagreements for the longer term. The Board's weak position stemmed from the fact that it did not take the lead in the system, but instead functioned mainly as a supervisory review body (Friedman and Schwartz (1963)). This led to the founding of the Federal Open Market Committee (FOMC) in 1933 with the limited mandate of making recommendations on open market operations (which the Federal Reserve System had been using since the 1920s). However, it soon became clear that deeper reforms were needed to address the structural problems in decision-making. The Banking Act of 1935 then led to a complete reorganisation of the Federal Reserve System. It made the FOMC the decision-making body in charge of monetary policy for the United States as a whole (mainly based on open market operations), while the regional Federal Reserve Banks' autonomy was limited to setting discount rates.

Second, time is an essential component of a monetary union and is sometimes underestimated. There are at least two ways of looking at it. *Prior* to the successful establishment of a monetary union, monetary integration requires time – several decades in the case of EMU – to secure a level of sustainable convergence sufficient to underpin a single currency. In order to prepare a sound institutional framework for monetary union, substantial lead times are normally required. However, this aspect may be subject to limitations: monetary union in Europe was a project with a clear end date for its realisation, i.e. the construction of EMU had to advance along a calendar set by international treaties and agreements, but the timetable was subordinate to the fulfilment of the convergence criteria. *After* the establishment of a monetary union, the process of monetary, economic and political integration continues. Some historians have flagged that, even in a large currency area with a federal structure like that of the United States, the functioning of the central banking system has improved as it has evolved. The Federal Reserve System's experience suggests that, even when supported by political union and a sound institutional framework, the securing of monetary unity and a single market across all regions of a monetary union may be subject to important challenges.

Third, monetary unions will always face a degree of heterogeneity, making sustainable economic convergence an essential factor for their sustainability. As shown by the example of the Federal Reserve System (see Box 2.1), it would be unwise from an economic and political viewpoint to ignore the forces that the diversity of regional contexts could unleash in terms of the way a monetary union functions internally. The founders of EMU were aware of the possibility that heterogeneity could lead to economic divergence, in particular when monetary policy is no longer available as an independent instrument for addressing regional developments. They placed considerable emphasis on *achieving and maintaining a high degree of economic convergence in prices and other economic and fiscal variables* prior to the start of EMU. To make (nominal) convergence a binding requirement, in view of potential subsequent enlargement, these criteria were laid down in the Maastricht Treaty.

According to the hypothesis of endogeneity of OCA criteria (also known as the "Rose effect"), the creation of EMU was to bring the euro area countries more in line with the OCA criteria, i.e. foster greater convergence.[7] Successful monetary unions are also capable of maintaining sustainable convergence of key economic variables, particularly inflation rates. Otherwise, lasting inflation differentials that are not explained by catching-up processes could become destabilising for a monetary union. Taken at face value, they would imply changes in the competitiveness of industries at the international level. In the absence of corrective actions, however, this might, in turn, lead to the loss of domestic production capacity and welfare losses in terms of the misallocation of production factors.

2.2 CRITICAL COMPONENTS FOR THE SUCCESS OF A CENTRAL BANKING SYSTEM IN A MONETARY UNION

In designing a blueprint for the Eurosystem, it was also important to incorporate a number of critical components for the success of central banking, as identified by the experience of central banks with a strong record in delivering price stability. We briefly review several – but by no means all – of the Eurosystem's "building blocks".

a. Modern monetary theory has flagged the critical role of *central bank independence*. It is widely seen as a prerequisite for the successful pursuit of price stability (see Kydland and Prescott (1977), Barro and Gordon (1983), Alesina and Summers (1993) and the recent survey by Arnone et al. (2007)). Central bank independence is consistent with the existence of a decentralised operational framework for monetary policy, whereby decisions on a single short-term interest rate are made centrally, and it also leaves scope for a central bank to evolve over time. It should have, and has in most cases, constitutional rank. The studies on central bank independence were influential in that more attention was devoted to the issue in political cycles. Over past decades far-reaching reforms of monetary constitutions around the world aiming at increasing central bank independence have been undertaken. All euro area NCBs were made fully independent at the time of Stage One of EMU. Annex 1 provides a further discussion and brief analysis of this subject.

b. Central banks should have *a clear policy goal based on a constitutional mandate*. Central bank mandates have evolved over time (see the example of the US in box 2.1). Over the last two decades, the conclusion that has emerged from the academic debate, and that is widely shared by policy-makers, is that focusing monetary policy on the goal of price stability is its best possible assignment, reflecting the comparative advantages between policy instruments and policy objectives (see Federal Reserve Bank of Kansas City (1996)). Actual practices or operational concepts may, however, vary somewhat across major industrial countries.[8]

c. Most central banks around the world have accepted the importance of *high standards in terms of transparency and clarity*. Transparency is an attribute with several facets touching upon the diverse actions (and activities) of the Eurosystem. Its aim is to render monetary policy more effective by ensuring that the public understands the monetary policy objective, as well as the preparation and decision-making processes behind it. However, transparency is not an end in itself (see Annex 2).

7 Rose (2000) specified the conditions under which endogeneities are likely to emerge. By studying the effects of several currency unions that have occurred over the past 25-30 years, Rose and Frankel (1997) show that monetary integration can lead to a significant deepening of trade. The implications for EMU are that the euro area may turn into an OCA, even if it was not one before, or "countries which join EMU, *no matter what their motivation may be, may satisfy OCA properties ex-post even if they do not ex-ante!*" For an overview see De Grauwe and Mongelli (2005) and Artis (2003).

8 Since the early 1990s, many central banks have adopted explicit inflation targets. In some instances, the monetary constitution only stresses the importance of price stability as the primary objective, without clarifying its meaning or, as is the case for the Federal Reserve System, the general view has evolved that price stability is a precondition for the achievement of other objectives.

d. *Modern central banks have chosen to be accountable to citizens for their monetary policy*. This helps monetary policy to better anchor inflation expectations and enhance its credibility. Accountability is the legal and political obligation of a central bank to explain and justify its decisions to citizens and their elected representatives. High standards in terms of accountability provide the necessary checks and balances for an independent central bank that performs its tasks in a democratic society. The process of accountability requires the existence of a binding mandate against which a central bank's actions can be assessed. Accountability normally takes the form of a dialogue that involves elected representatives (i.e. Parliament, Government) and the central bank. In a wider sense, accountability includes a broad range of official communications by the central bank in which it explains to the general public how it achieves its policy goal.[9]

9 Against this background, the ECB has been made subject to several "ex post" reporting obligations. See ECB (2002) for a discussion of the current practices of central banks with regard to accountability.

3 THE DESIGN(ING) OF THE EUROSYSTEM

On the basis of the above lessons and critical components, a blueprint for the institutional design of the Eurosystem was developed gradually. The Maastricht Treaty established the legal elements guaranteeing the independence of the Eurosystem, as well as the choice of price stability as its primary objective. It also stressed that the principle of decentralisation should be applied wherever possible. In practice, this means centralised decision-making and the decentralised implementation of monetary policy. In this section, we describe how the evolution and organisational structure of the Eurosystem has taken into account these lessons and critical components.

3.1 THE CREATION OF THE EUROSYSTEM

Monetary cooperation in Europe has gathered pace over time. Early approaches in monetary coordination date back to the activities of the Committee of Governors of the central banks of the Member States of the European Economic Community (hereinafter referred to as "Committee of Governors"), which was founded in 1964 and used to meet in Basel.[10] One of its major initiatives was represented by the Werner Report of 1970, which formulated European governments' aim to establish a common currency in Europe. Implementation of the report's recommendations were initially hindered by shocks hitting the European economy, stemming from severe oil price shocks and the collapse of the Bretton-Woods system, and which had resulted in a lack of sufficient policy coordination and convergence among Member States. Other attempts at exchange rate cooperation in Europe followed: in 1972, after the demise of the Bretton Woods system, the "Snake", an exchange rate arrangement for European countries, was created. Upon the establishment of the EMS in 1979 – with its Exchange Rate Mechanism (ERM) – monetary cooperation became closer among several European countries and links between several NCBs were strengthened (accounts of the evolution of these arrangements are provided in Scheller (2006), as well as in Zilioli and Selmayr (1999)). The aim was to reduce the disruptive impact of sizeable exchange rate devaluations and to regulate changes in parities.

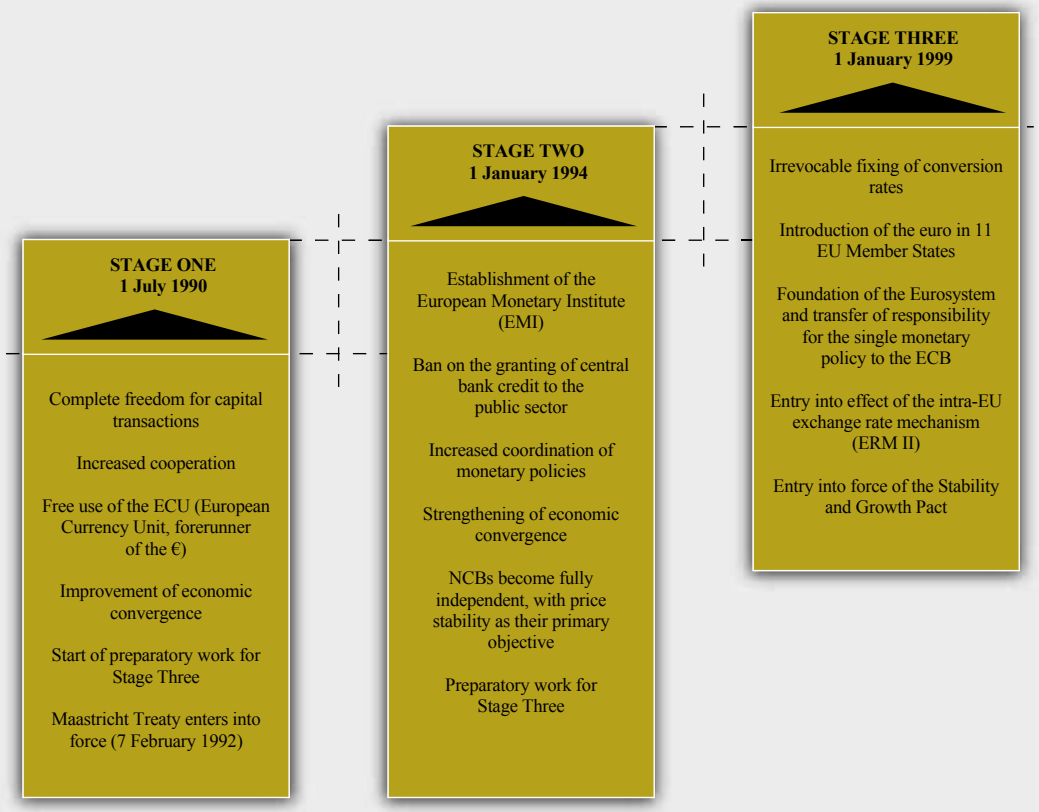
A fresh impulse came when the nature of monetary cooperation in Europe switched from a loose to a closer coordination of monetary policies. In June 1988, the European Council appointed a Committee chaired by Jacques Delors to propose concrete steps leading to EMU. The resulting Delors Report specified a timetable by which EMU could be achieved in three stages (see Chart 2) and proposed key elements for the institutional design of the (future) Eurosystem (see Committee for the Study of Economic and Monetary Union (1989)). This was followed by further negotiations among Member States which resulted in the signing of Europe's monetary constitution, the Maastricht Treaty, on 7 February 1992.

Stage One of EMU coincided with the liberalisation of capital movements in Europe. In its blueprint for the ESCB, which took into account the experience of the NCBs and strongly influenced the Maastricht Treaty, the Committee laid down the main principles for creating a European central bank. Member States would only be able to participate in EMU if they showed a high degree of lasting convergence, as confirmed by the fulfilment of four economic criteria (on inflation, long-term interest rates, fiscal debt and deficit, and exchange rates). The relevant provisions of the Maastricht Treaty stipulated the setting-up an independent central bank with the primary objective of price stability (see Box 2). The Eurosystem's institutional framework for monetary policy took into account the main elements of the existing frameworks of the NCBs prior to its establishment, and aimed at implementing best practice.

The establishment of the European Monetary Institute (EMI) as a temporary body at the beginning of 1994 marked the start of the *Stage Two of EMU*. Responsibility for the conduct of monetary policy in the EU remained the preserve of the national authorities. The two main tasks

10 See Scheller (2004), Deutsche Bundesbank (2005) and Committee of Governors of the EEC (1993).

Chart 2 The three stages of EMU



Source: Adapted from ECB's website.

of the EMI were (i) to strengthen central bank cooperation and monetary policy coordination (including the assessment of progress in the fields of economic and legal convergence), and (ii) to make the preparations required for the establishment of the ESCB, for the conduct of the single monetary policy and for the creation of a single currency in Stage Three of EMU. Under the blueprint for the Eurosystem, the EMI was also required to carry out preparatory work on the regulatory, organisational and logistical framework necessary for the ESCB, and on the future monetary and exchange rate relationships between the euro area and other EU countries (see EMI (1995)), covering:

- the definition of the concepts and framework for conducting the single monetary policy and the preparation of the ESCB's operational rules and procedures;
- the implementation of a single foreign exchange policy;
- the promotion of efficient cross-border payments;
- the collection and harmonisation, where necessary, of reliable and timely statistics to support the conduct of monetary policy;
- the supervision of the technical planning for the printing and issuing of a European banknote;
- the harmonisation of accounting rules and NCB standards, as well as the setting-up of an adequate information systems architecture for the ESCB.

Box 2

THE EUROSYSTEM'S INDEPENDENCE AND FOCUS ON PRICE STABILITY

The institutional framework of the Eurosystem guarantees central bank independence as the main device for protecting monetary policy from political influence, thus facilitating the conduct of monetary policy in the pursuit of price stability. Article 108 of the Treaty establishing the European Community (hereinafter referred to as "the Treaty") lays down the principle of central bank independence for the Eurosystem. When exercising the powers and carrying out the tasks and duties conferred upon them, neither the ECB nor the NCBs, nor any member of their decision-making bodies, are allowed to 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 also have to respect this principle and must not seek to influence the members of the ECB's decision-making bodies. As the NCBs also had to comply with this requirement, it was necessary to harmonise the national monetary constitutions prior to EMU in order for the Eurosystem (and each NCB) to become independent.

Other provisions of the Maastricht Treaty further reinforce the independence of the Eurosystem with regard to personal, functional and financial independence. *Personal independence* provides the members of the Governing Council with the necessary security of tenure and helps avoid any conflicts of interest. *Functional independence* provides the Eurosystem with all the instruments it needs to perform its functions. Article 101 of the Treaty prohibits any provision whereby the ECB or NCBs could grant credit to the public sector using "overdraft facilities or any other type of credit facility". *Financial independence* ensures that Eurosystem has the economic means to fulfil its mandate. The ECB and the NCBs have their own budget, and the ECB's capital is fully subscribed and paid up by the NCBs.

The overriding importance of price stability for the monetary policy decision-making process and for communication is captured in the ECB's *mission statement*: "The European Central Bank and the national central banks together constitute the Eurosystem, the central banking system of the euro area. The main objective of the Eurosystem is to maintain price stability: safeguarding the value of the euro. We at the European Central Bank are committed to performing all central bank tasks entrusted to us effectively. In so doing, we strive for the highest level of integrity, competence, efficiency and transparency" (see the ECB's website).

In line with the consideration that price stability should be the main goal of monetary policy, Article 105(1) of the Treaty states that "the primary objective of the ESCB [and by extension the Eurosystem –] shall be to maintain price stability" and that "without prejudice to the objective of price stability, the ESCB [and by extension the Eurosystem] shall support the general economic policies in the Community with a view to contributing to the achievement of the objectives of the Community as laid down in Article 2". In this respect, Article 2 of the Treaty assigns, inter alia, the following tasks to the Community: a high level of employment, sustainable and non-inflationary growth, a high degree of competitiveness and convergence of economic performance. The Treaty thus establishes a clear hierarchy of objectives for the Eurosystem and assigns overriding importance to maintaining price stability. The Treaty

left it to the Governing Council of the ECB to render this goal operational, thereby allowing for both goal independence and instrument independence (see Zilioli and Selmayr (1999), Wynne (1999) and Fisher (1995)).[1] By contrast, many inflation-targeting central banks do not enjoy *goal independence*, as they are subject to specific legislative mandates that set an inflation target. It is standard practice, however, for central banks to have *instrument independence*, giving them the freedom to choose which instruments they use to pursue their goals.

Price stability is a precondition for sustained economic growth and job creation. Thus, the best contribution the ECB's monetary policy can make to economic growth and the level of employment, is to guarantee price stability. The Treaty mandate had to be interpreted at the start of EMU. To provide an operational definition of price stability, the Governing Council of the ECB announced the following quantitative definition of price stability: "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%" (see ECB (1998)). The ECB's definition of price stability is a lasting quantification of the primary objective of the single monetary policy and is in line with the definitions adopted by most NCBs in the euro area prior to Stage Three of EMU. When adopting the broad economic policy guidelines in July 1995, ECOFIN indicated that a value of 2% would be the maximum rate of inflation compatible with price stability.

1 A central bank whose monetary policy goals are not defined precisely is said to have goal independence, i.e. it has the scope to set its own goals.

The EMI Council agreed on a master plan as a guiding instrument for the organisation, monitoring and assessment of the related activities carried out by various areas involving experts from the EMI and the NCBs.

