Concluding Panel Discussion: The Role of Central Banks in Exchange Rate Regimes in the 21st Century[1]

Introductory Remarks

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I. Introduction

The theme of this concluding panel discussion is "The Role of Central Banks in Exchange Rate Regimes in the 21st Century." The previous sessions focused on the issue of crisis prevention from the perspectives of emerging market economies, given the G-3 major currencies. In this panel discussion, we will consider some additional issues, many of which are much more specific to the G-3 currencies.

The conference agenda suggests several possible issues for discussion, all of which are important and worth careful and serious consideration. However, in my introductory remarks I will focus on a few issues based on the paper by Fujiki and Otani (2002). Of course, I do not intend to restrict the issues raised in the panel discussion and hope panelists will discuss any issue they wish to.

The main issue I will address is how central banks should consider the relationship between exchange rate stability and price stability. This relationship poses a serious problem, not only for central banks in large developed economies but also for those in developing economies. Nevertheless, it is especially significant that we are considering this issue at a conference sponsored by the Bank of Japan (BOJ), because we have been addressing this problem since Japan adopted a floating exchange rate regime about 30 years ago. Moreover, the relationship between the exchange rate and price stability could become a hot issue under our current zero interest rate policy.

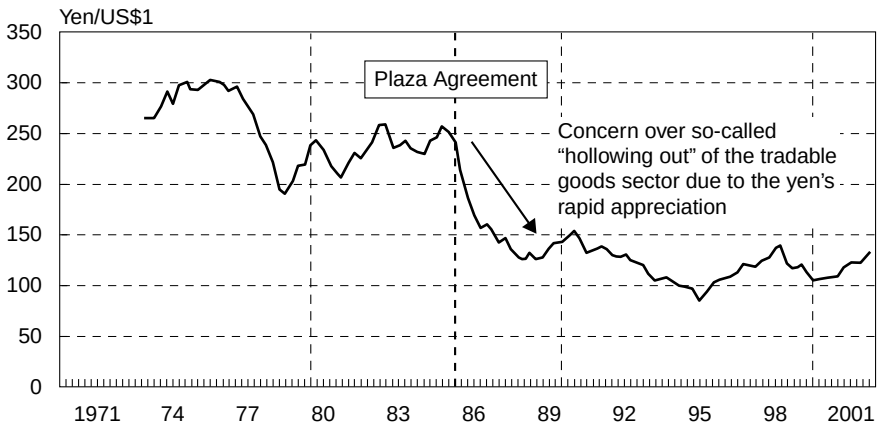
I will first discuss issues related to the relationship between exchange rate stability and price stability, referring to the Japanese experience, and then briefly touch on medium- to long-term issues.

1. The views expressed throughout this section are the views of the speakers and do not necessarily reflect the views of their respective institutions.

II. Japan's Experience

First, let me introduce the Japanese experience as an example that shows G-3 economies' concerns about how to cope with exchange rate fluctuations. In the late 1980s, Japanese economists and the business community were concerned about recession and the "hollowing out" of the tradable goods sector due to the rapid appreciation of the yen after the 1985 Plaza Agreement (Figure 1). The BOJ took into account the deflationary shock originating from large swings in the exchange rate. There was no tension between domestic price stability and exchange rate stability at this stage.

Figure 1 Exchange Rates after the Plaza Agreement



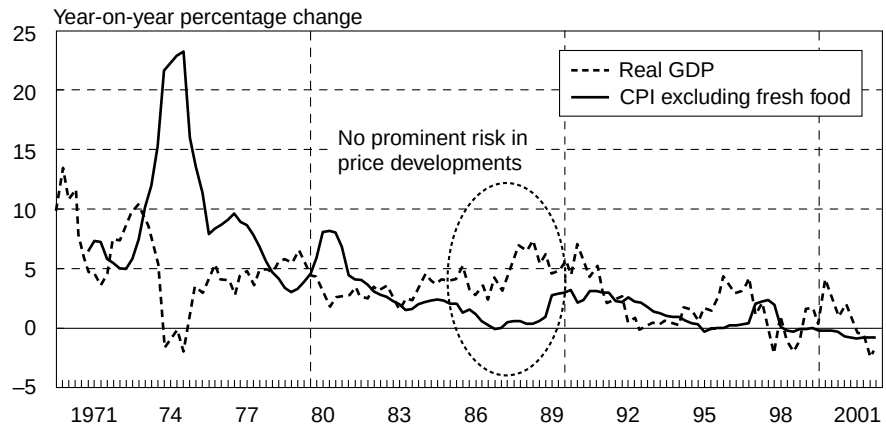
Source: Bank of Japan, *Financial and Economic Statistics Monthly.*

Looking back, the downward pressure on demand through appreciation of the yen had already come to a natural end around 1987 or 1988. However, Black Monday in October 1987 provoked fears of global recession and concern over the sustainability of the value of the dollar. Many subsequently argued that policy coordination among major countries was necessary to avoid global instability and exchange rate instability. It was also argued that since Japan was the world's largest creditor nation with a huge current account surplus, an interest rate hike in Japan would result in the collapse of international policy coordination. After excessive appreciation of the dollar was corrected, the United States' concern over further depreciation of the dollar and Japan's concern over recession due to appreciation of the yen emerged. As a result, maintenance of low interest rates with a domestic policy orientation was often discussed in Japan in the same light as international policy coordination. Available evidence at that time did not indicate the risk of an increase in domestic prices (Figure 2). In retrospect, risks were prominent in real estate prices and some indeed were worried, but few thought there would be such a drastic impact on the financial system from a medium- to long-term viewpoint (Figure 3). Under such circumstances, the BOJ could not find an opportunity to preemptively raise the interest rate at the time. It was only in May 1989,

when inflationary pressure became somewhat apparent to many economists, that the Bank could raise the official discount rate.

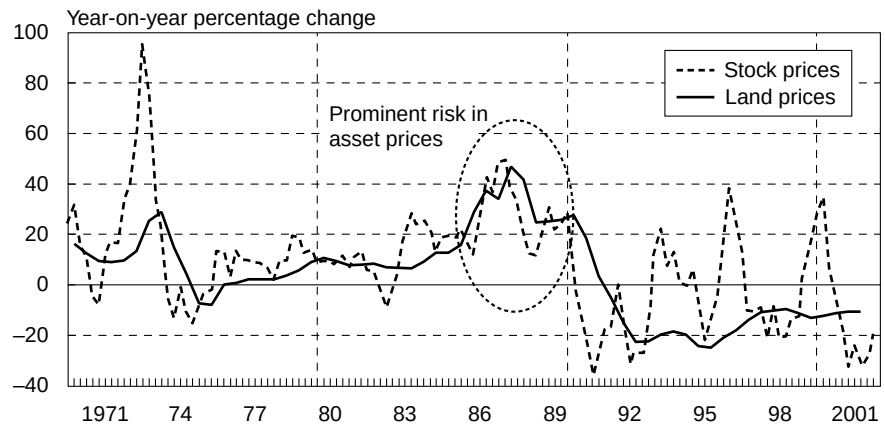
Incidentally, the nominal exchange rate in Japan appreciated after 1990 and so did the real exchange rate. Nevertheless, Professor Allan Meltzer once wondered why the nominal yen/dollar exchange rate remained in a narrow band thereafter, because it seemed too narrow to be achieved by chance. The question here is whether it is possible to maintain a target zone by official intervention or announcement by authorities.

Figure 2 Prices and Output



Sources: Ministry of Public Management, Home Affairs, Posts and Telecommunications, *Consumer Price Index*; Cabinet Office, *National Accounts*.

Figure 3 Asset Prices



Sources: Bank of Japan, *Financial and Economic Statistics Monthly*; Japan Real Estate Institute, *Urban Land Price Index.*

III. International Macroeconomic Policy Coordination

There is much to be learned from Japan's experience during this period, and I will mention a few lessons related to the topic of this conference. One lesson is that international policy coordination aimed at exchange rate stability requires more careful examination.

Economists disagree on the need for policy coordination among the G-3 economies. Some have introduced game-theoretic models to show gains from international policy coordination by the mid-1980s, and others recommend a "target zone" for the nominal or real exchange rate, which involves policy coordination among central banks. Still other economists suggest that an optimal domestic monetary policy framework to achieve internal stability would be sufficient and that the advantage of international stability is secondary. For example, as Fujiki and Otani (2002) discussed, the standard macroeconometric model suggests that the international spillover effect of domestic monetary policy is empirically not so important. Recently, Obstfeld and Rogoff (2002) also showed that when monetary policy is governed by a rule-based policy, gains from international policy coordination are small. Recent renewed interest in academic studies regarding international policy coordination is a natural extension of new open-economy macroeconomics. I am interested in finding out what panelists think about policy coordination aimed at exchange rate stability.

IV. Dynamic Consequences of Exchange Rate Fluctuation across Sectors

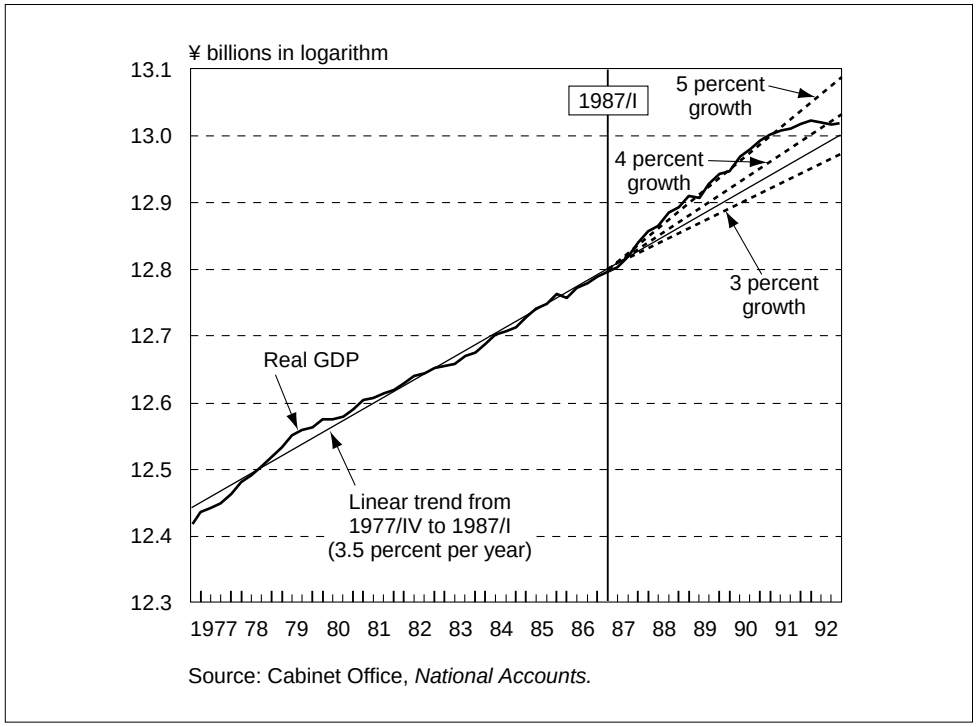
A second policy lesson gleaned from Japan's experience is that we need to know the nature of transitional dynamics and the adjustment process across various goods and factor markets in response to exchange rate fluctuations.

