EUROPEAN CENTRAL BANK

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Michigan State University. E-mail: bodeaana@msu.edu

2 European Central Bank. E-mail: stefan.huemer@ecb.europa.eu

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Address
Kaiserstrasse 29
60311 Frankfurt am Main, Germany

Postal address
Postfach 16 03 19
60066 Frankfurt am Main, Germany

Telephone
+49 69 1344 0

Internet
http://www.ecb.europa.eu

Fax
+49 69 1344 6000

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ABSTRACT

Central bank independence is a common feature in advanced economies. Delegation of monetary policy to an independent central bank with a clear mandate for price stability has proven to be successful in keeping a check on inflation and providing a trusted currency. However, it is also a fact that central banks in most countries have regular contacts with the government and cooperate with them on a number of issues. This paper looks into the various forms of cooperation between central banks and governments in the G7. The focus is on those central banks that exercise a monetary policy decision-making function, i.e. the ECB and the central banks of the four G7 countries outside the euro area (the US, UK, Japan and Canada).

The paper first reviews the objectives of and arrangements for central bank/government cooperation in the US, UK, Japan and Canada in areas such as monetary policy and its interlink with economic policy; foreign exchange operations and foreign reserve management; international cooperation; payment systems/securities clearing and settlement systems; supervision, regulation and financial stability; banknotes and coins; collection of statistics; and the role of fiscal agent for the government. In parallel the paper looks into the objectives of and arrangements for cooperation between the ECB and relevant European counterparts, reflecting the specific European institutional environment characterised by the absence of a 'European government'. Following a comprehensive stocktaking of practices, the paper embarks on a comparison of existing arrangements, pointing to the similarities and differences among the five surveyed central banks. The Appendix provides a more in-depth description of central bank/government cooperation per country and topic; it presents the detailed factual background on which the paper builds, serving as a reference for the reader interested in more detail.

Keywords: central bank-government cooperation; central bank governance; central bank tasks; G7.

JEL classification: E58

"As regards the relationships we have with the Eurogroup, I would say from our standpoint that they are intimate. ... We have a lot of meetings: three every month. That is the highest level of organised meetings by governments vis-à-vis a central bank or the reverse. We are scrupulously respecting the Treaty, and this ... allows for the Chairman of the Eurogroup to understand from the inside the reasoning of the Governing Council of the ECB ... . It also allows me and the Vice-President to understand how the Eurogroup itself is reasoning."

Jean-Claude Trichet, President of the European Central Bank (2006)

"I'm convinced there should be a more intensive exchange of opinions about the medium-term and long-term problems ... . I don't want to take a hard line with the central bank ... . But it should be disabused of the notion that it alone is responsible for exchange-rate policy."

Jean-Claude Juncker, President of the Eurogroup (2006)

I INTRODUCTION

Central bank independence is a common feature in advanced economies. Delegation of monetary policy to an independent central bank with a clear mandate for price stability has been successful in keeping inflation in check and providing a trusted currency. However, it is also a fact that central banks in most countries have regular contacts with the government and cooperate with it on a number of issues.

This paper looks into the various forms of cooperation between central banks and governments of the G7 countries.[1] The focus is on those central banks that exercise a monetary policy decision-making function, i.e. the ECB and the central banks of the four G7 countries outside the euro area (the United States, Japan, the United Kingdom and Canada). The paper reviews the objectives and arrangements of central bank/government cooperation in these four countries. In parallel, the paper looks at the cooperation arrangements between the ECB and relevant European counterparts, reflecting the specific European institutional environment characterised by the absence of a "European government". The aim of the paper is to provide a comprehensive overview of the channels through which central banks and governments interact and to point to areas of tension in this interaction. The paper focuses on the legal frameworks and the institutional environment that govern the relationship between central banks and governments, rather than on the policies of the central banks.

The functional areas of central bank/government cooperation covered in the paper are derived from the list of objectives and tasks set out for the ECB in the Treaty on the Functioning of the European Union and in the Statute of the European System of Central Banks and of the European Central Bank[2], including: monetary policy and its interlink with economic policy; foreign exchange operations and management of foreign reserves; international cooperation; acting as fiscal agent for the government; banknotes and coins; payment systems; supervision and financial stability; and collection of statistical data.[3] In terms of

1 The focus on the G7 is motivated by the fact that the member countries are the most influential global economic actors and thus can provide a benchmark for international practices in advanced economies. While the G20 has arguably gained in importance in recent times (see also Section 3.3), the paper refrains from extending its scope of analysis beyond the G7 given that a number of central banks in key emerging economies represented in the G20 (such as Brazil, China and Russia) do not operate in independence from the government and thus are not a benchmark for international practices.

2 In this paper, the Treaty on the Functioning of the European Union will be referred to as the "Treaty", and the Statute of the ESCB and of the ECB as the "Statute".

3 This implies that other important aspects of the relationship between central banks and governments which are not directly related to central bank tasks proper (such as the appointment procedure for central bank board members) are outside the scope of this paper. A comparison of appointment procedures for a selection of ten central banks (including from the G7) is provided in Moutot et al. (2008).

methodology, the paper makes use of a variety of sources ranging from central bank legislation to personal interviews with and questionnaires sent to central bank officials.[4]

Much of the academic literature looks at the relationship between modern central banks and government from the angle of independence, i.e. why monetary policy should be shielded from day-to-day political pressure, how this can be achieved and what the benefits of monetary policy delegation are.[5] Still, recently the discussion has been moving towards more general considerations of central bank governance, including issues like the design and organisation of the relationship that the central bank maintains with the government.[6] Our paper attempts to add value to this more general discussion, which remains topical, as exemplified by our opening quotes from a 2006 exchange between Jean-Claude Trichet, the President of the ECB, and Jean-Claude Juncker, the President of the Eurogroup. While recent work on central bank governance (in particular Moser-Boehm, 2006) has focused on monetary and economic policy coordination practices in industrialised and developing/emerging economies, our contribution looks at a wider range of central bank functions within the leading central banks of the industrialised world. Also, despite the fact that the G7 central banks have broadly developed in similar directions, our work reveals a number of important governance differences.

Theoretically, we follow the lines of research concerned with the divergence of actual central bank independence from legal provisions. Already back in 1992 Cukierman et al. emphasised that one of the major contributions of their research was the examination of de facto (as opposed to de jure) central bank independence, i.e. of the legal index versus the turnover rates of central bank governors. The issue of finding good measurements of central bank independence has remained important in the literature because of: (i) the incomplete contracting which characterises the relationship between government and the central bank in an ever-changing environment; and (ii) the ever-present incentives for some politicians in some countries to backtrack on monetary policy delegation. In reviewing the cooperation between central banks and governments, this paper discusses the potential implications for central bank independence emerging from the different functional areas of central bank activity. In addition, the paper points to the reasons for central bank/government cooperation, showing that in some functional areas cooperation is needed for the central bank and the government to carry out their respective tasks, and therefore potential risks to independence in those areas may linger until, for example, further legislative clarification is provided or, at a minimum, informal agreements are established. Furthermore, in terms of empirics, this paper provides a novel, broad and multi-source overview of an aspect of monetary policy delegation that is often overlooked, i.e. the ongoing cooperation between the central bank and the government.

This paper's review of the cooperation between central banks and governments points to areas of interaction usually not considered specifically in the major work done in the 1990s on constructing central bank independence indexes.

4 In more detail, sources include: central bank legislation, additional legislation (currency acts, banking acts, central bank statutes), central bank publications (press releases, reports), ministry of finance/treasury publications and websites, press reports, academic literature, interviews with the Bank of Japan representation in Frankfurt, written e-mail questionnaires for the US Federal Reserve, Bank of England, Bank of Japan and Bank of Canada, as well as discussions with ECB experts on issues related to payment systems, banknotes, statistics and international cooperation.

5 The 1980s literature that started to develop central bank indexes based mostly on the banks' legal status brought in correlation to inflation performance, with the most widely cited studies being Alesina (1988), Grilli et al. (1991), Cukierman et al. (1992) and Alesina and Summers (1993). More recently, Moutot et al. (2008) show that the set-up of the monetary policy decision-making function also matters for the smooth functioning of the monetary policy process and ultimately for price stability.

6 See for example the 2005 IMF "Current Developments in Monetary and Financial Law", Vol. 4, section on central banking issues and the 2009 BIS report "Issues in the Governance of Central Banks" prepared by the Central Bank Governance Group. There are also other new topics in this research area, like the composition, size and structure of central bank boards in connection with central bank autonomy (Lybek and Morris, 2004).

Whereas the paper does not set out to discuss directly improvements to existing indexes, the information discussed can serve as input for future analyses of the topic. Similar to other studies (e.g. Tuladhar, 2005), we point to important differences in the interaction of central banks and governments with regard to the setting of monetary policy targets. Thus, while not targeting inflation, the ECB and the Bank of Japan have their own quantitative interpretation of price stability, which is selected without government interference.[7] On the other hand, the UK Treasury sets the inflation target for the Bank of England, and in Canada the inflation target is discussed and agreed upon jointly by the central bank and the government every five years. The Cukierman et al. (1992) index already includes an indicator of whether government approval is required in formulating monetary policy. According to our research, such an indicator can be made more specific regarding monetary policy transparency by quantifying specific targets (if any) and specifying who decides on these targets.

Furthermore, in recent years prohibition of direct borrowing by the government from the central bank has been one of the staples of central banking in developed countries (Arnone et al., 2006). Our survey, however, points to possible risks which could emerge from certain types of central bank lending to financial institutions (with government guarantees in some cases), an area that has gained significantly in prominence during the ongoing economic and financial crisis. Such lending is mainly financial stability-related and includes measures in the interest of maintaining an orderly financial system, for instance as regards the smooth settlement of funds among financial institutions. For example, the Bank of Japan can be asked by the government to provide uncollateralised loans with a government guarantee to financial institutions with insolvency, not just liquidity, issues in order to preserve financial stability. Another example is the Bank of Canada, which could also be required to lend to insolvent institutions to prevent the emergence of systemic risk in the area of payment systems.

The rest of the paper is structured as follows: Chapter 2 gives a short overview of the theoretical background, discussing the reasons for central bank independence and the tension between independence and the central bank having close ties with the government; Chapter 3 reviews and compares the objectives and arrangements of central bank/government cooperation. For each of the eight topics, the respective section places the discussion along the tension line between independence and close ties with the government, points to the similarities and differences among the five surveyed central banks and indicates how the ECB compares with the others. The Appendix provides a detailed description of central bank/government cooperation for each country and for the euro area, as well as for each topic; it presents the intricate factual background on which Chapter 3 builds, serving as a reference for the reader interested in more detail.

7 The ECB's quantitative definition of price stability is available at: http://www.ecb.europa.eu/press/pr/date/2003/html/pr030508_2.en.html. The Bank of Japan published an "understanding of medium- to long-term price stability" at: http://www.boj.or.jp/en/type/release/adhoc09/un0912c.pdf.

2 THEORETICAL BACKGROUND

GENERAL REMARKS

Both economic theory and empirical evidence show that central bank independence is essential in modern economies. Delegation of monetary policy by the government to an independent central bank with a clear mandate for price stability has proven successful in containing inflation and providing a trusted currency. Central bank independence refers to the ability of the bank to carry out monetary policy without political interference. Measuring central bank independence is usually done by recourse to the legal framework governing the central bank, complemented when available by relevant empirical data (such as governors' average term of office). In particular, the literature relates central bank independence to features like institutional independence (absence of government intervention in central bank decision-making processes and existence of a clear statutory objective), functional independence (availability of the relevant instruments to fulfil its objectives and tasks), personal independence (minimum length and security of tenure of central bank decision-makers) and financial independence (own budget and adequate capital endowment), as well as goal independence (the ability of the central bank to define its own operational objectives such as a quantitative definition of price stability). For example, more independent central banks have longer terms of office for the central bank governor and board, do not require government approval in formulating monetary policy, have stable prices as their primary objective, and are constrained in their ability to directly extend credit to the government (Grilli et al., 1991, Cukierman, 1998, Cukierman et al., 1992, Alesina, 1988).[8]

The effects of monetary policy on inflation and output come with long time-lags. Moreover, reducing inflation usually implies immediate costs in terms of output, whereas the benefits of stable prices can be felt only gradually (Blinder, 1998). In general, however, government decisions are influenced by the political cycle more than by longer-term considerations. Recognising the gap between the nature of monetary policy and the government's own incentive structure (most importantly, seeking re-election), a consensus has emerged among advanced economies to depoliticise monetary policy by making central banks independent. Granting independence to the central bank helps to promote price stability because independent central bankers are able to take a policy view beyond the political cycle, and are, on average, more concerned about the risks to price stability than elected politicians (e.g. Rogoff, 1985, Lohman, 1992, Blinder, 1998, Freedman, 2003).

In the last two decades delegation of monetary policy to an independent central bank has been on the rise, most notably in developing countries (e.g. Cukierman et al., 2002, Jacome and Vazquez, 2005), but also some advanced economies have taken further steps to make their central banks more independent (e.g. Japan in 1997, the United Kingdom in 1998). As described above, central bank independence means keeping the government at arm's length. At the same time, while there is an inherent tension between independence and having close ties with the government, it is also a fact that central banks in most countries have regular contacts with the government and cooperate with it on a number of issues. In many countries, there are legal reasons for such cooperation as the legislation asks specifically for close interaction. In addition, there are functional reasons for central banks to interact with the government, as understanding each other's policies and sharing information about, for instance, economic developments are important for both institutions' ability to carry out their respective tasks. Much of the literature argues that the key to a fruitful dialogue between an independent central bank and the government lies in the clarity of objectives of each institution, unambiguous separation of responsibilities, specification of arrangements for conflict

8 Actual (as opposed to legal) independence has been measured in the literature by looking at the turnover rate of central bank governors.

resolution and respect for each other's mandate (e.g. Siklos, 2005, Amtenbrink, 2005).

In practice, central banks and governments interact in several areas including overall economic policy, the exchange rate policy, financial stability, international issues, debt management, payment systems, statistics and banknotes. The role of the central bank in each area varies significantly by country and ranges from bearing most of the responsibility to taking instructions and advising. Moser-Boehm (2006) describes the results of a survey among central banks in the Central Bank Governance Group (set up in the context of the Bank for International Settlements) on the practical aspects of the relationship with their respective national government.[9] For example, the survey responses show that high-level meetings between the central bank governor and the finance minister occur in almost three-quarters of the industrialised countries (and, interestingly, in less than a third of the emerging market economies), mostly with the aim of discussing major developments and keeping each other informed of planned actions and initiatives. However, only in a minority of these cases (in 30% of industrialised countries and 40% of emerging market economies) are monetary policy and fiscal policy issues specifically addressed in such high-level meetings. Furthermore, the survey confirms that coordination of monetary and fiscal policy is more typical for emerging market economies (47% of the respondents) than for industrialised countries, where none of the central bank governors discusses such coordination with the finance minister. Finally, in close to half of all countries central banks and governments also coordinate approaches to international issues (42% of developed countries and 47% of emerging market economies).

SPECIFIC OBSERVATIONS ON THE INSTITUTIONAL SET-UP OF THE EURO AREA

As the following chapters illustrate, a number of distinguishing features need to be taken into account when comparing the euro area with G7 countries. First, the euro area is a currency area "without a state". Rather, the euro area is composed of, currently, 16 Member States which delegate responsibility for monetary and exchange rate policies to the supranational level, while keeping responsibility for economic policies (subject to a European framework).[10]

The question of what level of political integration is required to support monetary union was ardently debated by politicians and economists in the run-up to the Maastricht Treaty. Political integration in Europe has significantly advanced since the Treaties of Rome, in keeping with the resolution to create "an ever closer union among the peoples of Europe" that can be found among the preambles of the Treaty on European Union. Also the creation of Economic and Monetary Union (EMU) through the Maastricht Treaty was accompanied by further political integration (e.g. increased powers for the European Parliament), but the process clearly stopped short of establishing a fully fledged political union. That said, adopting the euro was more than a purely monetary act, and many – including, inter alia, former ECB President Willem Duisenberg[11] – have made the point that when entering the euro area a country joins a "community of common destiny" ("Schicksalsgemeinschaft").

Reflecting the state of political integration, in the EU there is no "European finance ministry" that could serve as counterpart to the ECB on issues where central banks normally cooperate with the government, a situation that former ECB Executive Board member Tommaso Padoa-Schioppa described as the "institutional loneliness" of the ECB.[12] The nearest proxy to a finance ministry function at the European level is the Eurogroup, which is the key body responsible for euro area economic governance.

9 Only 24 of the central banks represented in the Central Bank Governance Group responded to the survey, so the results need to be interpreted with caution due to the small sample size.
10 The framework for economic policies, in particular the Stability and Growth Pact (with the exception of sanctions) and the EU 2020 Strategy, apply not only to the euro area but to the EU as a whole.
11 Duisenberg (2002).
12 Padoa-Schioppa (1999).

The Eurogroup has, over time, formalised its procedures and, since 2005, it has been operating under a stable Presidency. However, the Eurogroup President can only act within the mandate of the Eurogroup and, as an informal body, there are clear limitations to what the Eurogroup can achieve.

The other typical "government counterpart" for the ECB is the European Commission – the "executive branch" in the EU institutional framework. However, the competencies of the European Commission in the field of EMU are mainly related to proposing legislation and guidelines, and it does not dispose of a key element in national economic policy-making: the budget.[13] As a consequence, EMU could be characterised as having a strong "monetary leg" and a weaker "economic leg".

That said, European integration is an ongoing process, and also the EMU framework is in flux. Most recently, the Lisbon Treaty, which entered into force on 1 December 2009, has introduced a number of innovations, including in the field of economic governance. According to the new provisions, the Commission has, for instance, the possibility to issue early warnings directly to Member States when they run the risk of missing their commitments under the Stability and Growth Pact or the Broad Economic Policy Guidelines.

Moreover, the Lisbon Treaty recognises in a separate chapter the enhanced interdependence of the euro area countries, and the specific coordination and surveillance requirements that follow from such interdependence. Under the new Treaty provisions (Article 136), euro area countries can adopt specific measures to strengthen their coordination and the surveillance of their budgetary discipline and can adopt guidelines for their economic policies. The Treaty also offers scope to enhance the role of the Eurogroup in shaping economic policies in the euro area. Moreover, the Lisbon Treaty also increases the number of decisions on euro area issues on which only euro area countries are allowed to vote (relating in particular to the Stability and Growth Pact and the Broad Economic Policy Guidelines, and also in the field of euro area enlargement).

Regarding the representation of the euro area at the global level, the Lisbon Treaty substantially confirms the provisions of the previous (Nice) Treaty, but uses more explicit wording to acknowledge the need for a specific euro area representation, by referring to the need for a "unified representation within international financial institutions and conferences" so as "to secure the euro's place in the international monetary system".

13 The EU budget, amounting to around 1% of EU GDP, is macroeconomically insignificant. See e.g. Enderlein et al. (2005), who relate the size of the EU budget to the level of political integration in the EU.