On 1 January 1999, *the third and final stage of EMU* commenced with the introduction of the euro in the 11 qualifying EU Member States, the establishment of the Eurosystem and the transfer of responsibility for the conduct of monetary policy to the ECB. At this time, the Stability and Growth Pact (Regulation 1466/97) was already in place and the intra-EU exchange rate mechanism (ERM II) came into force.

3.2 A DECENTRALISED STRUCTURE AND CENTRALISED DECISION-MAKING

In defining the appropriate structure for a central banking system, there are important a priori trade-offs to be considered, in particular that between the benefits of decentralisation and the speed of decision-making (decisiveness). On the one hand, a decentralised set-up is beneficial in terms of information gathering and taking into account all relevant aspects for the discussion. On the other hand, it can generate information asymmetries between the centre and the regions, thus requiring increased coordination efforts by the centre. By contrast, a centralised structure ensures timely and efficient decision-making and implementation, but may disregard full involvement of the regions.

Decentralisation presents a number of tangible benefits for the Eurosystem and for any other central banking system that is responsible for a "large" currency area (in terms of economic activity and the number of citizens). It implies a diffusion of power that makes it more difficult for outside pressures to be brought to bear on a central bank and hence contributes to its credibility. A regional presence helps a central bank to communicate its policy message, possibly in various languages, and to gather anecdotal and specialised information on regional economies. Such information gathering

and dissemination are particularly important when the regional economies are fairly heterogeneous. The diversification of research within a system of central banks brings a variety of analytical perspectives to policy deliberations and contributes to a better understanding of the transmission of monetary policy in an increasingly complex economy. Moreover, decentralisation can enhance competitive forces within the central banking system, as well as stimulate innovativeness.

Goodfriend (2000) observes that, taking the Federal Reserve System as an example, *a decentralised system needs a strong centre*, with sufficient staffing levels to support monetary policy-makers (see also Box 2.1). The Chairman should have the appropriate leadership skills to encourage diverse views in the policy committee and to build a consensus for decisive and timely policy actions. At the same time, the Chairman should exploit diversity and promote decisiveness. Like the Federal Reserve System, most central banks in the world have chosen a structure with a strong centre in charge of monetary policy decisions, but there may be a different degree of regional participation with regard to other tasks. In this respect, the Deutsche Bundesbank's structure prior to EMU largely resembled that of the Federal Reserve System, consisting of two layers: a strong centre and several independent regional central banks. The Presidents of the regional central banks were members of the monetary policy decision-making body (together with the members of the Board at the center). This system, however, assigned the regional central banks key tasks in the implementation of monetary policy, including monetary policy operations, domestic payment systems and banknotes.[11] Both systems served as practical examples when studying the costs and benefits of a high degree of decentralisation as part of the development of the Eurosystem's structure.

For the Eurosystem setting up a decentralised structure approach was the only thinkable approach. The Statute of the ESCB emphasises the principle of decentralisation. According to Article 12.1 of the Statute of the ESCB, "the ECB shall have recourse to the NCBs, to the extent deemed possible and appropriate, to carry out operations which form part of the Eurosystem". The principle of decentralisation makes it necessary for the Eurosystem to evaluate the extent to which decentralisation of its tasks is feasible and desirable. An example of the decentralisation of tasks is the operational framework of the Eurosystem. The NCBs perform almost all the Eurosystem's operational tasks. EMU has also been built with great respect for national sovereignty. The important role of the NCBs in the Eurosystem is not comparable with the sharing of tasks in the decentralised Federal Reserve System. Bonzom and Barontini (2007) point out that decentralisation has additional benefits in the specific case of the euro area. As in the above example of the Deutsche Bundesbank, the NCBs are not only in charge of the implementation of monetary policy, but they are also involved in the process of monetary policy preparation, in particular in the Eurosystem staff macroeconomic projections. They provide expertise for all central bank functions.

According to Article 105(2) of the Treaty, the basic tasks of the Eurosystem include defining and implementing the monetary policy of the euro area, conducting foreign exchange operations, holding and managing the official foreign reserves of the Member States, and promoting the smooth operation of payment systems. The scope of the functions and tasks of the Eurosystem is similar to that of other central banks, such as the Federal Reserve System (see Table 1). These institutional frameworks are very similar in terms of the functions carried out by the central bank, but differ in terms of the degree of centralisation. For instance, the fiscal agent function and banking supervision function are more clearly assigned within the Federal Reserve System. It is also worth noting that, within the Eurosystem, the NCBs may differ slightly in terms of the scope of their tasks (e.g. only some NCBs are genuinely

11 See König (1999). Independence at the regional level was guaranteed by the central bank law, and the Presidents of the regional offices were appointed by the Federal President, based on a proposal by the upper House of Parliament (Bundesrat).

Table 1 Central banking functions

Function/ Degree of centralisation	Eurosystem	Federal Reserve System
	The Eurosystem comprises the ECB and 15 NCBs	The Federal Reserve System comprises the Board of Governors and 12 Federal Reserve Banks
Defines/implements monetary policy	Yes Centralised/decentralised	Yes Centralised
Issues banknotes	Yes Decentralised	Yes Decentralised
Conducts foreign exchange operations	Yes Mainly decentralised	Yes (on behalf of the Treasury) Fed New York
Holds and manages official reserves	Yes Mainly decentralised	Yes Fed New York
Acts as the fiscal agent for the government (including the lender of last resort function)	Some NCBs Decentralised	Yes Fed New York
Promotes stability of financial system	Yes Mainly decentralised	Yes Centralised
Supervises banks	Some NCBs Decentralised	Yes Mainly decentralised
Promotes the smooth operation of payments systems	Yes Decentralised	Yes Decentralised
Collects statistical information	Yes Decentralised	Yes Centralised
Participates in international monetary institutions	Yes Mainly decentralised	Yes Centralised

Source: Adapted from Pollard (2003).

responsible for banking supervision), although they are all responsible for core tasks, such as the implementation of monetary policy.

The mix between decentralisation and centralised elements in the Eurosystem may evolve further. Moreover, the decentralised set-up of the Eurosystem does not imply that the ECB's monetary policy decision-making process focuses on regional aspects or is subordinated to regional interest groups.[12] With a view to ensuring the singleness of monetary policy, monetary policy decisions are made centrally by the Governing Council of the ECB. The Executive Board of the ECB, with the help of ECB staff, is in charge of preparing the meetings of the Governing Council in order to ensure an efficient process. The involvement of the NCBs boosts the efficiency of the process, as a number of Eurosystem tasks require the existence of a national infrastructure, which the NCBs contribute to the Eurosystem-wide infrastructure.

3.3 ESTABLISHING THE EUROSYSTEM'S COMMITTEE STRUCTURE

The building of a supranational central bank also necessitated a review of the working arrangements that had been set up since the establishment of the Committee of Governors in 1964. For this purpose, the Committee of Governors and its sub-committees in 1990 prepared a draft of the *Statute of the ESCB*. Then, with the ratification of the Maastricht Treaty in 1992 and the establishment of the EMI in 1994, links between NCBs became more systematic and the need to coordinate decentralised activities and supranational decision-making was addressed. The EMI Council, as the main decision-making body of the EMI, decided

12 Monetary policy decisions must be based on a clear euro area perspective. A clear euro area focus is a central element of the ECB's monetary policy strategy. Moreover, members of the Governing Council act in person and not as national representatives. See ECB (2004a), p. 12.

not to change the organisational structure established under the Committee of Governors (see Chart 3), as it had proved to be an effective means of coordinating tasks, processing input from various sources and building consensus among participants. Within this framework, committees, sub-committees and working groups composed of NCB experts – similar to the Committee of Governors – were key players. With the support of the staff of the EMI, these committees took the lead in conceptual work, such as the design of the monetary policy framework.

A two-tier monetary policy committee structure, comprising two main decision-making bodies, the Governing Council and the Executive Board of the ECB, had to be set up, as the existing committee structure was not designed for monetary policy decision-making, but for coordinating monetary policy among sovereign Member States. The experience of other central banks, such as the Federal Reserve System and the Deutsche Bundesbank suggested that, in a geographically dispersed region, monetary policy decision-making would be more efficient if a monetary policy hub-and-spoke committee structure were in place.[13] This is because such structures minimise the costs of gathering and sharing information and facilitate consensus building. In this regard, Article 112 of the Treaty and Articles 10 and 11 of the Statute of the ESCB provided for the creation of the Executive Board, which acts as the "hub" of the system and takes the lead in the preparation of monetary policy decisions, and for the creation of the Governing Council, which decides on monetary policy based on its overall assessment of the economic situation. In this respect, NCB governors act as the "spokes" of the system.

In view of the success of the structure established by the Committee of Governors and the EMI, it was natural to use the existing architecture for defining working relations and taking decisions in the system and to refine it where necessary; the mandates of the technical committees had to be modified in order to reflect their new role within the general structure of the central banking system. Today, committees are in charge of coordinating the Eurosystem's tasks that involve the NCBs. According to Article 9 of the Rules of Procedure of the ECB, Eurosystem/ESCB committees are "to assist in the work" of the decision-making bodies of the ECB.[14] Membership of the committees is usually restricted to staff of the Eurosystem central banks.

However, the NCBs of the Member States which have not yet adopted the euro take part in the meetings of a committee whenever it deals with matters that fall within the field of competence of the General Council.[15] Where appropriate, other competent bodies, such as national supervisory authorities in the case of the Banking Supervision Committee, may also be invited. Work at various levels contributes to shaping views and building consensus within the Eurosystem. In terms of expertise or technical advice, the structure of committees and sub-committees provides valuable input in terms of expertise or technical advice to the deliberations of the ECB's decision-making bodies through letters and reports.

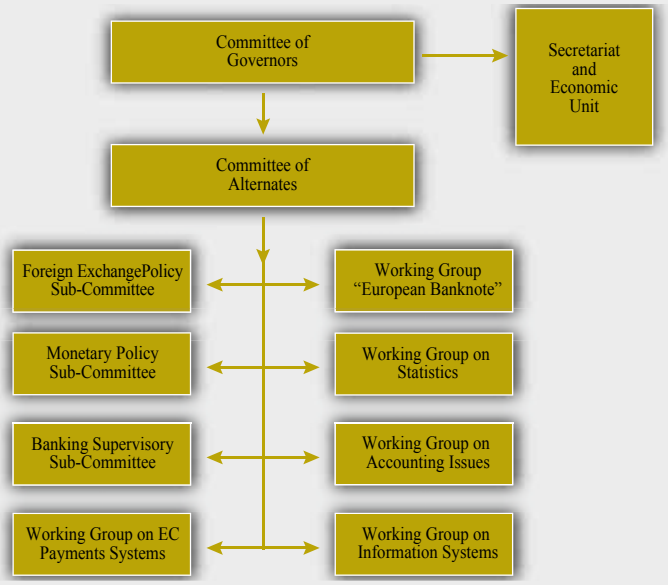
The current committee structure has evolved over time since the establishment of the Committee of Governors, as illustrated by the comparison shown in Charts 3-5. At present, there are committees operating (or touching upon) most functional areas of the work of the Eurosystem (see Chart 5), including the Monetary Policy

13 See, for example, Berk and Bierut (2007).

14 Eurosystem/ESCB committees report to the Governing Council via the Executive Board. Note, according to the Rules of Procedure of the ECB, "the Banking Supervisory Committee shall not be obliged to report via the Executive Board whenever it acts as a forum for consultation on issues which are not related to the supervisory functions of the ESCB as defined in the Treaty and in the Statute."

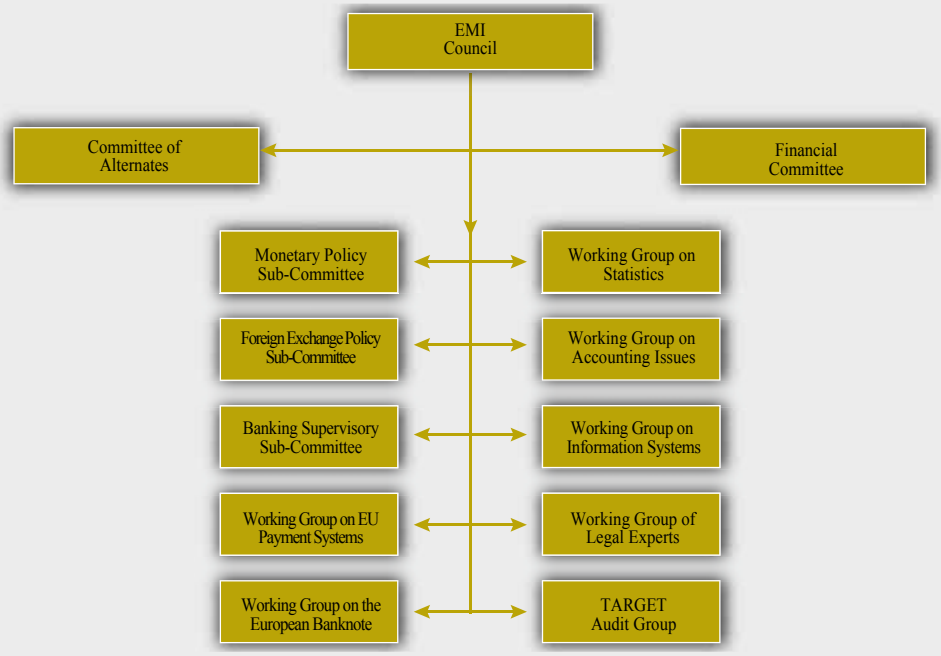
15 The General Council is the third decision-making body of the ECB, in addition to the Governing Council and the Executive Board. The General Council has no responsibility for monetary policy decisions in the euro area, and hence will not be discussed further here. It carries out those tasks inherited from the EMI in relation to the introduction of the euro in the EU Member States that have not yet adopted the euro (e.g. the Convergence Report) which do not fall under the responsibility of the Governing Council. The General Council is composed of the President and the Vice-President of the ECB and the Governors of the NCBs of the (27) EU Member States.

Chart 3 The structure of the Committee of Governors



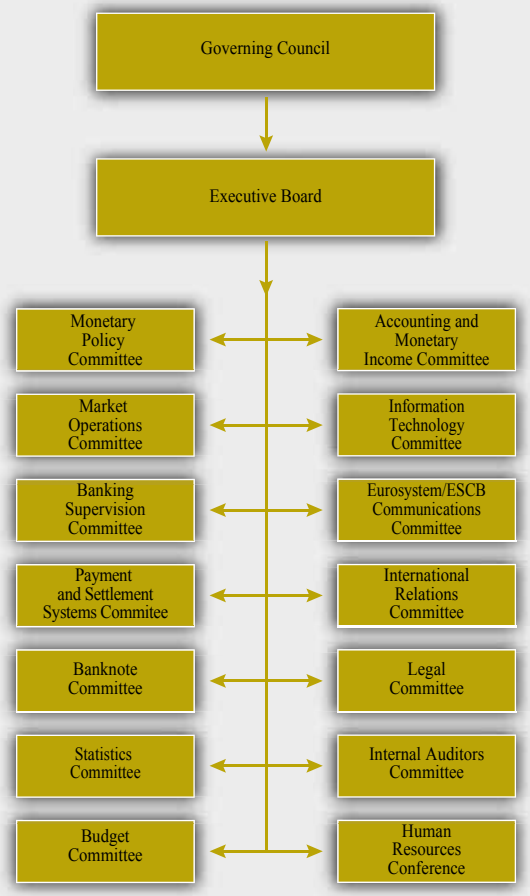
Source: Committee of Governors (1993).

Chart 4 The committee structure of the EMI



Source: EMI (1997).

Chart 5 The committee structure of the Eurosystem



Source: Adapted from ECB (2007b).

Committee (MPC)[16], the International Relations Committee (IRC), the Market Operations Committee (MOC), the Statistics Committee (STC), the Payment and Settlement Systems Committee (PSSC), the Banking Supervision Committee (BSC), the Banknote Committee (BANCO), the Internal Audit Committee (IAC), the External Communications Committee (ECCO), the Legal Committee (LEGCO), the Accounting and Monetary Income Committee (AMICO), the Budget Committee (BUCOM), and the Human Resource Conference (HRC). In addition, these committees operate a variety of working groups or task forces. The number of committees has grown somewhat in light of the additional tasks to be performed by the Eurosystem. For instance, HRC, IAC and ECCO were newly created to provide the Governing Council with expertise in the fields of human resources, internal governance and external communication respectively.

The Monetary Policy Sub-Committee (MPSC) of the EMI made an important contribution to the preparation of the monetary policy framework

16 Note, while the genuine monetary policy committee of the ECB which is the Governing Council, the term Eurosystem MPC refers to a technical committee comprising high-level experts from the ECB and the NCBs.

and strategy of the ECB. When the ECB was founded, the tasks covered by the MPSC were split between the Eurosystem Monetary Policy Committee (MPC) and the Market Operation Committee (MOC). Today, the Eurosystem MPC assists the Eurosystem in terms of the single monetary policy and the exchange rate policy of the euro area, contributing, inter alia, to the assessment of issues relating to the conduct of monetary policy in the euro area; the review of the underlying tools for assessing current economic, monetary and financial; the preparation of a set of economic projections concerning the euro area as a whole (see next section); the exchange of views and information on the economic, monetary and financial situation from a euro area perspective; the assessment of the overall performance of the operational monetary policy framework of the Eurosystem. The MOC has taken over the task of the EMI's Foreign Exchange Policy Sub-Committee (FXPSC), which was to prepare discussions on exchange rate arrangements. It also assists the Eurosystem in the implementation of the single monetary policy, including monetary policy operations, foreign exchange transactions, the management of the ECB's foreign reserves and the operation of ERM II. With regard to exchange rate matters, there is some overlap between the activities of the MOC, the IRC and the MPC. The IRC assists the Governing Council in all matters related to international cooperation and policy coordination, and acts as a forum for the exchange of views on these issues. The MPC, however, provides input on the potential implications for monetary policy.