Incidentally, some economists point out that gains from international policy coordination could be substantial if there were productivity differences across sectors based on a new open-economy macroeconomic model.

Coming back to Japan's case, the rapid appreciation of the real exchange rate seemed to result in an increase in the productivity of exporting sectors at a later stage, reflecting dramatic restructuring. Unfortunately, it is now apparent that the productivity increase in the non-tradable goods sector lagged behind that in the tradable goods sector, and the release of excess resources from those sectors—notably the resolution of the debt overhang—has become one of the most serious challenges facing the Japanese economy today.

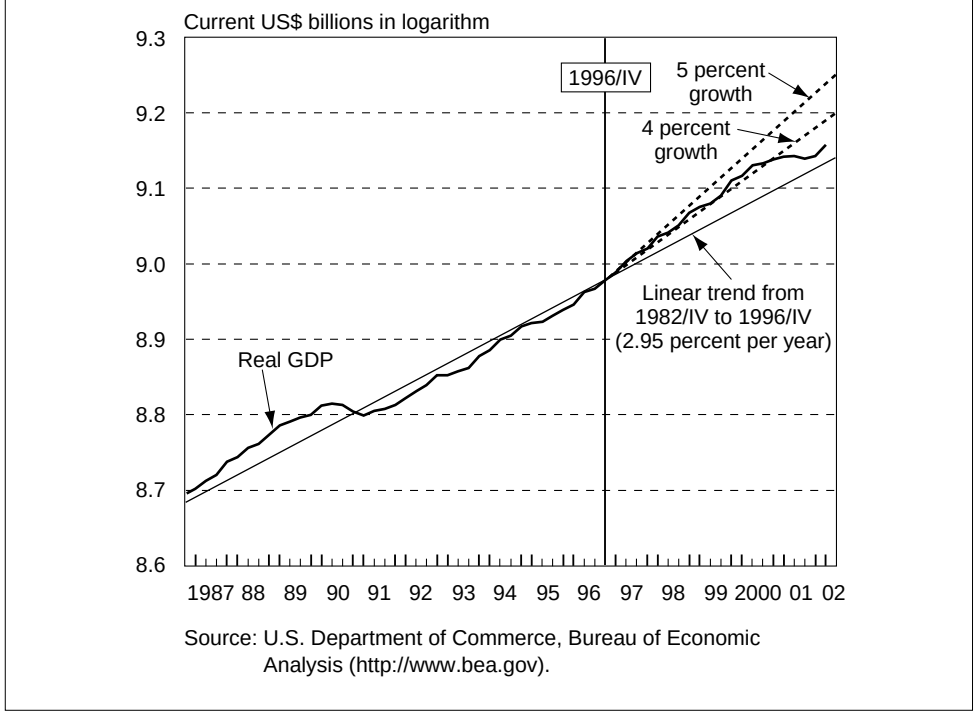
However, good macroeconomic performance following Black Monday led many economic agents to believe in the upward shift of the trend growth rate, including the non-tradable goods sector. With the benefit of hindsight, most of the trend shift was temporary, and monetary policy should not have accommodated the shift (Figure 4). However, continued economic expansion made it difficult to break down a rising growth rate into cyclical and trend components. A similar difficulty seems to be applicable to the recent U.S. experience, although the result so far seems very different (Figure 5).

Figure 4 Trend Growth Shift in Japan



Source: Cabinet Office, *National Accounts.*

Figure 5 Trend Growth Shift in the United States



Source: U.S. Department of Commerce, Bureau of Economic Analysis (http://www.bea.gov).

In Japan, people misinterpreted domestic price stability coexisting with booms in non-tradable goods industries and appreciation of the yen as the result of an overall productivity increase being accommodated by monetary policy. Although it is difficult to compare the monetary transmission mechanism across two economies subsequent to asset market exuberance, the strength and adaptability of the banking sectors may be inferred from observed differences in money growth rates.

The lesson here is that a central bank needs to know the nature of transitional dynamics and the adjustment process across various goods and factor markets when monetary policy responds to exchange rates, but in reality our knowledge is quite limited. How then should we respond to exchange rate fluctuation?

V. Zero Interest Rate Policy and the Exchange Rate

Japan's experience in the late 1980s is well known, and perhaps you are familiar with everything I have discussed today. Indeed, if I were a conference participant from abroad, I would be much more interested in Japan's zero interest rate policy since 1999, especially the role of the exchange rate in achieving domestic price stability given the zero bound to nominal interest rates. This issue has been discussed at some length in Japan since last July, and there are pros and cons.

VI. Issues for Emerging Market Economies

Now let me turn to issues for emerging market economies. Even for small open economies choosing a floating exchange rate, fears of a large fluctuation in nominal exchange rates are common. This perception could originate from concerns over loss of competitiveness in the export sector.

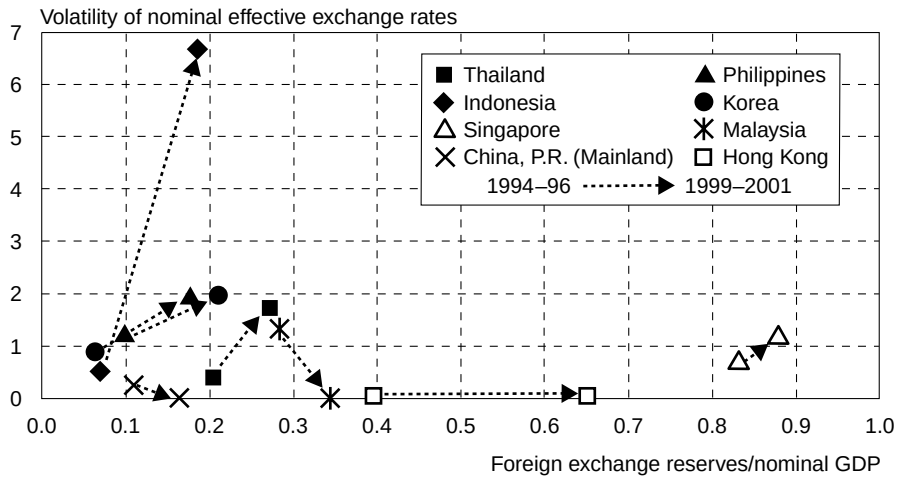
Suppose emerging market economies were to face permanent appreciation in their currency. Of course, some may argue that it is difficult to distinguish permanent and temporary changes in exchange rates, or whether there is enough empirical evidence to show that variability of nominal exchange rates or temporary movements around an equilibrium exchange rate is very important.

The immediate options for emerging market economies facing appreciation in their currency are either to let the market drastically reallocate resources from the tradable goods sector to the non-tradable goods sector, or to try to sustain export-led growth. If an economy pursued the second option, the question is whether monetary policy that puts more weight on the real exchange rate would contribute to long-term sustainable growth.

In reality, to cope with such fears, some emerging economies tend to accumulate massive foreign exchange reserves (Figure 6). The question could be restated as whether the accumulation of massive foreign exchange reserves could be consistent with stability of the global economy in the long run.

Suppose this strategy works in the short run, however, and suppose further there is strong pressure to reduce the current account deficit of a trading partner. Then the

Figure 6 Foreign Exchange Reserves and Foreign Exchange Rate Volatility



Source: International Monetary Fund, *International Financial Statistics.*

accumulation of foreign exchange reserves by a group of small open economies might delay the necessary adjustment. Hence, avoiding immediate risk in nominal exchange rates could lead to a larger risk for them in the future. More seriously, frequent use of depreciation would lead to a loss of credibility by the central bank, and thus could result in a "devaluation bias." In addition, large holdings of foreign exchange to avoid immediate exchange rate fluctuations could result in a future loss of capital stock. Is there any reliable way to evaluate this trade-off?

Of course, related questions could be raised about large economies. For example, some argue that the yen should depreciate, while others argue that the U.S. current account deficit is not sustainable. If both arguments are correct, how can they be reconciled?

VII. Exchange Rate Regime in the 21st Century

So far, I have only raised short- to medium-term policy questions for central banks. Let me remind you that a more long-term issue is also raised in Fujiki and Otani (2002). Is it safe to assume that the major currencies throughout the 21st century will be the dollar, the euro, and the yen, especially when the Chinese economy shows steady growth and the yuan thus plays a larger role in the global economy? Will the dollar once again become the single international currency? In any case, how many years will it take until we know the answers to these questions? What kind of economic conditions—such as shocks like the appearance of new production technology, the advent of a new, well-accepted regional currency, or worldwide deflation—would trigger changes in the configuration of major international currencies?

More generally, how many national currencies will survive the 21st century? Two opposite forces reflecting advances in transaction and payment technology as well as the globalization of goods and financial markets show that the optimal extent of a national currency may not be limited to its national borders: the strong force of centralization shown by the euro, and the opposite movement for decentralization as can be seen in the introduction of community currencies.

I could raise more questions, but let me stop here. In short, I hope panelists will offer views based on very long-term perspectives.

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Panelists' Remarks

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Kunio Okina's introductory remarks for this concluding panel discussion raise a large number of interesting, and often troubling, issues. Some are economic issues that do not have simple answers, such as the appropriate choice between fixed and floating exchange rates. Which system is welfare maximizing in which countries or types of countries and circumstances? Some are difficult political economy issues. Who provides the public good that permits countries to achieve both internal and external price stability? How do nations prevent the country that is supposed to provide price stability from collecting inflation tax from the other members? Who adjusts, surplus, deficit, or both countries?

The nations of the world have tried different ways to resolve these issues without settling on one. The history of these efforts reinforces the analytic point: Finding an optimum or reaching agreement is difficult, maintaining consensus even more difficult. The benefit of simultaneous price and exchange rate stability has not been easy to capture or sustain. In the 89 years of Federal Reserve history, the number of years with price and exchange rate stability is no more than 20 even if one defines stability broadly to include years of low inflation. If we require, in addition, relatively stable growth of capacity output, the number of years declines to at most 10 or 15 percent, perhaps eight to 12 years. Experience in many other developed countries is broadly similar.

