Concluding Panel Discussion: Macroeconomic Policy and Central Banking

Introductory Remarks

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In Session 1, we discussed incentive problems for monetary policy committees at central banks. Based on those discussions, I would like to suggest three broad topics for the panel discussion: transparency, continuity, and coordination.

The first topic, transparency, touches upon a variety of incentive problems that committee members face when conducting monetary policy: For example, why does the degree of transparency in monetary policy differ from committee to committee? What are the incentives crucial in determining the degree of disclosure, regarding the content of the minutes of monetary policy meetings and economic forecasts of committee members?

The second topic, continuity, deals with the intertemporal question of decision making: For example, can a committee make a credible commitment to the future interest rate policy? Can current committee members make a collective decision that binds the decisions of future committee members?

The third topic, coordination, is related to the effectiveness of monetary policy management by a committee: For example, can a committee coordinate with other policymakers better than other forms of decision making? Should a committee decide to coordinate with other policymakers by majority voting? Who should represent the view of a committee when coordinating with other policymakers?

Panelists' Remarks

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I. Introduction

I am very grateful for having been invited onto this panel and for being able to contribute to the discussion about the role of decision-making structures in central banks for the transparency of monetary policy, the publication of central bank forecasts, and the commitment to future policy action and policy coordination. I was also pleased by the stimulating paper by Fujiki (2005) and the comments by the discussants.

In fact, these issues have drawn quite a degree of attention in policymaking circles, as well as in the academic debate. The more traditional literature on comparing central banks from an institutional perspective[1] is now complemented by theoretical work on the impact of "committee structures"[2] as well as experimental work.[3] There are also some empirical studies, mostly but not exclusively on the United States, on committee behavior and how the publication of minutes and voting records may affect market expectations.[4]

Yet there still seems to be no general framework that would allow any firm comparative conclusions to be drawn on what precise impact committee structures might have. The broad range of institutions and practices has so far only been roughly classified, as for example, by the prominent typology proposed by Blinder and Wyplosz (2004), referring to committees working in an "individualistic," "genuinely collegial," or "autocratically collegial" mode. In addition, practices themselves are still in the process of being refined by central banks.

Against this background, let me approach the issues by elaborating on how the European Central Bank (ECB) has responded to these challenges, thereby offering a number of preliminary remarks on how the structure of the ECB's Governing Council could factor in.

II. Transparency

While it was said that "not long ago, secrecy was the byword in central banking circles,"[5] nowadays transparency is the "rule of the game." At the same time, one would like to stress that transparency serves two main purposes: achieving accountability and improving the understanding of monetary policy and central bank decisions in

* I would like to thank Otmar Issing and Rolf Strauch for comments and valuable input. The views expressed by the author do not necessarily reflect those of the European Central Bank.

1. As a recent example, see Lybek and Morris (2004).
2. See Fujiki (2005), which provides extensive references to the related literature.
3. See Blinder and Morgan (2000) and Lombardelli, Proudman, and Talbot (2005).
4. See, for example, Chappell, McGregor, and Havrilesky (1997), Chappell, McGregor, and Vermilyea (2005), and Gerlach-Kristen (2004).
5. Giles Keating covers the text of Blinder *et al.* (2001).

markets and the public at large. This in turn reflects the fact that any modern central bank must operate in a complex and persistently changing environment, where the formation of expectations is crucial for the success of monetary policy.

Two types of transparency may be distinguished, serving the same purposes in a complementary fashion. First and foremost, transparency requires that the central bank be clear about its mandate and the approach taken to fulfill it. This may be called "strategic transparency." The ECB has done so by means of a monetary policy strategy that includes the quantification of the objective of price stability and the specification of a framework for its internal analysis and external communication. Second, transparency implies ongoing responsiveness to underpin this "strategic transparency." This may also be called "recurrent transparency." The ECB's practice in this respect is to engage in a regular and comprehensive "real-time communication" about the assessment of the economy and the related explanations of monetary policy decisions.

Let me elaborate a bit further on the ECB's approach to "recurrent transparency," taking into account the academic and policy debate about the release of minutes and voting records of committee meetings. Three questions are typically addressed in this context: (1) what is the most informative instrument contributing to "optimal" transparency; (2) how to provide good incentives for good monetary policymaking; and (3) how to balance the release of information against the costs of agreement.[6]

As regards the first aspect (i.e., selecting the most informative instrument), the ECB has chosen to publish an elaborate Introductory Statement and hold a press conference immediately following the Governing Council meeting in which the monetary policy decision is taken as a primary instrument to inform the public about the decision. In the press conference, the President and the Vice-President explain the decision and the underlying analysis to the public. This "real-time" information to the public avoids the delay usually associated with the publication of official minutes, which are often released only after some weeks. Additional in-depth explanation is then provided later on in regular publications, such as the *Monthly Bulletin*.

Linking this approach to the discussion on committee structures, one could make use of the ECB's Governing Council having been termed a "genuinely collegial committee,"[7] implying the assumption that decisions are typically taken by consensus. One could then argue that the ECB's approach in providing "real-time information" about the consensus view is more informative than the release of official minutes and voting records.[8] As a decision is the result of collective deliberation and more than the sum of individual members' views, what ultimately matters for the general public is the collective responsibility of the decision-making body and its success in fulfilling its mandate. Or in other words: the understanding of the collective rationale is at the core of understanding the monetary policy decisions of a "collegial committee."

When thinking about the second aspect—the provision of good incentives for good policymaking—one may stress the following features from a European perspective. First, the ECB's Governing Council is not a pure "technical committee

6. See, among others, the controversy between Buiter (1999) and Issing (1999), as well as Blinder *et al.* (2001).
7. Blinder and Wyplosz (2004).
8. See Issing (2005).

of experts" but rather has clear elements of a "federal committee," with the selection mechanism following both an expert and a regional pattern.[9] Second, this composition reflects the particular historical and institutional context within which the ECB operates. Third, the ECB is still a fairly new institution operating to maintain price stability for the euro area as a whole. Against this background, it has been pointed out that any information on how individual Governing Council members argue and vote would be seen and interpreted through national lenses. One reason for this perspective is that there is no single European language and hence, for example, no European press. Any attempt to make individual policymakers personally accountable by publishing implicit or explicit information about their voting behaviors would therefore entail the risk that more importance is attached to the origin of individual opinions than to the relevance of the economic argument for the euro area as a whole.[10]

These arguments may also help to explain why the standard argument that collegial committees may be more prone to publishing minutes than individual central bank governors or "autocratic committees"[11] does not apply to the ECB. Despite the fact that the costs of agreeing on a policy statement may be fairly high in collegial committees, the ECB's Governing Council has been able to maintain its practice of issuing a jointly agreed comprehensive Introductory Statement immediately following the meeting in which the monetary policy decision is taken. This may also be interpreted as a consequence of the "costs of not agreeing" in the context of a newly founded monetary union and the union-wide ("federal") mandate of the Governing Council as compared to a more "technical committee" in which members may be perceived to primarily have individual responsibilities.

In conclusion, all these elements may help to explain why the ECB adopted its own approach to transparency. "From the beginning, it placed a premium on speaking with one voice and consensus in decision making, while spelling out the underlying arguments clearly and consistently."[12]

III. Forecasts

The ECB publishes quarterly projections immediately after the press conference following the Governing Council meeting where they were discussed. The June and December projections are produced by the Eurosystem staff involving the ECB and the national central banks of the euro area, while the March and September projections involve ECB staff only. Importantly, all these are *staff* projections only, providing an *input* to the Governing Council decision. More specifically, the Governing Council does not claim ownership of these projections and also does not interfere in the forecasting process. The entire projections are based on the joint work of expert staff.