3.4 OTHER SOURCES OF COHESION FOR ENCOURAGING BEST PRACTICE AND TEAM SPIRIT

In 2005, the Governing Council of the ECB agreed on a *mission statement* for the Eurosystem, as well as on a set of common values and organisational principles to promote a shared identity and successful team work among all members of the Eurosystem. The *six common values* agreed for the ECB are: competence, effectiveness and efficiency, integrity, team spirit, transparency and accountability, and working for Europe. The *nine organisational principles* include: participation, cooperation, transparency and accountability, distinguishing Eurosystem activities, cohesion and unity, exchange of resources, effectiveness and efficiency in decision-making, cost efficiency, measurement and methodology, as well as exploit synergies and avoid duplications (see Annex 3 for a more detailed description).

Committee chairpersons also seek to ensure that an atmosphere of trust prevails among committee members, and aim to foster a participatory team spirit. In line with the aims of the Eurosystem's mission statement, the committee structure contributes to good governance and helps the Eurosystem to perform its tasks effectively and efficiently in a spirit of cooperation and teamwork. In this regard, it is important to pursue an approach that clearly defines roles and responsibilities for all members of the Eurosystem.

4 MONETARY POLICY BY COMMITTEES: GENERAL RATIONALE, PRACTICE AND THE ECB'S CHOICES

A unique feature of the Eurosystem is that the decision-making bodies of the ECB and the Eurosystem's committees include members from each euro area country and that voting is based on consensus, thus enabling the full diversity of views and experiences across regions to be incorporated. However, this means that the preparations and discussions on monetary policy need to be structured in such a way that timely monetary policy decisions can be made. Our discussion takes into account the fact that the delegation of monetary policy decisions to a committee like the Governing Council is a feature shared by many central banks today. Decision-making by committees is widely seen as best practice in monetary policy, because committees have a comparative advantage in capturing the plurality of views and in information gathering, and, in the case of the Eurosystem, they ensure consistency across countries and time. Following a federal, decentralized approach, no other decision-making process was thinkable. Blinder (2006) describes "*monetary policy by committees*" as a "quiet revolution" in central banking. Similarly, Vandenbusche (2006) suggests that committees could enhance the effectiveness of monetary policy.

This section considers the impact of the Eurosystem's federal structure on the preparation and adoption of monetary policy decisions and explains how monetary policy decisions are made in practice.[17] In order to explain and assess the choices made in setting up the decision-making bodies of the ECB, we provide an international comparison of practices adopted by monetary policy committees and address the implications of cultural and economic diversity in the euro area for the monetary policy decision-making process.

4.1 THE DECISION-MAKING BODIES OF THE ECB

Monetary policy in the Eurosystem is based on a *collective decision-making system* (see Articles 107 and 110 of the Treaty). This applies to the main decision-making bodies (the Governing Council, the Executive Board and the General Council of the ECB) and, in practice, to the Eurosystem's committees and their substructures.

The *Governing Council* consists of the (15) governors of the euro area NCBs and the six members of the Executive Board. Its main responsibilities include formulating monetary policy for the euro area, as well as adopting the guidelines and taking the decisions necessary to ensure the performance of the tasks entrusted to the Eurosystem. It is, however, also the decision-making body for the other tasks of the ESCB. When making monetary policy decisions, the Governing Council acts by simple majority. Each member of the Governing Council has one vote; in the event of a tie, the President shall have the casting vote (see Article 10.2 of the Statute of the ESCB).[18] This democratic element of monetary policy aims to better anchor legitimacy of monetary policy in the regions, to facilitate communication with a heterogeneous public and to ensure that the regions participate appropriately in monetary policy decision-making. In practice, however, the Governing Council practices consensus voting. The size of the Governing Council depends on the number of euro area countries. Article 10.2 of the Statute of the ESCB sets the maximum number of voting rights at 21 (i.e. 15 governors and the six Executive Board members should have a voting right (see Box 3)).

17 See also Bonzom and Barontini (2006) on the implications of the federal structure at the NCB level.

18 Article 10.2 of the Statute of the ESCB states: "Each member of the Governing Council shall have one vote. As from the date on which the number of members of the Governing Council exceeds 21, each member of the Executive Board shall have one vote and the number of governors with a voting right shall be 15. The latter voting rights shall be assigned and shall rotate … Save as otherwise provided for in this Statute, the Governing Council shall act by a simple majority of the members having a voting right. In the event of a tie, the President shall have the casting vote."

Box 3

VOTING MODALITIES AND ENLARGEMENT OF THE EURO AREA

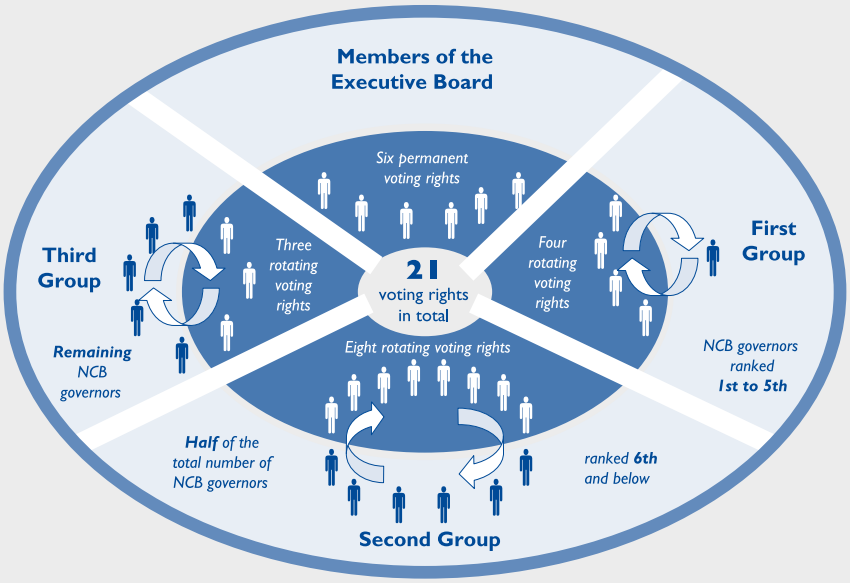
In order to ensure timely and efficient decision-making in an enlarged Governing Council, the Eurosystem initiated a *reform of the voting modalities* in the Governing Council (see ECB, 2003). On 21 March 2003, the EU Council approved an amendment to the Statute of the ESCB which provides for an adjustment of the voting modalities in the Governing Council. According to the new voting scheme, the six members of the Executive Board will maintain a permanent voting right, whereas the voting rights of the NCB governors will be subject to a rotation scheme once the number of euro area countries exceeds 15. (In 2008, the euro area comprises exactly 15 countries). All governors will participate in all meetings of the Governing Council, irrespective of whether they hold a voting right at the time. The maximum number of voting rights in an enlarged Governing Council will be limited to 21 in total. The aim of this system is to ensure even representation between small and large countries in monetary policy decision-making and an efficient decision-making process in a large monetary policy committee. It is consistent with the Maastricht Treaty that specifies the inclusion of NCB governors in the Governing Council, but ultimately leaves open the national composition of the decision-making bodies.[1]

The new voting system borrows the idea of a rotation scheme for votes from the FOMC which comprises the seven members of the Board of Governors of the Federal Reserve System, the President of the Federal Reserve Bank of New York, and four of the remaining 11 Reserve Bank Presidents, who serve one-year terms on a rotating basis. The voting rights of the Board are permanent, whereas those for the Reserve Bank Presidents rotate on an annual basis. Rotation is a useful device in terms of information sharing and may limit the group size to a reasonable number. However, the rotation of voting rights may have its disadvantages in terms of regional representation and the provision of appropriate incentives to "non-voting" members. In contrast to the voting system of the Federal Reserve System, that of the Governing Council determines the allocation of the NCBs to country groups according to economic criteria (GDP weights and the aggregate balance of the monetary and financial institutions). Gros (2003) criticises the new voting system, saying that it is not transparent, not internally consistent and, given the maximum number of voting rights is 21, not sufficiently decisive to improve the efficiency of the present voting system. Berger, de Haan and Inklaar (2003) favour more centralisation of monetary policy decisions, with more responsibility being assigned to the Executive Board. They see benefits in the new voting system in that it balances economic size and political voting power. By comparison, Fase and Vanthoor (2000) explain that the Federal Reserve System has a rather heterogeneous structure in terms of the balance between economic size and voting power, but owing to the rotation scheme and a key role for the centre, it is efficient in terms of monetary policy decision-making. An analysis by Ulrich (2004), which uses different economic criteria, shows that the allocation of voting rights to regions is not much affected by the new system, which preserves the balance of votes between the centre and the regions in the Governing Council. This is remarkable because the Executive Board would otherwise have lost influence in terms of voting power given the enlargement of the Governing Council. As regards the likely outcome of the policy-making process, Bénassy-Quéré and Turkisch (2005) find that the rotation system is likely to yield monetary policy decisions that are not much different from those resulting from a full centralisation approach, as long as the monetary policy rule focuses on the euro area average as it should.

1 As underlined by Wim Duisenberg, the first President of the ECB, Members of the Governing Council "do not represent their countries, they are forbidden to seek or accept instructions from any private or public body" (see Duisenberg (2001)).

A rotation system with two groups will start operating once the number of euro area countries exceeds 15. The first group will be composed of the five NCB governors from the euro area countries occupying the highest positions in the country ranking and will share four voting rights. The second group will be composed of the remaining governors and will share 11 voting rights. Once the number of euro area countries exceeds 21, the rotation system will be based on three groups (see below).

The three-group rotation system for the ECB Governing Council (scenario for a euro area of 27 Member States)



Source: ECB (2003).

As above, the first group will be composed of the five NCB governors from the euro area countries occupying the highest positions in the country ranking and will share four voting rights. The second group will then be composed of half of all the NCB governors and will share eight voting rights. The third group will be composed of the remaining governors and will share three voting rights.

To ensure that the governors with voting rights are from countries which, taken together, are always representative of the euro area economy as a whole, they will exercise voting rights with different frequencies which are pre-established according to objective criteria. The size of the groups and the NCB governors' voting frequencies will be adjusted over time to accommodate any sequencing of euro area enlargement up to 27 member countries. At an appropriate stage, the Governing Council will decide on the exact implementing provisions by a two-thirds majority of all its members.

The *Executive Board* of the ECB consists of the President, the Vice-President and four other members. Its main task is to prepare the decisions of the Governing Council of the ECB and implement them thereafter. The Executive Board prepares the meetings of the Governing Council, implements monetary policy in accordance with the guidelines and decisions laid down by the Governing Council and, in so doing, gives the necessary instructions to the euro area NCBs. The Executive Board is responsible for the current business of the ECB and assumes certain powers delegated to it by the Governing Council, which may include powers of a regulatory nature. The Executive Board also exercises organisational and managerial powers regarding the ECB and, in consultation with the Governing Council, decides on the internal structure of the ECB. The Executive Board represents the "hub" (i.e. the centralised component) and the NCB governors the "spokes" (i.e. the regional component) of the monetary policy committee. In such systems, the hub specialises in preparing interest rate decisions and developing an infrastructure that aggregates information on the overall macroeconomic conditions in the currency area. This sharing of tasks is appropriate for managing the potential trade-off between timeliness in preparing monetary policy decisions and regional participation, and helps to avoid any unnecessary duplication of tasks.

The Eurosystem's process for appointing the members of the decision-making bodies has a number of similarities with that of the Federal Reserve System, but there are some major legal differences. For instance, the Federal Reserve Act stipulates that the region of origin is a factor that must be considered when selecting members for the Board of Governors – a dating back to 1913 requires that they come from different Federal Reserve districts: "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". There is also some empirical evidence that Federal Open Market Committee (FOMC) members are subject to a regional bias in monetary policy decision-making. For instance, a study by Meade and Sheets (2002) finds that a regional bias is more significant for members of the Board of Governors than for Federal Reserve Bank Presidents.

Furthermore, the US Congress formally plays a far greater and more powerful[19] role in the appointment process for the Board of Governors of the Federal Reserve System. Nominations by the US President are subject to Senate confirmation, whereas the European Parliament is not vested with the same power. Reserve Bank Presidents are nominated by regional bodies (i.e. the boards of directors of those banks), but their final appointment is subject to the approval of the Board of Governors. Article 112(2)(b) of the Treaty states that Members of the Executive Board are appointed "from among persons of recognised standing and professional experience in monetary or banking matters". Appointments require the unanimous agreement of the governments of the Member States at the level of the Heads of State or Government, on a recommendation from the EU Council, after it has consulted the European Parliament and the Governing Council of the ECB. Hearings by the European Parliament are conducted prior to the appointment of Executive Board members. The appointment of NCB governors is the sole responsibility of the Member State. Members of the Executive Board must be citizens of a euro area country.

4.2 THE ROLE OF MONETARY POLICY COMMITTEES

The academic literature provides a number of arguments on why committees should be in charge of monetary policy decisions. Maier (2007) defines the actual monetary policy committees (for the Euroystem this term applies to the main decision-making body, the Governing Council and not to its MPC, which is a technical committee) – in the academic sense – as the

19 Note that US Congress has the power to pass legislation in the field of monetary policy.

body in charge of monetary policy decisions and characterises them as "a group of people sharing information and taking a decision together, on the basis of the information reviewed (and revealed)." Committee members need to gather and share information, and then evaluate it together in order to make a monetary policy decision. The structure of the committee and its rules of procedure are key constitutional features that can facilitate the decision-making process.

One of the central debates in monetary policy decision-making is *whether committees or individuals make better monetary policy decisions.* For a long time and contrary to what was implemented in practice by successful central banks such as the US Federal Reserve and the Bundesbank, it was widely believed in academia that individuals are best placed to make monetary policy decisions. The more recent literature, however, suggests that interest rates would be far better set by a committee. In their survey of central bank practices, Fry et al. (1999) find that nowadays a large number of central banks use some form of committee structure when setting monetary policy. Theoretical considerations on the functioning of committees support the delegation of monetary policy decisions to a committee. The Condorcet's jury theorem provides a theoretical rationale for this behaviour: it says that, because larger committees have more informed members, they are more likely to make decisions that are close to the "optimal" one (as opposed to smaller committees that have fewer informed members). In a normative sense, the theorem suggests increasing the number of committee members in order to move towards the best possible decision in the circumstances. In an extreme case scenario, however, this would imply a committee with an infinite number of members, which would probably not work efficiently in practice. In this respect, some of the rather strong assumptions underlying the theorem may be violated. For instance, committee members may not obtain policy relevant information at zero cost. Decision-makers face constraints in processing a large amount of information. They must rely on technical contributions and expertise from their substructures. To this end, the effectiveness of the work by committee substructures is critical for the timely availability and the high quality of the information needed for making monetary policy decisions.

Today, there is a growing consensus that group decisions – such as those taken by a monetary policy committee – outperform individual decisions (see Blinder (2004) and Maier (2007)). *First, decisions made by a committee are usually better informed* than when made by a single central bank governor. This hypothesis seems plausible, but difficult to verify empirically due to the lack of comparable empirical data. Blinder and Morgan (2000) carry out "laboratory experiments" on a large sample of Princeton University students to test whether groups make monetary policy decisions differently. With the limitations of such experiments in mind, they find that, provided that groups do not reach decisions too easily or too quickly, their performance would be at least as good as the average of their individual members. A similar exercise by Lombardelli, Proudman, and Talbot (2005) suggests that committees perform much better than the average of each individual member. Moreover, the possibility to learn about the underlying model can improve decision-making in a group context. *Second, committee deliberations may reflect a broader picture* of the possible interpretations of the information available at the time of the decision (heuristics). Committee members have different skills, backgrounds and preferences, and may therefore contribute different heuristics to the discussion. Since a committee pools the views of all members, it is less likely to adopt extreme positions or to be dominated by individuals. *Third, committees may be more transparent* in the monetary policy decision-making process than individual decision-makers (see Box 4).[20] *Fourth, decision-making by committees can be understood as a means of buying insurance* against pressure from the government or the

20 This switch to collective decision-making by a committee is the subject of ongoing research; see Blinder (2004), Blinder and Wyplosz (2004), and Fujiki (2005) for an analysis and a survey of the various reasons for this phenomenon.

media which would aim to influence monetary policy decisions. Fujiki (2005) argues that monetary policy decision-making by a committee may provide more incentive to stabilise inflation in line with the announced goals and in line with the notion of a conservative central banker whose decisions aim to increase his/her reputation as an inflation fighter (see Rogoff (1985)). In this respect, long terms of office can enhance decision-makers' personal independence and give them the necessary incentive to conduct a sustainable policy over the medium term, while at the same time discouraging opportunistic behaviour.