3 DISCUSSION AND OVERVIEW OF OBJECTIVES AND ARRANGEMENTS OF CENTRAL BANK/GOVERNMENT COOPERATION

3.1 MONETARY POLICY

While differences exist, all five central banks surveyed here have been largely set up in a way that protects their ability to conduct monetary policy independently from the government. In particular, as shown in Table 1, price stability is a key objective of monetary policy for all five central banks. It is the primary goal in the euro area, the United Kingdom and Japan, whereas the United States and Canada have mandates that include the stability of prices on a par with full employment and stable output, respectively, as goals of monetary policy.[14] At the same time, there is evidence that also the US Federal Reserve (Fed) and the Bank of Canada assign at least an implicit ranking to their multiple goals, with price stability being the pre-eminent factor in policy.[15] Also, all five central banks enjoy functional independence (i.e. regarding the use of instruments to achieve their goals) and with the exception of the Bank of England (inflation target set by the treasury) and the Bank of Canada (inflation target agreed with the government), the surveyed central banks are also goal-independent. Moreover, securing their financial independence, all five banks have their own budget and a clear allocation of profit and loss. Only in the case of the Bank of Japan is the budget of the bank subject to approval by the ministry of finance. Still, even in the case of Japan, the ministry has to make public and defend its reasons for not approving the budget of the central bank. Furthermore, the threat to independent monetary policy posed by monetary financing of governments is mitigated for all banks, with rules ranging from a clear prohibition of the practice in the euro area to more lenient prescriptions in the other countries.[16]

At the core of monetary policy independence is the question of whether the government can influence monetary policy decisions. While all the central banks surveyed take monetary policy decisions independently from the government, the constitutional safeguards for central bank independence vary significantly. The soundest safeguards exist for the ECB, whose independence – reflecting the ECB's nature as multilateral institution – is enshrined in an international treaty (any changes to which require unanimity and ratification by all EU Member States). This may be explained by two reasons. First, being the youngest among the surveyed central banks, the ECB operates under a monetary constitution that takes best account of the overall academic and policy consensus about the importance of central bank independence which has emerged since the 1980s (see also Chapter 2). Moreover, as the euro started as a new currency in 1999 whose reputation among citizens and in financial markets had yet to be established, a "state of the art" monetary constitution contributed to

14 In the United Kingdom and Canada, price stability is achieved though direct inflation targeting. In the UK, the inflation target is formally set by the government, whereas in Canada, the target is set by the Bank of Canada in cooperation with the government. The Bank of Japan has clarified its understanding of medium to long-term price stability as a positive numerical range of a year-on-year CPI increase of 2% or lower, specifying that the mid-points of most Policy Board members' understanding are around 1%. The ECB's quantitative definition of price stability is a year-on-year increase of the Harmonised Index of Consumer Prices of below but close to 2% over the medium term. Among the surveyed central banks, the Fed alone does not have a quantitative definition of price stability (however, there appears to be a "comfort zone" shared by most FOMC members).

15 See Gerdesmeier et al. (2007, p. 13) and pages 11 and 30 of the Appendix.

16 In Canada and Japan, the law allows direct loans from the central bank to the government, even though such loans have size and duration restrictions. In the United Kingdom, the treasury still has the "Ways and Means" overdraft facility, even though the size of this facility has decreased in recent years. In the United States, the treasury can make currency swap arrangements with the Federal Reserve through the Exchange and Stabilization Fund (the so-called warehousing arrangements), thus circumventing Congressional approval (see also Chapter 3 and the Appendix). More generally, the "non-standard measures" for quantitative easing adopted by the Fed have further stretched the interpretation of the provisions on monetary financing. As for the Securities Markets Programme of the ECB, the ECB decided recently on measures to address severe tensions in financial markets which are hampering the monetary policy transmission mechanism and thereby the effective conduct of monetary policy, including purchases of securities to ensure depth and liquidity in those market segments which are dysfunctional. See press release at: http://www.ecb.int/press/pr/date/2010/html/pr100510.en.html.

Table 1 Monetary constitutions in the G7

	Mandate	Goal independence	Instrument independence	Government representative in monetary policy committee	Monetary financing
Euro area	Hierarchical mandate – with price stability as the primary objective	Yes	Yes	Yes – without voting right	Prohibited
US	Dual mandate – price stability and full employment	Yes	Yes	No	Prohibited in principle (fiscal policy is subject to the appropriations process in the US Congress); but e.g. warehouse arrangements possible with the exchange stabilization fund
UK	Hierarchical mandate – price stability the main task	No, inflation target set by the treasury	Yes	Yes – without voting right	Not explicitly in the law. Government can still access the ways and means facility
Japan	Goal of monetary and currency control is price stability	Yes	Yes	Yes – without voting right	Possible
Canada	Multiple mandate – currency stability and avoid fluctuations in output, trade, employment	No, inflation target set together with the government	Yes	Yes – without voting right	Possible

dispelling any doubts about the sustainability of EMU and helped to build trust in the single currency.[17]

In contrast, in the US, UK, Japan and Canada, central bank independence is laid down in ordinary laws which can be changed through an act of parliament. Additionally, in several cases legislation even provides for an "escape clause" through which central bank independence can be affected to various degrees. In the case of Canada, the minister of finance may issue a written directive on monetary policy, which, however, would have to be approved by the central bank governor. In Japan, the ministry of finance may request the central bank to postpone certain monetary policy decisions (with which the bank's policy board may or may not agree).[18] In the UK, the central bank law foresees the possibility for the finance minister to suspend central bank independence under unspecified "extreme circumstances".

Notwithstanding their independence, all five central banks surveyed here maintain close ties with the government. Some of the banks are required formally, by law, to share information and cooperate with their respective counterparts

17 Drawing on the index developed by Alesina and Summers (1993), Moutot et al. (2008, p. 53) provide evidence that the relationship between central bank independence and inflation performance holds for the G7 area, with the ECB coming out on top on both counts. In terms of inflation performance Japan is considered an outlier because it suffers from a prolonged period of deflation.

18 Issues of tenure, appointment and dismissal have been identified as very important for the independence of the central bank. However, because such issues are not exactly within the scope of the cooperation/interaction between the central bank and the government, they are not pursued in this paper.

Financial independence	Resolution of conflict – override of CB decisions	Governance of monetary policy *(numbers refer to maxima if all positions are filled)*	Involvement of finance ministry in CB bodies
Yes – own budget; profit and loss allocated to the general reserve fund and euro area national central banks	No override	Governing Council, consisting of six Executive Board members and governors of the euro area national central banks	Participation without right to vote of Commissioner and Eurogroup President in Governing Council meetings
Yes – own budget; profit to shareholders and treasury	No override	Federal Open Market Committee, consisting of seven Board of Governors members and five Reserve Bank Presidents	No participation
Yes – Bank Court of Directors decides financial management objectives; profit shared with treasury	Yes, possible – under extreme circumstances, with parliamentary approval	Monetary Policy Committee, consisting of the Governor, two Deputy Governors, the Bank's Chief Economist, the Executive Director for Markets and four external members	Participation of treasury representative without right to vote in Monetary Policy Committee
Yes/no – budget subject to approval by ministry of finance; profit to holders of subscription certificates and ministry of finance	Not clearly specified, except for the Bank operational budget, which needs ministry of finance approval	Policy Board, consisting of the Bank Governor, two Deputy Governors and six Board members	Participation of treasury representative without right to vote in Policy Board
Yes – budget decided by the Board of Directors; profit to reserve fund and government	Yes, possible – by way of mandatory written directive	Governing Council, consisting of the Governor, Senior Deputy Governor and four Deputy Governors	Membership of Deputy Finance Minister in non-monetary policy bodies

in the national governments. For example, in Japan and Canada the central bank laws specifically require that the central bank and the government should stay in close contact and exchange views on monetary policy and its relation to economic policy (comprising, in particular, fiscal and structural policies). Also, for all central banks except the Fed and the Bank of Canada, government representatives may attend meetings of the bank's monetary policy decision-making bodies, but without having the right to vote. This practice is similar to the ECB where a member of the Commission and the Eurogroup President (or the Ecofin Council President) participate in Governing Council meetings without the right to vote. In the case of Canada, the deputy minister of finance is a member of the Board of Directors and the Executive Committee of the Board of the Bank of Canada (however, neither of these bodies are involved in the monetary policy decision-making process).[19] Regardless of the involvement of finance ministries in central bank bodies, there is regular and frequent interaction (monthly or even weekly) between all surveyed central banks and their counterparts in the executive branch, including formal as well as informal meetings at policy and expert levels.

For the central banks, the informal exchanges of views on monetary and economic policy issues serve two important purposes. First, they allow the central bank to explain its monetary policy

19 The Board of Directors and the Executive Committee are responsible for financial and administrative organisation within the Bank, but the Governing Council maintains ultimate authority over these areas. The Board has no role in the formulation of monetary policy.

decisions and its views on economic policy issues to economic policy-makers. In this way, the exchanges help to improve the external understanding of central bank decisions and to anchor expectations regarding the central bank's policy conduct, allowing economic policy-makers to internalise the central bank's reaction function in their own policy decisions. Second, the central bank may benefit from obtaining first-hand information from economic policy-makers which it can subsequently take into account in its own policy decisions. Thus, rather than putting central bank independence in jeopardy, these informal exchanges can contribute to improving the overall policy outcome, as long as the institutions involved respect their areas of authority and do not engage in actions that might blur their respective responsibilities.

The format of exchanges of views on economic and monetary policy issues varies in each country. It is most formalised in the euro area, where the President of the ECB meets with the President of the Eurogroup and the Commissioner for Economic and Monetary Affairs at least three times per month in the context of regular meetings (the meetings of the ECB's Governing Council, as well as the meetings of the Eurogroup/Ecofin Council). In the other G7 countries, a variety of informal venues have developed over time to host such exchanges, mostly at policy level (minister and governor).

Comparing the five central banks on their degree of independence vis-à-vis political authorities, the findings in this overview mirror closely recent work (e.g. Arnone et al., 2006) in showing that the ECB is the central bank shielded most systematically from political interference in its task of preserving price stability. The overview, however, also shows that the ECB is in frequent and substantive contact with its counterparts in the EU bodies, in particular the Ecofin Council and its main preparatory bodies, the Economic and Financial Committee and the Economic Policy Committee, as well as with the Eurogroup, the European Commission and, more recently, also the European Council. Also, more than in the case of the other central banks, the ECB is involved in the policy debate on a wider range of economic, financial and institutional issues. Through its participation in the meetings of the above-mentioned bodies, the ECB can express its views on a broad range of issues that are of relevance to the management of EMU.

The current economic and financial crisis has brought about certain institutional innovations through which the ECB's involvement in EMU's economic governance structures has been further increased. In particular, the ECB President has been invited to participate in the debates by Heads of State or Government (meeting in the European Council, or on occasion in euro area format) when they discussed issues related to the EU's policy response to the crisis. This illustrates further the ECB's special status that derives from the euro area's *sui generis* construction.

3.2 FOREIGN EXCHANGE OPERATIONS AND FOREIGN RESERVE MANAGEMENT

Following the collapse of the Bretton Woods system of fixed exchange rates in the early 1970s, the major global currencies have been subject to a managed or free floating exchange rate regime.[20] As such, in recent years the five central banks surveyed here have intervened in foreign exchange markets only infrequently (with the exception of Japan).[21] For example, the Eurosystem carries out foreign exchange operations in exceptional circumstances of misalignment or excessive volatility and the Fed initiates such operations to counter disorderly

20 Within Europe the fall of the Bretton Woods system promoted closer exchange rate cooperation, first in the form of the "currency snake", which was later replaced by the European Monetary System (EMS) and the Exchange Rate Mechanism (ERM) with the European Currency Unit (ECU) as its nominal anchor. European monetary integration eventually culminated with the introduction of the euro.

21 See also Appendix (page 4) for the infrequent interventions of the ECB. Fratzscher (2004) points out that since the mid-1990s in the euro area and the US actual interventions have been replaced by official communication about the exchange rate.

markets. One reason for the infrequency of interventions is that their effectiveness tends to be limited if they are not coordinated among the major central banks and not accompanied by appropriate communication and domestic policy measures.[22] Moreover, the effectiveness of interventions also depends on whether and how they are sterilised. Another reason is the emerging consensus that monetary policy ought to focus on ensuring stable prices, leaving the exchange rate to be the result of other policies rather than a policy target.

Table 2 shows that for the five central banks surveyed here, the responsibility for the overall *framework* of exchange rate policy resides with the government and, in the case of the euro area, with the EU Council in close cooperation with the ECB. Under a floating exchange rate regime, the responsibility for foreign exchange *operations* differs significantly for the five central banks and the specific arrangements in some of the countries can be seen as potentially being at odds with the independence of the central bank in setting monetary policy. The fact that the foreign exchange interventions are routinely sterilised mitigates to some extent their potential implications for monetary policy.

At one end of the spectrum, euro exchange rate policy is a competence shared between the ECB and the EU Council (de facto the Eurogroup), with the ECB assuming full responsibility for carrying out foreign exchange operations. It should, however, be added that the ECB does not pursue an exchange rate target, and has intervened in the markets on only two occasions. As regards the framework for exchange rate policy, the Treaty foresees the possibility for the EU Council to adopt "general orientations" for exchange rate policy. However, the EU Council can only act upon a recommendation, either from the ECB or from the Commission after consulting the ECB. Moreover, EU Heads of State or Government agreed to draw on this provision only under "exceptional circumstances" (such as in the case of a "clear misalignment"; see Article 8 of the Resolution of the European Council of 13 December 1997), which so far has not been the case. Moreover, there are a number of practical considerations[23] that cast doubt on the technical feasibility of such general orientations, which in any event would need to be consistent with the ECB's primary objective of price stability.

The potential tension between an independent monetary policy pursuing price stability and targets for the exchange rate was an issue debated by the Maastricht Treaty signatories. In particular, during the treaty negotiations, Germany insisted on avoiding any mechanism that would commit the ECB to conducting foreign exchange operations incompatible with the pursuit of price stability. As a consequence, among the central banks of the most important global currencies, the ECB is uniquely endowed with exchange rate policy responsibilities that ensure consistency with the price stability goal for monetary policy. This consistency is enshrined in the Treaty, which specifies that price stability shall be the primary objective also of exchange rate policy. In addition, the Treaty also specifies that the ESCB is the "holder" of official foreign reserves of the Member States, unlike in the US, UK, Canada and Japan where large parts of the official foreign reserves are held by the treasury or treasury-controlled entities. This puts constraints on euro area governments regarding the use of foreign exchange assets held by national central banks (NCBs).

At the other end of the spectrum, in the US, the UK, Japan and Canada the government has the predominant role in deciding the general direction of exchange rate policy as well as deciding on foreign currency operations, even though central banks have their own accounts

22 A recent survey (Sarno and Taylor, 2001) points to interventions being "sometimes" and "occasionally" effective in moving exchange rates, potentially via many channels, including a portfolio balance channel, or, more recently, through a coordination channel or a signalling channel. Also, Fatum and Hutchinson (2002) find evidence that the 2000 ECB foreign currency interventions were supporting the euro in the short but not in the long run.

23 It would seem very difficult to define in advance orientations for particular types of foreign exchange operations as such orientations would have to anticipate the specific and complex circumstances prevailing at the time of their execution (including as regards the willingness of other central banks to participate in any interventions).

Table 2 Role of central banks in foreign exchange policy and operations

	Foreign exchange policy	Foreign exchange operations
Euro area	– euro monetary and exchange rate policy subject to same primary objective (price stability) – EU Council can adopt exchange rate agreements with 3rd countries or general orientations for exchange rate policy, either upon recommendation of the ECB or upon recommendation of the Commission after consulting the ECB	Operational responsibility under floating exchange rates
US	Treasury responsible for exchange rate policy	– treasury decides on FX operations – conducted by Fed in close and continuous consultation and cooperation with treasury – warehousing arrangements
UK	Treasury responsible for exchange rate policy	FX operations conducted by bank on instructions from treasury
Japan	Ministry of finance responsible for exchange rate policy	– FX operations conducted by bank on instructions from ministry of finance – warehousing arrangements
Canada	Department of finance responsible for exchange rate policy	– bank responsible for FX operations as fiscal agent of government – warehousing arrangements

for foreign exchange intervention for monetary policy purposes. The predominant role of the finance ministry is also illustrated by the fact that in these countries, only the finance minister speaks, as a rule, on exchange rate issues, while in the euro area the ECB President (together with the Eurogroup President) plays a key role in conveying messages on the exchange rate. Central banks have important technical expertise and, in the US, the UK, Japan and Canada, they carry out market operations at the request of the government and using funds from the government's account. Furthermore, with the exception of the ECB and the Bank of England, the central banks extend loans to their governments collateralised with foreign currency (US, Canada) or foreign securities (Japan) from the governments' foreign currency accounts ("warehousing arrangements").[24]

Detailed information about the cooperation between the central bank and the government in the area of foreign exchange interventions is usually confidential. However, the procedure for intervention in the US, the UK, Japan and Canada (government initiative and central bank execution) is a reason to infer a close relationship, at least on the operational side. For example, in the US the Federal Open Market Committee's Foreign Currency Directive requires that foreign exchange operations be conducted "in close and continuous consultation and cooperation with the United States Treasury". Also, in the case of Japan, there is real-time information sharing during foreign currency interventions, such that the ministry of finance can update, if necessary, the execution instruction given to the Bank of Japan. In the euro area, common language on exchange rate issues, for the purpose of external communication, is agreed within the Eurogroup. As regards interventions, the 1999 informal understanding reached between the ECB and euro area finance ministers specifies consultations between the ECB and the Eurogroup, while the ECB is solely responsible for actual interventions in exchange rate markets.

3.3 INTERNATIONAL COOPERATION

Economic and financial globalisation has been accompanied by an increase in international cooperation, with a number of new fora being created over the past decades. This section

24 Looking at a sample of five Latin American countries, Siklos (1995) makes the case that the role of the central bank in decisions about the exchange rate should formally be included in measures of central bank independence.

focuses on two longstanding and highly influential international bodies, the Group of 7 (G7) and the International Monetary Fund (IMF), in which central banks have traditionally played an important role.

The ECB's competence to represent EMU's "monetary leg" derives from the ESCB Statute (Article 6). However, membership of international bodies is, as a rule, country-based, with central banks being part of a "country delegation" (rather than having a seat of their own). Against this background, special arrangements had to be found for the euro area to accommodate its *sui generis* institutional set-up and the special role of the ECB.

The G7 process started in 1975 bringing together the Heads of State or Government of the initially 6 major industrialised nations (Canada joined in 1976), with the purpose of promoting closer international cooperation and, specifically on monetary and financial issues, to work for greater stability and counter disorderly market conditions in exchange rates (G6 Declaration, Rambouillet, 17 November 1975). The G7 remains an informal process which has been meeting in two different formats: at Heads of State or Government level, since 1997 together with Russia as the "G8" and, when discussing economic and financial issues, the original G7 countries with both finance ministers and central bank governors participating.[25] Since 1987, the G7 finance ministers and central bank governors have met at least twice yearly (currently three times a year) to monitor global developments and assess economic policies. In addition to the main meetings, there are also preparatory technical meetings of deputies and deputy-deputies as well as occasional working groups on topical issues.[26] While the content of the G7 discussions remains confidential, the outcome of the meetings is made public through a communiqué adopted by ministers and governors at the end of their meetings.

With the creation of EMU, the G7 had to adapt its *modus operandi*. As from October 1998, the Presidents of the ECB and the Eurogroup were invited to the "surveillance part" of the G7 meetings. Gradually, the G7 – taking account of the euro's reality as a new global currency and its governance structures – agreed to fully involve the representatives of the euro area in its deliberations, with the ECB President attending G7 meetings in their entirety since February 2004 and the Eurogroup President a year later.

In the G7 process the treasuries or the ministries of finance usually have taken the lead, with the central banks mainly providing input on monetary and financial issues (with the exception of the ECB, which has the competence for the external representation of its tasks). Also, the central banks, as a rule, have not been participating in all of the preparatory meetings (again, with the exception of the ECB). On the topic of exchange rates, a key item on the G7 agenda, the ECB has been substantially more involved than the other four central banks. Specifically, the exchange rate language of the public statement has been discussed at deputy level ahead of the meeting proper, notably between the US Treasury, the Japanese Ministry of Finance and, for the euro area, representatives from the ECB and the Eurogroup, representing the three most important global currencies.[27]

More recently, the G20 has started to supersede the G7, with G7 meetings now mainly being held as informal dinners (without communiqués) ahead of G20 meetings. While the format of G7 meetings may alter from one G7 Presidency to the other, the change in the format is significant of a change of a more fundamental shift in global economic power from industrialised countries to emerging markets (such as China, India and

25 As an institutional innovation, the Italian Presidency recently extended the format to include also the Russian finance minister (hence the communiqué following the meeting in Lecce on 13 July 2009 referred for the first time to the G8 ministers of finance). It remains to be seen whether the following presidencies will follow this practice.