9. See, for example, Hefeker (2003).
10. See Issing (2005).
11. Blinder and Wyplosz (2004).
12. Issing (2005).

Accordingly, the Governing Council is not committed to any policy reaction to these projections. In this respect, the ECB strategy differs from other models such as inflation targeting. Since the role of the forecast is much more important in the case of direct inflation targeting, individual committee members in central banks following this approach may attach more political importance to the outcome and might wish to emphasize more the differences in views among committee members.[13]

IV. Commitment and Continuity

In the case of the ECB's Governing Council, the rules foresaw that the period for which the first members of the Executive Board had been nominated would be staggered, and subsequently should always be eight years. Succession of national central bank governors is regulated by national law, which must be in line with the standards defined in the Maastricht Treaty for the European System of Central Banks (ESCB). But this does not result in a clear time pattern of succession in the Governing Council. The overlapping of office holding periods, in addition to a well-defined mandate and strategy, seems to imply that the Governing Council has a high degree of credibility in terms of maintaining its broad policy orientation and established policy principles over time, while the precise monetary policy stance would always be adjusted in light of the outlook for price stability over the medium term.

The ECB does not provide any explicit policy bias in its public statements using fixed formulas. However, guidance to the market is given by the structural clarification of the objective and strategy of monetary policy, and by being explicit on the recurrent assessment of economic and monetary conditions and future prospects for price stability. From both elements, market participants infer the future policy stance. Econometric evidence suggests that the monetary policy of the ECB has been predictable.[14]

When discussing the practice of "biases" or temporary commitments to a policy course, it does not seem advisable to make unconditional statements given the uncertainty of future developments. Even if a central bank indicates its future policy stance more explicitly than is the practice of the ECB, it would typically always reserve the right to revise its policy course in light of newly upcoming information. In both cases, the clarification of the monetary policy strategy, including a quantification of the inflation objective over the medium term, acts as an additional commitment device.

All in all, the appointment procedures and the structural clarification of the objective and the strategy of monetary policy imply that the Governing Council has a high degree of credibility in terms of maintaining its broad policy orientation over time, while the conditionality of any assessment as concerns the actual monetary policy stance allows new information to be taken into account as it becomes available.

13. See Mishkin (2004). For a practical account of the role of forecasting in an inflation targeting regime see, for example, a recent speech by Bank of England Deputy Governor Rachel Lomax (Lomax [2005]).
14. See Perez-Quiros and Sicilia (2002) and Ehrmann and Fratzscher (2005).

V. Cooperation and Relation to the Fiscal Authorities

The ECB's interaction with national governments differs from that of other central banks, since the decision making in the case of monetary policy in the euro area is centralized, but fiscal and structural policies are under the responsibility of the governments in the 12 euro area countries. Fiscal policy is subject to the European fiscal framework and structural policies are part of the Broad Economic Policy Guidelines and the so-called Lisbon Strategy.

The European institutional arrangements may be seen as establishing a framework of implicit coordination where monetary policy, on the one hand, and fiscal and structural policies, on the other, are governed by clear primary objectives. If each party follows its primary objective, macroeconomic policy would be consistent over time, resulting in sustainable economic growth, low inflation, and sound budgetary positions. Clear mandates and rules allow the institutions involved to form expectations as to the future policy course without the need for explicit and discretionary coordination.

Accordingly, the ECB does not engage in an "*ex ante* coordination of economic policy" to achieve a specific policy mix. In general, attempts at macroeconomic fine-tuning, including fiscal policies, have been rather disappointing and often proved to be counterproductive due to implementation lags and the impossibility of subsequently reversing policy measures. However, there is a regular exchange of information on policies, among others in the context of several European committees, the Eurogroup, involving Ministers of Finance and the ECB President, testimonies at the European Parliament and regular meetings involving Social Partners ("macroeconomic dialogue"). For this exchange of information, the committee structure of the Governing Council is helpful, since it generates all the information available on the country level, such as on fiscal and structural matters.

VI. Concluding Remarks

The ECB has adopted its own approach to transparency. From the beginning, it has placed a premium on speaking with one voice and consensus in decision making. It seems that some links can be established between the specific committee structure of the ECB's Governing Council and its own approach to transparency. It also appears consistent with deemphasizing the merits of publishing official minutes or voting records.

The Governing Council does not face any actual or perceived trade-offs in terms of publishing forecasts and policy commitment. The preparation of projections, which are published quarterly, is delegated to expert staff. Drawing policy conclusions is the privilege of the Governing Council, whereby projections are an important but not exclusive input.

The institutional design of the Governing Council as well as the formalized monetary policy strategy imply that the committee is able to stick to its previously decided broad policy orientation and principles, while also being in a position to react to new information in a consistent way.

Cooperation with other policymakers is governed by the Treaty on European Union. It takes the form of regular exchanges of views among independent actors within a well-defined institutional framework. For this exchange of views, the committee structure of the Governing Council is helpful, since it generates all the information available on the country level.

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It is a pleasure to take part in this conference. I thank the Bank of Japan for inviting me to share my views on incentive problems in monetary policy committees at central banks.

I thought I would organize my remarks around two issues discussed in the paper by Fujiki (2005) and in the sessions—transparency and continuity—and do so in the context of two recent issues confronting the Federal Open Market Committee (FOMC): (1) its recent decision to expedite the release of the minutes of its meetings; and (2) its recent discussion regarding the adoption of a numerical definition of price stability.

Over the past decade, the FOMC has continually reassessed the costs and benefits of various steps toward greater transparency and made several significant increases in policy communication and openness. In February 1994, just months before I became a Federal Reserve Governor, the FOMC started to explicitly announce changes in the federal funds rate target. Later that year, the FOMC added descriptions of the state of the economy and the rationale for the policy action to the post-meeting press release. In January 2000, the FOMC introduced a statement describing the "balance of risks" to the outlook, and in March 2002 began releasing the votes of individual committee members and the preferred policy choices of any dissenters. In August 2003, the FOMC added explicit forward-looking language concerning future policy into its statement. Finally, in December 2004, it decided to release the minutes of its meetings with only a three-week delay. Previously, the minutes were made public with a five- to eight-week lag, just *after* the subsequent meeting and were, hence, less relevant to policy.

This decision to speed up the release of the minutes occurred several months after I returned to the FOMC table as President of the Federal Reserve Bank of San Francisco. I think it illustrates some of the important issues relating to transparency in monetary policy committees.

In considering whether to expedite the release of the minutes, potential costs were certainly recognized. Financial markets could misinterpret and overreact to the minutes. Greater emphasis on the minutes might also lead to less productive discussions at the meetings, because even speculative and off-the-cuff commentary would soon be out in the open and, hence, discouraged. On the benefit side, however, expedited release of the FOMC minutes provides more timely information to the public about the rationale for monetary policy actions and a more nuanced explanation of the reasons for the Committee's decisions. Such a move toward greater transparency facilitates accountability, which is essential for unelected central bankers in a democratic society, and might make monetary policy more effective by helping to align financial market expectations with policy objectives.[15]

One impact of expedited release of the minutes is that it results in the earlier airing of differences of opinion among members. A more subtle issue is whether the

15. See Swanson (2004).

exposure of such differences might affect the degree of collegiality. This issue is important because, in my view, cooperation is critical to the FOMC's success. My sense is that members are highly motivated to cooperate in seeking, finding, and articulating a committee consensus and their ability to do so enhances the credibility, legitimacy, and likely effectiveness of monetary policy. In fact, I think FOMC members behave far less individualistically and strategically than assumed in some of the models summarized in Fujiki (2005). I do not find this terribly surprising. Sociologists find that, in group situations, individuals are typically motivated to build on common ground to resolve differences of opinion and attain agreement.[16] Without such a sense of group solidarity, a 19-member committee like the FOMC could find it so time-consuming as to be practically infeasible to craft even a short, post-meeting statement commanding majority agreement. Such sociological reasoning might also explain why FOMC dissents are so rare.