However, decision-making by committee, particularly by larger committees, could entail disadvantages that would not arise when individuals take decisions. For instance, the exchange of information in groups may not be perfect for several reasons. When information acquisition has costs, bearing in mind that information is a public good, there may be an incentive to free ride. Mayer (2007) argues that the publication of (attributed) minutes of internal committee debates could limit free riding. It will, however, reduce the confidentiality of the deliberations and may result in sterile discussions. In addition, committee members may feel they have to hide their "true" preferences and thus redraft the minutes to make them less informative. Even when free riding is not an issue, committee members may engage in strategic behaviour in order to exploit information asymmetries. If there are too many members in a committee, an individual member may feel that his/her vote would only marginally influence the committee's decision, and thus instead of revealing his/her "true" preferences, may decide to engage in logrolling (see Bernholz (1974)). In addition to the heterogeneous preferences of committee members, agreement on decisions may become complex, more time consuming and less optimal. A committee's ability to process information, as well as the quality of its decisions, may depend on the skills of its individual members and its advisory staff. Under certain circumstances, committees could fall into the trap of "groupthink" (see Sibert (2006)), i.e. in striving for consensus, members would rule out other potentially viable policy options. Such behaviour is particularly costly when a committee's credibility is at stake (e.g. the monetary policy committee would focus only on the government's official position on policy rates, deliberately ruling out any other interest rate path that may be implied by economic data).

A committee's ability to process information may also depend on the practical way the discussion is organised, and in particular on whether a set of members (the hub) has been able to discuss the decision beforehand and on whether and when they are able to put a decision to the vote of the entire committee. If the hub has already discussed the decision, the decision may be subject to an intrinsic judgement bias in the sense that there is a difference in the accuracy of judgement between the hub and the spokes. Berk and Bierut (2007) find, however, that the adoption of appropriate agenda-setting techniques – such as to vote on interest rate proposals at the end of the monetary policy discussions – could be a way of avoiding the possible crowding out of relevant information in monetary policy committees' discussions.

There may also be disadvantages related to the committee's voting procedures or rules of procedure, and there may be trade-offs between different voting systems. Smidkova (2003) discusses the advantages and disadvantages of different voting systems (see Table 2) and concludes that the more the voting system helps to deal with uncertainty, the less transparent it may ultimately be for external observers. For monetary policy decisions to be transparent, it is also necessary to determine the degree of unanimity sought by the committee in pursuit of its main goals. A voting procedure should aim to reveal the "true" preferences of committee members and the extent of agreement on a certain decision. Sometimes, depending on the shock that hits the economy, a trade-off may arise between the timeliness and appropriateness of monetary policy decisions. Too much focus on consensus may risk delaying necessary

Table 2 Advantages and disadvantages of voting systems

	Board members reach consensus	Board members vote individually	Governor decides
Description	Policy-makers must reach consensus about the best policy reaction., They consider all available information + their individual judgements + the judgements of other board members	Policy-makers vote on the basis of all available information, including expert views on probabilities and pay-offs, + their individual judgements	Governor decides on the basis of all available information, including expert views on probabilities and pay-offs, + his own judgement
Major advantages	Indirect disclosure of pay-offs and probabilities to other decision-makers and consensus are respected methods for dealing with uncertainty	Averaging of probabilities and pay-offs helps to deal with uncertainty	Easy and transparent (pay-offs and probabilities of the Governor are disclosed indirectly)
Major disadvantages	Time consuming; Lower transparency due to pay-offs and probabilities not being disclosed externally (policy bias can be indicated to compensate)	Differences between board members' opinions are only averaged. If the voting pattern is not announced, transparency not so high	If experts are not valuable partners in the policy debate, no other method for dealing with uncertainty is added in the second stage of the decision-making process

Source: Adapted from Smidkova (2003).

monetary policy decisions, but may be beneficial in terms of pursuing a medium-term orientation.

In the presence of uncertainty or of non-linearity, monetary policy-makers may also face a "discursive dilemma". When exercising judgement, the views of all committee members have to be aggregated in some form. The aggregation of heterogeneous views or preferences may cause various problems. In this respect, the outcome will depend on how the monetary policy decision is reached. According to Claussen et al. (2006), a premise-based procedure will, on average, result in better monetary policy decisions than a conclusion-based procedure. In practice, however, this distinction may be insufficient, as monetary policy committees normally vote on the policy rates, and rarely on the underlying assumptions. Central banks that discuss and pre-announce an interest rate path for future policy rates, such as the Reserve Bank of New Zealand, Norges Bank and Sveriges Riksbank, may constitute a possible exception in this regard, in that their choice of interest rate path is explicitly constrained by the use of a model and its assumptions. However, it may be relevant concerning the organisation of the discussion, i.e. whether the discussion follows a preordained and logical structure or is a succession of views on the best interest rate decision.

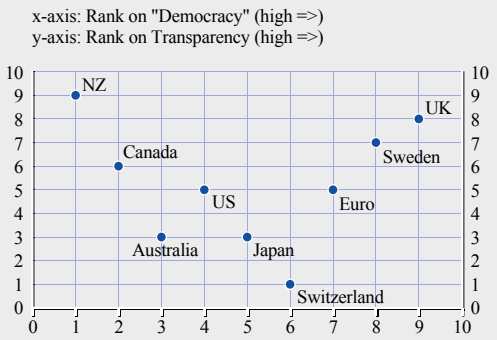
Box 4

HOW TRANSPARENT ARE MONETARY POLICY COMMITTEES?

A comparison of monetary policy committees suggests that they may place different emphasis on transparency. Blinder (2004) observes that a *collegial committee* prizes solidarity and strives for group ownership of its decisions. The chairperson forges consensus and, where possible, seeks to achieve unanimity in the decision-making process. Conversely, in an *individualistic committee*, any differences of opinion are voiced and conclusions are reached by majority voting,

if necessary. Hence, individual members are allowed to express their preferences and do not always have to embrace the group's decisions.

"Democracy" versus "Transparency"



Source: Blinder (2006), p. 15.
Note: "Euro" means "euro area".

The chart shows the rankings of selected central banks in terms of transparency, which are based on the index by Eijffinger and Geraats (2006) against Blinder's (2004) "subjective" index of the degree of democracy. According to the study by Eijffinger and Geraats (2006), the Eurosystem ranks similar to the Federal Reserve System in terms of transparency. This ranking, which may be biased towards inflation-targeting central banks, is based on five criteria, namely political transparency (openness about policy objectives and institutional arrangements), economic transparency (release of the economic information that is used for monetary policy preparation and decision-making), procedural transparency (the way monetary policy decisions are taken), policy transparency (announcement, signalling and explanation of policy decisions) and operational transparency (the way in which monetary policy is implemented). The index for democracy takes into account a number of factors, including the size of the committee, the dominance of the chairman, and the participation of other voting members. In Blinder's (2006) analysis, the Bank of England takes the lead in terms of "democracy" because group decisions are made by majority vote and members express their own views. The Governing Council of the ECB, which functions as a "genuinely collegial committee", ranks among the most democratic monetary policy committees. In such committees, members compromise on group decisions and all members take collective ownership of the decisions. According to Blinder (2006), the FOMC under Alan Greenspan was also collegial, but more autocratic, because the Chairman managed to persuade the other members committee so that the group decision ultimately became the Chairman's decision. Under Chairman Bernanke the FOMC's interest rate decisions have become more democratic, implying a shift of the US in the chart to the right. The Reserve Bank of New Zealand, which has one governor in charge of monetary policy, provides an example of individualistic decision-making. In terms of transparency, the Reserve Bank of New Zealand and the Bank of England take the lead, while the Swiss National Bank and the Bank of Japan are two of the most secretive. From the U-shaped pattern, Blinder (2006) concludes that a single governor can be as transparent or intransparent as a monetary policy committee. Overall, this comparison illustrates that, in practice, there be factors other than the size of committee and its procedures and communications that determine the preference for monetary policy transparency. For instance, such factors may be related to cultural aspects of the society, traditions and common values.

4.3 THE MONETARY POLICY DECISION-MAKING PROCESS AND REGIONAL DIVERSITY

Cultural and economic diversity is a specific feature of the euro area, which plays a role in all phases of the monetary policy decision-making process (see Chart 6). Some ECB observers (e.g. Wyplosz (2003)) have raised the concern that this diversity, especially in the context of consensus voting, may lead to indecisiveness, increase the potential for policy errors or, at the very least, lead to delays in the monetary policy response of the Governing Council to economic shocks influencing the euro area economy. Experience thus far seems to suggest that the contrary is true as evidenced, for example, by the

maintenance of stable prices and the anchoring of inflation expectations in line with the ECB's definition of price stability. The effectiveness of the ECB's decision-making process is indicated by the overall success of its monetary policy since 1999, but also by its timely reaction under exceptional circumstances (such as those of 11 September 2001 and the financial turmoil in August 2007).

It is often overlooked in the academic debate that the federal nature of the Eurosystem has important advantages that contribute to the efficiency of the monetary policy decision-making process in the euro area. In particular, it enhances the gathering and sharing of information on relevant economic developments in the euro area, thereby contributing to well informed discussions at the level of the Governing Council. The federal structure also facilitates consensus building at the level of the Governing Council, as any relevant contributions to its discussions are agreed beforehand by the Eurosystem's committees involving all euro area NCBs. This means that the discussions in the Governing Council focus more on the assessment of the arguments and hence saves time at the decision-making level. The federal approach has also helped in that it enables a wide range of audiences to be addressed, as required in a multicultural and multilingual currency area, and has therefore strengthened the accountability of the central banking system. The fact that the NCB governors explain the ECB's monetary policy decisions in their own language and that the Treaty stipulates that all official publications be released in the national languages of euro area countries have helped to improve all communication by the ECB and has ensured that information reaches all citizens in a timely and comprehensive manner.

The regional diversity across euro area countries heightens the potential for committee members not to reveal private information. As was shown in theoretical studies (see Green and Laffont (1979) and Mas-Collel, Whinston, and Green (1995)) and discussed by Sibert (2003) and Fujiki (2005), there is the more general issue of achieving incentive compatibility in monetary policy committees as a means to promoting timely monetary policy decisions. Accordingly, committees may be subject to strategic behaviour whenever its members engage in "self-interested" behaviour and do not fully share information. Opportunistic behaviour by individual committee members, combined with the existence of private information, may lead to a situation for which there is no incentive-compatible voting mechanism. Such joint decision-making processes may lead to outcomes that are shared by all its members, but that are inferior to decisions free of strategic behaviour. As experiments have shown, the outcome of group decision-making can be improved by changing the settings. For instance, in the presence of "repeated games", information sharing typically works better because group dynamics may reduce the incentives for individual members to engage in non-opportunistic behaviour. In practice, the NCBs may have superior knowledge on national indicators and the ECB may have more timely information on area-wide indicators. In line with the above theoretical considerations, a prior discussion of economic indicators in the Eurosystem's committees before the meetings of the Governing Council is a way of enhancing the sharing of information at the technical level, as well as among decision-makers (see also Section 5.3), and thus of countering the incentives for strategic behaviour. It also contributes to the assessment of the relevance of specific country developments for the euro area indicators, and thereby incorporates the diversity of economic conditions under which a central bank has to make decisions.

To counter the above, we identify a number of features that explain how the Eurosystem minimises the risk of policy errors and succeeds in making timely decisions. First, there is the hub-and-spokes nature of the decision-making bodies, according to which a wide range of responsibilities are delegated to the Executive Board (e.g. the preparation of monetary policy decisions). The Executive Board acts with a clear euro area focus and contributes to the

gathering and assessment of policy-relevant information. It gives a strong weight to euro area considerations in the discussions of the Governing Council. Second, monetary policy discussions in the Governing Council follow the logic of the ECB's monetary policy strategy, which is to conduct an economic analysis and a monetary analysis and then cross-check the information from both analyses. Although these discussions focus on euro area developments, national developments are also considered to the extent they are meaningful to understanding the area-wide trend. Furthermore, the view is held that the "one person, one vote" principle contributes to the euro area focus. Members of the Governing Council have equal voting rights regardless of the economic weight of their country, and it is the overall assessment by individual members that matters and not the country weight of the NCB. Moreover, the personal independence of members of the Governing Council forbids other national policy-makers to influence their voting behaviour. Hence, national interest is less likely to play a role. Third, the use of a well structured monetary policy decision-making process, specifying the set of indicators to be monitored regularly and ensuring their regular and systematic consideration, encourages a premise-based approach, thus further limiting the use of national or specific considerations. Fourth, rules and "terms of reference" concerning communication are agreed regularly. In addition, all members of the Governing Council are obliged to present its collective view in public, regardless of whether they have individually agreed to or dissented from a decision.

The Governing Council keeps the minutes of the meetings confidential, but publishes the outcome of its deliberations immediately after the first meeting each month.[21] At 1.45 p.m. (C.E.T./C.E.S.T.) the ECB issues a press release that informs the public about the Governing Council's monetary policy decision. Shortly afterwards, at 2.30 p.m.(C.E.T./C.E.S.T.), the President, assisted by the Vice-President, holds a that is broadcast live and lasts about an hour. During this press conference, the President reads the Introductory Statement, which contains a more detailed explanation of the decision against the background of the ECB's monetary policy strategy. In particular, the President explains the Governing Council's assessment of future risks to price stability, and its judgement having cross-checked the information from its economic and monetary analysis. It also includes a view on fiscal policy and structural reform developments. The Introductory Statement is followed by a question & answer (Q&A) session, which allows journalists to enquire openly about details concerning the specific monetary policy decision. A transcript of this Q&A session is published on the ECB's website only a few hours later. Overall, the press conference contributes to the transparency of the Governing Council's decision-making process for monetary policy matters. The publication of this "Introductory Statement" by the President immediately after the monthly press conference instead of minutes and voting records has contributed to the fulfilment of the Eurosystem's organisation principle of speaking with a "single voice". In addition to this, official communications are published in all languages (via the internet) in order to reach the ECB's audiences in their respective language and thereby avoid linguistic ambiguities as far as possible. Finally, the use of technical committees and their substructures to gather and synthesise information ensures the best possible degree of information sharing before a decision is taken. This is supported by the internal rules of procedures for such fora which also have a euro area focus. All in all, these elements ensure that the country diversity of the Eurosystem is taken into account by the Governing Council when it makes its monetary policy decisions.

4.4 AN INTERNATIONAL COMPARISON OF MONETARY POLICY COMMITTEES

As explained above, there is a sound theoretical basis for assigning monetary policy decisions

21 Decisions that relate to the other tasks of the ECB, e.g. to payment systems, financial stability, statistics, banknotes and certain legal affairs, are published at 3 p.m. (C.E.T./C.E.S.T.) the day after the second Governing Council meeting of the month.

to a committee, and it reflects also European tradition. In the case of the ECB, the genuine monetary policy committee is the Governing Council (whereas the term Eurosystem MPC refers to a technical committee comprising high-level experts from the ECB and the NCBs). Today, with the prominent exception of the Reserve Bank of New Zealand and a few other central banks with autocratic structures, most central banks in the world rely on a committee rather than on an individual to make monetary policy decisions. When delegating responsibility for making monetary policy decisions to a committee, a number of elements, such as the committee size, the appointment procedures, a monetary policy strategy, a voting rule, and the channels for announcing policy decisions, need to be agreed. The international comparison below surveys existing practices in terms of monetary policy decision-making across central banks. We look at ten central banking systems (including the Eurosystem) that have shaped the central banking landscape in recent years, and highlight the main elements of monetary policy-making by committees (see Table 3 for an overview).

Recent decades evidence a trend towards the creation of larger committees in charge of monetary policy decisions. It is difficult to draw robust conclusions on the *"optimal size" of a monetary policy committee* (see Fujiki (2005)). Overall, research suggests that the benefits of obtaining better information through a larger number of committee members have to be balanced with the higher costs of collecting and processing the information. Typically, larger central banks prefer to have larger committees in charge of monetary policy. In practice, a range of between 6 and 19 voting members covers most central banks in our comparison.[22] The Reserve Bank of New Zealand is the notable exception because the committee has only an advisory function and only the governor is in charge of monetary policy decisions. In a recent survey, Erhart and Vasquez-Paz (2007) suggest that the optimal size of a monetary policy committee depends on a number of factors, such as information uncertainty, size of the currency area and the degree of economic stability. For the euro area, they find that the optimal size would be approximately 18 Governing Council members, while on average the optimal size of (non-euro area) committees would be roughly 5-9 members. This is in line with the findings of Berger et al. (2006), which suggest that larger committees are typical of larger and more heterogeneous countries with strong democratic institutions, flexible exchange rates and independent central banks. Several monetary policy committees have both internal and external members, who may work part-time or full-time on monetary policy issues.

The growing independence of central banks has meant that the personal independence of policy-makers has also had to be enhanced. Today it is widely acknowledged that the terms of monetary policy committee members should be longer. However, there is no indication on the "optimal length" of a term. In practice, terms of offices are usually about six years and can be renewed. In the case of the Reserve Bank of New Zealand, the appointment of the central bank governor is linked to the validity of the policy target agreement (PTA), which is five years. Members of the Executive Board of Sveriges Riksbank cannot be reappointed. Members of the decision-making bodies are often appointed by a high-ranking government official, typically the Minister of Finance. In some cases, hearings are conducted by a democratic authority in order to confirm that the candidate has the necessary qualifications for the post. In the case of the Eurosystem, the Statute of the ESCB stipulates long terms of office as a rule: a minimum term of office of five years for NCB governors, which is renewable, and a non-renewable term of office of eight years for the members of the Executive Board.[23] These provisions were designed to

22 In this respect an international comparison by Berger (2006) finds that, for a sample of selected developed economies, technical committees that gather information are on average larger than committees in charge of monetary policy decisions.