26 The G7 process lacks a secretariat and most of the preparatory work takes place at the level of deputies, who meet between six and ten times a year and are in regular contact. The chair rotates on a yearly basis among the G7/G8 countries.

27 The EFC plays a key role in preparing the meetings of the Ecofin Council.

Brazil) which is reflected in the composition of the G20.[28] Reflecting its growing importance, the G20 also made its process more transparent through an official website where it publishes official statements and other work. Still, similar to the G7, the G20 chair rotates among members, with the incumbent chair establishing a temporary secretariat for the duration of its term, which coordinates the group's work and organises its meetings.

The G20 has taken a leading role in discussing and coordinating a global policy response to the current economic and financial crisis, which is also illustrated by an intensification of G20 meetings, both at finance ministers and governors level and Heads of State or Government level. The ministers and governors meeting is usually preceded by two deputies meetings and extensive technical work in the form of workshops, reports and case studies on specific subjects. At ministers and governors level, the ECB, together with the rotating EU Council Presidency and, more recently, also the Commission, represents the European Union, which is the 20th member of the G20.

In an even more representative fashion, the IMF (with 186 members) also seeks to promote international cooperation with a view to fostering stability in the global economic and financial system.[29] To these ends, the IMF carries out multilateral and bilateral surveillance and offers technical and financial assistance to member countries.[30]

Also the IMF had to adapt its management structures to the advent of the euro. Thus, in 1998 the IMF agreed to grant the ECB – as the only central bank in the world – observer status, allowing it to participate in relevant meetings of the IMF Executive Board and in the International Monetary and Financial Committee (IMFC), the two bodies that are most relevant for shaping the IMF's policy stance and decisions. The other surveyed central banks are not directly represented in the IMF Executive Board and the IMFC. Still, as shown in Table 3, they are represented in the governing structures of the Fund by virtue of naming their countries' alternate representative to the IMF's Board of Governors (usually the central bank governor).

As regards the external representation of the "economic leg" of EMU, some improvements have been recently achieved, in particular through the establishment of a stable EURIMF[31] presidency which speaks on behalf of the EU/euro area at IMF Board meetings. However, in stark contrast to the monetary policy of the euro area which is represented by the ECB alone, Member States do not always speak with a single voice on economic or other IMF-related issues at IMF meetings, even when common positions have been agreed in Brussels.[32]

Regarding cooperation, central banks usually coordinate their position with the ministries of finance/treasuries or provide input to such positions, with coordination being strongest in the UK, Japan and Canada and weakest in the case of the US. In the case of the euro area, solid coordination is ensured through a number of committees, in particular the Ecofin Council/Eurogroup and preparatory committees,[33] in which the ECB, the Commission and Member States participate and to which the ECB provides substantial input.

28 The countries represented in the G20 include, in addition to the G7 countries, also Argentina, Australia, Brazil, China, India, Indonesia, Mexico, Russia, Saudi Arabia, South Africa, Republic of Korea and Turkey.
29 The Fund was set up at the United Nation's Bretton Woods conference in 1944 as a country-based institution, with resources provided by member countries through the payment of quotas. The governance of the IMF is carried out by the Board of Governors (all 186 members), the International Monetary and Finance Committee (24 members representing their respective constituencies), which advises on IMF policies, and the Executive Board (consisting of 24 directors) for day-to-day business.
30 The IMF is also involved in the G7 process. In particular, the IMF's director of research presents country developments at the deputies' preparatory meeting, while the IMF Managing Director presents the same developments at the ministerial meeting.
31 The EURIMF meetings bring together the EU representatives (Member States, Commission, ECB) at the IMF and are, as a rule, held on a weekly basis.
32 It remains to be seen whether the strengthening of the Union's representation on CFSP matters on the global stage through the Lisbon Treaty will also set favourable dynamics in motion towards a strengthening of external representation on EMU issues.
33 In particular the Eurogroup Working Group and the EFC Subcommittee on IMF issues (SCIMF).

Table 3 Role of central banks in international cooperation

	International cooperation	
	Responsibility	Representation in G7 and IMF
Euro area	– ECB solely responsible for monetary policy – ECB shares responsibility with Eurogroup President for exchange rate policy	- ECB attends G7 meetings (all parts since 2004) - ECB represented at IMF (observer status at IMF Executive Board meetings and in the IMFC)
US	Treasury has primacy in external representation, Fed is informed and contributes on relevant issues	- Fed President present at G7 meetings - Alternate governor at IMF
UK	Treasury has primacy in external representation, bank is closely involved on relevant issues	- Bank governor present at G7 meetings - Alternate executive director at IMF - Alternate governor at IMF
Japan	Treasury has primacy in external representation, bank is closely involved on relevant issues	- Bank governor present at G7 meetings - Alternate executive director at IMF - Alternate governor at IMF
Canada	Treasury has primacy in external representation, bank is consulted on issues of common interest	- Bank governor present at G7 meetings - Senior advisor in Canadian constituency at IMF - Alternate governor at IMF

International cooperation is evolving. This has, most recently, been illustrated by the discussions on the establishment of the new G20 surveillance mechanism. Though the euro area is not a member of the G20, issues such as global imbalances can only be addressed meaningfully at the level of currency areas. While the ECB is represented in the international bodies of relevance to its tasks, a number of EU policy-makers (e.g. former Commissioner for Economic and Monetary Affairs Joaquín Almunia and his successor Oli Rehn, as well as ECB Executive Board member Lorenzo Bini Smaghi) and academics (e.g. Sapir, 2007)) see a strong case for further strengthening the external representation of EMU's "economic leg".

3.4 PAYMENT SYSTEMS/SECURITIES CLEARING AND SETTLEMENT SYSTEMS

Efficient and secure payment and securities settlement systems are essential for the functioning of modern economies, the money markets and the conduct of monetary policy. In particular, collateralised monetary policy operations and open market operations need well-functioning payment and securities settlement systems. However, both types of systems face potential credit, liquidity, operational and legal risks. In addition, the securities settlement systems face the risk of loss or unavailability of securities held in custody. These risks, if they were to materialise, could generate a domino effect threatening the stability of the financial system and the broader economy. Considering the implications for the financial system, many central banks are closely involved in the regulation, operation and oversight of payment systems and securities settlement systems.[34]

In particular, all five central banks surveyed here have an oversight role and all, except the Bank of Japan, are also regulators of the payment systems (see Table 4). In addition, the US Federal Reserve, the Bank of Japan and the ECB are operating their own respective payment system. Regarding securities clearing and settlement systems, all five central banks are engaged in oversight, and the Bank of Japan, and in future also the ECB, are operators of such systems (the Federal Reserve only for government-issued securities). In two cases (Japan and Canada), legislation allows the central bank to provide loans (even uncollateralised ones in the case of Japan) to financial institutions to ensure the smooth settlement of funds.

34 Additionally, financial system authorities, including central banks, have promoted sound risk management practices by developing internationally accepted guidelines to encourage the safe design and operation of the financial infrastructure, especially that considered systemically important.

Table 4 Role of central banks in payment systems/securities clearing and settlement

	Payment systems/Securities clearing and settlement		
	Operator	Regulator	Securities
Euro area	Yes – TARGET2 Oversight as well	Yes	- operator of TARGET2-Securities (to go live by 2014) - oversight - central bank money settlement
US	Yes – Fedwire Oversight as well	Yes	- operator only for government-issued securities - central bank money settlement
UK	No Oversight only	Informal role only until the 2009 Banking Act Since 2009, Yes	- oversight - central bank money settlement
Japan	Yes – BOJ-NET Oversight as well	No	- operator - oversight - central bank money settlement
Canada	No Oversight only	Yes	- oversight - central bank money settlement

In the field of payment and settlement systems, central banks have intense cooperation with government bodies and also with the financial industry. Much of this cooperation is due to the fact that central bank responsibilities in the field are shared with the government, and that the integrity of payment and settlement systems concerns macrofinancial stability, which is a task for all the central banks surveyed here. Also, while some of the interactions have been institutionalised (Canada's Payment System Advisory Committee or the ESCB-CESR[35] Working Group, which prepared recommendations for securities settlement systems and central counterparties in 2009), much of the close relationship between central banks and governments remains largely informal.

3.5 SUPERVISION, REGULATION AND FINANCIAL STABILITY

The responsibility of central banks for safeguarding financial stability can be statutory or indirect through the role that central banks play in payment and settlement systems, the lender of last resort role, and the advisory role on relevant legislation (Healey, 2001). The current theoretical literature and the variety of observed practices show that there is no consensus view on whether financial sector regulation and supervision should be entrusted to the central bank (e.g. Di Noia and Di Giorgio, 1999, Goodhart and Schoenmaker, 1995, Healey, 2001). Still, against the background of the current financial crisis, some very recent literature (in particular the "Geneva Report", 2009) sees merit in a stronger involvement of central banks in the field of macro-prudential supervision.

There are several advantages to having prudential supervision within the central bank, including the fact that the central bank (i) can acquire valuable information about the state of the economy[36] and first-hand information about the state of the financial system and (ii) in its role as a lender of last resort, is able to assess more easily and in a more timely fashion the situation of particular financial institutions (in particular whether the institution is illiquid or insolvent) and subsequently take swift action. In addition, it is argued that a central bank with prudential supervision functions is better able to protect the smooth functioning of payment systems. Also, the case has been made that central banks which are independent of political

35 Committee of European Securities Regulators.

36 Peek et al. (1999) show that (i) confidential supervisory information (individual bank CAMEL scores) is not included in the Federal Reserve staff projections of inflation and unemployment (Greenbook forecasts), but that (ii) such confidential information can improve forecasts of inflation and unemployment and is used by the Fed Governors and Reserve Bank Presidents to adjust the staff forecasts to reflect their own knowledge of banking problems.

authorities and have expertise in analysing the financial system are better placed to tackle prudential supervision than newly created agencies.[37]

On the negative side, combining monetary policy and banking supervision under the umbrella of the central bank is argued to potentially generate a conflict of interest between the two tasks. The key concern expressed in this context is that a central bank cannot target two policy objectives with one policy instrument (the interest policy rate). Another concern is that monetary policy may be conducted with excessive regard to the profitability, capital adequacy and solvency of banks and, as a consequence, the reputation of the central bank could suffer, negatively affecting its ability to control inflation (e.g. Di Noia and Di Giorgio, 1999, Copelovitch and Singer, 2008). Also, there is the concern that central banks with a supervisory function could end up taking excessive risk on their balance sheets. Another argument in favour of attributing prudential supervision to an agency outside the central bank is that, due to the links between banks, securities companies, asset managers and insurance companies, prudential supervision should be coordinated across functional boundaries.

In the field of supervision, regulation and financial stability, the responsibilities of the five central banks surveyed here show certain similarities, as illustrated in Table 5. All banks are involved in macro-prudential supervision of the financial system, whereas micro-prudential supervision and regulation remain primarily with governments. Only the Bank of Japan and the US Federal Reserve – and, once the changes announced by the new UK government have taken effect (see below), also the Bank of England – are in charge of micro-prudential supervision of financial institutions, and the Federal Reserve alone is also a regulator (in future, also the Bank of England). In the field of financial stability, the central banks cooperate intensively with their counterparties in the government, and in the case of the ECB with the relevant EU bodies. In particular, all five central banks have in place an institutionalised set-up for interaction with the government focusing on the risks to financial stability.

Furthermore, in all G7 countries there is an ongoing debate (intensified by the financial crisis) on the adequacy of the current institutional arrangements for financial stability, given that financial markets are globalised, while macro and micro-prudential supervision remains essentially at the national level. This is particularly true for the EU, where financial service providers operate in a Single Market but are essentially supervised by national authorities. As part of current efforts to strengthen the "European dimension" of supervision, EU legislation recently agreed by the European Parliament and the EU Council will enlarge the role of the ECB in the field of financial stability. In particular, the ECB is intended to provide support to the functioning of the European Systemic Risk Board (ESRB), whose main functions will include assessing macrofinancial risks in the EU, making recommendations on macro-prudential policy and issuing warnings to the appropriate authorities (national supervisors, the EFC or Ecofin Council). The members of the ECB's General Council will also be members of the ESRB's main decision-making body, the General Board.

In the case of the UK, the Turner Review called into question the "single peak" model and pointed to the need to improve the insufficient institutional cooperation between the Bank of England and the Financial Services Authority (FSA). In particular, the review singled out that the analytical work of the Bank did not result in policy responses designed to offset the identified risks, while the FSA focused too much on individual institutions and too little on system-wide risks. Also, the review indicated that while the Standing Committee on Financial Stability was an institutionalised forum for the Bank of England, the Treasury and the FSA to exchange information and agree on policy action, the Committee failed to achieve its

37 ECB (2001).

Table 5 Role of central banks in financial stability

	Regulator	Financial stability Macro-supervision	Micro-supervision
Euro area	Advisory role on relevant regulation	Advisory role	No
US	Yes	Yes	Yes, including enforcement
UK	No [Yes] 1)	Yes	No [Yes] 1)
Japan	No	Yes	Yes
Canada	No	Yes	No

1) Once the changes announced by the new UK government have taken effect (see also footnote 38).

mandate because de facto it functioned as a "purely Bank of England committee" (FSA, 2009, p. 84).[38]

However, close involvement of the central bank in supervision is not necessarily a panacea either, if the overall institutional environment is not conducive to the exercise of the financial stability function. This is illustrated by the case of the US. While the Federal Reserve has been traditionally more closely involved in the supervision and regulation of financial institutions, observers have pointed out that the supervisory structure was too fragmented to allow the signs of systemic risk to be spotted. To address these concerns, the bill signed into law by president Obama on July 21 2010 creates the Financial Stability Oversight Council (chaired by the Treasury and with the Federal Reserve as a member) and gives enlarged authority to the Fed for the supervision of systemically important institutions.

Another indicator of risk to central bank independence is the extent to which central banks have been taking on balance sheet risks during the financial crisis. While all central banks have significantly enlarged their balance sheet over the past two years, the case has been made (see Buiter, 2009, below) that central banks with significant outright transactions, such as the US Federal Reserve and the Bank of England, are significantly more exposed to financial risks (and thus potentially dependent on recapitalisation by the government) than central banks that mainly operate with soundly collateralised lending.[39] Buiter argues that the increased balance sheet vulnerability of some central banks is also related to the question as to whether the central bank took its decisions to enlarge its balance sheet independently or whether – as Buiter pointedly remarked in relation to the US Federal Reserve – the central bank "allows itself to be used as an off-budget and off-balance-sheet special purpose vehicle of the Treasury".[40]

3.6 BANKNOTES AND COINS

All five central banks surveyed here are responsible for issuing banknotes (see Table 6), and, with the exception of the UK, they hold a monopoly over the issuance of such notes. Except for the euro area, the design, denomination or printing procedures for banknotes are subject to government approval or are directly decided by the ministry of finance, after consultation with the central bank. Again, the euro area is special in this regard on account of its set-up, with the ECB playing a stronger role than the other

38 In response to the ongoing financial crisis, the recently elected UK Government (coalition of the Conservative Party and the Liberal Democratic Party) is proposing breaking the FSA into three and enhancing the role of the central bank in the field of financial stability by placing one of the newly created agencies within the Bank of England, thereby making the Bank of England responsible for both macro and micro-prudential supervision. This proposal has yet to be approved by the UK Parliament and would take effect in 2012.

39 Recently, for monetary policy purposes, the ECB decided on measures to address severe tensions in financial markets which are hampering the monetary policy transmission mechanism and thereby the effective conduct of monetary policy, including a Securities Markets Programme to ensure depth and liquidity in those market segments which are dysfunctional. See press release at: http://www.ecb.int/press/pr/date/2010/html/pr100510.en.html.

40 See the post on Willem Buiter's blog "Should central banks be quasi-fiscal actors?", 2 November 2009: http://blogs.ft.com/maverecon/2009/11/should-central-banks-be-quasi-fiscal-actors/#more-7561, accessed on 1 December 2009.

Table 6 Role of central banks in banknote and coin issuance

	Banknotes and coins	
Euro area	Issues banknotes	Large role in coin issuance
US	Issues banknotes	Issues coins
UK	Issues banknotes	No role in coin issuance
Japan	Issues banknotes	No role in coin issuance
Canada	Issues banknotes	No role in coin issuance

central banks surveyed. For euro banknotes, it is the ECB that decides on the selection of denominations and on banknote production. Moreover, the ECB cooperates closely with the European Commission and Member States on specific issues such as information campaigns for the cash changeover in new euro area member countries and on combating counterfeiting.

Coin issuance, on the other hand, is for all countries with the exception of the US the responsibility of the government and, in the case of the euro area, of the Member States, subject to European rules. In the US, issuing coin is a task of the Fed Board, delegated to the Federal Reserve Bank of San Francisco's Cash Product Office. Regarding coin issuance, central banks have a varying degree of contact and cooperation with their counterparts in the government. Among the other central banks, the ECB is comparatively more involved and sets – in keeping with its monetary policy mandate – annual ceilings for the overall value of the coins to be put into circulation, monitors the ceiling for coin issuance and has a role in the quality control of the euro coins. In contrast, in the UK, Japan and Canada, the central bank has little or no involvement in coin matters.

3.7 COLLECTION OF STATISTICS

Monetary policy decisions as well as the conduct of other central bank functions require a wide range of reliable, consistent and timely economic and financial data. Insofar as central banks depend on external statistical input, the independence and soundness of their decision-making processes may be affected by the reliability of these statistics. In other words, the ability of the central bank to gauge the state of the economy and make adequate monetary policy decisions will depend on the degree of independence from government interference with which a national statistical agency can perform its tasks. Siklos (2005) considers the issue of how statistical data are compiled important enough to include it in his modified Cukierman (1992) index of central bank independence for a sample of five Latin American countries. In the EU, the issue of statistical independence has been an issue of policy debate for some years and is gaining traction in the current economic and financial crisis. Indeed, the quality of statistics produced at the European level crucially depends on the input by national statistical authorities, which need to perform their tasks free from political interference.

Table 7 illustrates that, related to their core tasks, all the central banks surveyed here collect and publish monetary and financial statistics.

Table 7 Role of central banks in the collection of statistical data

	Collection of statistical data	
	Monetary and financial statistics	Other statistics
Euro area	Yes, own responsibility	Together with Eurostat; interaction under MoU and committee structure
US	Yes, own responsibility	Together with the Bureau of Labor Statistics, Bureau of Economic Analysis and Census Bureau; largely informal interaction
UK	Yes, own responsibility	Together with the Office for National Statistics; interaction under MoU
Japan	Yes, own responsibility	Together with the statistics section of the Cabinet Office; largely informal interaction
Canada	Yes, own responsibility	Together with Statistics Canada; interaction under committee structure

Table 8 Role of central banks as fiscal agents

	Fiscal agent role	
	Scope	Main services
Euro area	Minimal	Administration of loans to EU countries under Medium-Term Financial Assistance for balance of payments support
US	Extensive	Management of public debt Processing of government payments
UK	Minimal	Issuance of foreign currency debt on behalf of the treasury
Japan	Extensive	Management of public debt
Canada	Extensive	Management of public debt Processing of government payments

Additional economic data are, however, collected usually by another, separate statistical agency, except in the US, where there are several federal-level agencies in charge of data collection. As a rule, central banks and the government have a cooperative relationship in the field of statistics collection, based on a clear division of labour.[41] Also, in the case of the euro area, the UK and Canada, the interaction is institutionalised under a committee structure and/or written agreements. In Japan and the US, on the other hand, the cooperation remains informal.