The jury is still out on whether the earlier exposure of differences of opinion will affect the sense of collegiality in the FOMC. Earlier release of the minutes affords greater flexibility for members to express their personal views publicly, for example in speeches, without creating undue market confusion. My guess is that this will make it easier, not harder, to attain consensus, but time will tell.

A second issue relating to communication and transparency that the FOMC discussed in February 2005 is whether to adopt an explicit, numerical price-related objective for monetary policy. The Committee decided to hold off for now, but I am sure that, along with other issues in monetary policy communication, this topic will be on the table again in the future.

The Federal Reserve Act gives the FOMC a dual mandate—to pursue maximum sustainable employment and price stability—but does not define either objective. My personal view is that the quantification of the long-run price-stability objective could offer several benefits. In terms of Committee operations, it could help to focus and clarify our own discussions. It could also help to anchor the public's long-term inflation expectations from being pushed too far up or down. That is, a numerical long-run inflation objective may help avoid both destabilizing inflation scares and pernicious price deflations. Indeed, a credible inflation objective could enhance the flexibility of monetary policy to respond to the real effects of adverse shocks.

As with any move toward greater transparency, there are potential drawbacks. A main concern is the possibility that the enunciation of an inflation objective will be perceived as or result in a downweighting of the FOMC's maximum employment mandate. To guard against miscommunication, the nature of this objective would have to be very clearly stated as a long-run goal only, with the path for attaining it dependent on the implications for other Fed objectives, especially employment and financial stability.

The adoption of an inflation objective also raises issues related to the continuity of FOMC behavior. The price stability mandate is overarching because it is included in the Federal Reserve Act. But the interpretation of that mandate is left up to the Committee. Since one FOMC cannot bind future FOMCs, the potential for

16. See Haslam (2004).

discontinuity could be large if individual views on the appropriate numerical objective were to change significantly over time or as a result of changes in the membership.

With respect to the likely stability of individual views over time, the evolution of my own thinking on this topic is perhaps instructive. When I was a Federal Reserve Governor, the FOMC discussed a numerical objective for inflation at its July 1996 meeting. At that meeting, there was some consensus among the participants, including myself, for a 2 percent long-run objective for consumer price index (CPI) inflation. From an economic standpoint, I believe the choice of an inflation objective should depend on an evaluation of the costs and benefits of very low inflation. Since then, there have been several important economic developments relevant to this choice. I argued in 1996 that the inflation objective should contain a cushion sufficient to grease the wheels of the labor market. The potential negative impact of downward nominal wage rigidity on real economic performance diminishes, however, with productivity growth, which raises average wage growth. As it turns out, high productivity growth in the United States during the past decade has made downward wage rigidity a non-issue, suggesting that a lower inflation buffer is sufficient. But, for me, this shift has been offset by the experience of very low inflation in the United States and deflation here in Japan, which has heightened my concern relating to the zero lower bound on the policy interest rate. Other relevant economic factors include the magnitude of the neutral real funds rate, the degree of macroeconomic volatility, and methodological changes affecting measurement biases.

Taking all of these factors into account, I find myself still pretty comfortable with the numerical objective I had recommended almost a decade ago. More specifically, I would now favor a 1.5 percent numerical objective for inflation as measured using the core personal consumption expenditures (PCE) price index which, given the recent average differences in measurement bias, corresponds to a 2 percent objective for the core CPI. If the stability of my own views on the appropriate numerical inflation objective is representative, it seems likely that the FOMC's numerical inflation objective would probably change fairly little over time due to *economic* factors.

The numerical inflation objective could also potentially evolve with changes in the membership of the FOMC, assuming some divergence in views among members. In fact, however, a number of Committee members have individually opined on this topic and the actual differences of opinion turn out to be rather small. I would characterize a long-run inflation objective centered on 1.5 percent for core PCE inflation as a "modal" view. Even if there were more significant differences of opinion, an advantage of a monetary policy *committee* is that a slow, continuous transition of new members is apt to produce greater continuity than might occur with a single central banker, where the replacement of the Governor could result in discrete policy shifts. In addition, the "sociological" considerations I discussed earlier, which foster cooperation and consensus, could encourage new members to support the goals endorsed by the prior committee. In practice, then, I think there would be ample continuity in the FOMC's inflation target.

Continuity is an especially important issue facing the FOMC now, as Chairman Greenspan's term as a Federal Reserve Governor comes to an end. The Chairman changes infrequently—we have had only two in the past quarter-century. But one of

the strengths of the FOMC is the broad experience of its members and staff. During the transition to a new Chairman, this should help ensure continuity.

To conclude, I would like to stress that there are no final answers, and that transparency and continuity are important issues which we face on the FOMC at almost every meeting.

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My best contribution to this panel would be to reflect on our unique experience under the quantitative easing framework adopted by the Bank of Japan (BOJ) at the Monetary Policy Meeting (MPM) on March 19, 2001. This policy framework raises a number of interesting issues concerning incentives faced by policymakers, which is the topic of our conference. I will begin by explaining the quantitative easing framework and then move on to the transparency and continuity of monetary policy. The views expressed here are mine and do not necessarily reflect the official views of the BOJ.

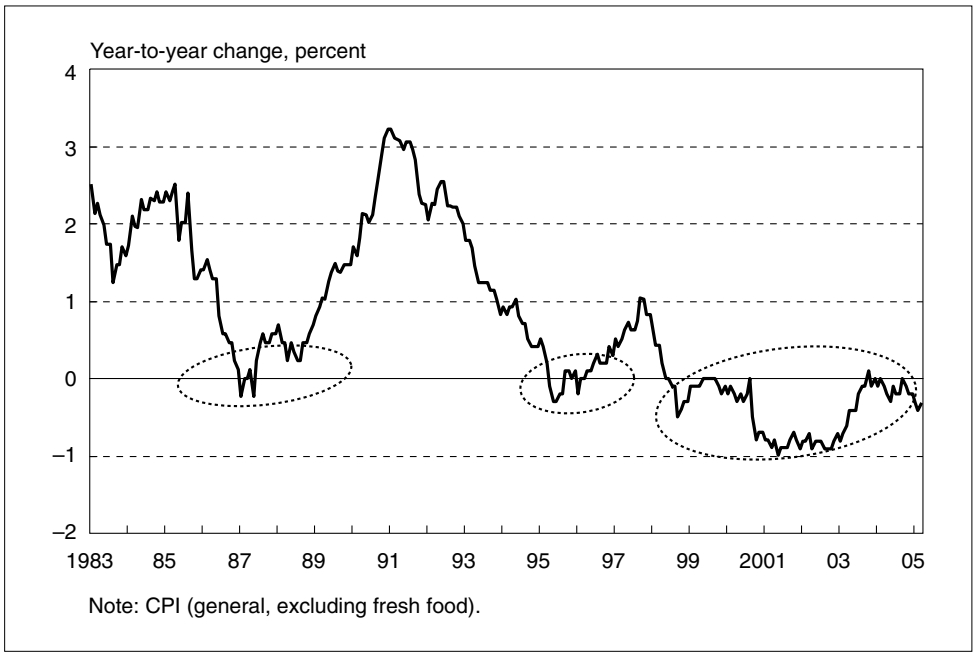
I. Quantitative Easing Framework

Under the framework, the BOJ embarked upon providing ample liquidity and committed itself to maintaining it until inflation as measured by the core consumer price index (CPI) was stably zero or positive. Excess reserves now amount to 6 percent in relation to GDP. The framework is unique among central banks in that it gears the future course of monetary policy to actual inflation, in contrast to the established practice of gearing monetary policy to expected inflation.