For part of this period, the last 30 years, many countries chose to let their currencies float, freely or not. After 1982, the United States enjoyed the longest period of growth and low inflation in its history, punctuated by two mild recessions. Japan experienced

neither price stability nor sustained growth, and the major countries of the European Union have relatively low inflation but relatively high unemployment rates.

Elsewhere, the record is mixed. Parts of the world have suffered deep and prolonged crises, some attributed in part to their exchange rate system. Argentina and several Asian countries come to mind. Hong Kong's experience reminds us that a hard peg can require costly deflation, while Argentina reminds us that a hard peg is not sufficient to maintain price stability and high employment or avoid a deep and prolonged crisis.

The main conclusion is an old one that bears repeating. For many countries, especially moderate to large economies, either fixed or floating exchange rates will work satisfactorily if macroeconomic policies are appropriate. Either system creates problems if policies are inappropriate, but floating is the better choice in this case. At the opposite end of the size spectrum, small open economies should fix their exchange rates and close their central bank. Intermediate open economies are best served by a fixed exchange rate, provided they can import price stability from abroad.

A history of the many attempts to solve this problem reinforces the conclusion that the optimal arrangement is neither obvious nor constant. The gold standard resolved some issues by establishing a set of supranational rules. Countries could join and observe the rules, or not. Many countries breached the rules when it was thought to be in their interest, but countries often returned to the standard in the years 1870–1913. We no longer have the gold standard. It is not because we do not know its benefits, but because we know its costs and believe that the costs are too large. The classical gold standard required procyclical responses of prices and required countries to accept as much unemployment as required to maintain price stability. Many distinguished economists—Alfred Marshall, Irving Fisher, John Maynard Keynes, among others—recognized these problems, and several tried to ameliorate them. Fisher's compensated dollar and many proposals for commodity standards sought to combine restrictions on central bank discretion with rules that reduced the risk of deflation.

The interwar gold exchange standard and the Bretton Woods system expanded the base of the system by using dollars or pounds to supplement gold. Both failed after a few years of operation. The most common explanations of the collapse of the 1920s gold exchange standard are the maldistribution of gold—the claim was that the United States or the United States and France had too large a share—and the failure of coordination or cooperation. I believe that both systems failed because exchange rates were misaligned. Forced to choose between exchange rate adjustment and inflation or deflation, many countries chose to adjust the exchange rate. Neither system offered a solution to the problem of adjusting differences in real exchange rates within the system except by deflation and inflation.

When Keynes and Harry Dexter White proposed the Bretton Woods system, the late Jacob Viner told Keynes that the system would set off a race between the governors of the central banks and the agents of the trade unions. Then he asked: What will you do if the trade unions win? Keynes replied to the effect that such an outcome would be unfortunate. He did not say unavoidable, and it was not. Viner correctly foresaw that the system would be inflationary. It lacked an adjustment mechanism to permit the system to adjust to differences in derived or preferred inflation rates. He may have been surprised at how quickly his prediction came true. From convertibility on current

account in December 1958 to the effective gold embargo in March 1968 is less than 10 years. Short as it was, the system lasted longer than the gold exchange standard. The precise length of the latter depends on where we start and end. Great Britain offered gold convertibility for six years, from April 1925 to September 1931. France joined *de facto* in 1927 and left in 1935, eight years. Most countries had left by 1933.

The lesson I draw is that fixed exchange rate systems are incompatible with the political economy of modern states because they require all macroeconomic policies to adapt to a single constraint—the external value of the currency. No modern political democracy is willing to pay that price very long; Obstfeld and Rogoff (1995) have shown that most fixed exchange rate systems break down within a few years. There are a few exceptions, but very few.

This is a major change. In the 19th and early 20th centuries, Great Britain kept its exchange rate fixed for about 90 years. In a crisis, it suspended specie payment but never devalued. The policy of external price stability was accompanied by deflation in the 1870s and 1880s, when several countries joined the gold standard, and by modest inflation, an average of 2 to 3 percent a year, following the gold discoveries of the late 19th century. Several other countries had broadly similar experiences, usually for periods shorter than 90 years.

Comparison of 19th and 20th century experience supports the proposition that a fixed exchange rate is not incompatible with reasonable price stability. The principal changes are in the weight that voters and governments put on high employment and voters' beliefs about the role of government.

The idea that a government would deliberately run a deficit to increase employment did not formally enter economics until after Keynes published the General Theory. And it did not enter peacetime politics until after World War II. Once it became acceptable politically to run deficits, it became harder to maintain fixed exchange rates. A high saving rate, non-inflationary policy, and budget balance is not sufficient. A country's trading partner may have much debt to sell. To maintain the fixed exchange rate, partners must buy the debt. Although they do not say so, this is what current advocates of "policy coordination" request. *A* must buy *B*'s debt at an unchanged exchange rate and a common interest rate.

Okina raises a question about policy coordination, presumably as a means of stabilizing exchange rates. In my paper for the conference, I discuss some of the advantages of coordinating policy by adopting a common policy rule and a common inflation objective. That is the only kind of coordination that has a chance of surviving, and the chance may not be large. It allows real exchange rates to adjust. It does not call on governments to raise tax rates, reduce spending, or raise interest rates for the benefit of another country. I believe we learned under Bretton Woods and again in the former European Monetary Union (EMU) that countries may agree to coordinate in that way, but they do not do it for long. The same was true in the 1920s. The United States helped countries to return to the gold standard only if the assistance remained compatible with U.S. domestic goals.

One last point that I wish to make concerns the response of governments and central banks to noisy data. Reading Federal Reserve Board minutes, I am struck by the extent to which they respond to very preliminary, often inaccurate data. They

must be as aware as we are that many of the data changes to which they respond may vanish with the next revision. The next reading may strengthen, weaken, or reverse concern. An optimal response would move very little if the series has considerable transitory variance. Since John Muth's pioneering work, we have known that the size of the response should depend inversely on the ratio of the variance of the transitory component to the variance of the permanent component of the series. I do not know of any central bank that thinks or acts this way. Daily, weekly, monthly, even quarterly exchange rate data are noisy series. Much research finds that exchange rate changes do not have much effect. I expect the reason is that much of the variance is transitory. I expect permanent real exchange rate changes to have larger and more durable effects.

A permanent change in the price level, such as inflation or deflation, requires the central bank to act if the policy rule calls for price stability. A permanent change in the exchange rate may be nominal or real. Central bank intervention to stop a real appreciation is a mistake, as Japan learned after 1985. A central bank that intervenes in the exchange market should have reliable information about not only the transitory or permanent nature of the change but also whether it is real or nominal. I do not see much evidence that central banks behave this way. It would be interesting to hear why that is true, if it is.

It took many years—too many, I think—for many central banks to decide that high and variable inflation is costly. They now have to learn that it is possible and desirable for major central banks to agree on a common inflation rate so that they and others can enjoy greater price and exchange rate stability.

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Maurice Obstfeld
University of California, Berkeley

Exchange rate and price stability often come into conflict—indeed, such conflicts seem always to arise eventually, undermining the stability of fixed nominal exchange rate arrangements. In the Great Depression, for example, countries in the Gold Bloc that maintained gold parities through the mid-1930s suffered relatively harsher deflations. The design of the Bretton Woods system of fixed but adjustable exchange rates recognized the fundamental tension. John Maynard Keynes defended the Bretton Woods plan in the House of Lords by arguing that exchange rates would adjust to the needs of the domestic economy, and not vice versa. But the growth of private capital mobility through the 1950s and 1960s made deliberate, "orderly" devaluations increasingly difficult, so that Germany (among others) was forced to float its currency to keep from importing inflation. There are other examples,

including some from current members of the euro zone who would not now satisfy the Maastricht Treaty's inflation test for European Monetary Union (EMU) entry!

Only when exchange-rate pass-through to all domestic prices is full and immediate—or nil—is the economic case for high exchange rate stability a strong one. For it is in these two polar cases that the exchange rate cannot affect the relevant relative prices. Over the medium term, one would expect most economies to occupy an intermediate position with respect to pass-through, one in which import prices (in domestic currency) typically respond substantially to exchange rate changes, whereas domestic goods' prices respond less rapidly and completely. These responses depend on the sluggishness of money wages and the high local labor content in home- and foreign-produced goods.

While intuition suggests many circumstances in which nominal exchange rate adjustment could be desirable, my discussion has not yet offered any specific definition of the term "price stability," nor has it considered the incentive problems that could make price stability hard to reach.

To define price stability (the optimal nominal target), we need a guiding model (or models) in which to make welfare judgments concerning alternative nominal anchors. It is useful to proceed initially under the tentative assumption that the authorities can fully commit themselves to follow a monetary rule—issues of dynamic inconsistency are simply assumed away for now.

Models with producer-currency pricing—in which exports are invoiced in the home currency of their producers—entail a high pass-through of exchange rates to import prices. These models tend to yield the prescription: target the prices of domestically produced goods, and let the exchange rate adjust as a residual of the optimal monetary policy. The result is "benign neglect" of the currency's external value.

The result follows from a basic principle of monetary policy, which can be expressed (roughly, and leaving aside some caveats, as follows): if the only distortion susceptible to monetary interventions is the sticky-wage (or price) distortion, optimal monetary policy targets the flexible-wage (price) allocation. Under this prescription, the exchange rate must be free to adjust so as to get the relative prices right.

If the economy is afflicted by additional distortions, for example, asset market imperfections, the best monetary policy rule might deviate from the flexible-wage (price) rule, so as to achieve an optimal trade-off between the additional distortions and the nominal-rigidity distortion. Exchange rate variability could be lower than in the benchmark case of a single distortion, or higher. The outcome depends on the specific nature of the distortions, and in this case, a motivation for international coordination of policy rules could emerge (Obstfeld and Rogoff [2002]).

A separate but interesting question is whether the exchange rate, as a forward-looking asset price, might play some *informational* role in guiding monetary actions. Here one has to be pessimistic. We know from the classic work of Meese and Rogoff (1983) that standard fundamentals do a very bad job of predicting exchange rates, but it is less well appreciated that the converse is also true. Exchange rates contain little or no usable information concerning future fundamentals. A theoretical possibility is that policymakers already exploit all information in exchange rates optimally, but a more likely reason is simply the high degree of apparent noise in short-term exchange rate movements.

If commitment to a monetary rule is *not* possible, then dynamic inconsistency issues must be confronted. In that case, it is at least logically possible that policies based on exchange rate stability (such as a pegged rate, perhaps of the "hard" variety) could have some advantage as a commitment device. Despite initial hopes, exchange rate pegs have proven to be fatally incomplete commitment devices in general. The strategic case for a fixed exchange rate has been way oversold.