3.8 FISCAL AGENT FOR THE GOVERNMENT

All of the central banks surveyed here perform a fiscal agent role for their respective executive branches, albeit to a significantly varying degree (see Table 8). In all cases, interaction with the government is of a principal-agent nature. At one end of the spectrum, the Bank of Japan has been providing services for registration of Japanese Government Bonds since 1906, as the sole registrar under the Law concerning Government Bonds. Also, in the US, the Federal Reserve acts as agent for the Treasury on the basis of the Federal Reserve Act of 1913. The situation is similar in Canada.

At the opposite end, the ECB and the Bank of England provide limited fiscal agent services to EU bodies and the UK Treasury respectively. In the UK case, the fiscal agent functions for the government have been recently transferred to a separate government agency, the UK Debt Management Office. For the euro area, the limited scope for fiscal agent services provided by the ECB can be attributed first and foremost to the fact that there is no European body performing the functions of a fully fledged government. Also, the limited role performed by the ECB is complemented by the fact that NCBs continue to perform a wide array of fiscal agent functions for their governments, such as holding accounts for the government and providing cash and debt management services to the government.

41 For instance, at the European level the ECB cooperates with Eurostat, with the ECB being mainly in charge of money and banking statistics that it collects either from national statistical authorities or directly from economic agents (essentially financial institutions).

4 CONCLUSIONS

The central banks surveyed here (the ECB, US Federal Reserve, Bank of England, Bank of Japan and Bank of Canada) benefit from many safeguards that allow them to keep the government at arm's length and conduct monetary policy independently. At the same time, all five central banks maintain close ties with the government across the surveyed functional areas. In some instances, the interaction may pose risks to central banks' independence.

The links maintained by the central banks with the government are in some instances the consequence of legal requirements that provide for the central bank to cooperate with the government on specific issues. Also, such interactions can be the subject of formal agreements between the central bank and the government and may take place through special joint committees. That said, in a large number of cases, contacts between the central bank and the government take place at an informal level. Such informal contacts are often driven by economic or functional considerations and, like formalised contacts, may take place both at policy level and expert level.

On the substance of cooperation, much of the contacts between central banks and the government involve sharing information and exchanging views (e.g. on monetary and economic developments, exchange rate issues). As a rule, economic policy is the responsibility of governments, whereas monetary policy is the core function of central banks. Cooperation on issues stemming from the interlink between monetary policy and economic policy is both the most sensitive from the standpoint of keeping monetary policy independent, as well as the most important from the standpoint of having a mutual understanding of policy actions. Interaction on economic and monetary policy issues takes mostly the form of informal exchanges of views and sharing of information, but at the same time happens regularly and frequently, and usually at the highest policy level (i.e. central bank governors and finance ministers).

Beyond the conduct of monetary policy, central banks are typically engaged in a number of other tasks, either in an advisory capacity or in an implementation role. Unsurprisingly, cooperation is particularly formalised and intense on issues where there is a shared responsibility between the central bank and the government (e.g. payment systems, financial stability), or where the government or the central bank use services provided by the other or provide services to the other (e.g. in the field of statistics, or as fiscal agents). Illustratively, in the field of prudential supervision, regulation and financial stability, the central banks surveyed here have either a statutory responsibility or an indirect role through their involvement in payment and settlement systems. Regardless of their specific involvement, central banks have a general interest in financial stability to ensure a smooth transmission of monetary policy signals. Even before the financial crisis, all five central banks had in place an institutionalised, high-level set-up for interaction and information exchange with the government focusing on the risks to financial stability.

An independent monetary policy function is at the heart of the institutional relationship between central banks and governments and has emerged as a consensus good practice globally. This paper shows that among the central banks surveyed, the ECB stands out in terms of independence, with its status protected by an international treaty that can only be modified by unanimous agreement of its signatories. This notwithstanding, the ECB is in a continuous dialogue with the EU bodies that set the framework for the economic policies of Member States in the euro area and in the European Union as a whole.

In terms of central bank/government cooperation, the particular institutional set-up of the euro area has led to two different patterns. On the one hand, the self-restraint of euro area governments in exchange rate policy has allowed the ECB to assume a more dominant role than most national central banks. On the other hand, the absence of a clear European competence for financial stability and prudential supervision implied that the ECB was initially less involved than other central banks, a situation that is now about to change with the setting up of the European Systemic Risk Board.

The role of the ECB is comparatively strong in the field of exchange rate policy and management and in international cooperation, again due to the lack of a strong economic policy counterpart. At the same time, as the ECB does not pursue an exchange rate target, the ECB is not an active participant in the exchange rate markets and has only intervened on two occasions. Also, the very high level of independence which the ECB enjoys for its monetary policy decisions contrasts with the statutes of the certain central banks surveyed, which contain – at least up to a certain extent and in very specific circumstances – provisions through which the government might exert influence. These differences may be larger – for instance in the case of the Bank of England, whose independence could, under "extreme circumstances", be revoked by the Treasury with Parliament's agreement – or smaller, for instance in the case of the Bank of Canada, whose governor must agree to written instructions from the finance minister, or in the case of the Federal Reserve which considers itself as "independent within the government". Moreover, monetary policy might be influenced through exchange rate policy decisions, which – with the exception of the euro area – are an exclusive government responsibility. The euro area's monetary constitution could therefore be considered as coming closest to the academic and policy consensus that has emerged globally regarding the need to protect the independence of central banks from government interference. This is, in a way, unsurprising, given that the ECB is the youngest among the central banks surveyed, which allowed its statute to be designed according to the most recent state of good practices.

However, this does not imply that all institutional features of the euro area comply with what academics and policy-makers would define as "state of the art". The most striking example of a need to change the present institutional setting in the EU is financial stability, where currently no direct European competence exists. This is an area of ongoing policy reflection and debate in the EU, whereby a consensus has emerged to overhaul the current supervisory architecture and to enhance the role of the ECB in macro-prudential supervision. At the same time, the performance of the US and the UK, with totally different supervisory set-ups, during the financial crisis shows that it is difficult to define a benchmark for an "optimal" institutional solution in this area. This illustrates that the design of central bank statutes and functions needs to take close account of the general environment in which the central bank operates, in order to achieve the policy results that citizens expect.

APPENDIX

DETAILED DESCRIPTION OF CENTRAL BANK/GOVERNMENT COOPERATION

1 THE EUROPEAN CENTRAL BANK

Monetary policy

The Treaty on the Functioning of the European Union (Treaty) provides extensive protection to the independence of the Eurosystem.[42] The Treaty gives the Governing Council of the ECB the task of formulating the single monetary policy for the euro area (including the adoption of a quantitative definition for price stability, the setting of key interest rates and minimum reserve requirements, and monetary policy implementation), with the primary objective being the maintenance of price stability. Without prejudice to price stability, the ECB is asked to support the achievement of the other objectives of the EU, such as balanced economic growth and full employment. The Treaty (Article 130) also explicitly states that in formulating monetary policy, the ECB and national central banks (NCBs) of the euro area should not seek instructions from national governments or EU bodies (nor any other body), which, in turn, shall not seek to influence monetary policy. Moreover, the central banks of the Eurosystem are barred by the Treaty from providing monetary financing (Article 21.1 of the Statute of the ESCB and of the ECB (Statute), Article 123 of the Treaty).

At the same time, the EU set-up acknowledges the need for interaction, and the ECB maintains close contact with its counterparts in the EU institutions. Specifically, the Treaty provides for the right of the ECB President to participate in the (monthly) meetings of the EU Council (Article 284.2), whenever issues related to the objectives and tasks of the ECB are discussed (normally in the Ecofin Council). The ECB also attends the six-monthly informal Ecofin meetings, where also the governors of the EU national central banks are invited. In addition, the ECB is present in the key preparatory bodies of the Ecofin Council – the Economic and Financial Committee (EFC) and the Economic Policy Committee (EPC).[43] By participating in the Ecofin Council meetings and all its substructures, the ECB can express its views on issues like the Broad Economic Policy Guidelines, the surveillance of fiscal policy at the EU level (through the Stability and Growth Pact), the preparation of European positions on international issues, as well as the work on structural reforms. The dialogue at the highest levels of the EU is further promoted by Article 284.1 of the Treaty, which provides that "the President of the (EU) Council and a member of the Commission may participate, without the right to vote, in meetings of the Governing Council of the ECB." By virtue of the same article, the President of the (EU) Council may submit a motion for deliberation to the Governing Council of the ECB.

The pivotal body in the economic governance of the euro area is the Eurogroup, the monthly meetings of euro area finance ministers to which also the Commissioner for Economic and Monetary Affairs and the President of the ECB are invited. Though it is now for the first time mentioned in EU primary law (Article 137 of the Treaty), it has retained its informal character. The communication lines between the ECB and the Eurogroup resemble most closely the traditional informal relationship between the central bank and the government that exists in nation states.[44] The Eurogroup discussions are

42 The ECB enjoys full institutional, functional, personal and financial independence. The flip-side to the ECB's independence are the reporting provisions in the Treaty, which, most importantly, require the ECB to publish an annual report and testify to the European Parliament. In practice, the President of the ECB appears on a quarterly basis before the European Parliament's Committee on Economic and Monetary Affairs, and once a year before the plenary to present the annual report. Other Executive Board members are also heard by the Parliament.

43 The ECB participates in the EFC on the basis of Article 134.2 with the Vice-President and another member of the Executive Board and two ECB senior officials acting as alternates. The ECB is also a member of the EPC, according to a revised statute of the EPC, and participates in the meetings with two senior officials.

44 The Luxembourg European Council (December 1997) established the Eurogroup as an informal body of the finance ministers of the euro area to which the ECB and the Commission are invited to participate when appropriate.

informal and high level and touch upon issues like the overall economic outlook, budgetary developments in individual countries and exchange rate developments.

The ECB President, accompanied by the Vice-President, participates regularly in the meetings of the Eurogroup. In addition, the ECB participates in the substructures of the Eurogroup. The close ties between the Eurogroup and the ECB are also reflected in the fact that it is de facto the President of the Eurogroup (rather than the Ecofin Council President) who attends the meetings of the ECB's Governing Council.[45] In the words of former ECB President Wim Duisenberg, the Eurogroup represents a "golden opportunity" for the ECB to express its views to finance ministers in an informal setting that allows for confidential and frank discussions.[46] In this vein, the ECB can explain in more depth the rationale for its policy decisions and help to anchor expectations. Conversely, the ECB can obtain first-hand information from other policy-makers that may feed into its own policy reflections.

While it does not exercise the functions of a "euro area finance ministry", the Eurogroup has evolved considerably both procedurally and in terms of the substance covered under meeting agendas. Thus, while retaining its informal character the Eurogroup adopted "working methods" which, for instance, foresee a regular "mid-term budgetary review" (normally around mid-year, ahead of the submission of budget proposals to national parliaments in autumn) as an additional guidance and surveillance tool for the fiscal policies of euro area countries. Moreover, since 2005 the Eurogroup has abandoned the practice of rotating chairmanships (corresponding to the rotating Presidencies of the EU) and elected a permanent President, a practice that has now been also enshrined in the Treaty (Protocol on the Eurogroup). On substance, the focus of the Eurogroup was initially on fiscal policies and euro exchange rate issues. Over time, however, the Eurogroup increased the scope and depth of its discussions, which now regularly feature also structural and financial policy issues. Since 2008, as one of the lessons learned from the experience of ten years of EMU, the Eurogroup also conducts an informal review of euro area competitiveness developments.

The European Commission, as the "executive branch" in the EU framework, plays a crucial role in the management of EU affairs. As such the ECB has frequent interactions with the Commission, both in a multilateral setting (Ecofin Council, EFC, EPC, Eurogroup) and in bilateral meetings. Also, according to the Treaty (Article 284.1) a member of the European Commission is entitled to participate in meetings of the Governing Council of the ECB without the right to vote, and the Commissioner for Economic and Monetary Affairs has regularly participated. Close ties of the ECB with the Commission are important for both sides because the Commission has tasks directly related to Economic and Monetary Union: each year it formulates recommendations for the Broad Economic Policy Guidelines; it monitors and reports to the Ecofin Council on Member States' budgets and plays a key role in the various procedural steps of the excessive deficit procedure; and every two years it prepares (as does the ECB) a convergence report for EU countries outside the euro area.

Foreign exchange operations and foreign reserve management

The provisions on exchange rate policy in the Maastricht Treaty take account of the interconnectedness of exchange rate policy and monetary policy. Specifically, the Treaty provides that the objective of exchange rate policy shall be the same as for monetary policy, namely the maintenance of price stability (Article

45 De facto, a certain practice has emerged whereby the Ecofin Council President attends the first Governing Council meeting during the half-yearly EU Presidency, and the Eurogroup President attends (most of) the other Governing Council meetings. Neither the Ecofin Council President nor the Eurogroup President have the right to vote in the meetings of the ECB Governing Council.

46 As far as legislation is concerned, the ECB can make its voice heard through public opinions on draft national or EU acts falling within ESCB competence (Article 282.5 of the Treaty).

119.2). Also, the Treaty gives the responsibility to conduct foreign exchange operations to the ECB (Article 3 of the Statute).

Regarding the overall framework for exchange rate policy, the Treaty provides for a close interaction between the EU Council and the ECB. In particular, according to Article 219 of the Treaty, the Council may conclude bilateral agreements on an exchange rate regime (paragraph 1), may formulate general orientations for exchange rate policy (paragraph 2) and shall decide on multilateral arrangements or arrangements to be negotiated by the EU on monetary and foreign exchange regime matters (paragraph 3). In both cases the ECB is involved in the procedure, given that the EU Council can only act upon a recommendation of the ECB, or upon a recommendation of the Commission[47] and after consultation of the ECB.

The Treaty is not very precise on how the overall policy would be set in the absence of general orientations or a formal exchange rate arrangement (Henning, 2007b). In practice, more clarity has been brought by the Luxembourg European Council Resolution (13 December 1997) and by an informal understanding reached among euro area finance ministers and the ECB in September 1999.[48] Thus, the Luxembourg European Council Resolution clarifies that, in general, the exchange rate should not be a policy target but rather the outcome of all other economic policies. The Luxembourg Resolution also restrains the use of "general orientations for exchange-rate policy" to exceptional circumstances and in full respect of the primary objective of the ECB. The informal understanding of September 1999 further establishes informal procedures for consultation between the ECB and the Eurogroup regarding communication on exchange rate developments; it puts clearly the responsibility for market operations with the Eurosystem; and it describes the communication strategy on exchange rates. That said, the ECB does not pursue an exchange rate target, and the Eurosystem has so far intervened in foreign exchange markets only in rare circumstances. In fact, since the introduction of the euro, the ECB has intervened in the foreign currency market only on two occasions, in September 2000 (concerted G7 intervention) and November 2000 (follow-up to the September intervention).[49]

In terms of cooperation – which, as explained above, takes place in the understanding that the euro exchange rate is not a policy target by itself but the outcome of other policies – the informal understanding among euro area finance ministers and the ECB affirms that exchange rate developments are a matter of common interest of the Ecofin Council/Eurogroup and the Eurosystem. In that respect, procedures leading to possible statements, most importantly in the G7, will involve consultations between the Ecofin Council/Eurogroup and the Eurosystem. In practice, exchange rate developments of the euro are part of the general discussion on the economic situation and outlook in the Eurogroup (effectively, such discussions take place in a euro area setting rather than in the Ecofin Council).

From an operational point of view, actual foreign currency interventions are separated into a decision in principle and a decision on execution, each involving different interactions between the ECB and the Eurogroup, such that needed confidentiality is preserved. The actual execution of the intervention depends crucially on technical, market conditions. When conducting operations, the ECB will give notice to ministers.[50]

47 Individual Member States may request the Commission to make such a recommendation. The Commission shall examine such requests but is not bound to follow them (Article 135).
48 The details of this understanding were brought into the public knowledge by Henning (2007).
49 The ECB uses the foreign reserves transferred to it by the national central banks. Article 127 of the Treaty gives the Eurosystem the task to hold and manage the official foreign reserves of the Member States. In addition to their subscription to the capital of the ECB, national central banks were required to provide the ECB with foreign reserves in an amount equivalent to EUR 50 billion. The ECB has the right to hold and manage the foreign reserves transferred to it (Article 30 of the Statute). Moreover, the Governing Council of the ECB has issued guidelines for the Eurosystem national central banks regarding their management of foreign reserves.
50 Cf. Henning (2007b).

Regarding cooperation on communication, the ECB and the Ecofin Council/Eurogroup share the view that such communication should be infrequent, well-prepared, short and expressing a common view. Any public statements should also be strictly in line with the commonly agreed language on exchange rates.

International cooperation at the G7 and the IMF

External representation of the euro area is the subject of ongoing debates reflecting the unequal level of integration in different policy areas at the EU level as well as the unwillingness of Member States to streamline and potentially give up their national representation in international fora (e.g. Bini Smaghi, 2006).[51] As a consequence, currently, depending on the particular issue and the particular international institution, both EU Member States and EU bodies are represented at international level. On monetary policy matters, the ECB has the exclusive competence of representing EMU externally.

As an informal gathering, the G7 was quick to adapt to the governance changes brought about by the introduction of the euro. Initially, the ECB President was invited to only participate in the "surveillance part" of the G7 meetings. However, since 2004, his participation has been extended to all parts of the G7 meetings. The President of the Eurogroup is also present for the talks on the surveillance of economic policies and, more recently, has also been admitted to other parts of the G7 meetings (on an ad hoc basis since February 2005). Cooperation between the ECB and the Eurogroup in the G7 context is intense, striving to achieve common understandings, in particular on global macroeconomic developments and policy responses, including exchange rate developments. In the preparation of the G7 communiqué, the ECB and the Eurogroup cooperate closely.

While the ECB's participation in IMF meetings is more limited than in the G7 context, it is still more significant than in the case of the other surveyed central banks. More specifically, the ECB President participates in the International Monetary and Financial Committee (IMFC) as an observer. Also, the ECB participates (as an observer with the right to intervene) in the IMF Executive Board meetings on relevant issues.[52] On exchange rate issues, the views of the euro area are presented by the ECB and the EURIMF President, who is elected by the EURIMF (i.e. the weekly gatherings of EU representatives at the IMF; see Section 3.3) for a period of two years.

The preparation of EU/euro area positions on IMF issues, such as multilateral surveillance, balance of payments assistance (including IMF financial assistance to EU Member States) or reform of the IMF, takes place in the EU's Economic and Financial Committee (EFC), and in a specialised EFC sub-committee on IMF issues (SCIMF). The ECB is fully involved in the work of the EFC, the EWG and the SCIMF, and thus contributes substantively to the EU/euro area positions, which are then relayed to the EU/euro area representatives at the IMF.[53] Also, while the ECB does not take part directly in the drafting of the IMFC communiqué, it conveys its views at the EU drafting session which takes place earlier. As regards euro exchange rate issues, a common language is agreed within the Eurogroup which serves as a reference for the euro area representatives whenever such issues are discussed at the IMF.

51 The legal basis for external representation on EMU issues is given both by the Treaty (Article 138) stating that the Council, acting on a proposal by the Commission and after consulting the ECB, shall decide on EU positions at international level on issues of particular interest for economic and monetary union and on their representation, and the Statute (Article 6.1) stating that the ECB shall decide how the ESCB will be represented in the field of international cooperation involving the tasks entrusted to the ESCB.