Since the core CPI is still in slightly negative territory, the BOJ is determined more than ever to maintain quantitative easing, in line with the commitment. Looking at the historical records of the core CPI inflation rate, which currently shapes the course of monetary policy by the BOJ, we can observe three periods when it was around zero or slightly negative (Figure 1). Most interesting are the first period, in the late 1980s, and the third period, from 1998 to the present. The late 1980s were of course the peak years of the Japanese bubble economy.

Though I would not dare to say that we are facing a similar threat today, this experience reminds me that stable prices do not necessarily guarantee optimal policy.

Figure 1 The Core CPI Inflation Rate around Zero or Slightly Negative in Three Time Periods



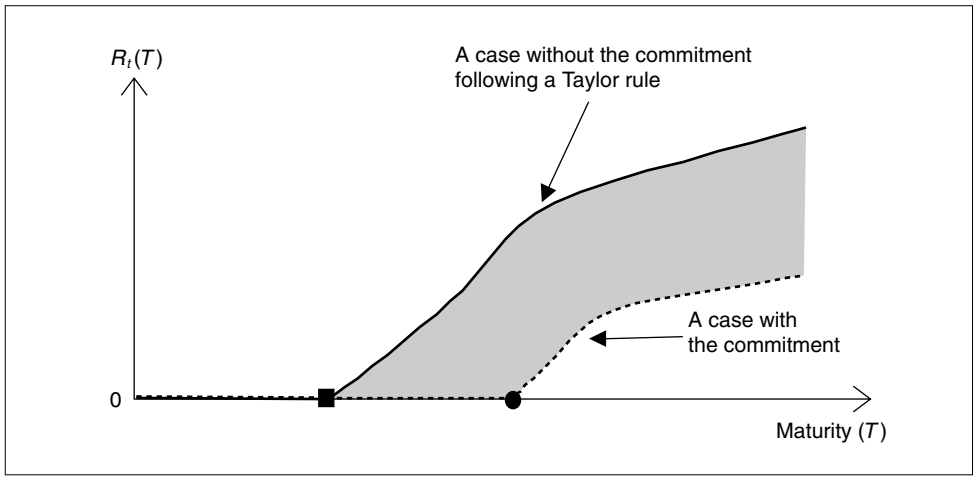
Our commitment is a leap of faith in that actual CPI dictates monetary policy and we disregard other information unless the CPI inflation rate becomes positive on a sustainable basis. I believe that a traditional central bank would want to retain some flexibility and would hesitate to make such a commitment.

Of course, the BOJ is not necessarily unique among central banks in seeking to influence expectations. Our friends at the Federal Reserve are well known for influencing expectations. However, the forward-looking language of the Federal Open Market Committee (FOMC) concerning future monetary policy is more flexible compared to our commitment. The FOMC has never used actual numbers in its shaping of expectations.

Why has the BOJ made a commitment anchored on actual CPI numbers? The decision reflects its determination to formulate effective monetary policy even as it faces the zero lower bound on nominal interest rates. If market participants regard such a promise as a binding commitment, they should expect that the zero interest rate environment would be maintained over a considerable period—longer than that expected under a Taylor rule regime. This should result in lower levels of medium- to long-term interest rates (Figure 2).

Corporate profitability in Japan, defined as the ratio of profit to sales, now stands at a level higher than that seen during the bubble years. Even so, the BOJ is maintaining the zero interest rate environment. This is because we still believe it important to maintain economic stimulus arising from the effect of the BOJ's commitment on medium-term interest rates, that is, the duration effect.

Figure 2 The Zero Rate Commitment and Its Effect of Flattening the Yield Curve



II. Transparency and Continuity

Having explained the quantitative easing policy framework, I will now pick up three threads for discussion on transparency and continuity in turn.

The first is the time consistency or inconsistency of the commitment. Here, I have a rather ambivalent view. While I believe that the commitment has been effective, I am also inclined to offer some caution against overemphasizing the effectiveness of expectations management by central banks. For example, can the BOJ strengthen the effect of its commitment if it commits to maintaining a zero interest rate environment until we see 10 years of 4 percent inflation as measured by the CPI? I believe the answer is no. This is because nobody would believe such a commitment. Private economic agents would regard a decade of 4 percent CPI inflation as undesirable, and would consider that a responsible central bank has no incentive to maintain such a policy after deflation is overcome. Once the economy escapes from a deflationary environment, the original bold commitment might no longer be the most appropriate framework. Paul Krugman once said, "central banks must 'credibly promise to be irresponsible' in a liquidity trap," but it is difficult to remain an irresponsible central bank forever. Any institution makes decisions that bind its own future actions to some extent, but it seems that business firms are not faced with the same type of inconsistency issues as central bank monetary policy.

Let me now turn to my second thread: to what extent could present members of a central bank's policy board constrain the decisions of future members? In the case of the BOJ, Policy Board members serve five-year terms, and consequently, the average remaining term is two and a half years. Interestingly, the average length of service of incumbent members in the case of the BOJ is 2.35 years, which is a little short compared to overseas counterparts (Table 1). As a result, members who took part in the original decision to introduce quantitative easing in 2001 are no longer on the Policy Board. In theory, members who did not take part in the original decision

Table 1 Term of Central Bank Board Members

	BOJ	Fed	ECB	BOE
Statutory term (years)	5	14 (Board members) 5 (Fed presidents)	8 (Board members) No fewer than 5 (national central bank governors)	5 (Governor, two deputy governors) 3 (two executive directors, four external members)
Average length of service of incumbent members (years)	2.35	6.74	4.90	3.63

Note: As of May 9, 2005.

may consider that the current commitment is not appropriate. At the same time, they may nevertheless be inclined to go along, considering the potential weakening of credibility when the commitment is not maintained. The issue, obviously, does arise when responsibility of monetary policy is vested only in the Governor. Nevertheless, the concern may be accentuated at a central bank committee consisting of members with staggered terms, as it becomes relevant each time there is a change in members. On the other hand, stronger continuity may be achieved by a committee if each new member weighs the costs associated with the weakening of credibility against the appropriateness of upholding the commitment.

The third thread involves the dissemination of the views of the committee. Admittedly, it is a challenge to merge individual opinions of committee members into a collective outlook of the committee. On the other hand, any attempt to disseminate views as they are would lead to confusion and unwarranted market volatility. Reflecting the intricacy of this process, central banks around the world have developed various styles for disclosing their outlook on the economy and prices. The disclosure or non-disclosure of minutes, or the editorial policy pertaining to minutes, is an important influence over the incentives of members of a committee. If minutes are not disclosed, the anonymity of decision making in a collective body could work against the potential advantages of a committee arising from its diversity. On the other hand, it is often pointed out that disclosure of minutes or inappropriate editorial policy for minutes could stifle spontaneous discussion at committee meetings. Its advantage lies in communicating the range of views within the committee, but with a risk of masking the central message.