23 When the ECB was established in 1998, a system of staggered terms of office was applied for appointments to the Executive Board in order to ensure continuity. The first ECB President was appointed for eight years and the first Vice-President for four years. The other four members of the Executive Board were appointed for five, six, seven and eight years respectively.

Table 3 International comparison of monetary policy committees

Central Bank Elements	Eurosystem	Norges Bank	Sveriges Riksbank	Swiss National Bank	Bank of England	Reserve Bank of Australia	Bank of Canada	Bank of Japan	Reserve Bank of New Zealand	Federal Reserve System
Name of the monetary policy committee	Governing Council	Executive Board	Executive Board	Governing Board	Monetary Policy Committee (MPC)	Reserve Bank Board	Governing Council	Policy Board	Governor	Federal Open Market Committee (FOMC)
Size of the committee										
Voting members	21	7	6	3	9	9	6	9	1	12
Other members	0	5 are external members	0	0	4 are external members	6 are external members	0	0	0	7 non-voting presidents
Appointment of members										
Appointment by	Heads of State or Government (hearing by Parliament)	The King	General Council	Federal Council	The Chancellor	The Treasurer	Minister of Finance	The Cabinet	Minister of Finance	the President (confirmation by Senate)
Terms of office	8 years, non-renewable for EB members, minimum 5 years for NCB governors, renewable	6 years for full-time members, 4 years for other members, renewable	6 years, non-renewable	6 years, renewable	Fixed term up to 5 years, renewable	7 years for full-time members, 5 years for other members, renewable	7 years, renewable	5 years, renewable	Fixed for the length of a Policy Target agreement, renewable	14 years, non-renewable or unexpired term, renewable up to 14 years
Monetary policy decisions										
Strategy	Based on two pillars	Inflation targeting	Inflation targeting	Based on three elements	Inflation targeting	Inflation targeting	Inflation targeting	Based on two perspectives	Inflation targeting	Eclectic strategy
Numerical goal for price stability	Quantitative definition: "below, but close to 2%" (HICP)	Inflation target: approx. 2.5% (CPI)	Inflation target: 2% (CPI) with fluctuation margin	Quantitative definition: "below 2%" (CPI)	Inflation target: 2% (CPI)	Inflation target: 2-3% (CPI)	Inflation target: control range 1-3% (CPI)	Quantitative definition: "understanding of 0-2%" (CPI)	Inflation target 1-3% (CPI)	No numerical value
Important contributions	Economic and monetary analysis	Inflation forecast	Inflation forecast	Inflation forecast	Inflation forecast	Inflation forecast	Inflation forecast	Broad range of indicators	Inflation forecast	Broad range of indicators
Voting rule										
Decision rule	Consensus	Consensus	By majority, governor has casting vote	Consensus	By majority	By majority	Consensus	By majority, chairman has casting vote	By the governor	By majority, chairman has casting vote
Collective responsibility	YES	YES	YES	YES	NO	YES	YES	YES	NO	YES
Announcement of decisions										
Press release	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Minutes published?	NO	NO	YES	NO	YES	YES	NO	YES	NO	YES
Voting records published?	NO	NO	YES	NO	YES	NO	NO	YES	YES, implicitly	YES
Committee substructures										
Committees that report directly to the decision-makers	YES (15)	YES (1)	YES (1)	YES (4)	NO	YES (3)	YES(6)	YES (2)	YES (5)	YES (3)

strengthen the personal independence of the decision-making bodies. In addition, as shown by an international comparison by Kuttner and Posen (2007), financial markets are interested in appointment decisions. This is because new appointments may contain information about possible changes in the preferences of the committee and the way discussions will be conducted. Furthermore, they may trigger doubts about the credibility of the central bank. An analysis based on agent theory by Cukierman and Meltzer (1986) would argue that such effects may arise when markets anticipate a change in the composition of the "hawks" and "doves" of the monetary policy committee. In a setting with a high degree of personnel independence, appointments are likely to alter individual preferences and give rise to peer pressure. According to the "Thomas Becket" effect, new members of a committee often change their behaviour once they have been appointed. In a central bank context, this would mean that new members become as adverse to inflation as older members.[24]

Monetary policy committees have to deal with uncertainties. One way in which they deal with them is to *base committee decisions on a (formal) monetary policy strategy* that ensures a systematic and consistent assessment of the economic, monetary and financial indicators. Such an approach may help to build consensus in monetary policy committees, to enhance the credibility of the central bank and hence to better anchor inflation expectations. While practices are converging with regard to the main elements of a monetary policy strategy, preferences across countries may still differ. In this regard, since the early 1990s, a large number of central banks have adopted a monetary policy strategy of inflation targeting. Committees with an inflation targeting strategy base their monetary policy decisions mainly, or exclusively, on the evolution of an inflation forecast. Central banks for larger areas, such as the Federal Reserve System, the Bank of Japan and the Eurosystem, have chosen more eclectic monetary policy strategies based on a broader set of indicators in order to assess the economic outlook and the risks to price stability. The monetary policy committees of those central banks stress the need for robust monetary policy decisions in the light of a variety of uncertainties (on data, economic shocks, the transmission mechanism, etc.). They avoid mechanistic reactions to single indicators and policy rules and give less prominence to the inflation forecast in their decisions, but at the same time emphasise the need to cross-check the indicators available. In this context, there is all the more reason for the strategy followed by the central bank to encompass and synthesise such information is made known to and understood by the public.

Another way of dealing with uncertainties is to *design a voting system for a systematic* decision-making process. The voting rule (either consensus or majority voting) must be respected by all members of the committee. The practice of consensus voting is consistent with the fact that the committee has collective responsibility, and has therefore enjoyed increased popularity in recent years. According to this rule, it is assumed that all members agree with the decision in the sense that no member strongly disagrees with it. By contrast, majority voting is based on the agreement of the majority of committee members present at the committee meeting. According to this rule, individual members may express their dissent, but ultimately they have to accept the majority decision. Most committees that pursue majority voting have an uneven number of committee members and/or give the chairperson the casting vote in the event of a tie. Moreover, the Bank of England stresses the accountability of each individual member of its Monetary Policy Committee to the public, but otherwise its accountability is collective. In the case of the Eurosystem, Article 10.2 of the

24 The "Thomas Becket" effect is widely acknowledged to apply to individual decision-makers, and it may similarly apply to a committee that has collective responsibility for monetary policy decisions (see, for example, Eijffinger and de Haan (1996)). Thomas Becket (born in 1118) was chancellor and a friend of King Henry II before becoming Archbishop of Canterbury in 1162. When appointed, he changed his attitudes concerning the relation between state and church and had a number of arguments with the King. He was made individually accountable for his non-opportunistic decisions – i.e. he was murdered by followers of Henry II and later canonised by the Vatican.

Statute of the ESCB envisages majority voting by the Governing Council on monetary policy matters. In practice, the ECB pursues consensus voting in line with the collegial responsibility of the Governing Council.

Monetary policy decision-makers around the world agree on the *importance of announcing monetary policy decisions in a timely and comprehensive manner*. While press releases are the preferred way of announcing monetary policy decisions, the practice of holding regular press conferences after the policy meeting is gaining popularity (see, for instance, the recent example of Sveriges Riksbank). In order to explain the arguments underlying the decision to the general public in more depth and in a timely manner, additional tools are useful. For instance, regular official publications, such as Inflation Reports and Quarterly Bulletins are standard. However, these communication tools have limitations in that they do not reveal individual policy-makers' assessments of the economic outlook. In this respect, opinions differ regarding the potential usefulness of publishing minutes (which is normally delayed by a few weeks) and voting records. The Federal Reserve System, the Bank of Japan, the Bank of England and Sveriges Riksbank provide this information together with voting records, but some other central banking systems (including the Eurosystem) do not (see Table 3).[25] In the case of the Eurosystem, the Governing Council informs the public about all relevant aspects of its deliberations in almost real time with the issuance of the Introductory Statement of the President after the meeting. Issing (2005) is of the view that the practice of holding extensive press conferences each month and of publishing an Introductory Statement fits well with the collegial nature of the ECB's decision-making process and the specific institutional arrangements of a supranational bank: "a decision is the result of collective deliberations and debate and cannot be reduced to a simple exchange of opinions".

In order to ensure an efficient flow of information in a decentralised central banking system, *monetary policy committees can delegate certain tasks either to a well defined internal structure or to committee substructures*. Monetary policy committees only need a limited set of relevant contributions for making monetary policy decisions. The chief economist is often in charge of summarising an assessment of the economic outlook prepared by his/her staff. Sometimes internal substructures are employed. Typically, either the chief economist or the chairman may make a recommendation for the policy rate. Committee substructures are not normally directly involved in the monetary policy process. They usually support the governing bodies in more operational tasks, such as auditing, banking supervision, payment systems and other administrative issues.

The Bank of England's Monetary Policy Committee is special, however, in that it is directly involved in the process of forecasting, but does not interfere in other aspects of the central bank's tasks. In the following pages, we show that the ECB is also special, as it includes economic projections prepared or commented upon by one of its committee substructures in the documents for the preparation of its monetary policy decisions. This has several advantages with regard to the functioning of the monetary policy committee: as advocated by Claussen et al. (2006), this makes the overall discussion more premise-based than conclusion-based as the discussion on projections clearly predates the discussion on their policy consequences. Furthermore, by providing all central banks with information on the content and outcome of the projection exercises, the issue of potential bias raised by Berk and Bierut (2007) is negated.

25 Article 10.4 of the Statute of the ESCB does not allow the ECB to release the minutes of its meetings or voting records, and instead states: "The proceedings of the meetings shall be confidential. The Governing Council may decide to make the outcome of its deliberations public".

5 THE WORKINGS OF THE EUROSYSTEM'S COMMITTEES AND SUBSTRUCTURES

In line with the above clarification of the Governing Council's role in monetary policy decisions, this section deals with the role of technical committees in the decision-making process and the regular interaction between committees at the different hierarchical levels. We outline the interaction among the ECB, Eurosystem staff and committees, and explain how it helps in the preparation of monetary policy decisions and contributes to consensus building at the level of the Governing Council. We also illustrate how experts from the ECB and NCBs interact in the process for compiling the Eurosystem staff macroeconomic projections. The flexibility and adaptability of the committee structure – in conjunction with the ECB's monetary policy strategy – have helped to integrate the new EU Member States into the Eurosystem's decision-making.

5.1 THE ROLE OF THE EUROSYSTEM'S COMMITTEES

Eurosystem committees are not in charge of monetary policy decisions. According to the Rules of Procedure of the ECB, the Eurosystem's committees play an advisory role, whereby they assist in the work of the decision-making bodies of the ECB by providing expert and/or technical advice to the Executive Board and the Governing Council. The widespread use of committees in so many areas reflects the need to share information and coordinate the work of the ECB and of the NCBs. This need stems from a variety of reasons, for which three main rationales can be identified:

- First, the ECB constitutes only a relatively small share of the Eurosystem's total staff, and considerable expertise is available at the national level in all areas related to the ECB's monetary policy.

- Second, most NCBs have been in existence for much longer than the ECB. A committee structure is thus useful, as it ensures consistency with past policies and across countries, thereby securing a harmonious level playing-field.

- Third, committees provide fora, in which best practices and technical expertise can be shared, and they foster cooperation within the Eurosystem at the staff and management level.

Committee work at various levels also enhances the effectiveness of the Eurosystem's diagnostic and policy-making processes in terms of knowledge transfer, learning by doing and consensus building, to name just a few. All committees process a significant amount of data and information at the aggregate and disaggregate level and carry out a wide variety of technical analyses and research that form the basis of many documents for the decision-making bodies (i.e. the Executive Board and the Governing Council). Hence, they allow the dispersion of information and research across the Eurosystem at an early stage and ensure that policy-makers have prior access to information available in the Eurosystem ahead of the Governing Council meeting where it is to be considered.

It is, however, not feasible to involve entire committees in very specific discussions, which has led to the establishment of some substructures that assist the committees in their advisory role. For example, the Eurosystem's monetary policy committee is supported by the Working Group on Forecasting (WGF), the Working Group on Econometric Modelling (WGEM) and the Working Group on Public Finance (WGPF).[26] Furthermore, some committees make use of task forces, i.e. groups of central banking experts with

26 Like committees, substructures require annual plans and have to periodically report on their activities. Clearly, such substructures raise the issue of effectiveness versus efficiency, the cost of which may not be negligible and should be carefully assessed vis-à-vis the intended and actual benefits at the moment of origination and throughout their lifespan.

a mandate to address specific issues and fulfil certain tasks within a set time frame.[27] In the pyramidal committee structure of the Eurosystem, the higher level – in particular the Governing Council – usually agrees on the procedures, composition and main tasks of the subordinate level. The output of subordinate committees – once agreed at this level – is routinely communicated to higher-level committees as input for their deliberations via letters, reports, memos and various types of presentation, etc.

It is worth mentioning that, in recent years, the ECB has also promoted several networks for the academic analysis of specific topical subjects, such as the Monetary Transmission Network, the Inflation Persistence Network and the ongoing Wage Dynamics Network. Such networks build on "coalitions" of NCBs and their experts with an interest in (and a willingness to contribute to) specific topics.[28]

5.2 INTERACTION BETWEEN THE ECB AND THE NCBS

All decisions regarding the committee structure of the Eurosystem fall within the competence of the Governing Council. The Executive Board is in charge of deciding the internal structure of the ECB (i.e. the number of functional units and organisational principles); similarly the NCBs are responsible for setting up their internal structures.[29] The regular cycle of the Eurosystem's decision-making process comprises three main stages (see Chart 6).[30]

First, there is a *preparation stage,* which involves technical contributions from all Eurosystem staff and committees. The aim of this stage is to gather information and agree on technical contributions that may be relevant to the decision-making process. The fact that the Eurosystem's committees comprise 1-2 national experts per country ensures that each euro area NCB provides input into the deliberations and is equally represented. ECB services make significant contributions to the discussions by preparing notes that serve as a general basis for the discussions. While committee chairpersons are normally appointed by the existing committee participants, it is often the case that an expert from the ECB chairs these discussions. The Eurosystem's committees all operate in a similar way; they have a well defined mandate which clarifies the range of contributions they have to prepare as input to the policy process; the working language is English; and there are regular meetings (typically once a month). Documentation and technical background information are made available to all committee members; their deliberations are confidential; and reports are published on issues of more general interest, subject to the approval of the Governing Council. Committees can delegate work of a more technical nature to working groups with a specific mandate or to task forces that meet until the task at hand is accomplished.

All contributions required for the policy decision-making process are either prepared directly by the ECB and NCBs or are the outcome of the deliberations of the various committees in which Eurosystem staff interact. In all monetary policy preparations, the Executive Board takes the lead, and the Eurosystem's committees and ECB staff assist. Contributions from the ECB staff cannot be sent directly to the Governing Council – they are always considered by the Executive Board beforehand, and, where necessary, the Executive Board provides guidance to on procedural matters and the content. The ECB Secretariat is in charge of transmitting approved documents to the members of the Governing Council. Regular contributions to the Governing Council's deliberations on monetary policy

27 As a general rule, task forces should consist of a limited number of NCB participants. Outside experts and/or third-party representatives may also be invited to take part in the meetings of substructures, when appropriate.

28 Another network that has operated on a regular basis is the Heads of Research Network, the aim of which is to share information on reciprocal analytical and research agendas and to foster some form of cooperation on an informal basis.

29 In order to avoid the duplication of tasks in the Eurosystem, the Governing Council may agree on guidelines that are binding for the ECB and the NCBs. See also the discussion in Section 3.2.

30 In order to characterise the relationship between the ECB and the NCBs, the President of the ECB, Jean-Claude Trichet, has frequently used the metaphor of a sports team. Accordingly, the ECB has a dual role: it acts as the "captain of the team", and, together with all the NCBs, it is a member of the team.

are sent by ECB staff to the Board member in charge of DG-Economics who then forwards the documents to the Executive Board for an initial discussion. Other documents that are produced only on occasion, but that may be useful for the Governing Council's discussions, can also be sent via the Executive Board to the Governing Council. Contributions from ECB staff, for which the expertise of NCB staff is deemed important, may be discussed beforehand at the technical level of one of the Eurosystem's committees in order to gather the views of NCB experts. The committee may then decide to forward the material to the Executive Board or to prepare a Committee Report which may be sent to the Governing Council via the Executive Board. Alternatively, it may inform the Governing Council about its discussions by means of a letter from the committee chairman to the President of the ECB, which could be accompanied by additional staff notes on the issue. In such cases, the President would approve transmission of the documents to the Governing Council.

Second, there is a *decision stage*, which involves the Governing Council and the Executive Board of the ECB. In line with Article 12.2 of the Statute of the ESCB, the Executive Board prepares the meetings of the Governing Council. This involves drawing up the meeting agendas, preparing the necessary documentation for the Governing Council and making proposals for future decisions.[31] The Executive Board currently meets at least once a week, and formally acts by simple majority of the votes cast by those members physically present. In the event of a tie, the President has the casting vote. However, like the Governing Council, in practice the Executive Board acts as a collegial body and practices consensus voting.[32] Monetary policy decisions are based on intense discussions on the risks to price stability for the euro area and are made at the level of the Governing Council under the leadership of the President. In this regard, the Executive Board has a special role, because its members take the lead in monetary policy preparations and, as members of the Governing Council, they vote on monetary policy decisions. Thus far, all interest rate decisions have been taken by consensus. The Governing Council, however, has not provided an operational definition of what "consensus" actually means in this regard. The Governing Council usually meets twice a month in Frankfurt.[33] The schedules for the meetings are available on the ECB's website two years ahead. At its first meeting each month, the Governing Council assesses economic, financial and monetary developments and makes its monthly monetary policy decisions. At its second meeting, it discusses mainly issues related to the other tasks and responsibilities of the ECB and the Eurosystem.