52 Formally, the topics on which the ECB is present in the IMF Executive Board meetings are: surveillance under Article IV of the euro area monetary and exchange rate policies, surveillance under Article IV of individual euro area member states, the role of the euro in the international monetary system, the world economic outlook, global financial stability reports and world economic and market developments. Moreover, the ECB may also attend IMF Executive Board meetings on agenda items of mutual interest (including surveillance under Article IV of non-euro area EU countries, EU candidate countries and systemically important countries outside the EU, such as the US and Japan).

53 Coordination within the ESCB/Eurosystem on international issues takes place in the International Relations Committee.

Payment systems/Securities clearing and settlement systems

One of the four tasks of the Eurosystem as laid out in the Treaty is to ensure the smooth operation of payment systems (Article 127.2 of the Treaty and Article 3.1 of the Statute). Article 22 of the Statute specifies the tools for carrying out this task, stipulating that "the ECB and the national central banks may provide facilities, and the ECB may make regulations, to ensure efficient and sound clearing and payment systems within the EU and with other countries". In practice, the Eurosystem is involved in three distinct fields: large-value payments, retail payments and securities settlement services. In practical terms, the Eurosystem may act as operator, supervisor or catalyst for change. More specifically, the Eurosystem is an operator of large-value payment (TARGET2) and securities settlement (the not yet operational TARGET2-Securities scheduled to go live in 2014) facilities and oversees the efficiency and security of the euro payment and settlement systems. Beyond that, the Eurosystem is involved in the setting of standards for securities clearing and settlement systems, ensures an integrated regulatory and oversight framework for securities settlement systems, promotes efficiency of payment systems and is a catalyst for the adoption of new infrastructure.[54]

In addition, payment systems are the subject of EU legislation, insofar as the proper functioning of the Single Market is concerned. To this end, the EU has adopted legislation regulating payment services in the internal market, with the aim to create an EU-wide single market for payments. In light of enhanced efficiency and security, the Eurosystem has a keen interest in furthering legal harmonisation in the field of payment and securities settlement. Therefore, the ECB provides input for the development of the EU legislative and regulatory framework (through opinions and recommendations) and advises on the transposition of EU legislation into Member States' national legislation.[55] Also, the Eurosystem has interacted closely with other EU institutions with respect to the set-up of the TARGET2 and TARGET2-Securities systems, with a view to keeping the Commission, the EU Council and the European Parliament informed and securing their political support.

In addition, the Eurosystem cooperates intensively with the Commission and market participants in getting the financial services industry to agree on voluntary rules and standards and reduce barriers to integration. For example, between 2001 and 2005 (resumed in 2008), a joint working group was established by the Committee of European Securities Regulators (CESR) and the ESCB, with the European Commission as an observer, with the purpose of adopting EU-level standards in the field of securities clearing and settlement systems.[56] As a successor to the joint working group the Monitoring Group was established by the European Commission with the mandate to review the compliance with the Code of Conduct for Clearing and Settlement by signatories. The ECB and CESR are both members of the Monitoring Group.[57]

Finally, the ECB and the Commission are working together closely in the field of retail payments, where, until recently, there has been little harmonisation of instruments, standards and processing infrastructures. In particular, both institutions strongly support the European Payments Council initiative on the Single Euro Payments Area (SEPA), with the necessary legal framework (e.g. the 2007 Payment Services Directive), as well as policy guidance, research, and joint communication efforts.[58]

54 www.ecb.int/pub/pdf/other/paymentsystemsandmarketinfrastructureoversightreport2007en.pdf
55 For example, the ECB participated in the Transposition Working Group set up by the Commission for the 2007 Payment Services Directive.
56 The working group is composed of representatives from the ECB, EU national central banks, CESR and the European Commission as an observer.
57 The ECB was also involved with the Commission's Clearing and Settlement Advisory and Monitoring Expert (CESAME) Group, together with CESR, on the practical aspects of removing the "Giovannini barriers", and in the follow-up CESAME 2.
58 For details see http://www.ecb.int/pub/pdf/other/financialintegrationineurope200904en.pdf

Supervision, regulation and financial stability

At the current juncture, the ECB does not have a direct role in financial sector regulation or supervision or generally financial stability. However, the ECB is required to contribute to the smooth conduct of policies of national authorities in this area (Article 127.5 of the Treaty). Article 25.1 of the Statute also states that the ECB may offer advice and be consulted by the Council, the Commission or Member States regarding prudential supervision and financial stability. Moreover, the Treaty includes an enabling clause to entrust the ECB with additional responsibilities in this area: "The Council may, acting unanimously on a proposal from the Commission, after consulting the ECB and after receiving the assent of the European Parliament, confer upon the ECB specific tasks concerning policies relating to the prudential supervision of credit institutions and other financial institutions with the exception of insurance undertakings" (Article 127.6).

In the exercise of its "lender of last resort" function, the Eurosystem can provide emergency liquidity to financial institutions. Such assistance can be provided on a short-term basis by national central banks to financial institutions in their jurisdiction, with the obligation to keep the ECB informed. Indirectly, the ECB has an important role in financial stability through its task of promoting a smooth functioning of the payment systems and because properly functioning money and credit markets are essential for the effective transmission of monetary policy.

In the euro area, prudential supervision is the domain of national supervisors based on a core set of harmonised concepts and rules set out in EU legislation. EU-level cooperation among national authorities is facilitated by a large number of bilateral and multilateral Memoranda of Understanding and by the so-called "colleges of supervisors", which are permanent, although flexible structures of authorities supervising large financial institutions with cross-border activities.[59] Regulation of the financial services industry and implementation of regulation in the Member States, including the euro area, is currently coordinated through a four-level regulatory approach called the "Lamfalussy framework" (see below).

One way in which the Eurosystem contributes to the smooth conduct and cooperation among national authorities in the field of prudential supervision and financial stability is through the Banking Supervision Committee (BSC).[60] The BSC serves as a channel for bilateral flows of information between central banks and national supervisors, assesses potential threats to macrofinancial stability, helps to develop commonly agreed supervisory practices and assists the ECB in preparing opinions and advice on EU legislation and the implementation of legislation.

In addition, the ECB (i) is a member of the Financial Stability Table, which is a formation set up by the EFC to generate a comprehensive assessment of risks to financial stability in the EU; and (ii) participates in the meetings of the Eurogroup and the Ecofin Council and their substructures, where issues connected to supervision and financial stability are routinely taken up. Moreover, it participated with experts in meetings of specialised committees with important roles in the development and implementation of legislation in the Lamfalussy framework, which is set to be replaced by a European System of Financial Supervisors as of 2011 (see below).

Furthermore, in reaction to the financial turmoil, the European Council (15-16 October 2008) set up a high-level informal financial crisis cell to foster information exchange and early warning and evaluation. The ECB President participates in this new structure – which has, so far, not been actively used – together with the the EU Presidency in office, the Presidents of

59 For details on the colleges of supervisors, see the following Committee of European Banking Supervisors paper: http://www.c-ebs.org/getdoc/2d057c7c-da56-4f7e-a575-ed58cbcba1fe/College-Good-Practices-Paper_2-April-2009.aspx

60 The Banking Supervision Committee was set up in 1999 by the Governing Council of the ECB, as an ESCB Committee. The BSC is composed of high-ranking officials from supervisory bodies and central banks of the EU countries.

the Commission and the Eurogroup, as well as representatives of the Member States and ESCB central banks.

As one of the lessons of the financial crisis, in June 2009 EU Heads of State or Government agreed on the principles for a reform of the EU's financial regulatory and supervisory architecture (based on the recommendations of the so-called de Larosière Group, a high-level reflection group set up by the President of the Commission). This reform foresees the establishment of a European System of Financial Supervisors (ESFS), which will replace the Lamfalussy framework. The ESFS will consist of the European Systemic Risk Board (ESRB) and the European Supervisory Authorities (see below). According to legislation recently agreed by the EU Council and the European Parliament, the ESRB will comprise as members with a voting right the President and the Vice-President of the ECB, the governors of the EU national central banks, the Chairmen of the European Supervisory Authorities and a member of the Commission. It will be in charge of identifying macro-prudential risks and issuing early warnings and recommendations for remedial action.

The ECB will ensure the secretariat and provide analytical, statistical, logistical and administrative support to the functioning of the ESRB. The ESFS – the second pillar of the envisaged reform – will be in charge of micro-prudential issues, with the aim to improve the quality and consistency of national supervision, to act as arbiter between national supervisors and to develop a single European rule book (without prejudice to the fiscal responsibilities of EU Member States). To this end, the three current level 3 committees in the Lamfalussy framework will be transformed into European Supervisory Authorities, responsible for the banking, insurance and securities sectors respectively.

Banknotes and coins

The ECB has the exclusive right to issue banknotes in the euro area (Article 128 of the Treaty and Article 16 of the Statute). In practice, the ECB issues 8% of the total value of banknotes issued by the Eurosystem and the NCBs issue the remaining 92%, in proportion to their respective shares in the capital of the ECB. The Governing Council also approves the design and technical specifications for the euro banknotes and allocates the production of banknotes to the NCBs. On the other hand, responsibility for minting euro coins remains with the national governments of the EU Member States in the euro area within the framework set by EU law. Since coins are part of the monetary aggregates, the overall value of the coins to be put into circulation annually has to be approved in advance by the ECB. The ECB also monitors compliance with the ceiling for coin issuance.[61]

The ECB cooperates closely with the Commission on several euro cash-related issues including (i) information campaigns for the cash changeover in new euro area countries, (ii) coin migration (due to the fact that for coins there is no pooling of production, seigniorage or stock management at euro area level), (iii) the choice of denominations and (iv) harmonisation of legislation to facilitate banknote transport or to achieve consistent acceptance of banknotes across the euro area. Also, in order to combat counterfeiting, the ECB keeps a large database of counterfeit banknotes and helps to train personnel handling banknotes to spot fakes. In this context, the ECB works closely with Europol, Interpol and the European Commission.

In the Commission, the European Anti-Fraud Office (OLAF) prepares legislative initiatives, provides training and technical assistance, assists the Member States with the implementation of the law and coordinates the technical action of the Member States with regard to the protection of the euro coins. Europol supports the Member States' law enforcement in combating organised

61 Coin issuance is also subject to Council Regulation No 3603 of December 1993, which quantifies the amount of coins that can be held by the ECB or the NCBs, such that coin issuance is not used as a credit facility by the government according to Article 126 of the Treaty. The ECB also has a role in the quality control of the euro coins, as laid down in an exchange of letters between the President of the ECB and the President of the Council of the European Union (in 1999).

crime by facilitating the exchange of information and providing operational and strategic analysis. For the coordination of action in the field of counterfeit protection, a steering group was created in early 2001 with representatives from the ECB, the Commission and Europol. The ECB also participates in the Counterfeit Coin Experts Group (chaired by OLAF) together with experts from all Member States and Europol.

Collection of statistics

In order to perform its tasks, the ECB (assisted by the NCBs) is entitled to collect statistical data either from national authorities or directly from economic agents (Article 5.1 of the Statute). The activity of the ECB in the field of statistical data collection is also subject to a 1998 Council Regulation (No 2533/98 of 23 November 1998), which specifies the entities from which the ECB can collect information, the confidentiality regime and the provisions for enforcement. In the collection of statistics, the ECB is required to cooperate with the Union institutions, the relevant authorities in the Member States and international organisations. In particular, the ECB cooperates closely with the Commission (Eurostat) under a Memorandum of Understanding adopted in 2003. The MoU provides a framework for the exchange and reproduction of data, and describes the forms of cooperation and the procedures for resolving disagreements. It also provides for a division of labour, giving the ECB full responsibility for collecting money and banking data and a shared responsibility with Eurostat on balance of payments statistics and financial accounts statistics. Eurostat, on the other hand, collects price and cost statistics and other economic data. As the ECB is a heavy user of data produced by Eurostat, the ECB also acts as a catalyst for those areas of statistics that are the prime responsibility of Eurostat.[62] Additional cooperation between the ECB and the Commission takes place bilaterally or through a committee structure, in particular via the Committee on Monetary, Financial and Balance of Payments Statistics.[63]

Fiscal agent for the government

The ECB and the NCBs may act as fiscal agent for EU institutions, central governments or other public entities (Article 21.2 of the Statute). In practice, the role of the ECB as fiscal agent is limited. One example are loans to EU Member States to provide Medium-Term Financial Assistance for balance of payments support (MTFA), which are administered by the ECB.[64] In particular, the ECB is required to inform the European Commission in writing of any operation which it has carried out for the account of the EU in the field of MTFA. Also, at the end of each calendar year, the ECB is required to prepare a report to inform the European Commission of the financial operations it has carried out during the year in connection with borrowing-and-lending operations for balance of payments purposes. Another example is the European Financial Stability Facility (EFSF), which 'may contract the ECB to act as its paying agent and may appoint the ECB to maintain its bank and securities accounts.'[65]

62 The Action Plan on EMU statistical requirements, jointly prepared by Eurostat and the ECB, is an example of cooperation with Eurostat as producer of data and the ECB as user, where short-term and longer-term targets for improved data collection were set and subsequently agreed by the EU Council.

63 The Committee members are the national central banks and statistical offices of the European Economic Area, as well as the ECB and the European Commission.

64 Following the Council Regulation (EC) No 332/2002, Article 9, with further details laid down in the Decision of the ECB of 7 November 2003.

65 Art.12.2 EFSF Framework Agreement of 7 June 2010 and Decision of the European Central Bank of 21 September 2010 concerning the administration of EFSF loans to Member States whose currency is the euro.

2 THE US FEDERAL RESERVE

Monetary policy

The dual mandate of US monetary policy is spelled out in the Federal Reserve Act of 1977, which specifies that the Board of Governors and the Federal Open Market Committee (FOMC) should "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". At the same time, there is evidence that the Federal Reserve (Fed) places relatively more emphasis on achieving price stability (e.g. Gerdesmeier et al., 2007, p. 13).

The Federal Reserve enjoys independence for its monetary policy decisions. That said, the Fed gives its independent status a somewhat nuanced interpretation. In the "Government Performance and Results Act; Biennual Performance Plan 2006-2007", the Fed describes itself as "*independent within the government*", in that the Fed should work within the framework of the overall objectives of economic and financial policy established by the government.[66] In this respect, the Full Employment and Balanced Growth Act of 1978 (Humphrey-Hawkins Act) requires the Fed to give Congress the goals of monetary policy within 30 days of the Council of Economic Advisers' Economic Report of the President and explain the goals of monetary policy in relation to the short-term economicv policy goals of the President. As a counterpart to its independence, the Fed Chairman is required to appear twice yearly in front of the House and Senate banking committees to render account of the Fed's policy decisions.

Regarding the important issue of monetary financing, the US Constitution makes fiscal policy subject to the appropriation process in Congress. Therefore, any form of monetary financing would circumvent the Congress and run against constitutional provisions. Still, the Treasury can make currency swap arrangements with the Federal Reserve through the Exchange Stabilization Fund. Also, for quantitative easing during the current financial crisis, the Fed drew on Section 13(3) of the Federal Reserve Act, which allows the Fed in "unusual and exigent circumstances" to lend to "any individual, partnership, or corporation" against "notes" that are "secured to the satisfaction of the Federal Reserve Bank".

The high-level interaction of the Federal Reserve with the Department of the Treasury or the White House is very much based on the individuals at the helm of the respective institutions, as well as the particular economic circumstances. While such interaction is not legislated, a number of informal contact channels have emerged over time. At policy level, such informal avenues include the so-called "Quadriad",[67] the Fed-Treasury luncheon,[68] Fed-Council of Economic Advisers meetings[69] or the "Troika" group.[70] Currently, the ongoing economic and financial crisis has generated an increased number of ad hoc meetings, leading to a decline in the regularity of traditional venues. In particular, the Fed Chairman sometimes takes part in ad hoc joint briefings for the President on economic and

66 http://www.federalreserve.gov/BoardDocs/RptCongress/gpra/gpra2006-2007biennial.pdf

67 The Quadriad is a meeting established during the Kennedy Administration, bringing together regularly the heads of the Council of Economic Advisers, the Treasury, the Fed and the Office of Management and Budget (OMB).

68 The Fed-Treasury luncheon is hosted at the Fed by one of the governors on a rotating basis about once every two-three weeks. These meetings are attended by senior staff from the Federal Reserve Board and by the Treasury Undersecretary. The discussions remain informal.

69 These are informal meetings. For example, Martin Feldstein, Chairman of the Council of Economic Advisers during the Reagan Administration (1982-84), recalls that he had breakfast meetings with the Fed Chairman (Paul Volcker) every other week, and used to discuss issues like the state of the economy, the direction of monetary policy, banking regulation, etc. (Feldstein, 1992).

70 This is a weekly breakfast meeting of the head of the Council of Economic Advisers with the Treasury Secretary and the OMB Director, discussing economic issues without fear of leaks to the press. This meeting is on rare occasions attended by the Fed Chairman (http://www.whitehouse.gov/cea/about.html; also Feldstein, 1992).

financial issues along with the Council of Economic Advisers or the Treasury.[71]

Foreign exchange operations and foreign reserve management

The Secretary of the Treasury is responsible for the formulation and implementation of US international monetary and financial policy, including foreign exchange market intervention. The Treasury conducts foreign currency interventions through the Exchange Stabilization Fund (ESF), with a legal basis in the Gold Reserve Act of 1934 (amended in 1977). The Secretary of the Treasury has considerable discretion in the use of the ESF resources and is typically the only US policy-maker to make public pronouncements on exchange rate developments. Exchange rate issues are not discussed very often between the Treasury and the Federal Reserve. Nonetheless, informal talks on exchange rate issues, for instance in the context of global imbalances, take place between the Treasury Secretary and the Fed Chairman.

Additionally, the Federal Reserve has separate legal authority to engage in foreign exchange operations (Federal Reserve Act of 1913, Sections 13 and 14). The Federal Reserve's foreign exchange operations are financed through a separate System account in which all 12 Federal Reserve Banks participate. The System account operates under the guidance of the FOMC, under the so-called Foreign Currency Directive, with the stated purpose to counter "disorderly market conditions". Formally, the Treasury cannot commit Federal Reserve funds to intervention operations. However, the Federal Reserve's foreign exchange operations are conducted in consultation with the Treasury Secretary to ensure consistency with US international monetary and financial policy.[72] In practice, the initiative for any foreign exchange interventions belongs to the Treasury (Schwartz, 2000). Consultations with the Fed cover mostly technical issues like the total amount of the transaction and the share of the transaction to be allotted from the ESF and the Federal Reserve System. The Treasury and the Fed have, at times, disagreed about interventions, with the Treasury being more favourable to undertaking transactions (Schwartz, 2000).

Broaddus and Goodfriend (1996) argue that because the FOMC's Foreign Currency Directive requires that foreign exchange operations be conducted "in close and continuous consultation and cooperation with the United States Treasury", this, de facto, recognises the pre-eminence of the Treasury. They also argue that the resumption of the Fed foreign exchange operations in the 1960s was to make additional domestic currency resources available to the Treasury through the ESF. In particular, the "warehousing" (simultaneous spot buying and forward selling of foreign currency) by the Fed of foreign currency for the Treasury has been labelled by some analysts as a temporary loan from the Federal Reserve to the ESF, collateralised with foreign exchange. These "loans" are being advanced despite the fact that the Federal Reserve Act does not include such lending authority. Similar arguments have been made about the Federal Reserve's monetisation of the ESF's SDR holdings (US Joint Economic

71 The increase of ad hoc contacts at policy level is also confirmed in the press, which reports that the Fed Chairman speaks frequently with senior administration officials and has a weekly lunch with the Treasury Secretary (Wall Street Journal Europe, 16 April 2009, "Bernanke's PR push rewrites script").