In this regard, our experience under quantitative easing offers a good example. The BOJ has adopted a variety of untested measures in fighting deflation, for example, the zero interest rate policy, quantitative easing, and the commitment to maintain easing. In each case, there existed no consensus on whether or how untested measures would be effective at the conceptual level within the Policy Board or among a broad community of economists. Our spirit was to try these measures given the severity of economic conditions. Consequently, some differences in views among members of the Policy Board were to be expected. Looking at the minutes of the BOJ's MPMs, you will find

Table 2 Voting Records since April 1998

	BOJ	Fed	BOE
Number of meetings in total (A)	119	60	86
Number of non-unanimous meetings (B)	68	11	56
Ratio of non-unanimous meetings (B/A; percent)	57.1	18.3	65.1
Average dissenting-vote ratio per meeting (percent)	10.2	2.0	13.8

Note: As of May 9, 2005.

a detailed description of the various policy options under the quantitative easing framework. In contrast, tools of monetary policy under deflation have received a rather succinct treatment in the minutes of the FOMC.[17]

Blinder and Wyplosz (2004) categorized central bank policy committees into three stereotypes: autocratically collegial, genuinely collegial, and individualistic. As the typical central bank in each category, they list the Fed, the European Central Bank, and the Bank of England (BOE).

While I have yet to ask Blinder and Wyplosz the category in which they would place the BOJ, the BOJ might fit their definition of an individualistic committee in terms of the details of the published minutes and voting records such as the ratio of non-unanimous meetings or dissenting votes. For example, the ratio of non-unanimous meetings or dissenting votes in the case of the BOJ is almost comparable to that of the BOE (Table 2). The BOJ has sometimes been criticized for undermining the effects of the quantitative easing policy by disclosing skeptical views of Policy Board members. However, the full argument should be put into the perspective of the overall environment surrounding monetary policy as well as the nature of the committee. Under the weight of nonperforming loans, the functioning of the Japanese financial system was impaired, and the zero bound of nominal interest rates was a real constraint. When conventional monetary transmission mechanisms were weakened as such, it was perfectly reasonable to find divergent views on untested policy options, and it was not appropriate to suppress the state of such a debate in view of transparency. At any rate, we must strike the right balance between presenting a faithful snapshot of the deliberations of the Policy Board and conveying a coherent view. Otherwise, we may lose credibility eventually.

III. Conclusion

To conclude, I would like to emphasize that the institutional design of conducting monetary policy is quite important. Economists often talk about what is the desirable monetary policy, but we should discuss in more detail how we could deploy such policy and what are the necessary institutional underpinnings. It is true that there is no one right answer. The most appropriate regime would depend on the economic

17. According to the minutes of the FOMC in June 2003, "the members discussed the advantages and disadvantages of various approaches" and "The members did not see the need at this time to reach a consensus on the desirability of any specific nontraditional approach to the implementation of monetary policy."

and social environment surrounding a central bank, including its founding law. The BOJ has made the best commitment from its viewpoint, taking into account the complex factors that I have described. So far, new members of the Policy Board have made it known that they would honor the existing commitment. At the same time, the BOJ has made various refinements in its communications policy, including the style of Policy Board minutes and reports on the Bank's semiannual outlook.

As a final remark, I would like to draw your attention to the human aspect as well. The motivation or utility of Policy Board members and the central bank's staff hinges on the satisfaction derived from the sense of contribution to better central bank policy decisions. In this regard, the institutional design that maximizes such satisfaction also remains an important real-world consideration.

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Blinder, Alan S., and Charles Wyplosz, "Central Bank Talk: Committee Structure and Communication Policy," mimeo, Princeton University, 2004.

Comments

Bennett T. McCallum
Carnegie Mellon University

In his panel remarks, Wolfgang Schill commented briefly on the relation of the European Central Bank (ECB) to the fiscal authorities of the 12 euro area countries, stating that there is an exchange of views but no explicit coordination. He says, "If each party follows its [own] primary objective, macroeconomic policy would be consistent over time," thereby permitting good results. Generally speaking, I think that it is quite right to avoid explicit coordination among monetary and fiscal policymakers. Indeed, such coordination would in my opinion be inconsistent with a proper understanding of central bank independence.

In saying this, I do not mean to express general approval of the European Union's fiscal guidelines, about which there has been so much discussion. My rather uninformed impression is that these guidelines may be somewhat too strict. They are designed in large part to protect the ECB from pressures to finance national budget deficits, and that is a worthwhile objective, but a central bank should have the upper hand in any case since it has control of the monetary base while fiscal authorities do not have full control over fiscal deficits.

There is a related matter that I would like briefly to comment on. I have read recently in the press—probably in the *Financial Times*—about the contention of a few economists that administrative procedures of the ECB may be serving to diminish interest rate spreads among the government bonds issued by various euro area nations. These procedures have to do with national government debt used as collateral for loans involved in open market operations. I am not sure about the details or whether it is actually possible for these procedures to have substantial effects on euro zone interest

rate differentials, except for very short-term securities. But it certainly does seem that if one country is running large deficits, it would be desirable for its long-term borrowing rates to rise, because of risk premia, relative to those of the other euro area countries. Such effects would tend to provide better incentives—which is the focus of our conference—toward fiscal responsibility. So I hope that the ECB's procedures are not working to compress these differentials.

I found Janet Yellen's remarks to be a very nice statement including nothing explicit that I wish to argue with. I would, nevertheless, like to comment critically on one episode that she mentions regarding an attempt by the Federal Open Market Committee (FOMC) at transparency. That is the episode that began in August 2003 in which, as she states, "The FOMC added explicit forward-looking language concerning future policy into its statement." My complaint about this is that the Fed's language served to suggest that it intended to keep the federal funds rate at some particular numerical level—I think it was 1 percent—for several months into the future.

Now, if a central bank is conducting policy in a systematic rule-like fashion, it would be useful for it to give the public information regarding its policy rule or, more likely, its objectives and its model. (By the latter, I do not mean giving the public formal equations, but rather conveying the bank's understanding of how the economy works, which is what a model is.) But a statement about keeping the federal funds rate at a specific level—rather than a statement about behavior of the rate conditional upon future conditions—seems to be inconsistent with rule-based policy-making. Furthermore, such statements are inconsistent with optimal discretionary (i.e., period by period) policymaking, for that is a scheme in which the central bank reoptimizes in each period, unconstrained by anything that has happened in the past. In short, I consider the episode in question not to have reflected genuine transparency, but instead an attempt to "manage expectations" by a process that one might call mere persuasion.

Masaaki Shirakawa's emphasis on the commitment by the Bank of Japan (BOJ) to provide ample liquidity is very welcome. Also, I would note that what he has described is somewhat more rule-like than the Fed episode that was just mentioned, since it makes behavior contingent upon consumer price index inflation outcomes in the future. By some striking coincidence, however, today's *Asian Wall Street Journal* (May 31, 2005) has a front-page article suggesting the possibility of a relaxation of the BOJ's quantitative easing framework. In addition, today's *Financial Times* devotes an entire page to the same possibility and whether such a relaxation would or would not be a bad idea.

In this regard, I am confident that Shirakawa has the same understanding as I do, namely, that in a zero lower bound (ZLB) situation, monetary policy can provide demand stimulus only by (1) shifting upward expectations of future inflation rates or by (2) open market purchase of assets that are *not* perfect substitutes for base money. It is not clear to me that the provision of banking system liquidity does anything in the second respect, so it must be helpful primarily via its influence on expectations. Thus, it would appear that BOJ actions that result in *Wall Street Journal* or *Financial Times* articles, suggesting a possible premature ending of the attempt to escape the ZLB situation, would not be desirable.

Maurice Obstfeld
University of California at Berkeley

We have been privileged to hear three excellent presentations from representatives of the major central banks on the environment in which they operate and the current issues that they confront. I would like to offer my own perspectives on some of the points that have been made this afternoon.