Both a monetary rule-cum-*float* and a hard peg will fail to command credibility unless the government's fiscal house is in order. But other prerequisites must be satisfied for the credibility of a peg. Labor market reform, making wages more flexible downward, is required. The impossibility of lender-of-last-resort money creation under some varieties of hard peg requires more careful supervision of the domestic financial system, fiscal provisioning for crisis funding, or both. Indeed, the fiscal constraint is also looser under a credible monetary rule because unexpected money creation (or extinction) can play the role of a fiscal shock absorber. In a number of respects, it therefore seems more difficult to run a credible peg than a credible float. And even a credible float has its problems, as shown by the European Central Bank's recent overshooting of the upper range of its inflation-target band.

Beyond the need for structural adjustments in supporting a credible monetary policy regime, there are deeper structural, political, social, and historical characteristics of societies that jointly determine economic institutions and policy outcomes. When these "deep fundamentals" are hostile to sound economic policies, it will not work to simply superimpose policymaking institutions that are well designed according to current economic theories. Moreover, the deep fundamentals will influence endogenously the reform strategies that emerge. Four examples illustrate the primacy of the deep fundamentals.

(1) Think of the contrasting experiences of Argentina and Chile. Chile has been able to move fairly successfully to an inflation-targeting monetary rule with a floating exchange rate. The country has of course made other major reforms to its economy, and it has escaped the worst effects of recent emerging market-crises. In contrast, Argentina was able to escape hyperinflation (perhaps temporarily) in the early 1990s only by locking monetary policy into the straitjacket of the Convertibility Law. Is this any surprise, in view of the fact that the Transparency International corruption index ranks Chile comparably to European Union (EU) countries but places Argentina far behind? Convertibility was a harsh and suboptimal commitment strategy that fully recognized the adverse political realities in Argentina and sought therefore to place monetary management on autopilot. As Tommasi (2002, p. 18) aptly observes: "[T]here was a profound logic to that regime choice and to its (*ex post*, very costly) maintenance throughout the 90's, a logic that . . . is grounded in the details of Argentine political institutions and history, mainly on the inability of the Argentine polity to instrument discretionary policies in non-opportunistic ways."[2] The system eventually had to crash.

2. I am grateful for Jorge A. Braga de Macedo for bringing this paper to my attention. Tommasi argues with reference to Argentina that when underlying sociopolitical institutions and conditions prevent actors from cooperating intertemporally, attempts to reform the economy will be characterized by policy rigidities that restrain "not only

(2) The inability of many emerging market countries to borrow in foreign money-market center currencies, which has become known as "original sin," is now put forth as a major determinant of the best exchange rate regime. Original sinners, it is held, cannot tolerate the strong balance-sheet effects implied by exchange rate adjustments in the presence of unhedged foreign debts. But in this case, how might one make an exchange rate peg credible, since markets appreciate that a forced devaluation would throw policy entirely into disarray, as indeed happened in the Asian crisis countries? A fixed exchange rate does nothing to address the deeper institutional characteristics of the economy that generate the original-sin problem.

(3) Japan's continuing plight illustrates how deep non-economic factors can undermine the credibility of inflation targeting under a floating exchange rate, so that deflation persists despite a quantitative easing strategy aimed at generating inflation expectations. A tradition of risk- and job-sharing has prevented both the emergence of popular anger and genuine political opposition, notwithstanding large losses of potential output and an ongoing process of deterioration in corporate and public balance sheets. Political leaders have no incentives to compete by taking risks—and as a consequence, sensible macroeconomic rescue proposals such as Svensson's (2001) receive scant attention in policy circles.

(4) Of course, there are some circumstances in which politico-historical factors can support fixed exchange rates, as illustrated by the very powerful non-economic underpinnings of the EU's creation of a currency union.

The basic lesson is that economics cannot be separated from politics (and from the underlying factors generating political outcomes). Unless the institutional substructure is sound, economic performance will falter under any exchange rate regime. In cases of an irretrievably rotten substructure, dollarization may be the least bad approach. Dollarization amounts to subcontracting out one aspect of policy to a foreign agent—and given the circumstances, the more levers taken out of domestic politicians' hands the better. But even dollarization is reversible, and therefore not necessarily credible. Irrevocable contracting coexists uneasily with national sovereignty.

An ideal prescription, easier to describe in utopian terms than to implement, is to first reform the deep institutional framework, then pick the exchange rate regime. Vested interests could make the reform task impossible, though in some cases they can be bought off or neutralized in other ways. It may be possible, also, to import better institutions. The leading arena in which this has been occurring is within the EU, which may soon expand dramatically, thereby extending the range of superior institutions.

How does the future look? Currency union or dollarization will remain most suitable for small countries where pass-through is high due to high openness and the costs of exchange rate volatility are especially large. Large countries are most likely to adopt floating exchange rates, perhaps managed floats, but in any case to reject commitments either to pegged rates or to predetermined exchange rate paths.

opportunistic actions, but also efficient adjustments . . . ." (p. 14). Thus, the choice of certain commitment strategies not only is endogenous, but the factors behind the choice may well predetermine the plan's ultimate failure. Mishkin and Savastano (2001), in a related vein, argue that the success of strategies aimed at constraining monetary discretion depends on a country's underlying institutional infrastructure, which in turn indicates the exchange rate regime most likely to have credibility.

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Roger W. Ferguson, Jr.
Board of Governors of the Federal Reserve System

I. Introduction

Thank you for giving me the opportunity to participate with this distinguished panel at the Institute for Monetary and Economic Studies' conference on exchange rate regimes. As always, the opinions I will be expressing are my own and do not necessarily reflect the views of other members of the Board of Governors or of the Federal Open Market Committee.

The international monetary system at the start of the 21st century consists of a variety of exchange rate arrangements. Some of these are the products of careful design—like the new monetary union in Europe. Others—like the system of generalized floating among the major currencies that succeeded the Bretton Woods system of fixed parities—originated in the wake of earlier designs that failed. As described in the first paper presented at this conference, the International Monetary Fund has eight categories of exchange rate regimes, ranging from currency unions to independent floating.

In 2001, more countries were listed as following exchange rate regimes of independent floating (47 countries) than were listed for any other type of regime. In fact, floating exchange rate arrangements might now be considered the most widespread type of exchange rate regime in the world. Whether by design or not, floating exchange rates look to be an essential, even dominant, part of the current international monetary system as we proceed further into this century.

In my remarks today, I would like to assess the role of floating exchange rate regimes in the international monetary system for both industrial and developing countries. Although probably no one exchange rate regime is perfect for every country, I would like to make two observations in support of flexible rates. First, flexible exchange rates have worked reasonably well in the past 30 years, even better than some might have expected. They have done so in part because they have freed monetary policy authorities to pursue price stability and to help create conditions that can foster sustainable economic growth. Second, at those times when a country may want to fix

its exchange rate, those setting policy must consider how the country might ultimately exit such an arrangement. If the costs of pegging to an anchor country with dissimilar structure and policy needs become too high, locking into an arrangement may fail over the long haul to deliver satisfactory and sustainable economic growth. In these situations, countries ultimately need to adopt greater exchange rate flexibility as they reconfigure policies to counter imbalances that have developed and recast policy institutions to support more resource utilization and output.

I begin with a discussion of exchange rate arrangements in the major industrial countries, highlighting the trade-offs that different exchange rate arrangements offer and the way those trade-offs vary with the circumstances of individual countries. Then I would like to raise some special issues facing emerging-market countries with respect to assessing the benefits and costs of different exchange rate arrangements.

II. Exchange Rate Regimes in Industrial Countries

When the Bretton Woods system collapsed in 1973, few policymakers believed at the time that the system would be abandoned permanently. The move to generalized floating was viewed at first as a temporary means of coping with speculative pressures, rather than as a permanent feature of the international monetary system, and the world's largest economies were expected to move back eventually to some sort of reworked Bretton Woods system. The G-10 policy authorities discarded fixed parities reluctantly and came to accept the successor regime only gradually, over the course of roughly two and a half years. Not until late in 1975, at the Rambouillet Economic Summit, was floating finally legitimized as the norm among the industrial countries.

From one standpoint, that acceptance of flexible rates took so long is surprising. In general, price flexibility is seen as an attractive feature of economic systems. Price movements are useful signals of changes in economic fundamentals; they also provide incentives for the efficient allocation of resources and help absorb shocks that otherwise might leave resources unemployed or misallocated. Exchange rate movements can serve the same functions—acting as signals in market economies, helping in the efficient allocation of resources, and absorbing shocks so as to facilitate the fuller use of resources during periods of adjustment.

So why did acceptance of an arrangement that has turned out to be so critical to the international monetary system take so long? High among the list of reasons must have been concerns that exchange rates would become excessively volatile, moving in ways unrelated to economic fundamentals, or that they might be manipulated by other governments. In addition, there were likely concerns that a lack of fixed parities would disrupt international markets more broadly and that international trade and investment would suffer as a consequence.

One of those fears has been realized, although it has turned out to be somewhat less frightful than might have been imagined. Since the advent of generalized floating in 1973, exchange rate volatility has increased dramatically in both nominal and real terms. But one should not view this feature as entirely undesirable. When fluctuations in exchange rates reflect shifts in economic fundamentals, they serve as useful

signals to private investors and to policymakers and should be welcomed. Only when exchange rate fluctuations are not related to fundamentals are they possibly a concern, but even then private agents who recognize that signals are noisy can adapt their decision-making to reduce dislocations. And financial markets have adapted. Since the demise of the Bretton Woods system, international financial markets have become deeper and more liquid, capable of unbundling foreign exchange and other risks and reallocating those risks to investors more willing to bear them. Perhaps such developments would have occurred anyway, given policy emphasis on dismantling barriers to trade and financial market development. But in any case, these features of the global economy have helped the world cope with greater volatility in exchange rates and in other asset prices. At the same time, the disruptions to trade and investment have not materialized. We have seen robust growth in international trade, with trade volumes increasing faster than world GDP over the post-Bretton Woods period. And empirical studies of trade and investment have generally failed to identify any significant negative effect from increased exchange rate variability.

A key factor in the growth of foreign trade, investment, and global financial markets may have been the achievement of improved macroeconomic and structural policies, which resulted in lower inflation, more prudent fiscal policies, and the dismantling of barriers to cross-border trade and finance. But I would argue also that the shift to floating exchange rates had an indirect, supporting role in all this. By leaving exchange rate determination primarily to the markets, policy authorities were free ultimately to use their policy tools to promote price stability and foster sustainable economic growth. This is not to say that floating rates made the job of monetary policymakers easy. As we know from the high-inflation years of the 1970s, the path to price stability after the collapse of the Bretton Woods system was not a direct one, and not until the end of that decade and the beginning of the next did policy authorities begin to attack the inflation problem with sufficient resolve to turn the tide on inflationary pressures. The experience of those years underscores the point that floating exchange rates do not obviate the need for strong policies. But floating rates do provide an opportunity for monetary policy to be refocused on price stability, a commitment that can be diluted when exchange rate stability is also a goal.