72 The Fed started executing transactions for the Treasury in 1961. Since 1962 the Fed has also undertaken foreign exchange operations from the System account, which are routinely sterilised (Broaddus and Goodfriend, 1996). All operations are conducted through the Federal Reserve Bank of New York, as fiscal agent of the United States and as the operating arm of the Federal Reserve System. The foreign currency assets of the ESF are invested by the Federal Reserve Bank of New York either in marketable foreign government securities or in demand and time deposit instruments provided by foreign central banks. The Federal Reserve System account is managed also by the New York Fed.

Committee, 1999).[73] Along similar lines, recently, the US Treasury announced a new, temporary insurance programme for US money market mutual funds. To guarantee payment of these funds' liabilities, the Treasury draws on assets from the Exchange Stabilization Fund.[74]

International cooperation at the G7 and the IMF

The Treasury represents the US in international bodies like the G7 or the IMF. That said, the Chairman of the Federal Reserve is present at the G7 meetings of finance ministers and central bank governors, and serves as the alternate representative of the US on the IMF Board of Governors.

Regarding the G7, central bank/government cooperation is distinct from other interactions between the Fed and the Treasury or the Council of Economic Advisers. In particular, it involves only a small number of people both at the Fed and the Treasury who interact mainly informally through e-mail and phone calls, with most activities concentrated in the run-up to the three G7 ministers and governors meetings per year. The Treasury is the senior partner in the G7 process, and while the Fed is informed on all topics under discussion, it is only asked to contribute on items relevant for the institution, like the economic outlook, exchange rate developments and global financial stability. The governance of international financial institutions is not discussed with the Fed; however, the Fed provides input on issues related to SDRs or the IMF lending framework. Federal Reserve expert staff is only involved in the preparation of briefing material for the Fed Chairman, mainly on economic and financial issues. Also, the Fed does not participate in the G7 preparatory meetings. As mentioned before, on exchange rate issues, as a rule, only the Secretary of the Treasury speaks out.

Payment systems/Securities clearing and settlement systems

The Federal Reserve System plays an important role in the US payment systems. The Federal Reserve Act of 1913 gives the Federal Reserve a dual role as an operator and a regulator of the payment system, both roles being reconfirmed by Congress in the Monetary Control Act (1980) and the Expedited Funds Availability Act (1987). More specifically, the twelve Federal Reserve Banks provide banking services to depository institutions and to the federal government. For depository institutions, the Reserve Banks maintain accounts and provide various payment services, including real-time gross settlement, collecting cheques, electronically transferring funds, and distributing and receiving cash. For the federal government, the Reserve Banks act as fiscal agents, paying Treasury cheques, processing electronic payments, and issuing, transferring and redeeming US government securities. The Federal Reserve also contributed to developing the automated clearing house (ACH) system for small-dollar electronic payments and now the Reserve Banks provide a nationwide electronic ACH network. In addition, the Federal Reserve oversees the

73 On warehousing see: http://www.clevelandfed.org/Research/commentary/2008/0808.cfm. In August 2008, the ESF had nearly USD 50 billion in assets and USD 40 billion in capital. Fewer than USD 17 billion of these assets were denominated in dollars. The Treasury states that there have been no warehouse swaps with the Fed outstanding since 1992. Also, the Treasury maintains that authorisation to conduct warehousing operations has been renewed annually by the FOMC as a part of its Foreign Currency Directive to the Federal Reserve Bank of New York for the System Open Market Account. The limit on warehousing is USD 5 billion, but this limit was temporarily raised to USD 10 billion in 1989 and USD 20 billion in 1995 (http://www.treas.gov/offices/international-affairs/esf/finances.shtml). The interpretation of warehousing by the Fed is that warehousing transactions are open market operations in foreign currencies that are authorised under the Federal Reserve Act. Warehousing is included under paragraphs 1.A and 1.B of the Committee's "Authorization for Foreign Currency Operations" and its use is referenced under paragraph 3.B of the Committee's Foreign Currency Directive. Under the Special Drawing Rights Act of 1968, the Secretary of the Treasury is authorised to issue SDRCs (SDR certificates) to the Federal Reserve in return for dollars. The Reserve Banks are required to purchase SDRs, at the direction of the US Treasury, for the purpose of financing SDR certificate acquisitions or for financing exchange stabilisation operations (http://www.ustreas.gov/offices/international-affairs/esf/finances.shtml).

74 http://www.treasury.gov/press/releases/hp1147.htm
http://www.clevelandfed.org/Research/commentary/2008/0808.cfm

payment systems and applies its own policy on payment system risks.[75]

In the US, the power to register, regulate and oversee security clearing agencies rests with the Securities and Exchange Commission (SEC).[76] As settlement systems for securities and other financial instruments are a potential source of systemic risk to financial markets and to the economy,[77] the Federal Reserve Board regularly comments on measures adopted by the SEC to reduce potential systemic risks. Also, the SEC collaborates with the Federal Reserve and the Office of the Comptroller of the Currency (OCC) on the publication of reports focused on financial sector infrastructure resiliency.[78] In addition, in 1985, the Federal Reserve System started to implement the Payment System Risk Reduction Program, aimed at controlling the levels and risks to the Reserve Banks of intraday (daylight) credit exposure on large-dollar US payment systems.[79] The OCC (as primary regulator of national banks) cooperates with the Federal Reserve in supervising the Payment System Risk Reduction Program.

Supervision, regulation and financial stability

The Federal Reserve Board plays an extensive role in the supervision and regulation of the US banking system. It is the primary supervisor and regulator of state-chartered banks that are members of the Federal Reserve System, bank holding companies (the Bank Holding Company Act of 1956, amended in 1960 and 1966; the Gramm-Leach-Bliley Act of 1999), the foreign activities of member banks, the US activities of foreign banks, and Edge Act and agreement corporations (limited-purpose institutions that engage in a foreign banking business). In addition to being supervised by the Federal Reserve or the Federal Deposit Insurance Corporation (FDIC), all state banks are supervised by their chartering state.[80] The Federal Reserve has also umbrella supervisory authority for all financial holding companies (Gramm-Leach-Bliley Act of 1999).[81] The Reserve Banks, under delegated authority from the Board, carry out micro-prudential supervision, including on-site examinations and inspections, review applications for mergers and acquisitions, and take formal supervisory action. In addition, the Federal Reserve acts as the lender of last resort by providing liquidity to qualifying financial institutions through the discount window or open market operations.[82] In principle, the

75 In particular, the Federal Reserve applies its policy of reducing payment system risks when (1) exercising its role of supervisor of financial institutions, (2) setting or reviewing the terms and conditions for the use of Federal Reserve payment and settlement services by system operators and participants, (3) developing and applying policies for the provision of intraday liquidity to Reserve Bank account holders, and (4) interacting with other domestic and foreign financial system authorities on payment and settlement risk management issues. The Federal Reserve's Payments System Policy Advisory Committee advises the Board on issues related to payment system risk.

76 The Federal Reserve provides transfer and settlement services for securities issued by the Treasury, federal agencies and government-sponsored enterprises.

77 In a recent speech, the Kansas City Fed President even suggested that the Federal Reserve should play a greater role in electronic retail payments in order to promote the efficiency and integrity of the payments system, and that "there are reasons to be concerned about the integrity of this system" (ECB and Dutch central bank-sponsored conference on retail payments, 25 May 2009, Frankfurt).

78 http://www.sec.gov/rules/concept/33-8398.htm

79 http://www.federalreserve.gov/PaymentSystems/PSR/policy.pdf

80 Other federal agencies also serve as federal supervisors of commercial banks: the Office of the Comptroller of the Currency (OCC) supervises national banks; the Federal Deposit Insurance Corporation (FDIC) supervises state banks that are not members of the Federal Reserve System (Federal Reserve System, 2005); the National Credit Union Administration supervises federal and state credit unions; the Office of Thrift Supervision supervises savings institutions (Petschnigg, 2005). For national banks membership in the Federal Reserve System is mandatory, while for state banks it is optional. The OCC is a bureau of the US Treasury. While the FDIC is an independent agency, the Comptroller of the Currency is one of its five directors.

81 The rationale for umbrella supervision is that most large and sophisticated financial services companies take an umbrella or consolidated approach to managing their risk. Umbrella supervision requires strengthened relationships between primary bank and thrift supervisors, functional regulators (securities, insurance and commodities) and the Federal Reserve. The Gramm-Leach-Bliley Act requires the Federal Reserve Board to rely (to the fullest extent possible) on publicly available information, externally audited financial statements and reports that a holding company or subsidiary is required to provide to other federal or state supervisors or self-regulatory organisations. Also, before the Board may seek a special report from a functionally regulated subsidiary, the Board must first request that the subsidiary's functional regulator obtains the special report.

82 In the context of the ongoing financial crisis the Federal Reserve has expanded significantly its liquidity-providing operations through the Term Auction Facility, the Primary Dealer Credit Facility, the Term Securities Lending Facility, the ABCP MMMF Liquidity Facility, the Commercial Paper Funding Facility, the Money Market Investor Funding Facility and the Term Asset-Backed Securities Loan Facility.

Reserve Banks after consultation with the Fed Board may also advance credit to individuals, partnerships and corporations that are not depository institutions if credit is not available from other sources and failure to provide credit would negatively affect the economy.

Mainly for specific historical reasons (federalism, aversion to concentration of political and economic power), the US system of regulation and supervision of financial institutions is complex and fragmented, with a large number of agencies and mandates that are overlapping. Partly in recognition of this reality and partly as a reaction to major banking crises and the increased sophistication of the activities of financial institutions, there is strong cooperation between the Federal Reserve and the other supervisors. In particular, the Federal Financial Institutions Examination Council (FFIEC) was created in 1978 by Congress to promote consistency in the examination and supervision of banking organisations. The FFIEC is composed of the chairpersons of the FDIC and the National Credit Union Administration, the Comptroller of the Currency, the director of the Office of Thrift Supervision, and a governor of the Federal Reserve Board appointed by the Board Chairman.

The FFIEC's objectives are to prescribe uniform federal principles and standards for the examination of depository institutions, to promote coordination of bank supervision among the federal agencies that regulate financial institutions, and to encourage better coordination of federal and state regulatory activities. Currently, the fee structure for supervisory services induces a clear element of competition between the OCC and the state supervisory bodies: national banks pay a supervisory assessment fee to the OCC for their supervision and the OCC relies almost entirely on supervisory assessments for its funding. State-chartered banks pay an assessment fee for supervision to their chartering state, but not to the FDIC or the Federal Reserve.[83]

To complement the FFIEC, the State Federal Working Group (SFWG) was set up in 1995 as an ad hoc committee composed of state bank regulators, and top regulators from the FDIC and the Federal Reserve, to provide seamless, flexible and risk-focused supervision, minimising the regulatory burden and fostering consistency among regulators.

The Federal Reserve also has ties with the Securities and Exchange Commission and state insurance authorities. When a bank holding company or financial holding company owns a subsidiary broker-dealer or insurance company, the Federal Reserve seeks to coordinate its supervisory actions with those of the subsidiary's functional regulator – the SEC in the case of a broker-dealer and the state insurance authorities in the case of an insurance company. The Federal Reserve's role as the supervisor of a bank holding company or financial holding company is to review and assess the consolidated organisation's operations, risk management systems and capital adequacy to ensure that the holding company and its non-bank subsidiaries do not threaten the viability of the company's depository institutions.

The stock market crash in October 1987 was followed by the creation of the President's Working Group on Financial Markets, to make recommendations for enhancing the integrity, efficiency, orderliness and competitiveness of US financial markets and maintaining investor confidence. One of the key purposes of the Working Group, which is usually attended by the heads of the Treasury, the Fed, the SEC and the Commodity Futures Trading Commission (CFTC), is to bring together and coordinate the various crisis response plans of the participating institutions. Between top-level meetings, senior staff get together to work on specific items.

83 http://www.fdic.gov/bank/analytical/banking/2006mar/article1/index.html. The new financial regulation bill (signed into law by the US President on July 21 2010) restricts regulatory arbitraging by prohibiting a bank from converting its charter, unless regulators agree to the change in charter.

In addition to the permanent members, the head of the President's National Economic Council, the chairman of his Council of Economic Advisers, the Comptroller of the Currency and the President of the New York Federal Reserve Bank frequently attend Working Group sessions. One of the core functions of the Working Group on Financial Markets is to gather data. To this end, the SEC, the CFTC and the Treasury have market surveillance units. They monitor not only the overall markets, but also the cash positions of all the major stock and commodity brokerages and large traders.[84]

Finally, in recognition of the shortcomings of the supervisory system during the current crisis, President Obama signed into law (July 21, 2010) a bill that overhauls US financial regulation. Following a protracted and controversial debate in Congress, the law gives the Federal Reserve enhanced powers to preserve financial stability and creates new formal structures of interaction between the Federal Reserve, the Treasury and other regulatory agencies with a role in the supervision of the financial sector. The newly created Financial Stability Oversight Council[85] (of which the Chairman of the Federal Reserve is a member) can recommend to the Federal Reserve to subject companies that pose risks to the financial system to stricter rules. It can also place a non-bank financial company (including hedge funds or insurance companies) under the regulation of the Federal Reserve, if this company threatens the stability of the financial system. In addition, as a last resort, the Council can approve a Federal Reserve decision to require the break-up of large, complex financial companies to protect financial stability. The Federal Reserve's role in the area of supervision, regulation and financial stability is also enhanced by the new law through the creation of a Vice Chairman for Supervision at its Board of Governors. At the same time, the bill places restrictions on the Federal Reserve's ability to draw on section 13 (3) of the Federal Reserve Act for emergency lending to individual entities and requires the Treasury to approve any emergency lending programs.

Banknotes and coins

The Federal Reserve Act of 1913 authorises the production and circulation of Federal Reserve banknotes. In particular, the Federal Reserve Board decides on the allocation of banknote quantities to the twelve Reserve Bank Districts each year and sends a print order to the Treasury's Bureau of Engraving and Printing (BEP). Coin, on the other hand, is a responsibility delegated by the Board to the Federal Reserve Bank of San Francisco's Cash Product Office (CPO), which decides on the monthly coin order and provides it to the United States Mint (a Treasury bureau) for production. The Board oversees the work of the CPO.

The Federal Reserve secures the currency it issues with legally authorised collateral, most of which is in the form of US Treasury securities. In particular, Treasury securities are held as the asset counterpart to the Federal Reserve banknotes, which are liabilities on the books of the Federal Reserve Banks, and these securities earn the Federal Reserve interest.

The Federal Reserve Board works regularly and cooperatively with the BEP on all issues relating to currency. The Board also works with the US Mint and the Congress on the issuance of commemorative coins, trying to calibrate the amount of commemorative coin to the demand for such coin. Also, while the Secretary of the Treasury has the sole authority for the final design of Federal Reserve

84 http://www.washingtonpost.com/wp-srv/business/longterm/blackm/plunge.htm

85 The Council is chaired by the Treasury Secretary and includes (with voting right) heads of the Federal Reserve Board, SEC, CFTC,, OCC, FDIC, FHFA (Federal Housing Finance Agency), NCUA, the Consumer Financial Protection Bureau and an independent appointee with insurance expertise. In addition, the Council includes 5 other nonvoting members. While in terms of composition the Council is very similar to the President's Working Group on Financial Markets, it has a substantially larger and more formal mandate.

banknotes, the Federal Reserve, the Secret Service, the Treasury and the BEP work together through the Advanced Counterfeit Deterrence Steering Committee, to develop design recommendations.[86] The US Treasury, the Secret Service and the Fed also cooperate closely on other anti-counterfeiting measures, including work on enhanced cooperation with international law enforcement agencies and training of law enforcement and financial officials in counterfeit detection.

Collection of statistics

The Federal Reserve Board has published statistical information on the US economy and banking industry since 1914. This information has been published in various formats, usually referred to as "statistical releases". The Fed Board publishes data on bank assets and liabilities, household finance, industrial activity, interest rates, business finance, money and exchange rates. In addition to the Fed's statistics, the US Bureau of Labor Statistics publishes statistical data on inflation and prices, spending, employment, productivity and other economic indicators. GDP data, personal income data, and balance of payments and international investment position statistics are published by the Bureau of Economic Analysis (BEA) at the Department of Commerce. The Census Bureau, also at the Department of Commerce, publishes additional economic statistics including among others government finance statistics and economic indicators (construction spending, new home sales, manufacturers' shipments, orders and inventories, durable goods orders, housing starts, US trade in goods and services, wholesale trade, retail trade, etc.).[87]

Unlike in the euro area, cooperation between the Federal Reserve and the government in the field of statistics is not formalised. For example, the Fed Board and the BEA have produced during the recent years a set of annual integrated accounts for the US. The cooperation between the two institutions is based on a clear division of labour, with bilateral meetings held on a regular basis at working level to clear out methodological issues and discrepancies.

Fiscal agent for the government

The Federal Reserve Act of 1913 provides that the Federal Reserve Banks will act as fiscal agents and depositories of the United States when required by the Secretary of the Treasury. As depositories of the United States, the Federal Reserve Banks perform a number of functions already mentioned in the above section on "payment systems" (paying Treasury cheques; processing electronic payments; and issuing, transferring and redeeming US government securities) and also collect taxes. Moreover, the Federal Reserve plays an important technical role when the Treasury needs to raise funds to finance the budget or to refinance maturing Treasury securities. The Reserve Banks handle weekly, monthly and quarterly auctions of Treasury securities, accepting bids, communicating them to the Treasury, issuing the securities in book-entry form to the winning bidders, and collecting payment for the securities. The Fed also provides support for the Treasury's Savings Bonds Program.[88]

The Treasury maintains its primary account for making and receiving payments, the Treasury general account, at the Federal Reserve Banks. Changes in the balance of that account have monetary policy implications, and the Reserve Banks and the Federal Reserve Board work closely with the Treasury to ensure that the Treasury's balance with the Banks remains stable, between USD 5 billion and USD 7 billion. The Reserve Banks use the Treasury's Tax and Loan Program to shift amounts in excess of the targeted Treasury balance into depository

86 The Advanced Counterfeit Deterrence Committee (ACD) operates under a charter signed by the heads of all three agencies: the Chairman of the Federal Reserve System, the Secretary of Homeland Security and the Secretary of the Treasury. In addition, the federal agencies formed the Interagency Currency Design Committee (ICD) and ICD Technical Work Group, which consist of the same institutions that make up the ACD and bring together technical experts to identify security features and design possibilities, and to address challenges. The ICD makes recommendations to the ACD.

87 Furthermore, the Treasury's Financial Management Service (FMS) maintains the federal government's accounts and also serves as the repository of information about the financial position of the US government.

88 www.federalreserve.gov/pubs/bulletin/2000/0400lead.pdf

institutions' accounts and, as a result, back into the banking system. Furthermore, the Federal Reserve System in its fiscal agent capacity interacts closely with different Treasury offices and bureaus, including the Financial Management Service and the Office of the Fiscal Assistant Secretary.

3 THE BANK OF ENGLAND

Monetary policy

The Bank of England was granted independence for conducting monetary policy (i.e. responsibility for setting policy rates) in 1997 via the letter of the Chancellor of the Exchequer to the Governor of the Bank of England (May 1997) and, later on, via the Bank of England Act of 1998. The 1998 law makes price stability the prime objective of monetary policy, and, subject to that, states that monetary policy should also support the government's growth and employment objectives. The Bank of England conducts its monetary policy independently within an inflation targeting regime for monetary policy, with the inflation target being set by the Treasury.[89]

The current inflation target in the UK is 2% for the HICP, with a tolerance margin of +/- 1%. Deviations of more than 1% from the inflation target require the Governor of the Bank of England to write an open letter to the Treasury explaining the reasons, time frame and remedies to bring inflation back into the target range, as well as how these measures will be consistent with the government's wider economic policy objectives. In addition, the Treasury is represented in the interest rate-setting Monetary Policy Committee in a non-voting capacity by an observer. More importantly, the Treasury retains the right to withdraw, under extreme circumstances (not specified ex ante), the power to conduct monetary policy from the Bank of England.