Central bank decision making takes place within a broad scientific, political, and social context. That context is the ultimate determinant of the incentives that central bankers face. A most basic consideration is the set of goals that the central bank aims to achieve. How does the monetary authority see its tasks? At one time, the primary goal might have been to preserve convertibility with respect to gold; at another time, at least for some central banks, it might have been full employment. For a dwindling set of central banks, the overriding goal is to fix an exchange rate.

Price stability is a goal to which most modern central banks subscribe, although they may pursue it through alternative strategies and instruments. But different central banks may have additional goals, and different institutional means for attaining them. Take financial stability. Some central banks have prudential responsibilities, others do not, and even if they do not, the bank may still have a role as a crisis manager through its lender of last resort function or in some other way.

Another key institutional feature of the central bank is its independence of the other organs of the state. There can be *de facto* or *de jure* independence, and goal versus instrument independence. Although central bank charters generally spell out a set of economic desiderata to be pursued, true goal independence is the bank's ability to set a very specific goal such as a quantitative inflation target or target range. This ability, and the way in which the central bank uses it, may be an important element in its operational success and also in its relations with the ambient political authorities that ultimately determine the central bank's powers. Is the bank accountable to the political authority, and in what ways? Are its powers perceived as legitimate by the public? How are appointments to the central bank's board made? We have discussed several of these issues already at this conference—their resolution is critical to the incentives of the central banker and his or her success in meeting ultimate goals.

A fundamental factor governing the incentives of a central bank is that the institutional framework, whatever it is, and whether it is the result of custom, of explicit legislation, or of the interpretation of legislation by some judiciary authority, is never immutable. Many central banks realize that they can enhance their bargaining situation within the state by adopting a political advocacy role and a role in educating the public. The activities of the central bank and its long-term success go far beyond the rules for voting and the specific decisions on whether to raise or lower interest rates. Over the years, Germany's Bundesbank set the standard for educating the public on the virtues of price stability—and this success made it a most formidable actor in the German economy's governance, and in the negotiations over the shape of the European single-currency regime.

Central banks and central bankers typically do not restrict their public pronouncements to purely monetary issues. Often they point out dangers arising from the actions

of fiscal or regulatory authorities. When Alan Greenspan testifies before the U.S. Congress, he takes a broad perspective in part to inform the public. This is not to deny that the explanation of central bank decisions is absolutely central, and both Masaaki Shirakawa's and Janet L. Yellen's presentations have focused on the evolution of that process of communication. The "spin" put on various decisions, the governors' speeches, the minutes, the publications—all of these play multiple roles in guiding market expectations, enhancing transparency, maintaining a sense of accountability, and avoiding political pitfalls.

For central banks, a very important constituency is the financial markets. Posen (1996) very nicely linked the independence of central banks to financial-sector support for price stability. The central bank's communications and relations with the financial sector therefore are particularly important. Of course, the threat that financial markets will react can be a significant disciplining factor on certain decisions by the politicians—such as the appointment of a new central bank head. The potential for a financial-market veto on political decisions is another reason why central banks find it in their interest to maintain close communication with the financial sector.

All these issues have become much more important in today's world of fiat currencies: necessarily, fiat currencies involve a much greater discretionary element than do non-fiat standards. We tend to forget how recent this development is. I would date the generalized pure fiat currency system to 1968, the year the two-tier gold market was established and the link between the private gold market and the U.S. dollar was abolished within the Bretton Woods system. Until then, core countries had generally been on some sort of commodity currency standard. I believe the inflationary experience of the 1970s reflected in part a process of learning within this very new world.

As a result both of policy experience and of scientific progress, we have come to new insights and ideas about managing a fiat standard. While these have so far seemed to work fairly well, there are still important issues and surprises. I think the deflation in Japan has been one of those surprises of the fiat standard. Unlike the deflation of the Great Depression or previous eras, it is not linked to any attempt to stabilize the price of a commodity such as gold.

Bennett T. McCallum has mentioned the problem of fiscal and monetary coordination, as has Wolfgang Schill. I see this interdependence as creating a very basic tension that informs almost every aspect of central bank decision making. The central bank is of course an agent of the state, and its revenues and capital ultimately belong to the Treasury. It operates in the government debt market. Its decisions on inflation and nominal interest rates set the trade-offs within the government budget constraint. Early on, central banks played a special role in government debt placement and servicing.

Conversely, the fiscal authority may determine the central bank's budget and capital appropriation, as well as the central bank's governing personnel and even its role. For example, the Bank of England lost its supervisory function when it gained instrument independence in 1997. Even the exchange rate is generally within the authority of the state, not the central bank, creating a potential contradiction of any statutory independence.

The fiscal-monetary relationship thus is a very intimate one. In a world of fiat currencies, in addition, the differentiated role of the central bank is highlighted. Fiat currency is a pure central bank liability. It is an arbitrary unit. The central bank nowadays is not responsible in any sense for backing it with a commodity or tangible asset stock. Once, much currency was backed by gold. Nowadays the main asset of the central bank is its credibility. Credibility has always been important, of course, but it is particularly critical in a world of fiat money where the equilibrium value of money derives from a social equilibrium (a bubble in fact) based on expectations that money will have value in the future.

It might enhance central bank credibility if all government debt were indexed to the price level. While the central bank may have sole responsibility for monetary policy, as long as governments issue nominal debt there will remain a fundamental interconnection and potential conflict with the fiscal branch. If we have learned anything from the fiscal theory of the price level, it is that one can conceive of situations in which fiscal policy, not monetary policy, determines the level of prices. In such cases, the price level adjusts to allow the government's budget constraint to hold. I do not think that these are realistic situations, but the result does caution us about the limits of central bank independence in certain political environments. Having all government debt indexed to prices would negate this possibility.

If we look at Japan today, conflict between the incentives of monetary and fiscal policymakers is evident. Coincidentally, the *Financial Times*' intensive coverage of the Bank of Japan (BOJ) in today's issue (May 31, 2005) includes the article "Bank and Government Show Signs of Tension." Tension arises from a number of channels. One consistent concern in the formulation of the BOJ's policy has been an understandable reluctance to be seen as bankrolling the fiscal branch even in an indirect way. Supporting this reluctance is the consideration that the BOJ's independence is rather recent. Indeed, independence was in some sense established at the expense of the Ministry of Finance, which was perceived to have mismanaged the economy through much of the 1990s. Another channel of interdependence, accentuated by the high current level of Japan's public debt, is that a rise in interest rates would sharply worsen the public-sector interest burden.

One way the BOJ could improve its accountability and credibility—as well as position itself to avoid pressures from the fiscal branch—is to adopt a *quantitative definition of price stability*. I do not intend such a definition to be necessarily a commitment to a particular inflation target; rather, it would be an indicative, quantitative criterion of success in maintaining price stability over the medium term. I also believe the approach would also prevent a relapse into the deflationary problems of the last few years.

Yellen has just made a convincing case for a quantitative target for U.S. inflation. Schill has indicated clearly that the European Central Bank (ECB) is very comfortable with what he calls "strategic transparency," or the quantification of the objective of price stability. The challenge for the BOJ is to define exactly what it means by price stability, and to communicate that to markets in a clear and convincing way. It need not go as far as Krugman's (1998) suggestion that the BOJ make a commitment to behaving "irresponsibly." But a modestly positive upper bound on inflation would

be most useful. Yellen suggested 2 percent per year, roughly corresponding to the ECB's position, but the bound could be lower. What is necessary is a statement that some moderate inflation—say, up to 1.5 percent per year—is acceptable within the BOJ's statutory mandate to seek "price stability."