Third, there is an *implementation stage*, in which the NCBs are closely involved. Once a decision has been made, for example on the policy rate, one of the Eurosystem's committees (or ECB services) coordinates the activities of all the NCBs, which will then implement the decision in a decentralised manner and ensure that the Governing Council's guidelines are followed. For instance, all regular monetary policy operations are conducted in a decentralised manner. There is a single tender and bids are submitted through NCBs' operational functions (see ECB (2004) and ECB (2006a)).

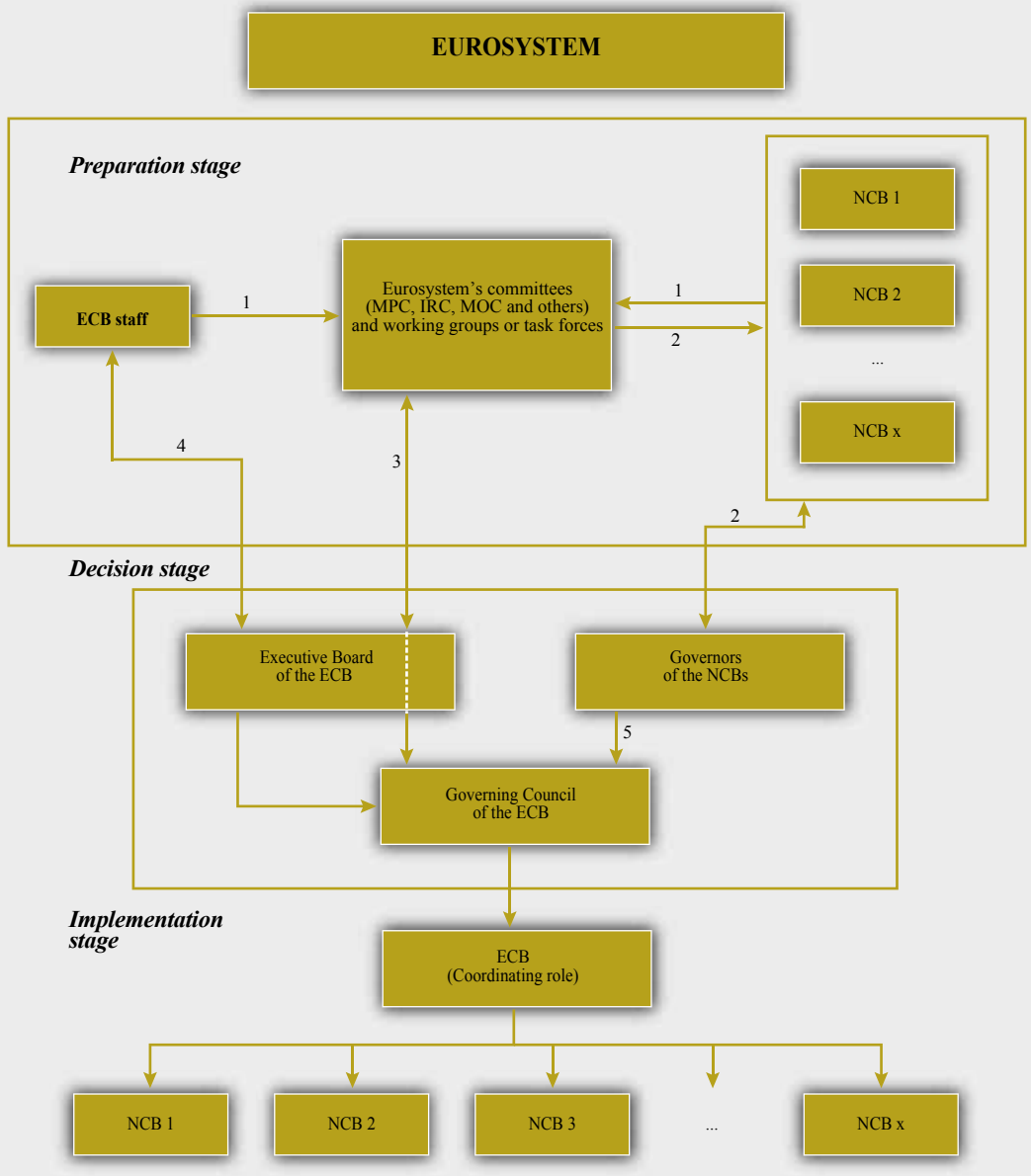
There is an additional dimension to the monetary policy process that is not shown in Figure 5.1, namely the communication of monetary policy decisions, which is carried out in parallel to the monetary policy implementation. The Eurosystem relies on communication tools that most central banks in the world have at their disposal, such as press conferences, press releases, an introductory statement, monthly

31 In practice, albeit not formally, the Executive Board has the right of initiative for decisions by the Governing Council. See Scheller (2006), p. 60.

32 Article 11.5 of the Statute of the ESCB states that "each member of the Executive Board present in person shall have the right to vote and shall have, for that purpose, one vote".

33 Meetings of the Governing Council are generally held at the ECB's premises in Frankfurt. However, since 2000, two meetings per year are held in a euro area Member State and are hosted by the respective NCB. Meetings are also occasionally held by teleconference, but any decisions may only be taken by written procedure.

Chart 6 The monetary policy decision-making process



Note: NCB refers to staff from the NCBs of the euro area countries. In 2008, the Eurosystem comprises x=15 NCBs.
1 Preparatory work for committees and working groups or task forces.
2 NCB members report to Governors. Governors give guidance.
3 Reports and letters sent to the Executive Board for transmission to Governors by the Secretariat. The Executive Board gives guidance.
4 Governing Council documentation prepared by ECB staff and transmitted by the Executive Board via the Secretariat. The Executive Board leads the preparations.
5 Transmission of letters and documents via the President.

bulletin with an editorial and speeches by members of the Governing Council. As is discussed and further explained in other publications (see ECB (2007a) and Blattner et al. (2008)), a close mapping of the ECB's monetary policy strategy and official communications has enhanced the predictability of monetary policy. In contrast to some inflation-targeting central

banks, such as Norges Bank and Sveriges Riksbank, the ECB does not regularly provide forward guidance to financial markets by announcing a preferred interest rate path. The Governing Council has clarified its reservations about pre-announcing an interest rate path and has emphasised the importance of avoiding mechanistic reactions to a single indicator, forecast or interest rate rule (see ECB (2007a)). Instead, it relies on the capacity of financial markets to make their own assessment based on all the information available with regard to the economic conditions in the euro area and the world economy (see also Annex 2).

5.3 THE PREPARATION OF MONETARY POLICY DECISIONS

A REGULAR PREPARATION

When setting interest rates, the Governing Council of the ECB applies a monetary policy strategy (see Chart 7), consisting of a definition of price stability and an economic and monetary analysis of the risks to price stability. The ECB's monetary policy strategy was the outcome of intense discussions at all working levels of the ECB and the NCBs, and has been tailored to the needs of a large currency area. This stability-oriented monetary policy strategy was adopted by the Governing Council in October 1998. It is based on two main elements: a quantitative definition of price stability, and a two-pillar framework which is the ECB's own approach to organising, evaluating and cross-checking the information relevant for assessing risks to price stability in the euro area (for details on the strategy, see ECB (1999) and ECB (2004)).

The Governing Council regularly carries out two analyses, namely an economic analysis to identify the short to medium-term risks to price stability and a monetary analysis to assess medium to long-term inflation trends. These two analyses are known as the "two pillars". This framework makes a clear distinction between alternative explanations of the inflation process as propagated by traditional schools of economic thought (see ECB (2003 and 2004)). The Governing Council has indicated that, for practical purposes, it is important to ensure robustness and to avoid major policy errors. It has therefore assigned monetary analysis the role of cross-checking, from a medium to long-term perspective, with the short to medium-term indications being suggested by its economic analysis. The economic and monetary analyses include a large number of relevant indicators that are monitored regularly, and a set of briefing documents discussing their evolution and addressing specific topical issues is made available to the Governing Council at its first meeting of every month. This ensures that the policy-makers systematically receive all relevant information in a systematic manner. All these documents are prepared by ECB staff. This information is usually reflected in the Monthly Bulletin of the same month, after the Governing Council has made its decision on policy rates.

The bulk of the information is focused on the euro area in line with the ECB's mandate and strategy. However, supplementary briefing material on developments in the regions is prepared in order to deepen policy-makers' understanding of the dynamic behaviour of the euro area economies and to account for special factors attributable to exceptional developments in just one or several countries.[34] The President of the ECB acts as the "primus inter pares", chairs the discussions and ensures that the rules of procedures are followed. The Board Member in charge of DG-Economics may submit a policy recommendation for the discussion and eventual decision of the Governing Council. After an internal debate, the President seeks agreement among the members of the Governing Council on the monetary policy assessment for the euro area, both in terms of the decision and the drafting of the Introductory Statement that will be presented at the press conference.

While the ECB staff is in charge of the regular, monthly analysis of monetary and credit aggregates and of certain indicators in the economic analysis, such as developments in prices, wages, output, external trade and financial indicators, the role of

34 The documents circulated do not reflect or prejudge the Governing Council's evaluation of the information provided by both analyses.

preparing the Eurosystem staff macroeconomic projections is shared with the staff of the Eurosystem. The distinction between an economic and a monetary analysis implies a rather high degree of specialisation and the need to reconcile the interdependent information from both analyses. This leaves the decision-making bodies room for judgement, when evaluating and cross-checking the information from both analyses.

The Governing Council is in charge of cross-checking the information from the economic and monetary analyses, and, if necessary, applying judgement when it comes to identifying the best monetary policy response to the circumstances. When making interest rate decisions, members of the Governing Council of the ECB place more emphasis on monetary analysis than most other central banks.[35] These decisions require the thorough preparation and analysis of monetary and credit aggregates, as well as of other indicators, such as money-based inflation-risk indicators for inflation, money gaps, money demand models, P-star models and dynamic stochastic general equilibrium (DSGE) models which assign an important role to money.[36] Every quarter, the Governing Council receives, at the same time as the projections, the Quarterly Monetary Assessment (QMA) note, which is undertaken by ECB staff and takes into account input from NCB experts.[37] The key focus of the QMA is to quantify the contributions of the various monetary analysis tools to the inflation outlook. The information contained in the QMA is made available to the public in the ECB's Monthly Bulletin. The QMA is also presented to the Eurosystem MPC which regularly discusses in detail the techniques and models used in the context of such assessments.

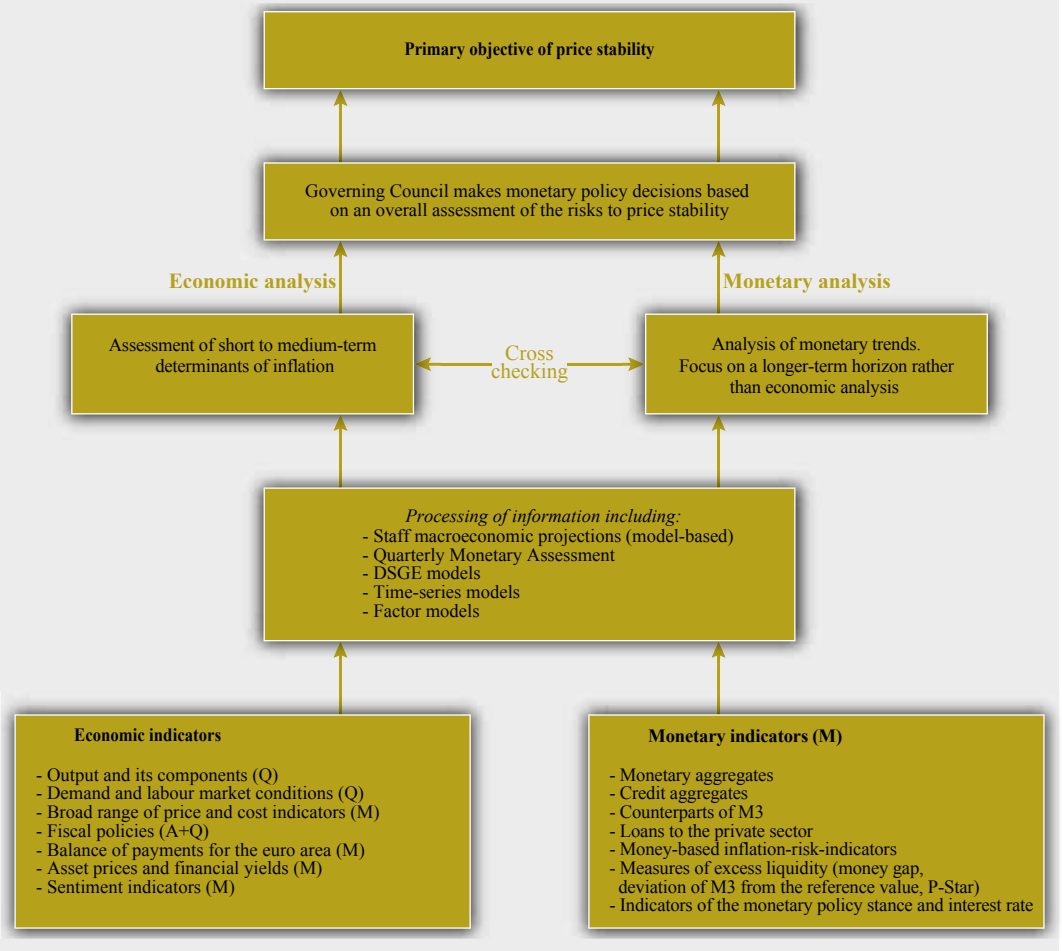
As is the case for other central banks, such as the Federal Reserve System and the Bank of Japan, the ECB's interest rate setting behaviour can, in principle, be modelled by means of a monetary policy rule. The existence of such a rule does not mean that the monetary policy-making process could be substituted for the pursuit of an "optimal" interest rate rule. Such a rule is useful ex post – when there are no uncertainties – and for the assessment of the conduct of monetary policy. Full interaction at the various technical levels is required in order to cope with a number of uncertainties with regard to data, models and shocks hitting the economy. Moreover, the parameters of the ECB's monetary policy rule could change over time (and may differ from that of other central banks). There may also be shocks that require different monetary policy responses to those implied by a "simple" monetary policy rule (see Gerdesmeier, Mongelli and Roffia (2007)). A recent comparison of the ECB with the Federal Reserve System after 2001 by Christiano, Motto and Rostagno (2007) finds, for instance, that the ECB reacts somewhat differently to shocks. Such differences mainly reflect the dual mandate of the Federal Reserve System, which implicitly forces FOMC members to give higher weight to an output objective, and differences in the structure of both the economies. The greater persistence of price developments in the euro area implies that the ECB has to move its policy rates less than the Federal Reserve System in order to stabilise prices. In addition, a number of empirical papers examining policy reaction functions suggest that the ECB's monetary policy largely resembles that of the Bundesbank, with some modifications that mainly reflect the differences between the structure of the euro area economy and that of the German economy (see Hayo and Hofmann (2006) and Smant (2002)). Furthermore, a mechanistic rule could render communication more difficult, especially when economic developments call for a deviation from the path implied by the rule.

35 Federal Reserve Governor, Ben Bernanke, clarified, for instance, that, initially, monitoring ranges for monetary aggregates played a prominent role in the FOMC's deliberations, but that over time they had downgraded monetary analysis as a basis for making policy decisions. Nevertheless, the Federal Reserve System continues to monitor monetary and credit aggregates in order to obtain information about the state of the economy (see Bernanke (2006)). More recently, Mervyn King, Governor of the Bank of England, (see King (2007)) made the point that the Bank of England's MPC should pay more attention to information contained in monetary and credit aggregates. Similar to the Federal Reserve System, the Bank of England's staff provide policy-makers with the results of their monetary analysis, typically enabling policy-makers to improve their understanding of the nature of shocks hitting the economy.

36 For an illustration of this, see ECB (2004).

37 For a description of the tools used in the QMA, see Fischer et al. (2006).

Chart 7 The ECB's monetary policy strategy



Note: With regard to the availability of indicators, A: Annual, Q: Quarterly, M: Monthly.

B THE EUROSYSTEM'S PROJECTION EXERCISES

Macroeconomic projections play an important role in the economic analysis of the ECB's monetary policy strategy, but, as illustrated above in Chart 7, they are only one input among others. These projections for euro area inflation, output and other macroeconomic variables are produced jointly by experts from the Eurosystem and the ECB on a biannual basis, the other two times by ECB staff only, and are published every quarter in the ECB's Monthly Bulletin.

Information about the economic outlook of the euro area is a vital component of the policy-making process. Before a decision is made, the Governing Council analyses a large amount of economic, financial and monetary data with regard to their implications for future risks to price stability. The constraints faced by the Governing Council are determined by the structure of the economy and economic disturbances. Before every Governing Council meeting, the Executive Board circulates documents prepared by ECB staff summarising its latest assessment of the indicators monitored within the economic and the monetary analyses. Every third month, the briefing material includes the results of Eurosystem/ECB staff macroeconomic projections, as agreed by the Eurosystem MPC and its working groups.