Because the UK is a member of the EU, it is subject to the Treaty (in particular Articles 108 and 109 regarding central bank independence), but with multiple caveats. These include most notably the fact that the UK is not required to participate in the third stage of EMU and adopt the euro. Also, according to the Protocol (No 25) to the Maastricht Treaty, the Government of the UK may maintain its Ways and Means Facility with the Bank of England if and so long as the UK does not move to the third stage of EMU. The Ways and Means Facility is the central government's overdraft facility at the Bank of England. The size of this facility has decreased over time (GBP 4.1 billion in 2009 versus GBP 13.4 billion in 2000),[90] but has not been completely abolished even though in 2000 the Debt Management Office took responsibility for the government's cash management function from the Bank of England.

Regular meetings between the Bank Governor and the Chancellor of the Exchequer are held to discuss aspects of macroeconomic policy-making in general and to ensure a smooth exchange of information, with no standing agenda items. In addition, there are a variety of other informal contacts taking place at all levels of the two institutions, with the level and frequency of interactions determined by the issues under consideration. On the specific issue of fiscal policy, Treasury officials meet with the Bank's Monetary Policy Committee, in advance of major fiscal policy announcements, to ensure that the Bank is fully briefed on the details of the government's policy.

Foreign exchange operations and foreign reserve management

The 1997 letter of the Chancellor of the Exchequer to the Bank of England Governor provides that the responsibility for determining the exchange rate regime remains with the government and that the Bank should intervene in foreign exchange markets under instructions from the government, through sterilised interventions. The same letter also states that the Bank has its own separate pool of foreign exchange, which can be used by the Bank to support monetary policy objectives. Singularly among the five central banks surveyed here, the Bank of England finances its holdings of foreign currency reserves by issuing Euro notes (up to a ceiling established in conjunction with the Treasury).

89 The inflation targeting regime pre-dates the Bank of England's independence and dates back to October 1992.

90 See the Bank of England's Annual Reports 2001 and 2009 (p. 48 and p. 38, respectively), available on the Bank of England website.

The Exchange Equalisation Account (EEA) holds the largest part of the UK reserves of gold, foreign currencies and special drawing rights (SDRs). The EEA is under the control of the Treasury and is managed by the Bank of England, acting as the agent of the Treasury in foreign exchange interventions.[91] An annual Service Level Agreement (SLA) between the Treasury and the Bank specifies the parameters under which reserves are managed, and the Bank reports to the Treasury on a monthly basis. The SLA includes investment benchmarks and limits for controlling credit, market and other risks.[92] There are also regular meetings between Bank and Treasury officials to discuss investment performance and reserve policy issues, and a six-monthly meeting between the EEA Accounting Officer, currently Treasury's Managing Director for Macroeconomic Policy and International Finance, and the Bank of England's Executive Director for Markets, or delegated senior officials, to review investment performance and discuss strategic issues relating to the reserves.

International cooperation at the G7 and the IMF

As with all countries in the G7, both the Treasury and the Bank of England are represented at the G7 finance ministers and central bank governors meetings. The UK's participation in the G7 process is managed by the Treasury. The Bank Governor and the Deputy Governor in charge of Monetary Policy usually represent the Bank at the G7 meetings,[93] while the Deputy Governor (Monetary Policy) represents the Bank at the deputies meetings. The Bank works closely with the Treasury on the issues of interest to the Bank.

Furthermore, the Treasury and the Bank of England are both represented at the IMF. The Governor of the Bank of England is the UK's Alternate Governor of the IMF. The Bank as well as the Treasury and the Department for International Development send secondees to the IMF to support the Executive Director and a Bank secondee traditionally fills the role of alternate Executive Director. While the Treasury coordinates UK policy advice on IMF issues and the UK's operational interests at the Fund, the Bank also liaises directly with IMF staff and works closely with the Treasury and the Department for International Development on IMF policy issues where the Bank has an interest.

Payment systems/Securities clearing and settlement systems

In February 2009, payment systems in the UK became subject to Bank of England statutory oversight. Before that, under the terms of the Memorandum of Understanding (MoU) with HM Treasury and the Financial Services Authority (March 2006), the Bank applied a non-statutory oversight regime, focusing on those systems whose functioning is critical to financial stability.[94] Because the Bank had no enforcement power in the field of payment systems, the Bank used moral suasion to convince the management and owners of payment systems of the rationale for risk-reducing changes to those systems. According to the MoU, the Bank was also involved in developing the payments infrastructure and strengthening the system to reduce systemic risk. Furthermore, under the MoU, the Bank was responsible for providing advice to the Chancellor regarding major problems arising within payment systems of systemic importance to the UK. Also, the Payment Systems Oversight Report 2007 (February 2008) made the case for the Bank, HM Treasury and the FSA to work together to establish a framework for the oversight of payment systems so as to enable the Bank to accomplish its oversight responsibilities without formal powers, particularly in relation to those systems falling outside the Bank's operational remit.

91 The Treasury last intervened in September 2000, when the UK Government joined a concerted intervention by the G7 to support the euro.

92 http://www.bankofengland.co.uk/markets/forex/reserves/reserves_inst_framework.htm
http://www.hm-treasury.gov.uk/d/bud08_debtreserves_617.pdf

93 The Bank of England has two Deputy Governors, one in charge of Monetary Policy and one in charge of Financial Stability.

94 http://www.bankofengland.co.uk/publications/psor/index.htm
Consumer protection objectives lie with the FSA, the Office of Fair Trading and the Payments Council.

The Banking Act of February 2009 formalises the Bank of England's role in the oversight of payment systems. In particular, under the new legislation, the Bank needs to be consulted by the Treasury when determining ("recognising") those payment systems which are systemic for the stability of the financial system (Article 186). In addition, the Bank gets new and extensive regulatory powers, as well as enforcement capabilities (inspections, independent reports, information requests, penalties, closure and warnings). In carrying out its new tasks, the Bank is required to consult with the FSA (Article 192).[95] Also, the FSA continues to have statutory responsibility for the regulation of recognised clearing houses and investment exchanges, which may contain embedded payment systems. The Bank of England works with the FSA to provide collective oversight of securities clearing and settlement systems, to ensure that the design and operation of the systems give sufficient weight to the management and reduction of risk.

Supervision, regulation and financial stability

Financial stability is a shared objective of the Bank of England, the Treasury and the Financial Services Authority (cf. the 2006 MoU). The Bank of England is responsible for the stability of the financial system as a whole. In particular, the Bank is called upon to deal with fluctuations in liquidity, oversee the payment system, assess the impact on monetary conditions of developments in the financial sector, follow global market developments and assess their potential implications for UK financial stability. Both the Bank and the FSA are required to alert the Treasury about possible problems.[96]

The MoU between the Treasury, the Bank of England and the FSA sets the stage for cooperation in the field of financial stability. The three institutions come regularly together in the Standing Committee on Financial Stability, chaired by the Treasury, which is intended as a forum for agreeing policy and action, as well as exchanging information. The Standing Committee usually meets on a monthly basis at deputies level to discuss individual cases or developments that threaten financial stability. A sub-group of the Standing Committee acts as a crisis task force and, in exceptional circumstances, the Committee will meet at the level of principals, with the Bank of England and the FSA each providing separate assessments to the Treasury. In addition, the Bank of England is represented on the FSA Board by the Bank's Deputy Governor in charge of Financial Stability.

Furthermore, the 2009 Banking Act includes a new statutory financial stability objective for the Bank of England (Article 238) and provides for the establishment of a Financial Stability Committee (FSC) as a committee of the Court of Directors of the Bank. The Bank's strategy vis-à-vis the financial stability objective is to be determined by the Court of Directors, after consultation with the Treasury and on the recommendations and advice from the FSC. The FSC shall also give advice about whether and how the Bank should use its stabilisation powers for particular financial institutions (Articles 11 and 12).

The role of the central bank in the field of financial stability would be significantly enhanced under the proposed regulation of the recently elected UK Government (coalition of the Conservative Party and the Liberal Democratic Party). The new legislation proposes breaking the FSA into three and placing one of the newly created agencies, the Prudential Regulation Authority, within the Bank of England and bringing responsibility for both macro- and microprudential supervision under the aegis of the Bank. As regards macroprudential supervision, the new legislation envisages the

95 http://www.hm-treasury.gov.uk/fin_banking_act2009.htm

96 In light of the Memorandum of Understanding, the FSA is responsible for the authorisation and prudential supervision of banks, building societies, investment firms, insurance companies, brokers, and credit unions; the supervision of financial markets, securities listings, and clearing and settlement systems; the conduct of operations in response to problems affecting firms, markets and clearing systems (where these operations do not fall in the tasks of the Bank of England); and regulatory policy in its areas of responsibility. The Treasury is responsible for the overall institutional structure of financial regulation and the legislation which governs it.

creation of a Financial Policy Committee, which will be chaired by the Governor of the Bank of England and also include a representative from the Treasury. This proposal has yet to pass through the UK Parliament and would take effect in 2012.

Banknotes and coins

The Bank of England, as one of the oldest central banks in the world, has been issuing banknotes for over 300 years. Currently, the Bank of England's note issue is backed by securities held by the Bank, including long-term sterling reverse repos, bonds, gilts and other tradable securities. The Bank must seek prior approval from the Treasury on a number of high-level matters regarding currency issues, including the introduction of new denominations, the withdrawal of an existing denomination or major changes to the rules of the Note Circulation Scheme (the scheme governing the Bank of England's relationship with the cash industry).

In the UK, the Bank of England is only one of eight banks legally authorised to issue banknotes which also include three retail banks in Scotland and four in Northern Ireland. Bank of England notes are legal tender only in England and Wales, whereas Scottish and Northern Irish banknotes are not legal tender in any parts of the UK.[97] To protect the public from the potential failure of a note-issuing bank, the Scottish and Northern Irish note issues have to be fully backed by "backing assets", including at least 60% of Bank of England notes (Banking Act 2009). The Bank has close interactions with the Treasury on issues related to banknote issuance by the retail banks in Scotland and Northern Ireland. For example, the Bank of England provided consultation to the Treasury for the 2009 update of the banknote issue arrangements in Scotland and Northern Ireland contained in the Banking Act. Also, in the new Banking Act, the Bank of England needs to be consulted by the Treasury before the Treasury may revoke the authority to issue banknotes from a Scottish or Northern Irish bank.

Coin in the UK is produced by the Royal Mint, under delegation from the Treasury, which is the issuing authority. Unlike for banknotes, there are no local issues of coin, although, until 2008, pound coins had been produced in regional designs which circulate in all parts of the UK. The Bank of England has no formal role in decisions on coin production and issuance.

Collection of statistics

The Bank of England compiles and publishes a range of monetary and financial statistics, including domestic banking statistics, external finance statistics and international banking statistics, as well as an Inflation Attitudes Survey. Other UK economic data are provided by the Office for National Statistics (ONS), including information on personal finance, national accounts, prices, output, productivity, employment, government receipts and expenditure. The Monetary and Financial Statistics Division of the Bank of England is a major supplier of financial data to the ONS, and the two institutions have a close relationship which is governed by a so-called Firm Agreement. Also, the ONS provides an annual assessment of the Bank's level of service covering all principal areas of the Bank's relationship with the ONS under the Firm Agreement, including regular data supply by the Bank (timeliness, quality, data briefing), ad hoc briefing and liaison and development projects. In practice, the Bank and the ONS exchange staff, have telephone contact, exchange briefing notes and presentations and have day-to-day working relations at all staff levels.[98]

Fiscal agent for the government

The Bank of England no longer has a large role as fiscal agent for the UK Government, except for the issuance of foreign currency debt on

97 As a consequence, no banknotes (not even Bank of England notes) are legal tender in Scotland or Northern Ireland. Moreover, islands enjoying a special status within the UK (such as Jersey) issue their own banknotes.

98 http://www.bankofengland.co.uk/statistics/about/firmagreement_fullreport1108.pdf

behalf of the Treasury (see also the section on "Foreign exchange operations and foreign reserve management").[99] In particular, the Treasury Chancellor's letter of 6 May 1997 transferred to the Treasury the Bank of England's role as the government's agent for debt management, gilts and cash management. Currently, debt and cash management for the UK Government, lending to local authorities and managing certain public sector funds are carried out by the UK Debt Management Office.

99 http://www.hm-treasury.gov.uk/d/bud08_debtreserves_617.pdf

4 THE BANK OF JAPAN

Monetary policy

The Bank of Japan Law of 1997 defines the tasks of the Bank to be the issuance of banknotes, carrying out currency and monetary control and ensuring smooth settlement of funds among other financial institutions (contributing to the stability of the financial system). The goal of monetary policy is price stability (Article 2). In 2006 the Bank of Japan announced an "understanding of price stability over the medium to longer term", which was clarified in 2009. According to this understanding, the year-on-year increase in the CPI consistent with price stability over the medium to longer term is in a positive range of 2% or lower, with the mid-points of most Policy Board members' understanding being around 1%. The law stipulates that the autonomy of the Bank of Japan in the field of monetary policy should be respected (Article 3.1). At the same time, the Bank should maintain close contacts with the government and exchange views sufficiently, so that monetary policy and the overall economic policy are "harmonious" (Article 4). The law also allows representatives of the government (the Minister of Finance and the Minister of the Economic Planning Agency, or their representatives) to attend the monetary policy meetings of the Bank Policy Board, to give their views and submit proposals. Moreover, while the government representatives have no votes in monetary policy decisions, they may submit a request to the Board to postpone a vote on monetary policy measures until the next meeting (Article 19), which the Board may or may not accommodate.[100] The Bank of Japan is allowed to grant loans without collateral to the government and to subscribe to government bonds (both subject to limits set by the Diet).

For the Bank of Japan, the government counterpart for institutionalised, high-level cooperation is the Council on Economic and Fiscal Policy (CEFP), which is part of the Cabinet Office.[101] The Council is set up as a forum to support the Prime Minister through research, analysis and exchange of information in the field of economic (in particular fiscal) policies. The Council is composed of senior ministers including the Prime Minister and Finance Minister, the Governor of the Bank of Japan and representatives of academia and business. At the meetings, the Bank has the opportunity to explain its monetary policy decisions and give its views on market developments. In addition, there are numerous informal interactions between the Governor and the Minister of Finance (e.g. informal exchange of views when called before the Diet) and heads of relevant departments or divisions. Also, the Bank is a member of Advisory Committees responsible for drafting legislation in relevant areas.

Foreign exchange operations and foreign reserve management

According to the Bank of Japan Law, the Bank, when necessary, may buy and sell foreign exchange on its own account or as an agent of the government, including for the purpose of stabilising the exchange rate of the national currency (Article 40). However, the Foreign Exchange and Foreign Trade Law puts the responsibility for exchange rate policy with the government by stipulating that the "Minister of Finance shall endeavour to stabilize the external value of the yen through foreign exchange trading and other measures" (Article 7, Section 3). When the Bank of Japan intervenes in foreign exchange markets on behalf of the government, it uses funds from the Foreign Exchange Fund Special Account.[102] Foreign exchange intervention and the accounting of the Foreign Exchange Fund Special Account are

100 One example of when the government asked the central bank to postpone a rate increase was in August 2000, when the Bank of Japan decided to end its zero interest rate policy. The Bank decided to raise rates to 0.25% from zero despite the request, with the nine-member Bank board deciding by a majority vote to reject a delay (http://www.reuters.com/article/companyNewsAndPR/idUST13504220070820).

101 http://www5.cao.go.jp/keizai/index-e.html. The Cabinet Office was created in 2001 as an administrative structure to support the decision making in the Cabinet.

102 This fund consists of foreign currency funds and yen funds. Financing bills (short-term government bills) are issued by the Ministry of Finance to obtain yen for the fund, which in turn is used to purchase the foreign currency denominated assets. So, in a technical sense the intervention is automatically sterilised. Financing bills are rolled over when foreign currency denominated assets are maintained as foreign reserves (Rasmus and Hutchison, 2004).

functions of the government performed by the Bank. Finally, since 2003 there have been formal warehousing arrangements between the Bank of Japan and the Ministry of Finance.[103]

In terms of cooperation, the hot line between the Ministry of Finance Forex Division and the Bank Forex Division supplies background information to the Ministry on volatile movements and other relevant information for making intervention decisions.[104] When it intervenes in foreign currency markets, the Ministry gives the Bank specific instructions for the intervention. The Bank gathers real-time information during the intervention and communicates it to the Ministry for a potential update of the instructions.[105]

International cooperation at the G7 and the IMF

The Ministry of Finance and the Bank prepare the G7 meetings, including the communiqué, through close communication and interaction. Preparatory work is supported both at the Ministry of Finance and the Bank of Japan by sections in charge of the G7 and other international fora that discuss matters pertaining to the international financial system. As for the other G7 countries, a key contribution of the Bank is to provide input on monetary policy, and the Governor takes part in the G7 meetings.

The Bank of Japan also names Japan's alternate Governor of the IMF (this is the Bank Governor) and the alternate Executive Director. IMF meetings (e.g. IMFC meetings, Executive Board meetings) are prepared by the specialised sections at the Ministry of Finance and at the central bank, also in cooperation with the Washington representation.

Payment systems/Securities clearing and settlement systems

In addition to its monetary policy core role, the Bank is required to ensure the smooth settlement of funds among banks and other financial institutions, thus contributing to the maintenance of an orderly financial system. Also, the Bank may, upon authorisation from the Prime Minister and the Minister of Finance, conduct further business (other than described in the Law, Article 33) deemed to contribute to the smooth settlement of funds among financial institutions (Article 39). The Bank may also provide financial institutions and other financial business entities specified by a Cabinet Order with uncollateralised loans (for a period no longer than the length of time prescribed by a Cabinet Order), provided that the Bank finds that the advance is necessary to secure smooth settlement of funds among financial institutions. This kind of lending activity needs to be reported without delay by the Bank to the Prime Minister and the Minister of Finance.

To achieve its objectives in the settlement of funds, the Bank of Japan provides various payment and settlement services such as the provision of means of payment (i.e. banknotes and deposits in current accounts held with the Bank) and the operation of the BOJ-NET Funds Transfer System. In securities settlement, the Bank operates the Japanese Government Bond (JGB) Book-Entry System and the JGB Registration System.[106] In addition, the Bank of Japan oversees the private payment and settlement systems, and in its on-site examinations and off-site monitoring of financial institutions that hold accounts with it, the Bank also evaluates the risks to payment and settlement systems. In addition, the Bank works with the private sector providers of payment and settlement services to introduce measures for risk reduction and for improved operation.

In the field of payment and securities settlement, the Bank of Japan shares responsibilities with the Prime Minister (in charge of regulation and supervision) and, under delegated authority, with the Financial Services Agency (FSA). In particular, the FSA is also in charge of the supervision of the financial institutions, including their payment and settlement functions. There is no formal framework for interaction between the FSA and the Bank of Japan on issues regarding payment and settlement systems. However,

103 http://www.boj.or.jp/en/type/release/zuiji/kako03/un0312a.htm
104 http://www.boj.or.jp/en/type/exp/faqkainy.htm#app
105 http://www.boj.or.jp/en/type/exp/about/foboj.htm
106 More details available at: www.bis.org/cpss/paysys/JapanComp.pdf

the FSA and the Bank exchange information and views on an ad hoc basis.