These days, policymakers in the major industrial economies have come to accept varying degrees of exchange rate fluctuation as a normal part of market functioning. The presumption among the major industrial countries is that markets generally do a good job of determining exchange rates. Though markets don't *always* set exchange rates at levels consistent with economic fundamentals, it is difficult to argue that a policy-determined exchange rate would achieve the goal any more successfully over an extended period. On specific occasions when exchange rates were seen as excessively volatile or misaligned, authorities have used sterilized intervention to counter the undesirable exchange rate fluctuations. Experience with sterilized intervention has shown, however, that it is not successful at fundamentally realigning currencies unless it is supported by other policy actions. Therefore, intervention is not an independent tool, as its greatest effectiveness requires that internal and external objectives be aligned properly, something that is not always the case.

Accepting the consequences of exchange rate fluctuations may be easiest for the three largest industrial economies—the United States, the euro area, and Japan. While external trade is an important part of economic activity in all three, internal activity is significantly larger. Fluctuations in the external sector have a smaller proportional effect on overall economic activity, making excessive or destabilizing exchange rate fluctuations a less significant problem for policymakers. As a consequence, exchange rate movements in these economies tend to be a less important factor in the determination of domestic economic activity and prices overall and have a smaller influence on monetary policy. For the same reasons, the exchange rate plays a lesser role in the monetary policy transmission mechanism in these economies.

In industrial economies other than those three, exchange rate fluctuations are likely to be a greater factor in the assessment of economic activity and inflation and consequently in monetary policy decisions, because trade is a more significant part of overall economic activity. Similarly, the transmission of changes in the stance of monetary policy to overall economic activity will work to a greater extent through the exchange rate.

Even though exchange rate fluctuations can be more important in these economies, it is far from clear that these economies would be better off as part of a currency bloc or an exchange rate peg, largely because an appropriate anchor currency may not exist for all of them. In some countries, commodity price fluctuations can significantly affect economic activity, leaving these economies subject to shocks that are unlikely to be matched in potential anchor currency economies, like the United States, Japan, or the euro area, where commodity shocks are less important. Such asymmetries in economic structure and in vulnerability to shocks make currency pegs less desirable. When shocks that generate asymmetric effects occur, monetary policy adjustments in the anchor country may be inappropriate for macroeconomic adjustment in the pegging country.

In industrial countries that are more vulnerable to external shocks, exchange rate depreciations can exert stronger domestic price pressures than they might in a larger economy. In that case, monetary policy must be more keenly focused on external developments because of their relative importance. Although currency depreciation may have a greater impact on aggregate demand in these economies, it need not trigger a sustained bout of inflation if the monetary policy authorities are seen as willing and able to promote adjustments that will maintain price stability. In fact, we have seen a number of industrial countries more exposed to exchange rate fluctuations succeed in achieving credible policies and price stability under floating rate regimes. Australia, Canada, New Zealand, the Scandinavian countries, Switzerland, and the United Kingdom have all managed to reduce inflation rates in their countries to levels that are generally seen as consistent with price stability.

For some other industrial countries, there may be an appropriate anchor currency. If economic integration across the anchor and pegging countries is sufficient or if the countries have a strong desire to increase that integration, then it might make sense for them to peg their exchange rates or, as in the case of the euro area, to form a monetary union. The advisability of such a decision will depend in part on the efficiency gains that flow from the reduction of transactions costs associated with

exchange rate fluctuations. These gains will be larger and macroeconomic adjustment will occur more smoothly if trade between the countries is significant and if cross-border mobility of labor and physical capital is high. Also, since the pegging country is ceding scope for independent monetary policy, the arrangement must provide conditions that foster price stability. If this linking of economies is successful in producing efficiency gains without sacrificing the benefits of price stability, additional benefits may ensue as remaining barriers to factor mobility and financial market integration diminish, further cementing the exchange rate link.

Finally, for some industrial countries, like Sweden, the United Kingdom, and Denmark, the process of evaluating the costs and benefits of joining a monetary union in exchange for monetary policy sovereignty and exchange rate adjustment is still under way.

III. Exchange Rate Regimes in Developing and Emerging-Market Countries

The trade-offs faced by developing and emerging-market countries as they evaluate alternative exchange rate arrangements are somewhat different from those faced by their industrial-country counterparts. All the issues for the industrial countries apply also to the developing world, but with the added concern of trying to make the exchange rate regime assist in the development process. Developing and emerging-market countries are, by their nature, in the process of building legal, financial, and policy structures that can help secure the benefits of market-driven economic activity. This process is typically slow and uneven. One consequence is that financial systems in developing countries can be rudimentary, leaving growing economies heavily dependent on external finance. These countries may also have heavy government interference in the allocation of goods and services, which limits the capacity of their economies to adjust to shocks. Such difficulties can be exacerbated by weak policy institutions that fall short of securing price stability and a prudent fiscal stance.

In challenging circumstances like these, exchange rate arrangements that offer enhancements to financial or policy stability—through a credible currency peg to a stable anchor currency—may look attractive, particularly in the face of near-term pressures. The danger, however, is that longer-term considerations may be ignored. When the economies linked through exchange rate arrangements have different structures and are subject to different shocks, divergences in policy needs can develop. In particular, because the anchor country determines monetary policy and typically sets it to meet its own needs, the pegging country may find itself subject to fluctuations in aggregate demand that go unmet by monetary policy responses. Such effects are all the more severe if wage and price flexibility is limited. Thus, countries considering this path must weigh the benefits in terms of price stability of adopting the monetary policy of the anchor country against the longer-term stresses that might occur if the anchor country is not a good economic match. Even if, despite possible future problems, the near-term benefits are seen to outweigh longer-run costs, consideration of the timing of an exit from the currency peg is also still

important. The easiest time to make such an exit is, of course, when the system is functioning well. Waiting until problems develop is likely to increase the costs of exiting or adjusting the peg.

A key feature that distinguishes the various fixed exchange rate arrangements is the difficulty of severing the tie, once established, between the anchor and pegging countries. A country with an arrangement such as an adjustable peg, like that currently in use in Malaysia, may find altering its commitment (for example, devaluing) relatively easy in times of stress. However, knowledge that such an action is possible can exert pressure on the currency peg and raise borrowing costs for the anchoring country, intensifying pressures all the more. To avoid this outcome, countries consider locking exchange rates all the tighter, moving from adjustable pegs to currency boards or even to the complete replacement of the home currency with a foreign currency. By raising the costs of abandoning the peg, they hope to convince investors that they will not alter the peg. Doing this successfully may eliminate the currency risk premium required by investors, although compensation for other borrowing risks, like default risk, may actually rise if currency devaluation is no longer an option.

The tighter the exchange rate link, however, the more difficult reversing the arrangement will be if shocks to economic activity are repeatedly asymmetric across the pegging and anchor countries. The cost of exiting from such an arrangement becomes higher the tighter the link is, making it more likely that exit, if desired, would be delayed too long, probably exacerbating the costs still more. Without an exchange rate channel or monetary policy instrument to foster adjustment in the domestic economy, these arrangements shift a greater burden of the adjustment onto labor. In Hong Kong, where wages and prices are reasonably flexible and financial markets are well developed, the currency board weathered the Asian, Russian, and Brazilian crises in the late 1990s, but only at the expense of higher interest rates and significant lost output. Argentina's experience, of course, was less successful. Although the currency board helped Argentina eliminate domestic inflation, the peg to the dollar put Argentina at a disadvantage relative to some of its key trading partners and contributed to the paralysis in economic growth it experienced over the 1990s.

A few emerging-market countries have sought the extreme in rigid exchange rate links to anchor currencies, giving up their local currencies altogether and unilaterally adopting an anchor country currency as legal tender. This has been done, for example, in Ecuador and Panama, which have adopted the dollar. This strategy effectively eliminates currency risk by eliminating the local currency. But the gain comes at a cost. Not only does the country lose the ability to adjust monetary policy and exchange rates in response to economic shocks, but it gives up the capacity to act as lender of last resort during a systemic financial-sector crisis. It also gives up the potential for seigniorage revenues. Moreover, the absence of currency risk does not preclude higher borrowing rates or even a debt crisis.

When the mismatch between emerging-market country and potential anchor country is significant, as it often is, the emerging-market country could forgo the temptation of linking its currency to that of an anchor country and adopt a flexible exchange rate arrangement. Some emerging-market countries have taken this route, including South Africa, Korea, Chile, and Mexico. This strategy requires that

monetary policy authorities stay disciplined about moving toward price stability, as slippage can be punished quickly in international financial markets with sharp currency depreciation and escalating borrowing costs. As in industrial economies, the strategy of adopting a flexible exchange rate arrangement allows for the operation of the exchange rate channel of adjustment when external shocks occur and gives monetary authorities some flexibility to correct excessive credit growth or to act as a lender of last resort. In addition, exchange rate flexibility can reduce vulnerability to adverse external shocks by encouraging the recognition in private domestic markets of the existence of exchange rate risk and discouraging excessive borrowing in foreign currency.

IV. Conclusion

Summing up, I would argue that, for the most part, floating exchange rates have served us well in the past 30 years. They have done so partly as a result of their role in the adjustment process—facilitating the efficient allocation of resources and absorbing shocks to help stabilize economic activity. Though excess volatility in exchange rates has undoubtedly occurred on occasion, it does not seem to have offset these benefits or derailed the development process for countries with floating rates. We have seen international trade and investment continue to flourish during the post-Bretton Woods years. We have seen the international financial system develop more efficient ways to manage exchange rate risk. And, as a by-product, central banks have taken advantage of the opportunity provided by floating exchange rates to focus more exclusively on achieving price stability in their economies.

For developing countries, the choice of exchange rate regime presents different trade-offs, and many countries have chosen to peg their exchange rates in the short run to assist in the development process. In the longer run, however, these arrangements may constrain the development of economic activity, prompting ultimately the adoption of greater exchange rate flexibility, either under duress or, preferably, by choice. The latter requires the execution of a planned exit strategy.

Flexible exchange rates offer benefits, on balance, for industrial and developing countries, but we must recognize that the success of any exchange rate regime depends fundamentally on sound macroeconomic and structural policies. Flexible exchange rates, or any other exchange rate regime, require good policies to work well.