The Eurosystem/ECB staff macroeconomic projections are a convenient analytical tool for condensing a broad range of information on current and future economic developments. They provide a scenario for the euro area economy that will most likely materialise over a horizon of two years. Based on a set of assumptions, they combine the use of conventional models with economic experts' judgement. Discussions among Eurosystem staff, as well as other tools, ensure the consistency of the results. The projection exercises are a regular source of information for the deliberations of the Governing Council. They do not, however, incorporate the Governing Council's judgement, with the result that, in practice, the Governing Council's assessment can deviate from the staff assessment.

A noteworthy feature of the Eurosystem's projection exercises is that the Governing Council does not interfere in the production process of any of these projections, which remain the sole responsibility of Eurosystem staff, although the Governing Council monitors the functional procedures of the MPC and its working groups. Hence, the Governing Council may draw different conclusions to those implied by the projections. At the same time, the Governing Council is informed of the progression of projections and of the rationale of the choices made at the technical level. In this way, tentative assessments and conclusions, which are mostly guided by academic and quality considerations, are clearly separated from the judgement of the policy-makers. The Governing Council may also receive detailed information on the assumptions made during the technical discussions of the Eurosystem's committees.

The preparation of the Eurosystem staff macroeconomic projections takes, on average, eight to ten weeks and involves extensive discussions among a large number of economists from the NCBs and the ECB. This complex interaction at the technical level is largely linked to existing constraints, such as the model infrastructure, the data collection process and the uncertainties related to long-run relationships in the early phase of EMU. Interaction between ECB and NCB staff has helped to produce high-quality forecasts and to build a common understanding of the main drivers of the euro area economy and of the future risks to price stability. Empirical evidence confirms that it is indeed useful to incorporate national (i.e. disaggregated) information when forecasting area-wide (i.e. aggregated) variables (see Marcellino, Stock and Watson (2004)). It will require further effort to streamline the Eurosystem's forecasting procedures, as a new generation of models that are capable of creating baseline forecasts with improved forecasting performance will need to be applied. DSGE models may be good candidates in that respect (see Edge, Kiley and Laforte (2006)). However, given the uncertainty about which model to use, the committee's deliberations will continue to benefit from the input from a suite of models rather than from a single all-encompassing model.

Overall, the work of the technical committees saves the decision-making bodies a significant amount of time when it comes to analysing the economic outlook and the underlying risks to price stability. The at times heavy and time-consuming interaction between ECB and NCB staff (see Section 5.3) leads to a broad agreement on the assumptions behind the policy analysis and thereby offsets some of the disadvantages of having a large number of Governing Council members. In fact, contrary to what was sometimes argued by commentators, the size of the Governing Council has not prevented it from making appropriate monetary policy decisions in due time.

C THE FORECASTING PROCESS

In this section, we concentrate on the Eurosystem staff macroeconomic projections in order to illustrate the interaction of the Eurosystem's committees with the other technical levels. This involves a series of relatively complex interactions between various business areas of the ECB, including Directorate General Economics (DG-E), Directorate General International and European Relations (DG-I)

and Directorate General Research (DG-R, which maintains the models), as well as the NCBs. The Eurosystem MPC, which is composed of senior staff representatives of the ECB and the NCBs, takes the lead, assisted by WGF, regarding all technical matters. It provides the necessary guidance for producing the projections and the internal report on the Eurosystem staff projection exercise. The WGF comprises technical experts from the ECB and NCBs and is in charge of producing the figures and an initial draft of the report. Similarly, the WGEM develops and maintains the technical infrastructure needed to forecast economic variables, while the WGPF provides input on fiscal variables. In this way, discussions on models and techniques are usually clearly separated from the actual production of the projections. Moreover, discussions on public finance are also separated from discussions on economic developments.

Twice a year, a fully-fledged projection exercise is conducted involving experts at the technical level from the ECB and NCBs, while on two other occasions the ECB releases projections that are updated by ECB staff only. The aim of the exercise is to provide the Governing Council with detailed quantitative information on the economic outlook for the euro area. This information is summarised and explained in a Eurosystem staff macroeconomic projections report. This report is not a genuine inflation report, as issued by the Bank of England for example, or a monetary policy report as issued by Sveriges Riksbank, although its structure and content are nevertheless fairly similar. It contains detailed information about the projection assumptions and the economic outlook for the euro area as a whole. There is also a detailed assessment of price trends for a shorter-term horizon. However, it does not contain any information on longer-term price tends derived from monetary or credit aggregates; this is instead prepared separately by ECB staff within the monetary analysis.

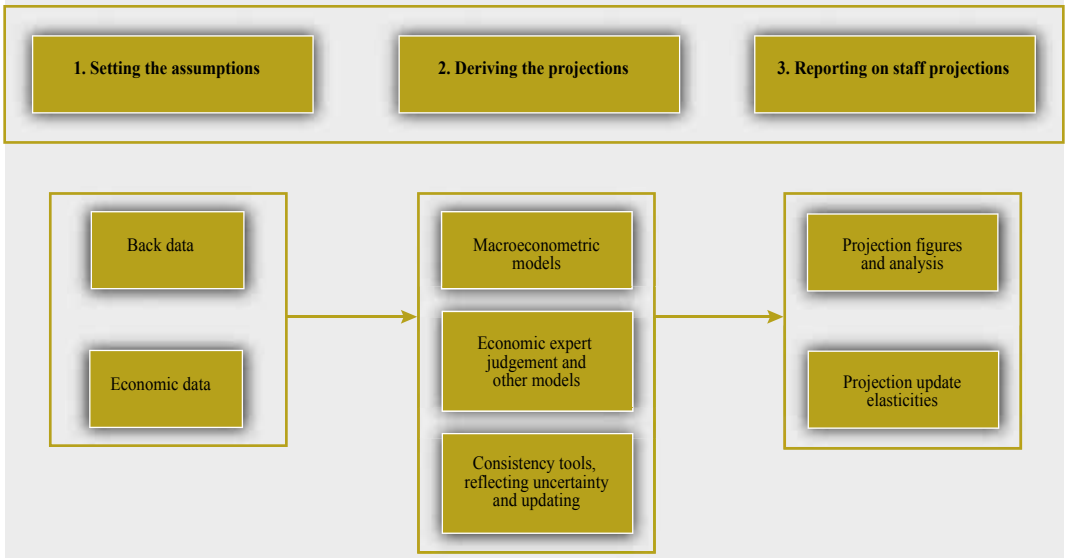
The projection exercise involves three principal steps which are described below in more detail (see Chart 8).[38]

Setting the Assumptions: At the beginning of each Eurosystem projection exercise, a set of provisional assumptions is agreed by the Eurosystem MPC, based on a proposal by the WGF established after discussion of an ECB staff proposal. These assumptions concern variables that are exogenous to the econometric models, such as interest rates, oil prices, non-energy commodity prices (which are based on market expectations), exchange rates (which are based on the prevailing level in the two-week period ending on the cut-off date) and fiscal variables (which are based on national budget plans in the individual euro area countries). Projections are always conditional on variables that are exogenous to the forecasting models. Technical assumptions are prepared using the input on fiscal variables from the WGF and the WGPF. Deviations of the assumed and values from the observed values can be an important source of forecasting error. If there are any inconsistencies between the technical assumptions and recently observed outcomes, the Eurosystem MPC will request an update of the baseline forecast. Based on a set of projection update elasticities, staff can assess the impact of the updated assumptions on the projection figures. In June 2006, a change to the technical assumption concerning short-term interest rate was introduced: instead of a constant interest rate assumption, the interest rate path expected by the markets is now used.[39] In order to run the forecasting models, sufficient back data need to be available. Statistical experts at the ECB and NCBs are in charge of providing relevant high quality data in a harmonised format.

38 For details on the tools and techniques of these exercises, see ECB (2001).

39 The assumptions about short-term interest rates, as measured by the three-month EURIBOR, are based on forward rates. This change was introduced with the aim of further improving the quality and internal consistency of the macroeconomic projections. It has changed neither the ECB's monetary policy strategy nor the role of projections, but has instead helped the Governing Council to make its discussions on future interest rates more forward-looking and facilitated, to some degree, the signalling of future monetary policy intentions.

Chart 8 The forecasting process



Deriving the Projections: In a second phase, the ECB staff use the agreed assumptions to create an initial baseline projection for the euro area as a whole (based on the area-wide model and the multi-country model) and adjust the results in light of the judgement by sectoral and country experts. NCB experts contribute to the projection exercise by generating projections for a set of agreed variables for their country. To derive a euro area projection from these contributions, ECB staff aggregate the NCB's country projections (based on their national models). The WGF analyses deviations of the NCBs' aggregated projections from the area-wide projection by ECB staff in order to derive mutually consistent projection figures. A technical discussion of the results may involve a number of iterations and draws on the results of consistency tools that exploit the ex post validity of accounting identities. For instance, a trade consistency exercise is performed to check whether projected trade volumes and prices across euro area countries are coherent. Together with the consultation of the Eurosystem MPC, these consistency checks provide the basis for adjusting initial figures and building consensus on the most plausible figures. Meetings at the level of the Eurosystem MPC are useful to discuss the economic story behind the figures and to initiate further checks in the light of previous assessments of euro area trends as well as incoming information. At this level, one or two iterations are usually required for agreement on the final macroeconomic projections for the euro area as a whole.

Reporting on Projections: The Eurosystem MPC is in charge of the regular drafting of a report on the Eurosystem staff macroeconomic projections, which will contribute to the deliberations of the Governing Council. The revision of some figures is still possible at the drafting stage in order to eliminate any remaining inconsistencies for example. All drafting rounds are supported by the WGF. In the event that it is necessary to update the projection figures to take account of unforeseen and sizeable shocks, the WGF uses a set of projection update elasticities to estimate the implied changes. Upon completion of the report, the chairman of the Eurosystem MPC sends the report to the Governing Council via the Executive Board. In parallel, ECB staff prepare a shorter version of the report for publication in the ECB's Monthly Bulletin.

5.4 PREPARATIONS FOR EURO AREA ENLARGEMENT

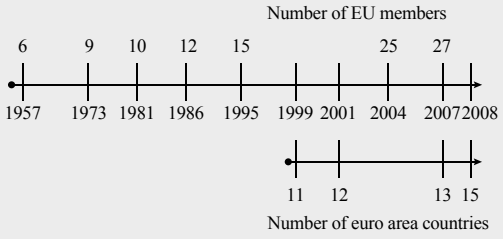
Monetary integration in Europe was preceded by a long process of economic integration (see Section 2). Since the European Economic Community (EEC) was founded in 1957, the EU has so far been enlarged six times, and the euro area three times (see chart in Box 5). The most recent enlargements of the EU took place on 1 May 2004, when ten new countries joined,[40] and on 1 January 2007 when two new countries joined, namely Bulgaria and Romania. As regards enlargement of the euro area, Greece joined in January 2001, Slovenia in January 2007, and in January 2008, a further two countries have joined, namely Malta and Cyprus (see Box 5).

40 Namely the Czech Republic, Estonia, Cyprus, Latvia, Lithuania, Hungary, Malta, Poland, Slovenia and Slovakia.

Box 5

ENLARGING THE EUROSYSTEM

Enlargement of the EU and the euro area



It is a feature of the functional integration process that all EU Member States fully participate in the single European market with the free exchange of goods, free movement of capital and people, and advancing liberalisation in services.[1] They are also subject to common rules for competition, external trade, money and certain aspects of finance. In signing the Maastricht Treaty, Member States agree to start taking into account the implications of their monetary and exchange rate policies for the other EU Member States immediately, and to adopt the euro as soon as they have fulfilled the convergence criteria.[2] The economic and financial integration of the Member States with the EU15 is a complex issue that comprises a variety of different aspects which cannot be discussed here (see European Commission (2004)).

To be able to join the Eurosystem, a candidate country from the EU must comply with the economic convergence criteria and the legal criteria of the Maastricht Treaty. This is meant to secure nominal convergence prior to the adoption of the euro and to ensure that, from a macroeconomic perspective, their integration will progress without tensions for the euro area as a whole. The convergence criteria do not specify how policies should be oriented or at what speed the euro should be adopted by the non-euro area Member States – an aspect that is not dealt with in this paper.[3] Furthermore, the Maastricht Treaty and the convergence criteria do

1 In some EU Member States there are still some transitional barriers to labour mobility in place.

2 For further details, see ECB (2006b) and European Commission (2006). Note that for the United Kingdom and Denmark a separate protocol was agreed prior to the start of EMU. These two countries enjoy a special status, which gives them the right to choose whether or not to adopt the euro. Both countries exercised this right (Denmark in December 1992 and the United Kingdom in October 1997) and notified the EU Council of their intention not to adopt the euro. Both countries can, however, opt in at a later stage.

3 There are in fact several considerations to balance. While all the non-euro area Member States have posted a rapid pace of nominal convergence with the EU, the record is much more mixed with regard to real convergence (see Angeloni, Flad and Mongelli (2007)). While the level of trade integration is quite high, convergence in output composition has been slower, especially if measured in real terms. This suggests that, while relative prices have moved flexibly, part of the real adjustment process – which these price changes are supposed to stimulate – may be lagging behind.

not specify how non-euro area Member States should operationally integrate into the decision-making processes of the Eurosystem, or how to address the general challenges of EMU. In any case, both the Eurosystem and the non-euro area Member States need to be ready from a more technical and operational perspective (which is the main focus of this section). Preparations must therefore seek to maintain an environment in which monetary policy decisions can be taken in an effective manner. Overall, preparations for integrating the non-euro area Member States into the Eurosystem are progressing well. They have made considerable progress in terms of legal convergence, although further work is needed in some areas to achieve the required legal compatibility with the Eurosystem.[4]

The adoption of the euro in the non-euro area Member States may lead to "entry shocks" and subsequent economic adjustment. This has been the case for several current euro area countries. Against this background, policy-makers in the euro area and the non-euro area Member States require a good understanding of how the euro area economy functions in the presence of ongoing structural changes. This applies in particular to: (i) the internal euro area dynamics and their relation to global developments; (ii) the various transmission mechanisms of monetary policy and their impact on price developments; and (iii) the transition of the non-euro area Member States to the single monetary policy. The fact that the exchange rate can no longer be used by national governments as a policy instrument requires careful planning in the transition from one regime to another. Moreover, likely changes in the behaviour of financial markets in the non-euro area Member States have to be closely monitored in order to see their effects on other markets, and banking supervision may have to be fostered. Overall, further preparations are therefore necessary to master the challenge of integrating the non-euro area Member States into the Eurosystem.

4 There are in fact several considerations to balance. While all the non-euro area Member States have posted a rapid pace of nominal convergence with the EU, the record is much more mixed with regard to real convergence (see Angeloni, Flad and Mongelli (2007)). While the level of trade integration is quite high, convergence in output composition has been slower, especially if measured in real terms. This suggests that, while relative prices have moved flexibly, part of the real adjustment process – which these price changes are supposed to stimulate – may be lagging behind.

In line with the arguments set out in Box 5, the integration of non-euro area Member States central banks into the Eurosystem is a gradual process that requires the effort of both parties. The governors of the non-euro area Member States' central banks are members of the General Council, as they can only join the Governing Council when their country adopts the euro. Most non-euro area Member States will have to adapt their central bank institutions and their approach to monetary policy-making: these two spheres are interlinked, but are not identical. Furthermore, the single monetary policy is binding for all its members. This may require the non-euro area Member States to make some adjustments to their monetary policy frameworks prior to joining the euro area. Of course, this does not mean that all non-euro area Member States' central banks have to introduce the same reforms at the same time. The participation of experts from the non-euro area Member States in the Eurosystem's committees in the pre-accession phase contributes to the setting-up of the infrastructure, as well as to the integration of these new central banks into the workings of the Eurosystem.

With regard to monetary policy decisions, the ECB's monetary policy strategy is sufficiently flexible to allow for the integration of the non-euro area Member States. The ECB's quantitative definition of price stability, inter alia, takes into account the considerable divergence in inflation rates, thereby leaving some room for some the non-euro area Member States to introduce catching-up processes. The two-pillar monetary policy strategy was chosen to respond to the new circumstances prevailing in EMU. Cross-checking indicators from both an economic and

Table 4 Exchange rate regimes of the non-euro area Member States [1]

	BG	CZ	DK	EE	LV	LT	HU	PL	RO	SK	SE	UK
Member of ERM II	Planned	No	±2.25%	±15%	±15%	±15%	No	No	No	±15%	No	No
Among these: unilateral commitments				Currency board	±1%	Currency board	±15%			-		
Currency board based on the euro	±15%											
Managed float		X							X			
Free float								X				
Other information[2]		IT					IT	IT			IT	IT

Notes: (1) Country abbreviations: Bulgaria (BG), Czech Republic (CZ), Denmark (DK), Estonia (EE), Latvia (LV), Lithuania (LT), Hungary (HU), Poland (PL), Romania (RO), Slovakia (SK), Sweden (SE) and United Kingdom (UK). (2) "IT" means the central bank is pursuing an inflation-targeting strategy instead of exchange rate-targeting. Information as of 31 March 2007.

a monetary analysis perspective contribute to ensuring robust monetary policy decisions. This feature is also useful in the context of integrating the non-euro area Member States into the euro area, which increases data uncertainty. This choice of strategy also reflects the desire to benefit as much as possible from the credibility attained by its precursors. In this regard, a stable nominal anchor for inflation expectations will facilitate the integration of the monetary policy frameworks of the non-euro area Member States into the Eurosystem's single monetary policy.