Supervision, regulation and financial stability

The Bank of Japan has responsibilities with respect to both macro-financial stability and micro-prudential supervision of financial institutions which have accounts with the Bank. In addition, the Prime Minister and the Minister of Finance may request that the Bank of Japan conducts business necessary to maintain an orderly financial system, including provision of uncollateralised loans (Bank of Japan Law, Article 38). Such government requests may cover financial institutions with insolvency – and not just liquidity – issues and imply a government guarantee that the Bank of Japan will recover the loans. As mentioned before, the Bank of Japan, on its own accord, may also provide uncollateralised loans to financial institutions when they unexpectedly experience a temporary shortage of funds for payment due to accidental causes (Bank of Japan Law, Article 37), with the requirement to inform the Minister of Finance as well as the Commissioner of the Financial Services Agency without delay.

The Bank of Japan's role in micro-financial supervision is reflected in the on-site examinations of financial institutions (Bank of Japan Law, Article 44). In particular, the Bank conducts a risk-based examination aimed at ensuring that counterparties are sound. Examinations are carried out on a contractual basis for those financial institutions which have accounts at the Bank of Japan and use the RTGS system. The Bank shares responsibilities in the field of micro-financial supervision with the FSA. The FSA and the Ministry of Finance have a role in policy planning and legislative and policy proposals. The Ministry also retains responsibility for crisis management due to potential budgetary implications (Healey, 2001).

One form of cooperation between the Bank and government is the high-level Financial System Management Council. The Council follows up enquiries by the Prime Minister, deliberates on guidelines for the response to a financial crisis and promotes the implementation of measures by relevant government bodies based on the deliberations. The Council is chaired by the Prime Minister and consists of the Chief Cabinet Secretary, the Minister for Financial Services, the Commissioner of the Financial Services Agency, the Minister of Finance, and the Governor of the Bank of Japan. A second form of interaction takes place between the Bank of Japan and the FSA. According to the Bank of Japan Law, at the request of the Commissioner of the FSA, the Bank of Japan should submit the results of on-site examinations or other information to the Commissioner. In addition, the Bank cooperates closely with the FSA by maintaining informal contacts at the top level and expert level, as well as engaging in staff exchanges. While there is no formal institutional set-up for the interaction between the two institutions in charge of micro-supervision, the decade-long financial crisis in Japan has enhanced cooperation. In addition, to coordinate with the FSA and minimise the reporting costs of financial institutions, the Bank of Japan pre-announces at the beginning of each fiscal year its schedule for on-site examinations.

Banknotes and coins

One of the two objectives of the Bank of Japan is to issue banknotes, which are legal tender in Japan (Bank of Japan Law, Articles 1 and 46). However, the denomination and specific features of the notes are decided by the Ministry of Finance. Also, while the Bank determines the procedures regarding printing and cancellation of notes, it must submit these procedures to the Minister of Finance for approval.[107] In case of serious counterfeiting problems, the Bank may propose to the Ministry of Finance a redesign of the banknote series. Also, the Bank is sharing information on counterfeits with the Finance Ministry, which has no specific role in this area.

107 Banknotes are manufactured by the National Printing Bureau, which is a government agency.

Coins are issued by the government, minted by the Japan Mint and put in circulation by the Bank of Japan. In particular, the Ministry of Finance draws up a plan for coin production each fiscal year, to ensure that coins meet the needs of the public. The coin production plan is drawn up solely by the Ministry of Finance and the Bank of Japan only publishes monthly data on coins in circulation.

Banknote issuance in Japan is currently not backed by assets. The 1942 Bank of Japan Law required the Bank to hold prime assets equivalent to the amount of banknotes outstanding, and also had a maximum issuance limit system, which set the upper limit of the amount of banknotes outstanding. The Bank of Japan Law of 1997 removed such requirements, in particular because (i) under the fiat money system, the stability of the value of banknotes should be maintained through the Bank's appropriate conduct of monetary policy rather than through a direct link with the value of assets held by the Bank; and because (ii) the amount of banknotes in circulation changes relative to the level of economic activity, and since the issuance limit has been changed to accommodate the actual amount of banknote issuance, the significance of the banknote maximum issuance limit system had already begun to fade.

Collection of statistics

The Bank of Japan compiles a number of monetary and financial statistics, including monetary statistics, the corporate goods price index and the balance of payments statistics (a task delegated to the Bank by the Ministry of Finance). The Bank also collects survey data in the form of the Short-Term Economic Survey of Enterprises in Japan and the Opinion Survey on the General Public's Views and Behaviour. Additional data for the Japanese economy are compiled by the statistics section of the Cabinet Office, including various business statistics, national accounts as well as data on private consumption, business investment, housing, construction, exports and imports, employment and prices. There is no specific institutional arrangement that governs cooperation between the Cabinet Office and the Bank of Japan on statistical matters. This notwithstanding, the Department of National Accounts of the Economic and Social Research Institute of the Cabinet Office and the Bank of Japan have established a long-standing working relationship. In particular, the Bank provides data on the flow of funds accounts which are then integrated into the national accounts.

Fiscal agent for the government

The Bank of Japan Law provides that the Bank handles Treasury funds (Article 35) and national government affairs concerning currency and finance (Article 36). Operations performed by the Bank of Japan on behalf of the government include Treasury operations, government bond operations, custodial services for government-held securities and foreign exchange intervention. Formally, the Bank does not provide debt management advice to the Ministry of Finance. However, the government needs to maintain its deposit balance at an appropriate level and the Bank contributes to the government's efficient cash management by communicating its projections of the daily flow of Treasury funds. Also, the Ministry of Finance organises meetings with market participants to discuss current bond market issues as well as government debt management policy from a medium to long-term perspective, and the Bank of Japan is an observer at these meetings.[108]

108 Meeting with Market Participants and the Advisory Council on Government Debt Management.

5 THE BANK OF CANADA

Monetary policy

The mandate of the Bank of Canada is broadly described in the preamble of the Bank of Canada Act of 1985, as being to "regulate credit and currency in the best interests of the economic life of the nation, to control and protect the external value of the national monetary unit and to mitigate by its influence fluctuations in the general level of production, trade, prices and employment".[109] At the same time, the Bank of Canada underlines the primary importance of price stability by specifying that "the goal of monetary policy is to contribute to solid economic performance and rising living standards for Canadians by keeping inflation low, stable, and predictable".[110]

As regards its monetary policy strategy, the Bank of Canada has been targeting consumer price inflation since February 1991. At present, the target range is 1% to 3%, with the Bank's monetary policy aimed at keeping inflation at the 2% target mid-point. Every five years, the inflation control target is reviewed by the central bank and the government. The latest such review was in 2006, when both parties affirmed their understanding that "the primary objective of Canada's monetary policy is to enhance the well-being of Canadians by contributing to sustained economic growth, rising levels of employment and improved living standards". Even though the objective of price stability is not specifically included in the Bank of Canada Act, the joint statement goes further to say that "experience has clearly shown that the best way monetary policy can achieve this goal is by giving Canadian households and businesses confidence in the value of their money."[111] This illustrates that the central bank and the government share the view that monetary policy should focus on price stability. At the same time, the Act allows the Bank of Canada to grant loans or advances for short periods (six months) and limited amounts (below a certain percentage of the total budget) to the Government of Canada or the provincial governments, against marketable securities issued or guaranteed by the government or the provinces.

The Bank of Canada Act foresees several avenues for central bank/government interaction. In particular, the Deputy Minister of Finance is a member of the Board and the Executive Committee of the Bank of Canada, but does not have the right to vote.[112] In addition, under the Bank of Canada Act, the Minister of Finance and the Central Bank Governor are asked to consult regularly on monetary policy and on its relation to general economic policy (Article 14(1)). In cases of differences of opinion between the Finance Ministry and the Bank, the Minister of Finance is entitled to give the Governor a written directive on the stance that monetary policy should take. However, to preserve the Bank's independence, such a directive may only be issued after consultation with the Governor and requires the approval of the Governor. The directive must spell out specific instructions for a certain period of time and must be published within 15 days.

Moreover, there are weekly consultations between the Central Bank Governor and the Finance Minister to exchange views on economic issues (without, however, the attempt to reconcile any potential differences in the macroeconomic scenarios of the Ministry and the Bank). Also, there are a number of other links between the Bank of Canada and the Department of Finance (Laidler, 1997, p. 230): the Assistant Deputy Minister of Finance for financial sector policy lunches every week with the Bank of Canada's senior management, often in the company of the Assistant Deputy Minister for fiscal policy. When the Bank of Canada intends to change the bank rate, it informs the

109 http://www.bankofcanada.ca/en/about/act_loi_boc_bdc.pdf
110 http://www.bankofcanada.ca/en/about/do.html
111 http://www.fin.gc.ca/news06/06-070e.html#Joint%20Statement
112 It should be added that both bodies are not involved in the monetary policy decision-making process. Rather, it is the Bank's Governing Council which is responsible for monetary policy and the strategic direction of the Bank. It consists of the Governor, Senior Deputy Governor and four Deputy Governors.

Assistant Deputy Minister for financial policy but does not seek his approval. Also, the Bank of Canada and the Department of Finance meet quarterly to discuss economic projections.

Foreign exchange operations and foreign reserve management

The overall exchange rate policy is the responsibility of the Department of Finance. Still, the framework for the foreign exchange intervention policy is established by the government in close consultation with the Bank of Canada, with day-to-day operations being the responsibility of the Bank, as the fiscal agent of the government.[113] The Bank of Canada Act of 1985 provides that the Bank may "buy and sell foreign currencies and maintain deposit accounts with banks or foreign banks, either in or outside Canada, to facilitate such operations" (Article 18). Such operations are primarily related to the Exchange Fund Account (EFA) and, as a rule, foreign currency interventions are sterilised.[114] Foreign reserves outside the EFA are held directly by the Department of Finance, the Bank of Canada and the Receiver General for Canada. According to De Leon (2000), the Bank of Canada's holdings of foreign reserves reflect swap operations carried out between the Bank and the EFA for cash management purposes related to monetary policy. The annual report to the Parliament on the operations of the EFA states that currency swaps are done "to assist the Bank in its cash management operations". Prior to September 1998, Canada's policy was to intervene systematically in the foreign exchange market. Canada's current policy is to intervene in foreign exchange markets only in exceptional circumstances.

The central bank cooperates extensively with the government regarding the management of foreign reserves. The Funds Management Committee (FMC) is composed of senior management from the Department of Finance and the Bank of Canada and oversees the management of the EFA within limits delegated by the Finance Minister. The Committee advises the Finance Minister on policy and strategy, oversees the implementation of approved policy and plans, reviews performance reports and makes decisions related to the management of the reserves. The FMC is supported by a Risk Committee (which receives analytical support from the Financial Risk Office at the Bank of Canada) and an Asset-Liability Management Committee.

International cooperation at the G7 and the IMF

While both the Minister of Finance and the Central Bank Governor attend the G7 meetings, the Department of Finance takes the lead on G7 matters, with the central bank being consulted on issues of "common interest", which include IMF issues (except governance-related issues). Also, the central bank and finance ministry share the briefing books prepared by each institution ahead of the meetings and there is some degree of coordination ex ante to determine the issues that will be raised by the representatives of the central bank and finance ministry at the meeting.

The Minister of Finance and the Governor of the Bank of Canada also attend the IMF's annual meeting (only the minister attends those of the IMFC). Canada's position on issues that come to the IMF's Executive Board for discussion is coordinated by the Department of Finance, with support from the Bank of Canada. Also, at the IMF Canadian constituency, there is always a staff member from the central bank at senior advisor level.

Payment systems/Securities clearing and settlement systems

The Payment Clearing and Settlement Act (July 1996) gives the Bank of Canada responsibility for the oversight of payments and other clearing and settlement systems, for the purpose of controlling systemic risk. It is up to the Bank to identify the systems which potentially could pose systemic risks and

113 http://bankofcanada.ca/en/backgrounders/bg-e2.html
114 The EFA is governed by Part II of the Currency Act. It is established in the name of the Department of Finance and is administered by the Bank of Canada as fiscal agent. http://laws.justice.gc.ca/en/C-52/index.html)

therefore fall under its scope of supervision. Also, the Governor of the Bank has the authority to issue written directives to operators of designated clearing and settlement systems to refrain from actions that are likely to result in systemic risk being inadequately controlled. At the same time, the Minister of Finance has large powers over all Canadian Payments Association (CPA) rules and standards under the Canada Payments Act (2002). The Minister of Finance has the power to disallow any rule that is not deemed to be in the public interest and issue a directive to the CPA to amend or repeal a bylaw, rule or standard. The Minister also has oversight responsibilities and can designate payment systems that pose systemic risk, even though, to date, the Minister has not designated any such systems, leaving de facto the task to the Bank of Canada.

Also, under the Bank of Canada Act, the Bank can provide Emergency Lending Assistance to a member of the Canadian Payments Association for a maximum term to maturity of six months, against collateral (broader range of collateral than normal), renewable for periods up to six months as many times as the Bank of Canada deems necessary. Moreover, in the event that a Large Value Transfer System (LVTS) participant defaults, the Bank of Canada could be obliged (under LVTS bylaws) to lend to an insolvent institution on the day of failure to settle that insolvent member's obligations to other participants in the LVTS in order to prevent the emergence of systemic risks (Daniel et al., 2004-2005).[115]

In the area of payment systems, the Bank of Canada cooperates with the Department of Finance via the Payments System Advisory Committee (PSAC). The Committee is a non-statutory body formed to minimise any duplication of oversight activities by the Minister of Finance and the Bank of Canada. The PSAC is co-chaired by senior officials of the Department of Finance and the Bank of Canada.

Furthermore, in the field of securities clearing and settlement, at the federal level, the Bank has oversight responsibilities for the Canadian Depository for Securities (CDS) – Canada's national securities clearing and depository service organisation (under the Payment Clearing and Settlement Act). The Bank shares responsibilities in this field with provincial securities commissions and financial institution regulators which oversee CDS participants.

Supervision, regulation and financial stability

The Bank of Canada has statutory responsibilities for ensuring macrofinancial stability. According to the Bank of Canada Act (Article 18(c, g)), the Bank can intervene in markets (buy or sell securities or other financial instruments, including from non-financial corporations) for the purpose of promoting the stability of the financial system, if the Governor is of the opinion that there is a severe and unusual stress on a financial market or the financial system, to the extent deemed necessary by the Governor.[116] The Bank shares the responsibility for financial stability with three other entities: the Office of the Superintendent of Financial Institutions (the supervisory authority), the Canada Deposit Insurance Corporation and the Department of Finance (the regulatory authority). In addition, due to the federal structure of Canada, financial institutions, depending on the nature of their activity and where they have been incorporated, may be subject to further regulation at the provincial level by the Securities Commission, the Superintendent of Insurance or the Superintendent of Deposit-taking Institutions.

As part of the informal ties with the government, the Governor of the Bank of Canada advises the Minister of Finance on financial sector policies (Healey, 2001). The Governor is also part of the informal Senior Advisory Committee chaired

115 LVTS is owned and operated by the Canadian Payments Association and its development was initiated by the Bank of Canada and the Department of Finance.

116 If the Bank takes any action under subparagraph 18(g)(ii) of the Bank of Canada Act, the Bank shall notify in the *Canada Gazette* that the Governor has formed an opinion that there is a severe and unusual stress on a financial market or financial system. The notice is to be published as soon as the Governor considers that its publication will not materially contribute to the stress to which the notice relates.

by the Deputy Minister of Finance, which discusses developments in the financial sector as well as the relevant legislation. In addition, there are formal avenues for interaction among the institutions responsible for regulation, supervision and financial stability. In particular, the Financial Institutions Supervisory Committee (FISC) brings together the Superintendent of Financial Institutions (as chair), the Deputy Minister of Finance, the Governor of the Bank of Canada, the chairperson of the Canada Deposit Insurance Corporation and the Commissioner of the Financial Consumer Agency of Canada. The FISC meets regularly to discuss matters related to the supervision of financial institutions and to consult and exchange information on supervisory matters that have implications for solvency, last-resort lending, and the risk of deposit-insurance payout. The Bank of Canada manages the Emergency Lending Assistance for financial institutions subject to federal regulation in close collaboration with the FISC. Information gathering and sharing is one of the key tasks of the FISC which is carried out through a special sub-committee – the Financial Information Committee (FIC). The FIC collects data from federally regulated financial institutions and is responsible for a joint reporting system.

Banknotes and coins

The Bank of Canada has the monopoly in issuing currency and is responsible for designing, producing and distributing banknotes. The selection of banknote denominations, the visual design of the notes and the material are, however, subject to approval by the Minister of Finance.[117] As collateral for the issuing of banknotes the Bank of Canada holds interest-bearing federal government securities and securities purchased under resale agreements (the list of eligible securities for collateral has been expanded lately). Coins, on the other hand, are produced by the Royal Canadian Mint at the request of the Minister of Finance, whereby the Minister approves the design and denomination for coins, while the volume is determined by the Mint based on demand forecasts.

Regarding cooperation with the government, the Bank and the Department of Finance share information to ensure consistent communication on currency matters. Also, the Bank cooperates with government law enforcement to monitor and respond to counterfeiting activity, as well as to provide information material and training.[118]

Collection of statistics

The Bank of Canada publishes banking and financial statistics, as well as data on exchange rates, interest rates, prices and monetary conditions. In addition, Statistics Canada, the central statistical agency, also compiles economic and financial data, among which are balance of payments statistics, gross domestic product, government financial statistics, income data, labour statistics and various price data. Selected information published by the Bank, such as interest rates and Canada's official international reserves, is also released by Statistics Canada.

The interaction between the Bank of Canada and Statistics Canada is institutionalised. In particular, there is an annual meeting at senior management level focusing on broad directions and priorities for the two agencies. More formally, and providing input to the senior management meeting, there is a standing Committee on Statistics co-chaired by a representative from the Data and Statistics Office of the Bank of Canada and a representative from the National Accounts at Statistics Canada. The Committee on Statistics has set up two working groups, one for financial statistics and one for macroeconomic statistics. In addition, there are ad hoc interactions between analysts at the two agencies.

117 In addition, the government can exert influence on the Bank's currency function through the Currency Department's reporting line. The Currency Department reports to the Bank's Board of Directors, where all directors are appointed by the Minister of Finance. The Board approves the Bank's budget (including investments and expenditures for Currency) and the three-yearly Medium Term Plan which sets out the major business initiatives for each Bank function including Currency.

118 http://www.bankofcanada.ca/en/banknotes/index.html

Fiscal agent for the government

The Bank of Canada Law states that the Bank, if and when required by the Finance Minister, should act as agent for the Government of Canada in the payment of interest and principal, and generally in respect of the management of the public debt of Canada. In practice, the Bank manages the accounts of the Receiver General, through which almost all money collected and spent by the Canadian Government flows. The Bank ensures that these accounts have enough cash to meet daily requirements and invests any surpluses in term deposits. The Bank also provides policy advice to the government on the efficient management of government debt and the government's foreign exchange funds and sells government securities to financial market intermediaries and investors, including retail investors (as regards the latter, the Bank's fiscal agent services include operations and system support services, accounting and sales and marketing initiatives).

The advisory functions of the Bank in the fiscal agent area are governed by the Memorandum of Understanding on Treasury Risk Management between the Bank of Canada and the Department of Finance (April 2004, reviewed every twoyears). In terms of institutional infrastructure, a Funds Management Committee (FMC) advises the Finance Minister on policy and strategy, oversees the implementation of approved policy and plans and receives reports on performance outcomes covering wholesale debt, cash management, reserves and risk control (according to the Treasury Management Governance Framework of October 2003). The FMC is supported by a Risk Committee (RC), which is an advisory body, jointly chaired by the Bank of Canada and the Department of Finance. To support the work of the RC, a Financial Risk Office (FRO) has been established at the Bank of Canada, working independently from funds management operations at the Bank.[119]

119 http://www.fin.gc.ca/treas/Goveev/mou-trm-eng.asp

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