Pierre van der Haegen
European Central Bank

I. Introduction

Let me first thank the Bank of Japan's Institute for Monetary and Economic Studies for organizing this conference on exchange rate regimes and for giving me the opportunity to address this distinguished audience on the exchange rate policy of the euro area.

I should like to start by presenting the institutional and policy framework which was set up in the treaty establishing the European Community (EC) as amended by the Treaty on European Union—the Maastricht Treaty. In doing so, I will argue that the treaty framework goes a long way to prevent the potential risk of inconsistencies between the single exchange rate policy and the single monetary policy. I will then review how this framework has been applied since the start of Stage Three of European Monetary Union (EMU), thereby assessing whether, in practice, the exchange rate policy of the European Central Bank (ECB) could be called a policy of benign neglect.

II. The Institutional and Policy Framework for the Euro Exchange Rate

The institutional and policy framework for the euro exchange rate has been designed to ensure full consistency with the conduct of the single monetary policy, both in terms of policy objectives and operational instruments. In view of the overarching status of the single monetary policy in relation to the single exchange rate policy, two fundamental principles enshrined in the treaty should be recalled:

- First, the principle of the indivisibility of responsibility for the conduct—i.e., the definition and implementation—of monetary policy. This is a fundamental notion underlying the principle of independence. The ECB and its decision-making bodies carry out their mandate in full independence.
- Second, the primary objective of monetary policy is to maintain price stability. Without prejudice to this, it must also support the general economic policies in the EC.

These two principles have a number of implications for the single exchange rate policy. In particular, I should like to highlight four treaty provisions that form the mainstay of this policy:

- First, the single exchange rate policy has the same primary objective as the single monetary policy, namely, the maintenance of price stability in the euro area (Article 4). Thus, the treaty leaves no room for the inconsistency between the two policies that would arise from the pursuit of incompatible objectives.
- Second, while the treaty provides for the possibility of concluding formal agreements on an exchange rate system (Article 111 [1]), this would require unanimous agreement in the European Union (EU) Council, which makes it an unlikely event. Moreover, the treaty specifies that the primary objective of the single monetary and exchange rate policies, namely, the maintenance of price stability, should be preserved whatever happens, as the ECB should be consulted "in an endeavor to reach a consensus consistent with price stability." Finally, the operation of a fixed exchange rate arrangement à la Bretton Woods would require agreement among the three major economic areas, and is therefore highly unlikely to take place in the foreseeable future.
- Third, the treaty refers to the possibility of decisions on general orientations for exchange rate policy (Article 111 [2]). However, the use of this provision is likely to remain exceptional, even though it may be activated by a qualified majority.

Even before the introduction of the single currency, the Luxembourg European Council in December 1997 confirmed the special nature of general orientations by making clear that they would only be considered in exceptional circumstances, such as clear misalignments. Moreover, the treaty assigns a specific role in such arrangements to the ECB, which may make a recommendation or has to be consulted. The treaty explicitly states—again—that general orientations "shall be without prejudice to the primary objective to maintain price stability."

- Fourth, the Eurosystem is solely responsible for deciding whether and how to conduct foreign exchange market operations, as a reflection of its objectives and tasks as defined in the treaty. In addition to the maintenance of price stability, these tasks include "to conduct foreign exchange operations" and "to hold and manage the official foreign reserves of the Member States" (Article 105). This enables the Eurosystem to preserve consistency between monetary and exchange rate policies at the level of operational instruments.

This framework for the exchange rate policy of the euro is predicated on the recognition that it is not desirable for a large and relatively closed economy such as the euro area to pursue an exchange rate target. An intermediate target or a final objective set in exchange rate terms would conflict with the maintenance of price stability in a context of free capital movements. This derives from two paradigms of international macroeconomics. The first paradigm is the inconsistent quartet, i.e., the impossibility of maintaining, at the same time, free trade, free capital movements, an independent monetary policy, and a fixed exchange rate. The second paradigm, illustrated by Obstfeld and Rogoff (2002), is that the benefits associated with explicit international coordination of macroeconomic policies are likely to be less than the benefits of policies oriented toward domestic stability.

The exchange rate policy framework of the euro is quite unique, as it differs from both the historical experience in most EU member states and from the approach followed by the other two major economic areas:

- The exchange rate regime in Europe prior to 1999 differed in two important respects from the present framework. First, most EU member states participated in the Exchange Rate Mechanism (ERM) and used with remarkable success an external anchor to foster internal price stability—with the notable exception of Germany, which did participate in the ERM but, acting as the *de facto* nominal anchor of the system, based its monetary policy decisions on domestic price stability considerations. Second, decisions on exchange rate matters were in most member states the exclusive or nearly exclusive domain of the respective ministries of finance.
- The situation in the other two major economic areas, the United States and Japan, does not differ as regards the choice of the exchange rate regime. Indeed, the exchange rates of the dollar and the yen are, like that of the euro, considered to be the reflection of economic developments, policies, and expectations rather than a final or intermediate policy target. However, the U.S. and Japanese frameworks diverge in that exchange rate matters fall largely within the exclusive remit of the Secretary of the Treasury in the United States and the Minister of Finance in Japan.

III. Does the Euro Area Pursue a Policy of Benign Neglect?

The institutional and policy framework that I have just described does not imply that the ECB has been pursuing a policy of ignoring the exchange rate. The exchange rate has a role in the ECB's monetary policy strategy, and foreign exchange intervention is an operational instrument available to the ECB.

- The exchange rate is one of a wide range of economic and financial variables that are assessed under the second pillar of the ECB's monetary policy strategy. Exchange rate developments contain information relevant to assessing the current state of the euro-area economy and its prospects. However, the ECB's monetary policy does not respond mechanically to the euro exchange rate, any more than it does to any other indicator.
- The euro exchange rate is also one channel in the monetary policy transmission mechanism. This channel may be broken down into two components, the impact of monetary policy moves on exchange rate changes and the pass-through from exchange rate changes to the economy. Quantitative estimates, which are fraught with an unusually high degree of uncertainty at this early stage of macroeconomic modeling in the euro area, have been calculated for the second component. Some tentative estimates are already available, even though they give only a rough sense of the magnitudes involved, as shown by the variety of measures that can be obtained from different models.[3] On the basis of the ECB's area-wide model,[4] simulations of the effects of a 10 percent appreciation of the nominal effective exchange rate of the euro expected to be sustained for two years show a decline in prices of 0.3 percentage point in the first quarter after the shock and then a cumulated deviation of prices from baseline of 0.6 percentage point in the first year and 1.2 percentage points in the second year.[5] This effect, which is not negligible, seems to reflect the slightly higher degree of external openness of the euro area compared with the U.S. and Japanese economies. All the same, domestic channels play a much greater role in monetary policy transmission. The first component of the exchange rate channel, the impact of monetary policy decisions on exchange rate developments, is much more difficult to measure. As I have already said, the price of a currency is the outcome of a host of determinants, making the impact of monetary policy largely unpredictable. All in all, this suggests that the exchange rate channel cannot be ignored, but that it is very difficult to take it into account in monetary policy decisions.

That there is no benign neglect is also underscored by the fact that intervention operations are part of the operational toolkit available to the ECB. In particular, in the exceptional case of a clear misalignment or excessive volatility being identified, intervention operations may be used as a signaling device, which may have an impact on the exchange rate through the pure expectational channel. Of course, as already indicated, the use of this operational instrument should always be consistent with

3. For alternative estimates see, for example, Peersman and Smets (2001) and van Els *et al.* (2001).
4. See Fagan *et al.* (2001).
5. There results are reported in Issing *et al.* (2001, pp. 62–63).

both the primary objective of price stability and the monetary policy stance at the time of intervention.

The identification of a clear misalignment or excessive volatility remains to a large extent a matter of judgment. This is a reflection of the difficulties that theoretical and empirical economists continue to encounter in defining and estimating equilibrium exchange rates. Recent studies have drawn on a large variety of concepts and methodological approaches, resulting in a wide range of estimates for the equilibrium exchange rate of the euro.

The difficulties in coming to a commonly accepted definition and reliable estimate of the equilibrium exchange rate for the euro and other major currencies mean that intervention operations should be contemplated only in very exceptional circumstances. However, such circumstances do arise, and, as a matter of fact, arose in the first two years of existence of the euro. In 1999 and 2000, the continued and sizeable depreciation of the euro (around 20 percent in nominal effective terms and 25 percent in bilateral terms against the dollar between early 1999 and September 2000) led the ECB and the Eurogroup to use both verbal interventions and intervention operations. Their concerns followed from the fact that neither macroeconomic models nor *ad hoc* explanations could account for the sustained depreciation of the euro.

- Even though, as already mentioned, traditional exchange rate models provide a wide range of estimates for the equilibrium exchange rate of the euro, virtually all these estimates pointed to an undervaluation of the euro with respect to economic fundamentals.
- The alternative, *ad hoc* explanations for the euro's weakness were not fully convincing. The explanations which captured the attention of the markets focused on differences between the United States and Europe in terms of structural policies, growth performance, productivity growth, and financial flows. However, they generally overstated Europe's weak points and by and large ignored its strong points. For example, the negative assessment of Europe in terms of structural reforms overlooked a number of initiatives that had already been taken in the 1990s to tackle market rigidities. The relative strength of Europe in terms of domestic and external balances was also not adequately reflected in market assessments.

The fact that neither comprehensive models nor *ad hoc* explanations could account for the sustained weakness of the euro in late 1999 and 2000 prompted the ECB's decision to intervene in the foreign exchange market in September and November 2000, in concert with the Federal Reserve and the Bank of Japan on the first occasion, and unilaterally on the second occasion. These operations were motivated in particular by concern about the global and domestic repercussions of the euro's exchange rate. These episodes provide an illustration of the main elements of the institutional and policy frameworks that I described earlier. First, within the euro area, the ECB was exclusively responsible for deciding whether and how to conduct intervention operations. Second, these operations were consistent with the single monetary policy and its primary objective of maintaining price stability, as reflected in the ECB's explicit reference to the domestic repercussions of exchange rate developments. Third, the intervention operations were sterilized so as not to

affect the ECB's monetary policy stance, in line with the conviction that such an instrument can only be effective through the expectational channel.