For the workings of the Eurosystem, it is important to ensure that monetary policy is implemented efficiently from an operational perspective. As has been explained, the continued efficiency of the decision-making process after enlargement has been ensured by the reform of the voting modalities in the Governing Council (see Box 3), and by the internal structure that assigns the main role to the centre and a supporting role to the Eurosystem's committees. Non-euro area Member States' central banks are not involved in the Eurosystem's operations, although those central banks that have already joined ERM II (see Table 4) are now implicated in the Eurosystem's operational framework. ERM II links the currencies of the Member States outside the euro area to the euro. Participation in ERM II is voluntary[41] and helps non-euro area countries to maintain price and exchange rate stability in the transitional period prior to their adoption of the euro. It requires official agreement on a central rate and a standard fluctuation band of a currency's exchange rate against the euro (normally ± 15%; a unilateral commitment to narrower bands with no further obligation for the ECB is possible). In operational terms, exchange rate stabilisation is achieved by means of foreign exchange intervention and financing at the margin, which are, in principle, automatic and unlimited, but which require bilateral consultations with a Eurosystem committee, the (MOC). According to the rules of ERM II, both the ECB and the respective non-euro area Member States' central bank could suspend automatic intervention, if such intervention were to conflict with the primary objective of price stability.

All issues related to the integration of the non-euro area Member States and to the coordination of monetary policies are dealt with by the General Council of the ECB. A Biannual Monetary Policy Coordination Report (BMPCR) is prepared twice a year by the Eurosystem MPC. This report takes stock of the monetary policy objectives, strategies and intentions of the NCBs of the non-euro area Member States in relation to the monetary policy of the ECB. This coordination exercise brings together a vast number of background studies and analyses carried out by Eurosystem staff, as well as staff from the non-euro area Member States. This exercise also covers recent financial and macroeconomic developments and projections for both the euro area and the non-euro area Member States.

41 It should be noted that a few non-euro area Member States, such as the Czech Republic, Hungary and Poland, have been subject to a sizeable process of real appreciation (in part related to the Balassa-Samuelson effect, as well as to past undervaluations). These countries have therefore not yet joined ERM II. See Ca'Zorzi, Hahn and Sanchez (2007)

6 CONCLUSION

In this paper we explain the procedures used to regularly assess a multitude of economic, financial and monetary indicators, as well as the mechanisms through which consensus on monetary policy decisions is achieved within the Eurosystem. We suggest that the federal structure of the Eurosystem and committee work at the various hierarchical levels are crucial for the smooth functioning of the monetary policy process and ultimately for the maintenance of price stability in the euro area. The committee structure of the Eurosystem and the close cooperation between ECB and NCB staff contributes to the fulfilment of the Eurosystem's tasks and to the smooth running of the organisation. As foreseen in the Maastricht Treaty, a structure with centralised decision-making and decentralised implementation has been chosen. The Eurosystem's committee structure is special in that it allows the regions to play a sizeable role in the process of monetary policy-making.

We argue that monetary policy decisions should be made by a committee in a collective manner. While committee decision-making can be costly, it is superior to individual monetary policy-making, as it ensures that all the information available is taken into account rigorously and that all aspects of a policy issue are thoroughly discussed before a decision is taken. Obviously, the efficiency of monetary policy decision-making by committees depends on their voting procedures and the extent to which the process of information gathering favours timely and robust monetary policy decisions. Today's central banking practices show that monetary policy decisions are virtually all – with the exception of those of the Reserve Bank of New Zealand – made by a committee and not by a single policy-maker. In the words of Alan Blinder (2004), "monetary policy by committees" can be understood as a "quiet revolution" in central banking practices. In the design of monetary policy committees, a number of choices have to be made with regard to the size of the committee, the procedure for appointing members, the monetary policy strategy, the voting system, the communication policy and the committee's substructures.

There are advantages to the Eurosystem's decision-making process, which is based on a two-tier, hub-and-spoke structure. The Executive Board of the ECB is in charge of preparing the monetary policy decisions and the Governing Council of the ECB has collective responsibility for the monetary policy decisions. The hub-and-spoke structure of the system ensures both timely monetary policy decision-making and regional participation, while at the same time avoiding the unnecessary duplication of tasks. In this regard, it resembles the structure of the decision-making bodies adopted by the Federal Reserve System and the Bundesbank prior to EMU. Overall, our international comparison suggests that the ECB and other central banks show many similarities. For instance, in line with standard practice, economic projections prepared by staff through a committee substructure provide important input into the Governing Council's policy-making. However, these projections do not have the same strategic relevance as for inflation-targeting central banks. The Governing Council does not interfere in the production process of the projections, which remain the sole responsibility of Eurosystem staff. Nevertheless, there are still some major differences. The optimal size of a monetary policy committee depends on various factors, such as the size of the currency area. At the same time, the size of the technical committees may exceed that of the policy committees owing to their main focus on information gathering.

We find that an important aspect of the Eurosystem's monetary policy preparations is that committees in all functional areas process information by fully exploiting the expertise of ECB and NCB experts. The level of interaction between the ECB and NCBs in the three phases of the decision-making process – namely preparation, decision, implementation – vary, but in the light of the decentralised structure of the Eurosystem, the NCBs play an important role. We take the Eurosystem staff macroeconomic

projections as an example in order to illustrate the workings of the Eurosystem's committees in terms of preparing timely and high quality contributions for the decision-making bodies. Working through the Eurosystem's committees and its substructures boosts the efficiency of the deliberations of the Governing Council, which sets interest rates based on consensus. The cooperation in the Eurosystem through its committee structure fosters operational efficiency and will, at some stage, contribute to the realisation of a "system identity", as well as the sharing of common values. Furthermore, the fully-fledged committee structure has contributed to the smooth integration of the non-euro area Member States into the Eurosystem's monetary policy decision process.

ANNEXES

I THE BENEFITS OF CENTRAL BANK INDEPENDENCE

Until the 1970s, it was still widely believed that central bank independence was not an important element in the constitution of a central bank. The failure of macroeconomic policy in the 1970s then resulted in a worldwide surge in inflation, high unemployment and macroeconomic instability. Further theoretical and empirical research yielded results with practical implications for the institutional design of central banks. Theoretical research then started suggesting that central bank independence is a suitable institutional device for addressing the problem of time inconsistency (see Kydland and Prescott (1977)). Accordingly, a central bank which promises to keep prices stable chooses a more accommodative monetary policy stance in order to boost employment in the short run, with relatively little initial sacrifice in the form of higher inflation. In the medium term, inflation rises and the central bank either has to tolerate it or push output below potential for a while to restore price stability. Once the public fully understands this process, it will expect higher inflation. In the longer run, higher inflation, but no gain in output, is the likely outcome of the process (Kydland and Prescott (1977)).

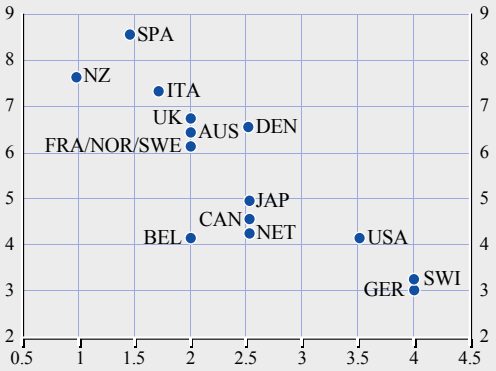
Making central banks independent from political pressure leads to lower inflation in the longer term as it strengthens the central bank's commitment to price stability in the minds of the public. Another line of reasoning, according to Barro and Gordon (1983), suggests that there is an inflation bias inherent in discretionary monetary policy. A binding central bank constitution can credibly guarantee its independence, thus sending a clear signal to the public that it can trust the central bank. Monetary policy decisions are taken without bowing to any political desire for more inflation in the short term. In addition, by assigning responsibility for the maintenance of price stability exclusively to the central bank, there is an institutional framework in place that assigns clear-cut responsibilities to individual policy actors, thus providing a transparent framework that makes the central bank accountable to the public.

Indeed, an empirical study by Alesina and Summers (1993) confirmed the beneficial influence of central bank independence in the pursuit of price stability (see Chart 9a)). In their analysis of several industrial countries, they provided a surprisingly robust finding that independent monetary policy authorities generally perform better in terms of maintaining

Chart 9 Central bank independence and average inflation

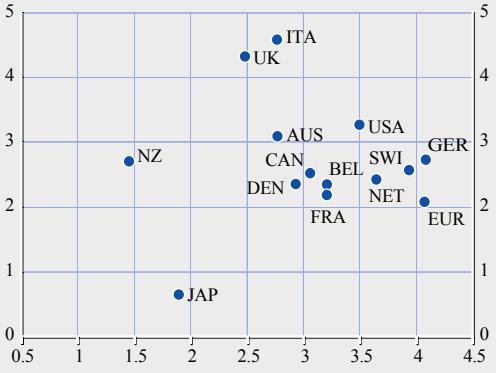
a) Sample 1955-1988

x-axis: Index of Central Bank independence
y-axis: Average inflation



b) Sample 1989-1998

x-axis: Index of Central Bank independence
y-axis: Average inflation



Source: Alesina and Summers (1993).
Notes: Own calculations and IMF inflation data; the average index on central bank independence based on Arnonen et al. (2007) has been normalised. For the euro area, it refers to the sample 1999-2006.

price stability than dependent ones. These results have been confirmed by more recent studies examining other samples and country settings.

A few studies (see, for example, Posen (1993)) have challenged these results on three grounds. First, the reliability and validity of indices for central bank independence have been questioned. Second, the empirical relationship between central bank independence and inflation would be sensitive to the sample period employed in the estimation, as well as to the use of alternative control variables. Third, as in the case of the Bundesbank, its good inflation performance was explained mainly by the public's support for its price stability-oriented policies. For the period prior to EMU, Chart 9b) shows that the relationship between central bank independence and price stability still holds.

The studies on central bank independence were influential and led to far-reaching reforms of monetary constitutions around the world. A recent study by Arnone et al. (2007) confirms that over the last two decades, significant improvements have been made worldwide in terms of central bank independence. For instance, all euro area NCBs were made fully independent with the establishment of EMU, at the same time as other countries undertook significant reforms that contributed to enhancing central bank independence, against the background of a global trend towards price stability that started in the early 1990s. These developments imply that, for the period after EMU, the beneficial influence of central bank independence is difficult to isolate applying the above technique. In an environment of price stability and with a high degree of central bank independence, price developments are influenced mainly by non-institutional factors, in particular shocks hitting the economy. At the same time, this evidence may be also taken as an indication that central bank independence has successfully addressed the potential adverse implications of the time-inconsistency debate on inflation.

2 THE ROLE OF TRANSPARENCY

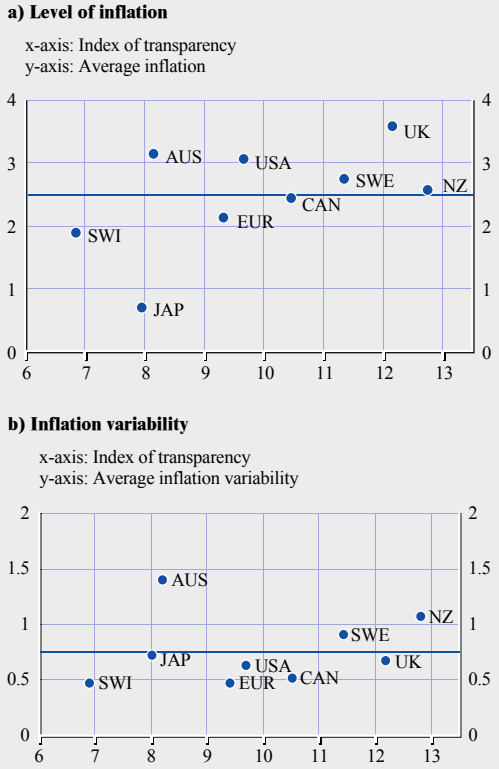
Generally speaking transparency means that the central bank provides the general public and the markets with all relevant information on its strategy, assessments and policy decisions as well as its procedures in an open, clear and timely manner. It helps the public to gain a better understanding of the monetary policy process and the intentions of policy-makers. Consequently, monetary policy committees today spend more time communicating about their policy objectives, the monetary policy framework, and their assessments of the current outlook. For instance, since the early 1990s, an increasing number of central banks – with the notable exception of the Federal Reserve System and the Bank of Japan – have been using a quantitative benchmark for its primary objective (i.e. mostly an inflation target) as a supporting device for stabilising inflation expectations (see Table 3).

In communicating with the general public, further and potentially conflicting dimensions of transparency, namely honesty, clarity and openness can arise (see Winkler (2000) and Issing (2005)). Accordingly, a more open approach to monetary policy communication will only enhance transparency, if it clarifies monetary policy intentions. For instance, several central banks have increased their guidance to markets on future interest rates by either commenting on market expectations of future policy rates or by announcing monetary policy-makers' preferred future interest rate path. However, such measures are only effective, if the public understands the conditionality of the policy-makers' commitment to the economic outlook.

Hence, an increase in central bank transparency will not always improve a central bank's performance in stabilising inflationary trends in line with their objective. Demertzis and Hughes Hallett (2007) suggest that an increase in central bank transparency would not affect the average levels of inflation and output, but would reduce inflation and output gap volatility. By means of a similar analysis, it can be examined whether the alleged link between transparency and inflation performance can still be made in an environment characterised by a high degree of transparency.

We conducted a cross-country analysis for eight leading central banks (see Chart 10) using a transparency index from Eijffinger and Geraats (2006) for the period 1998-2002 and the average inflation performance for the period 1989-2006. As shown by the dotted, horizontal line in Chart 10a, there is, at most, a loose relationship between the degree of transparency and inflation performance in this sample. Again, Japan is an outlier because it suffered from a

Chart 10 Transparency and inflation performance



Notes: The index of transparency measures average "total" transparency for the period June 1998 to June 2002, and is based on Eijffinger and Geraats (2006). Inflation data are averages for the period 1989 to 2006 from IMF statistics, and inflation variability is measured as standard deviation throughout the sample. The observation for the euro area refers to the sample 1999-2006.

prolonged period of deflation. Similarly, the horizontal, dotted line in Chart 10b suggests that transparency has had no beneficial impact on inflation variability since 1995, i.e. when most inflation targets had become effective.

The above analysis is subject to the more general criticism that it may neglect the possible influence of an important third variable and that the index for measuring transparency may only capture the overall transparency of a central bank, while specific elements, such as the quantification of its goal, may matter most. In the case of the Swiss National Bank, for instance, its good track record in terms of inflation stabilisation also reflects factors, such as its high degree of central bank independence (as shown in Chart 9a and 9b), its credibility, and the well developed stability culture of the Swiss economy.

More generally, if a central bank keeps inflation on target, it enjoys full credibility and so transparency no longer exerts a measurable effect on inflation variability. Finally, the euro area's initial experience is comparable to that of the United States, with inflation slightly better anchored in Europe.

3 ORGANISATIONAL PRINCIPLES FOR THE EUROSYSTEM

In 2005, the Governing Council of the ECB agreed on the following organisational principles aimed at promoting a "truly European culture" in order to facilitate joint committee work and master future challenges (see ECB website). Due respect is paid to the principle of decentralisation, which is at the root of the Eurosystem.

1. Participation. All members of the Eurosystem shall contribute strategically and operationally to the goals of the Eurosystem.

2. Cooperation. All Eurosystem functions shall be performed in a spirit of cooperation and teamwork by the members of the Eurosystem.

3. Transparency and accountability. All members of the Eurosystem shall act transparently and be fully responsible and accountable for the effectiveness of all Eurosystem functions.

4. Distinguishing Eurosystem activities. Eurosystem activities performed by NCBs shall be clearly identified and distinguished – to the extent possible – from those pertaining to national responsibilities.

5. Cohesion and unity. While respecting the legal status of its members, the Eurosystem and its staff shall act and appear as a cohesive and unified entity. In that spirit and working as a team, the Eurosystem shall speak with a single voice and be close to the citizens of Europe.

6. Exchange of resources. The exchange of personnel, know-how and experience shall be promoted by and among all members of the Eurosystem.

7. Effectiveness and efficiency in decision-making. All Eurosystem decision-making and deliberative processes need to pursue effectiveness and efficiency. Decision-making shall focus on analysis and arguments as well as on expressing views in their variety.

8. Cost efficiency, measurement and methodology. The Executive Board of the ECB and the Governors of the NCBs shall manage all resources prudently and shall promote effective and cost-efficient solutions in all parts of the Eurosystem. The ECB and the NCBs shall develop control systems and performance indicators to measure the fulfilment of Eurosystem functions and their alignment with the objectives of the Eurosystem. Comparable cost evaluation and cost-reporting methods should be elaborated.

9. Exploit synergies and avoid duplications. Potential synergies and economies of scale shall be identified and exploited to the extent feasible. Unnecessary duplication of work and resources at functional levels and over-extensive and inefficient coordination shall be avoided. To this end, the Eurosystem shall energetically pursue organisational options that ensure effectiveness, efficiency and prompt action, taking advantage of the experience available both at the ECB and at the NCBs through intensified use of existing resources. The outsourcing of Eurosystem support functions and activities shall be considered against the same criteria, and shall take security aspects into account.

Source: ECB website.

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