The BOJ is now at a critical juncture, characterized by considerable market and press confusion in interpreting changes in quantitative monetary targets. It argues that these changes are purely "technical," but some interpret them as a signal of impending policy changes that might be deflationary. The contradictory conjectures that are being reported in the press are *prima facie* evidence of a lack of transparency and credibility. At one time BOJ officials argued, I think with some force, that to make a commitment to a high inflation target (such as 4 percent per year) might damage credibility if that target could not be met. With the economy now approaching zero inflation from below and possibly breaking through it, however, it is hard to make a similar case against an explicit definition of price stability allowing for moderate positive inflation. It is important to reassure the markets that there will not be an abrupt policy reversal, as happened in 2000.

Looking at the figures presented by Shirakawa, I find it understandable why Japan's policymakers might be nervous. If one looks at the end of the bubble period, price-level inflation seems to be quiescent, although it is accompanied by significant asset price inflation. Then inflation jumps up to exceed 3 percent in a very short amount of time. One certainly needs to consider latent inflationary pressures. But I would argue that today's environment is different, and that the risks of a contraction far outweigh the risks of moving up even to 3 percent inflation for a short period of time.

In the time that remains for this afternoon's discussion, I would very much favor returning to the contrasting views we have heard on the merits of a quantitative definition of price stability.

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General Discussion

I. Discussion among Panelists

In response to the comments by Bennett T. McCallum and Maurice Obstfeld, Wolfgang Schill agreed on the benefits of quantifying price stability over the medium

term, noting that it would help to anchor inflation expectations and to discipline policymaking. As for coordination among fiscal and monetary policymakers, he drew the attention of the participants to the fact that no European "state" or "government" existed, which added a complication to the conduct of monetary policy by the European Central Bank (ECB). In response to McCallum's discussion about interest rates on government securities in Europe, Schill explained the collateral system of the ECB's open market operations. Specifically, he stated that the ECB accepted government bonds as collateral on the basis of their market prices, and thus bonds issued by countries with lower risk premiums were accepted at higher prices and vice versa. Schill emphasized that the ECB trusted the market and did not want to take over the role played by the market.

Janet L. Yellen agreed with McCallum that, in general, monetary policy commitments should not be unconditional and stressed that the forward-looking language in the statement of the Federal Open Market Committee (FOMC) after June 30, 2004 specifically included the conditional language: "policy accommodation can be removed at a pace that is *likely* to be measured. Nonetheless, the committee will respond to changes in economic prospects as needed to fulfill its obligation to maintain price stability." She then looked back to the situation as of August 2003, when the Federal Reserve introduced the forward-looking language to which McCallum referred.[18] In her view, the August 12, 2003 statement was a logical response on the part of the FOMC to the overreaction of long-term interest rates at that time, which seemed to be caused by a misunderstanding of the Fed's likely policy path by financial markets. Furthermore, Yellen interpreted the Fed's accommodative policy at that time as systematic behavior described well by a "modified version" of the Taylor rule. She said that several papers suggested that when the inflation rate falls to a very low level, the optimal response is to follow a nonlinear rule which deviates from the Taylor rule by holding the interest rate at a very low level for longer than would be consistent with the normal Taylor rule. The August statement captured the Fed's intent to behave in this manner, namely, to err on the side of ease.

In response to the discussion on the recent monetary policy of the Bank of Japan (BOJ), Masaaki Shirakawa explained, in detail, the Monetary Policy Meeting decision on May 20, 2005 to allow the balance of current accounts temporarily to fall short of the target of around 30 to 35 trillion yen. He said that as the Japanese financial system had regained its stability, the liquidity demand of financial institutions weakened visibly. Against this background, he contended that maintaining a certain level of current accounts and a proper functioning of the market had become a delicate balancing act. Thus, the recent decision was intended to strike the right balance by introducing some flexibility into the open market operations. He emphasized that this amendment did not signal any significant shift in Japanese monetary policy: indeed, the BOJ was committed to maintaining the current framework of quantitative easing until the annual inflation rate, as measured by the core consumer price index (CPI), became zero percent or higher on a sustainable basis. Concerning the quantification

18. The FOMC statement released on August 12, 2003 included the following forward-looking sentence: "The FOMC believes that policy accommodation can be maintained for a considerable period."

of price stability, Shirakawa noted that two prominent Fed officials made different interpretations on recent U.S. monetary policy: one said the Fed was practicing implicit inflation targeting, while the other said that Fed was not practicing inflation targeting in any meaningful sense of that term, and remarked that it was not necessarily clear what the adoption of inflation targeting meant exactly, and there seemed to be no consensus about its precise definition. As an example, he took the ECB, which is often categorized as one of the inflation-targeting central banks, despite its official statement that it has not adopted such a policy. Moreover, he doubted that just announcing a numerical inflation objective would increase transparency in Japan, which was characterized by a zero interest rate. He stressed that the trajectory of short-term interest rates was more important than the level of the long-run inflation objective in the formation of the expectations of financial market participants.

II. General Discussion among Participants

A. Inflation Targeting as a Means of Increasing Transparency

Jeromin Zettelmeyer (International Monetary Fund) asked why the three major central banks—the BOJ, the Fed, and the ECB—seemed more reluctant to adopt explicit inflation targeting than the central banks of small industrial countries. In response to Zettelmeyer, Marvin Goodfriend (Federal Reserve Bank of Richmond) maintained that the ECB had virtually adopted inflation targeting because it had a price stability objective that was rather explicit and legislatively coherent with the Maastricht Treaty. In addition, Goodfriend interpreted the Fed as implicitly adopting inflation targeting in the light of its actual behavior over the last decade. Agreeing with Goodfriend, George Pickering (Bank of Canada) commented that there was not a great difference between the ECB and the Fed and others: he said that announcing a specific numerical target was certainly useful, but its value appeared marginal because two banks had already achieved very stable prices.

McCallum tried to answer Zettelmeyer's question from a historical perspective: the ECB followed the tradition of the Bundesbank, which described its policy strategy as monetary targeting rather than inflation targeting. For the Fed, there seemed to be a political danger that a discussion of legislating for inflation targeting with the U.S. Congress could lead to an undesirable change in the Federal Reserve Act. McCallum stated that there seemed to be two reasons why the BOJ did not introduce inflation targeting. First, when inflation targeting became popular, the BOJ already had an outstanding record of preventing inflation over many years. Second, the zero lower bound situation twisted the inflation-targeting debate in significantly confusing ways. McCallum concluded that, in all three cases, the success of the central banks either currently or in the past had led to a somewhat anomalous situation compared with other countries.

Yellen agreed with Goodfriend that the Fed had already adopted inflation targeting implicitly. In addition, she concurred with McCallum that there was certainly a reluctance in the United States to move to explicit inflation targeting for political reasons. She said that, for example, if one tried to define price stability explicitly in the Federal

Reserve Act, a complicated discussion about defining maximum employment would also likely arise. Nevertheless, she remarked that there were advantages from moving to explicit targeting. She proposed that to do so, the FOMC could simply quantify the long-run inflation objective it considers most appropriate to attain the Federal Reserve Act's dual goals of price stability and maximum employment. This would not necessarily require Congressional involvement to change the Federal Reserve Act.

Schill explained the historical background against which the ECB officially denied adopting inflation targeting as its monetary policy strategy. Specifically, he stated that ECB's comprehensive framework of monetary policy was very different from the "old-fashioned" view of inflation targeting, which required the central bank mechanically to hit the stated goal at a certain point in the future. The ECB staff thought that such a framework would never work in the euro area because they did not have a detailed understanding of the transmission mechanism. However, Schill had the impression that the terminology of "inflation targeting" had changed over time. In contrast to the old-fashioned view, the current definition of inflation targeting seemed to include virtually all central banks that aimed at something called price stability. He said that such a change of definition made the discussion on inflation targeting difficult and confusing.