To sum up, the institutional and policy framework for the single monetary policy and the single exchange rate policy is focused on the same domestic primary objective, the maintenance of price stability within the euro area. In view of the size and relatively closed nature of the euro-area economy, this clearly rules out any role for the exchange rate as an intermediate target or as an ultimate objective. Nevertheless, as I have illustrated, the exchange rate of the euro is not ignored. Exchange rate developments do enter into the monetary policy framework, through their role in the monetary policy transmission mechanism and in the ECB's regular broad assessment of economic developments and prospects that may affect the outlook for price stability. In addition, intervention operations are part of the ECB's operational toolkit, even if their use is considered only in very exceptional circumstances. Since the introduction of the single currency, this framework for the single monetary policy and the single exchange rate policy has shown its intrinsic value and strength. The fact that low and stable inflation expectations have been maintained over the past three and a half years and that they have continued to prevail during the episode of sustained depreciation of the euro is testimony to the ECB's success in fulfilling its mandate.

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Yutaka Yamaguchi
Bank of Japan

I would like to exploit the opportunity of speaking last on this panel: most of the major issues have either been addressed or fully resolved by the previous four distinguished panelists. So, I would like to concentrate on relatively narrow scope of interests, in other words, relationship between the exchange market and domestic price stability mostly in the context of the ongoing Japanese economic developments.

Swings in the yen exchange rate cause headaches for the Bank of Japan from time to time. And the history since the collapse of the Bretton Woods system indicates that the yen has often fluctuated abruptly and often substantially, to levels that

appear to many of us inconsistent with economic fundamentals. On some occasion in the past, the Bank of Japan's (BOJ's) policymakers were said to be overly concerned or overly preoccupied with the impossible task of stabilizing the currency.

More recently, the relationship between monetary policy and exchange rates has been taken up in Japan in the quest for providing prescriptions to the mild deflationary environment under zero interest rate. Many economists, and I understand including Professor Allan Meltzer here, suggest that the yen should depreciate as a promising way for us to escape from the current situation and achieve price stability. I also remember that, at the BOJ's last international conference two years ago, Professor Lars Svensson proposed price-level targeting with a temporary exchange rate peg at an undervalued level (Svensson [2001]). Now bearing these arguments in mind, I would like to focus on the relationship between exchange rates and domestic price stability goal.

Let me first emphasize that I do not reject the logic of relating changes in the exchange rate to price stability. If Japan had no choice but to accept a depreciation of the equilibrium real exchange rate, and if we were to choose from only two options—deflation or depreciation of the nominal exchange rate—then, given the rigidity of nominal wages under a deflationary environment, yen depreciation might appear to some extent convincing. That said, incidentally, nominal wages in Japan are now down about 2 percent from the year-earlier level and appear to be much less rigid than generally assumed. What this wage performance means for deflation and the economic cycle is extremely interesting and challenging, but it has yet to be explored. This interesting topic should be discussed on other occasions.

Japan had the experience of escaping from worldwide deflation in the early 1930s, largely due to the depreciation of the yen/dollar rate by as much as 60 percent following suspension of the gold standard. The resulting much weaker yen lifted Japan's economy by substantially improving external competitiveness. Looking at the present, Japan as a country holds net foreign assets worth ¥180 trillion or about 35 percent of GDP as of end last year. Financial institutions, especially life insurers, are the main holders of those external assets. Therefore, a weaker yen could have a positive impact on the economy by increasing the net foreign asset value of such institutions in addition to the standard effects of improving the international competitiveness of manufactures and mitigating deflationary pressure by import pass-through. A major unknown here is how capital flows could change in this globalized world of finance in such a context.

The positive impact on activity notwithstanding, I am still reluctant to accept the idea of currency depreciation as a way to engineer inflation and economic recovery. My concerns stem from the difficulty of generating expectations for a weaker yen, the difficulty of practically maneuvering nominal exchange rate, and finally possible adverse effects on the stability of exchange rate regimes and global economic activity.

Before explaining my reluctance in more detail, let me stop here just for a moment and consider why, of a variety of asset prices, only the foreign exchange rate is singled out as a candidate for control. Presumably it is because, first, the transmission mechanism of how changes in the exchange rate affect prices and other

macroeconomic variables is reasonably clear. Second, it is considered that the foreign exchange rate can be fixed or managed given the appropriate implementation of interest rate policy and fiscal policy, and that price stability would be achieved as long as the country chose the right currency to peg to either tightly or loosely. Third, Japan and many other countries had a long history of enjoying prosperity under the fixed exchange rate system called the Bretton Woods regime, and that memory is still in the mind of many at least in our country. Fourth, changing the exchange rates has the effects of transferring the purchasing power across national boundaries. Therefore, in times of stress, borrowing demand from other economies might appear attractive and appealing. So, I suppose there are some clear advantages of emphasizing the role of exchange rate in the economic and price stabilization. But, when it comes to the effects on activity and eventually on prices, the stocks and properties appear to be equally relevant.

Japan is a typical example in point, or a typical victim rather, since Japan's economic performance in the 1990s was significantly affected more seriously than anything else by the continuous sharp decline in land prices which fell at a nearly 10 percent annual rate since 1990. The declining land prices at times put the financial system at risk. So let me just put the question on the table without providing answer of my own: what is special about exchange rate vis-à-vis other asset prices? Now in the case of Japan, some economists seem to hold the view that relatively small fluctuations in the nominal yen/dollar exchange rate since the early 1990s were brought about not by chance but because a narrow band implicitly set by the monetary authorities has been maintained by official intervention or other actions.

My view is different in this area. I will not step into the issue of the effectiveness of currency market intervention since the BOJ as an agent of the government has been in the market quite recently. I will only say that the exchange rate movement has often been a puzzle and a concern as we endeavor to stabilize activity and prices. But anyway, I can not really agree with the view that Japan's monetary authorities have successfully controlled the exchange rate as they liked. Even in the 1930s, when substantial depreciation was one of the main driving forces behind economic recovery in Japan, such depreciation appears to have been a result of none other than market forces, because in those days specie reserve stood at only ¥500 million at end-1931, the year when our country shifted from the gold standard to a floating rate regime. In this regard, the existence of massive net foreign assets of about ¥180 trillion should make it rather difficult for Japan to induce 1930s-type yen depreciation. In addition, in reality we are facing extremely low interest rates with short-term rates at zero and long-term rates barely exceeding 1 percent. If the BOJ tries to lower the value of the yen in this situation, then it has to change market participants' expectations not by changing domestic interest rates, which is impossible, but by actually purchasing sufficiently large amounts of foreign currency assets, and thus delivering the Bank's strong commitment to yen depreciation. Some might think that such a commitment would be fine, and say that all the Bank needs to do is to continue providing monetary base in exchange for purchasing foreign currency assets until the yen starts depreciating. In this case, however, the government and the BOJ would have to accept distinct possibility of purchasing literally huge amounts of

foreign currency assets. And if the Bank chose to go one step further to guide the yen rate to a specific level, then I would think that the government and the Bank would have to make a commitment to purchase unlimited amounts of foreign currency assets at that exchange rate level.

Given the important role market expectations play in the formation of exchange rates, the success of such a policy hinges on to what extent market participants give credit to such a commitment. Given the nature of multiple equilibria in the foreign exchange market, it seems to me hard to obtain an answer *a priori*. One might suggest that all we need is just a strong commitment and a credible announcement. However, such an approach did not succeed even in the early 1970s when transaction volume in the Tokyo foreign exchange market was much smaller than now, and many industrialized economies thus abandoned the fixed exchange rate regime.

Even if the commitment of both the government and the Bank were accepted and shared by the market, a free fall of the yen would not be desirable. Experience since the 1985 Plaza Agreement eloquently suggests how difficult it is for the authorities to control the foreign exchange rate once it has gained momentum in a particular direction. Can we maintain the foreign exchange rate at a certain desirable level without overshooting? In a phase of overshooting in the direction of depreciation, the central bank must be prepared to sell unlimited amounts of foreign currency in order to contain the market. However, different from selling domestic currency, the unlimited selling of foreign reserves is, in principle, an impossible task. It could be that I am talking about rather extreme cases, but to be worried about the extremes is third nature of central bankers.

Another issue here is the desirable degree of depreciation in order to achieve price stability. Our macroeconomic simulations tell us that a 10 percent depreciation of the yen is estimated to push up the domestic price deflator by some 0.5–1 percentage points in a matter of few years. Such an estimate is not limited to the case of Japan. Similar estimates are obtained, I understand, in the case of the U.S. economy using the Federal Reserve Board model. The estimate implies that if Japan wants to realize a price level 2 percent higher than today in three years through depreciation of the yen alone, the necessary degree of depreciation would presumably be as substantial as that in the 1930s. True that such substantial depreciation would have a reflationary effect on the economy, and thus might provide ground for those who advocate depreciation as a gospel for the troubled economy. However, large-scale depreciation comparable to that in the 1930s is not likely to be accepted in the current environment. Such a policy would no doubt ignite criticism by our trading partners as a beggar-thy-neighbor policy.

One might suggest that, since income effects stemming from the depreciation of the yen would outweigh substitution effects over time, Japan should aim at depreciating the yen in view of its responsibility in the global economy. Suppose that benefits stemming from income effects are significantly large over time even for neighboring countries. Aside from the measure of uncertainty over such medium term consequences, I think we go back to the same question. The sharp depreciation of the yen necessary for such effects would create serious economic friction with our trading partners in the short run. And since the economy cannot reach long-term

equilibrium without going through short-term equilibrium, the barrier induced by short-term friction might be high indeed. If such friction was brought about as a result of policies including intervention rather than as a result of market forces, then it would risk the overall credibility of Japan's economic policy by triggering criticism of violating the International Monetary Fund Article IV. The potential cost appears to be large not only for Japan but also for the global economy as a whole by threatening the stability of exchange rate regimes and disturbing global transactions in goods, services and capital.

Let me quickly conclude. My observations so far will naturally lead to an unexciting conclusion: Not only for Japan but for other countries, exchange rate determination should be left in the hand of the markets, like it or not. And that includes the unique situation that we are facing in our country. In other words, we do our best by mobilizing monetary policy instruments to achieve domestic price stability and accept the consequences in the exchange market. Saying so is not totally inconsistent with efforts to moderate sharp swings in the rates by market intervention. But I'm still negative to a deliberate and sustained attempt to induce large currency depreciation by policy actions.

Reference

Svensson, Lars E. O., "The Zero Bound in an Open Economy: A Foolproof Way of Escaping from a Liquidity Trap," *Monetary and Economic Studies*, 19 (S-1), Institute for Monetary and Economic Studies, Bank of Japan, 2001, pp. 277–312.

General Discussion

I. Exchange Rate Regimes and Monetary Policy

The following views were expressed concerning appropriate exchange rate regimes: (1) views supporting floating exchange rate regimes; and (2) views stating that, under certain conditions, it was necessary to act directly on foreign exchange markets, and that fixed exchange rate regimes were worth considering when domestic prices were seriously affected by external shocks.