B. The Desirable Target Rate of Inflation

Shigenori Shiratsuka (Bank of Japan) asked about the implications for the numerical inflation target of the time-varying upward biases in a price index. In particular, he noted that the upward bias in the U.S. CPI had been declining since the publication of the Boskin Report in 1996. He said that, given the time-varying nature of the upward biases in the CPI, it was unclear whether a central bank gained any advantage from just announcing a numerical target. Shirakawa agreed with Shiratsuka that the bias varied over time and that one could not easily subtract the upward bias from the observed inflation rate. Shirakawa also pointed to the fact that there was no discernible difference between Japan and other industrial countries in terms of both depth and duration of downturn following the bursting of the IT bubble and CPI deflation had not accelerated. Shirakawa said that Japan's experience showed the need for reconsidering the standard argument for inflation buffers.

Eiji Hirano (Bank of Japan) questioned why the ECB adopted as the definition of price stability the inflation rate's being "close to, but below, 2 percent," instead of using "2 percent plus or minus 1 percent," for example. Further, he suggested a need to consider the policy implications of the recent apparent unresponsiveness of domestic prices to forcing variables, such as the output gap and input prices. Wolfgang W. Fritsch (Deutsche Bundesbank) answered Hirano's question as follows. The Bundesbank had a long tradition of defining price stability as price increases within a range of 1 percent to 1.5 percent, which captured the long-term improvement of quality of goods and should not be considered as inflation. When the ECB was established, its Governing Council went along with this understanding. However, when the ECB considered the risks of deflation a few years ago, it added a safety margin for a zero lower bound, which resulted in the current definition. Agreeing with Fritsch, Schill added that the reason why the ECB did not adopt the plus-or-minus range as the definition of price stability

was that such a range might add more uncertainty, which could counteract its efforts to anchor inflation expectations over the medium or long term.

Erdem Başçi (Central Bank of the Republic of Turkey) discussed inflation targeting for emerging market countries, particularly in Europe. Specifically, he suggested that two features arising from the high degree of openness in these countries should be taken into account in considering the appropriate definition of price stability: first, the Balassa-Samuelson effect, and second, the high pass-through rate due to dollarization.

C. The Current Situation of Japanese Monetary Policy

In response to McCallum's comment, Toshihiko Fukui (Bank of Japan) said that the BOJ would continue the current easy monetary policy until the CPI would register zero percent or higher in a stable manner. Fukui added that in continuing the policy, the BOJ should be skillful enough not to kill the nascent revival of the function of interest rates in the short-term money markets or the autonomous interbank transactions in these days. Keimei Kaizuka (Chuo University) remarked that the BOJ's recent modification of its policy statement was just a technical matter and should not be emphasized too much.

Kazumasa Iwata (Bank of Japan) commented on McCallum's view that even when the short-term interest rate was zero, monetary policy could stimulate the economy by open market purchases of assets that were not perfect substitutes for the monetary base. Iwata explained that the maturity of the BOJ's open market operations had increased substantially over time as the BOJ raised the target of current balances. Iwata agreed with Obstfeld on the importance of clarifying a numerical objective for inflation. In particular, he said that a quantitative inflation target would contribute to anchoring the price level for the Japanese economy under a zero interest rate environment.

In response to Shirakawa's discussion of inflation targeting, Pickering contended that if the BOJ announced a numerical inflation target, there was no risk that people would want the BOJ to hit the target all the time. In terms of the experience of the Bank of Canada, he explained that inflation targeting allowed the inflation rate to fluctuate around a medium-term target in response to various supply shocks. Obstfeld remarked that there was no contradiction between the quantitative specification of price stability and guiding market expectations about future short-term interest rates. He recommended that the BOJ be more explicit about the definition of price stability as a way of improving communications. Shirakawa began his rejoinder by stating that the Bank of Japan Law clearly states that the primary objective of the BOJ was price stability in the conduct of monetary policy. He then argued that if the very core of inflation targeting was the recognition of price stability as an objective of monetary policy, the BOJ had already adopted inflation targeting. However, one of the important conditions for the central bank to adopt explicit inflation targeting was that people correctly understood that the target acted solely as a long-run goal and that people respected the way a central bank operated an inflation targeting, as Yellen emphasized in her panel speech. In addition, he stated that it did not seem appropriate to adopt inflation targeting at this stage because, under the zero interest rate environment, the BOJ lacked credible instruments to attain the stated inflation objective.

D. Expectations Management and the Limits of Transparency

Hyun Song Shin (London School of Economics) argued for caution in using transparency as a way of making monetary policy more effective. As the paper he had presented in Session 3 made clear, market prices had a dual role, acting as a signal of the fundamentals, as well as representing the terms of trade between states and across time. Shin noted that central banks often tried to make their future intentions transparent to affect the terms of trade. However, he said that such a policy intervention might impair the signaling role of prices, on which central banks relied to obtain information about the underlying fundamentals. Thus, there was certainly a tension between affecting prices on the one hand and learning from prices on the other hand. Schill summarized Shin's comment as the possibility that statements and/or commitments by central banks strongly influenced long-term interest rates, thereby distorting the pricing of bond markets. In contrast, he said, the ECB's clarification of the definition of price stability helped the market find the right price by reducing the risk premium arising from inflation uncertainty. In this sense, Schill emphasized that the ECB's definition of price stability did not aim at influencing high-frequency movements in long-term interest rates. Rather, it should be considered as a structural factor reducing the volatility of the expected inflation rate. He explained that there was indeed survey evidence suggesting that the expected inflation rate was stable at around 2 percent in the euro area. Shirakawa agreed with Shin's point that the transparency in itself was important, but if the central bank increased transparency too far to affect the market price directly, there might be a risk of suppressing the market signal.

Pickering remarked that, in principle, central banks should be as transparent as they could be about the strategies and objectives. At the same time, he took notice of a limit to transparency with regard to the prediction of policy rates: there was a problem if central banks provided too much information, because financial markets and the press sometimes dissected the messages from central banks too finely.

Charles L. Evans (Federal Reserve Bank of Chicago) remarked that there existed at least three forms of communication that were not mutually exclusive: (1) stating a numerical inflation objective; (2) stating a policy rule; and (3) stating the expected, conditional path of the policy instrument over the future. Evans questioned why central banks did not adopt the third form of communication. Shirakawa responded that it was not easy to integrate the various expected paths of the board members into a single path given their diversified views. Schill added that central bank staff did not have sufficient knowledge about the transmission mechanism to announce a precise interest rate path.

Goodfriend pointed out that an *ad hoc* announcement—for example, an announcement by the central bank that a further increase or decrease in inflation was unwelcome—could not substitute for an explicit inflation target range as a communication device. According to the rational expectations theory, he interpreted such a discretionary announcement as essentially equivalent to unsystematic or random policy.

E. Monetary Policy and the Exchange Rate Policy of the ECB

Fritsch commented on the relationship between monetary policy and exchange rate policy for the euro area. He maintained that, in general, it was desirable that both policies be under the control of a single independent central bank. However, the Maastricht Treaty provided the possibility of a return to a global fixed exchange rate system. This possibility seemed to be potentially harmful to the ECB's independence, as Obstfeld had suggested in his comment. However, Fritsch emphasized that the European governments could only decide to join such a system with the consent of the ECB. Furthermore, he stressed that under the current floating regime the ECB was solely responsible for possible exchange market interventions and hence its independence was not an issue. Obstfeld responded that the safeguards mentioned by Fritsch were not spelled out explicitly in the Maastricht Treaty and that this potential problem had been papered over by a separate understanding outside of the treaty itself.