Michael Reddell (Reserve Bank of New Zealand) asserted that floating exchange rate regimes, while far from optimal or comfortable, were inevitable in democratic societies under the current conditions of capital account liberalization, in view of the apparent reluctance of societies to live with the adjustment costs of maintaining fixed rates. Linda S. Goldberg stated that, although she favored floating rates, the proper choice of exchange rate regimes alone could not solve all the problems, and that it was important to implement systemic reforms that would improve the market's adjustment functions. Similarly, Thomas M. Hoenig (Federal Reserve Bank of Kansas City) stated that, while he favored floating rates for their shock-absorbing capacity, appropriate policies also needed to be implemented in the following

areas: (1) monetary policies based on inflation targeting; (2) prudential policies; and (3) fiscal policies.[6]

Commenting on monetary policies under floating exchange rates, Roger W. Ferguson, Jr. emphasized the importance of promoting higher credibility of policies by achieving greater transparency in monetary policy and by adopting inflation targeting (in countries other than the United States). Hans Lindblad (Sveriges Riksbank) stated that, while foreign exchange fluctuation is only one of the determinants of the rate of inflation, it is important in the conduct of monetary policy to distinguish between permanent and transitory foreign exchange fluctuations, because this has a major impact on prices and the monetary policy transmission process. Nigel H. Jenkinson agreed with this point and went on to argue that quantitative analysis and policy decisions should not be made using models that do not consider the following factors: (1) the uncertainty involved in the transmission mechanism linking foreign exchange rate fluctuations to domestic prices; (2) the role of expectations, including how foreign exchange rate fluctuations affect corporate pricing behavior; and (3) the types of shocks generated by foreign exchange rate fluctuations that could require different monetary policies.

Skepticism concerning floating exchange rate regimes included the comments of Masahiro Kawai, who argued that, while floating exchange rates had the advantage of reducing risks of currency crises, they could produce large exchange rate volatility and prolonged currency misalignment, and that exchange rate stability was of particular importance to small economies with high trade dependence, and economies with poorly developed financial markets. Pierre van der Haegen argued that intermediate regimes still have a useful role to play when seen in a regional integration perspective, pointing for example to the case of accession countries, planning at some point in time to join the European Union (EU) and thereafter to adopt the euro. Ismail Alowi also emphasized the importance of exchange rate stability for countries with small, open economies and shallow foreign exchange and financial markets. Werner Hermann argued that the important point was not whether a country was a small or large open economy, but that emerging economies were unfortunately prone to external shocks and that desirable policies were in themselves difficult to pursue. Finally, Richard W. Kopcke (Federal Reserve Bank of Boston) questioned the sustainability of fixed exchange rates by small countries whose real assets are concentrated in relatively few industries. When their industries suffer setbacks, the shadow price of their currencies often falls sharply as the value of their assets falls—investors who sell or hedge their claims on these assets also sell the currency.

Responding to these discussions, Maurice Obstfeld expressed the view that it might be desirable for very small and open economies, with high pass-through of exchange rates to the consumer price index (CPI), to adopt dollarization or to join a currency union. Allan H. Meltzer stated that the choice of exchange rate regime

6. Building on the "managed floating plus" proposal of Morris Goldstein, which calls for the combination of inflation targeting and aggressive measures to reduce currency mismatches, Hoenig presented an argument emphasizing the importance of prudential policy and fiscal policies that he called "managed floating plus, plus, plus." For the details of Goldstein's proposal, see Morris Goldstein, *Managed Floating Plus*, Washington, D.C.: Institute for International Economics, 2002.

could not in itself be a solution to economic problems, and that it was important to implement appropriate macroeconomic policies. Referring to Kopcke's statement, Meltzer again argued that small, open economies which are unable to independently implement monetary policies, or whose domestic prices were seriously affected by external factors, should adopt fixed exchange rate regimes or join a currency union.

II. Exchange Rate Regimes and Regional Economies

Referring to the current preference for floating exchange rates in the Americas and the continuing suppression of exchange rate fluctuations in East Asia, Vittorio Corbo argued that, in light of past experiences with currency crises, it was more desirable for East Asian countries to make the transition toward floating exchange rates with a nominal anchor. Kawai responded that, given the high level of economic interdependence among the countries of the East Asian region, it was particularly important to focus on the benefit of the intra-regional stability of exchange rates. Obstfeld drew attention to the importance of spillover effects in regional economies, citing recent experiences in South America where Argentina, with its currency board system, was unable to effectively respond to Brazil's devaluation, thus resulting in serious problems.

Referring to the crisis in Argentina, Jürgen von Hagen argued that Argentina's currency board system should be evaluated more carefully, taking into consideration the (pre-crisis) period of good economic performance. Von Hagen then posed the question of whether any viable options existed for Argentina other than the currency board system. Responding to this query, Obstfeld noted that the Argentine economy contained serious potential problems that had existed before the crisis, and that Argentina might have suffered a crisis much earlier if not for some good luck. Meltzer offered the following analysis. The International Monetary Fund's (IMF's) support not only postponed the realization of the political and fiscal risks inherent in the Argentine position that "fiscal expenditures cannot be reduced under any circumstance," but also delayed efforts to resolve this problem. Consequently, young and skilled segments of the population emigrated, leaving a situation that will inevitably deteriorate further in the future. Meltzer concluded that the adoption of the currency board system was unable to resolve this essential problem. The following comments were made concerning lessons to be learned from the crisis in Argentina. Corbo argued that systems that render it difficult to undertake changes in an exchange rate regime should be avoided. Ferguson and von Hagen reiterated the importance of exit strategies.

The following questions concerning Europe were submitted for discussion. First, von Hagen asked whether, in view of the importance of political factors in the choice of exchange rate regimes, the implication was that European Monetary Union (EMU) was not sustainable because European political integration remains to be achieved. Lindblad raised the question of fiscal policy management in a common currency area and asked whether fiscal policy should be subject to certain rules when responding to a specific shock occurring within one of the member countries.

Responding to these questions, Meltzer argued that it was important to develop policy measures which can substitute for the foreign exchange adjustment mechanism lost through formulation of a common currency area. Ferguson also pointed out that, in addition to the automatic stabilizing effects of fiscal policy, it was important to develop adequate flexibility in the market so that shocks could be absorbed by the common currency area as a whole, a point also supported by van der Haegen.

III. Japanese Monetary Policy

Responding to Yutaka Yamaguchi's statement that exchange rate fluctuations should be left to be adjusted by the markets, Meltzer explained that, while he supported this position as a general principle, the principle was not currently applicable to Japan, with its zero interest rates. Meltzer proceeded to present the following argument. (1) Because of population decline and declining productivity growth, Japan's potential economic growth rate would inevitably fall below that of the United States. Hence, the yen's real exchange rate would have to depreciate. (2) Real depreciation can be achieved through either a drop in domestic prices or foreign exchange depreciation. Of the two options, the latter option would have a smaller impact on real economic activity. Because an economy with a zero interest rate is left with little room to lower its nominal interest rates, the disequilibrium in the real exchange rate cannot be easily rectified. Consequently, Meltzer concluded, it becomes necessary for the monetary authorities to intervene in the foreign exchange market to bring the market back into equilibrium.

Obstfeld expressed support for Lars Svensson's proposal that, under zero interest rates, temporary weakening of the yen in real terms might be welcomed if Japan's economic recovery had a positive impact on neighboring countries. Commenting on the econometric simulations introduced by Yamaguchi showing that the depreciation of the yen had only a minor impact on raising domestic price levels, Obstfeld noted that the impact of depreciation may have been underestimated as a result of sterilization of foreign exchange interventions, or (even in the absence of sterilization) the recent deflationary trends may have canceled out the upward pressure on prices generated by the weaker yen. Obstfeld concluded that foreign exchange policies were effective and that depreciation of the yen would have definite results. Commenting on Yamaguchi's concern that a deliberate weakening of the yen would be viewed as a beggar-thy-neighbor policy, Obstfeld noted that a temporary weakening of the yen would be welcomed because of the positive impact of Japan's economic recovery on neighboring countries.

Kawai commented on the Bank of Japan's (BOJ's) sterilization of foreign exchange intervention (qualifying his comments to be his own personal views). Kawai first expressed the view that non-sterilization that allows intervention funds—yen liquidity—to be added to monetary base would indicate the BOJ's support for intervention, and would affect market participants' perception of the authorities' policy stance. He pointed out that a number of experts have suggested that, under the current zero interest rates, the adoption of inflation targeting would signal a regime change.

Kazuo Ueda, chairperson of the session, made a few remarks in response and elaborated them further in his final remarks. These are summarized in his final remarks below.

Roberto Rinaldi responded to Yamaguchi's question of whether it is appropriate to manipulate the foreign exchange rate, from among a broad range of asset prices, for purposes of monetary policy management. Rinaldi argued that the advantage of targeting the foreign exchange rate is (as pointed out by Svensson) that it affects inflation expectations, and that this is an efficient method for achieving negative real interest rates. This was followed by the question concerning where the BOJ believed the equilibrium real interest rate to stand at the current time. Meltzer argued that the monetary authority's declaration of a desirable foreign exchange rate could be expected to have an announcement effect. Obstfeld stated that he could not agree with Meltzer's argument that the mere declaration of a desirable foreign exchange rate by the monetary authorities would generate an announcement effect. He went on to explain that this is why a temporary commitment to fixed exchange rates, as contained in Svensson's proposal, was necessary. Obstfeld finally noted that the Svensson method generated two impacts: the direct impact caused by the lowering of real interest rates, and a secondary (and impolite to mention) impact of lowering the real value of (government and corporate) debt by generating inflation.

The discussion once again returned to the estimates cited by Yamaguchi showing that the depreciation of the yen had only a minor impact on raising domestic prices. Stefan Gerlach argued that the simulation results perhaps were not robust because the impact of a weaker yen on domestic prices would be affected by the degree of misalignment in real exchange rates at the initial point.

Yamaguchi commented that suggestions for guiding the value of the yen downward should be directed to the Ministry of Finance (MOF) because, under Japan's institutional framework, the BOJ intervenes in the foreign exchange markets essentially as an agent of the government. Yamaguchi went on to state that a policy for depreciating the yen has not been adopted for the following reasons: a commitment to a cheap-yen policy would require the MOF to commit itself to unlimited intervention; and it would be difficult to convince Japan's trading partners to accept and support a weaker yen. Yamaguchi continued as follows. It is difficult to actually identify the equilibrium level of real interest rates. The BOJ has seriously considered the adoption of inflation targeting, but it concluded that it would be difficult to induce a change in the public's expectations for the following reason: under current conditions where nominal interest rates cannot be lowered any further, announcing the introduction of inflation targeting would not be credible.