
Discussions of the Monetary Response

Bubbles, Liquidity Traps, and Monetary Policy

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Monetary policy has been rather boring in most OECD countries since the mid-1980s. This is largely the price of (earlier) success: Inflation started low, fluctuations in demand were limited, and steady-as-you-go policy turned out to be all that was required. Not so in Japan, where the central bank has had to confront two of the toughest issues of monetary policy: how to react to asset bubbles and their aftermath, and more recently what to do when interest rates have already been reduced to zero. The essay by Jinushi, Kuroki, and Miyao, which focuses on the past, forces us to revisit the first issue. The essay by Bernanke, which focuses on current policy, forces us to think about the second. Let me take each one in turn.

Bubbles and Monetary Policy

How monetary policy should react to bubbles is clearly of more than historical interest. We now have one and a half experiments, the Japanese one, and the US one on the way up. What remains to be played out is the US one on the way down. It is an understatement that this may not be a bad time to assess the lessons from the Japanese full experiment.

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Let me start by making the world much simpler than it is. Assume that the central bank knows there is a bubble in the stock market, and that the price of stocks exceeds fundamentals. In other words, ignore the fact—a fact painfully clear in current discussions of the US stock market—that, no matter what the level of the stock market, things are never that clear, at least ex-ante. (Ex-post, I do not know of an economist who argues that the stock market increase in Japan in the late 1980s reflected fundamentals.) I shall return to this issue below. Assume also that bubbles eventually come to an end, and prices return to fundamentals, often abruptly.

The question is then: What should the central bank do? Let me go at it step by step.

In an important and influential paper, Bernanke and Gertler (1999) made the following argument: If the central bank is conducting the right monetary policy, then the existence of a bubble should not lead it to change the way it conducts policy. More specifically, they argued, if monetary policy is aimed at inflation targeting, such a policy will deliver the best outcome, bubble or no bubble.

The intuition underlying their argument is simple and powerful—and, indeed, reflects the attractiveness of inflation targeting as a monetary policy rule: Maintaining inflation, current and expected, at a constant level is in effect the same as maintaining output at its natural level. So, if the bubble leads to an increase in demand, and this in turn leads to an increase in output above its natural level, inflation will increase, leading the central bank to tighten policy—exactly what it should do under the circumstances. If instead the bubble leaves demand unaffected, then monetary policy will be unchanged—again, exactly what it should be under the circumstances.

This is an attractive answer. It is surely an attractive answer from the viewpoint of the central bank: Having to respond to bubbles is likely to be unpopular with financial investors. Much better to be able to say that the central bank only concentrates on inflation. It may also be the best first-pass answer: One can think of many worse policies, including perhaps that pursued in Japan in the late 1980s (again, more on this below). Yet, it may not be the best answer, for at least two reasons.

The first reason is composition effects. Suppose that the bubble affects some components of spending more than others. To be more concrete, suppose that the bubble leads to an increase in investment in publicly held firms, relative to the rest of aggregate spending. Is this a reasonable assumption? I think so. Let me elaborate a bit.

The question of what firms should do when they perceive that their stock is overvalued is a difficult one. (See Blanchard, Rhee, and Summers 1993 for a discussion and some empirical evidence.) One answer is that firms should issue shares and use the proceeds not for capital accumulation (which drives down the marginal profit rate) but rather to buy assets

such as government bonds. However, such behavior by firms is likely to put the financial investors on edge, and prick the bubble. So firms may well increase investment beyond what is justified by fundamentals when there is a bubble. The empirical evidence suggests that this is indeed what typically happens.

This is only half of the argument. Even if investment goes up, consumption may go up as well. Consumers' wealth is higher, and it is reasonable for consumers to want to increase consumption. As I read it, the evidence is that the increase in the stock market in the United States in the 1990s indeed boosted consumption given income, but not quite by as much as traditional estimates of wealth effects might have suggested. So let me proceed on the assumption that investment is more affected by the bubble than the rest of spending. Indeed, for simplicity, let me assume that only investment is directly affected by the bubble. And to remove the ambiguity always present in words, let me use (very simple) algebra here. Let the equilibrium condition in the goods market be given by

$$y = i(r,b) + c(r). \tag{1}$$

The right-hand side gives the demand for goods, which is the sum of investment i , itself a function of the interest rate, r , and the bubble, b , and noninvestment (everything else, but call it consumption for simplicity), c , which is only a function of the interest rate r . It would change nothing but also add nothing to include output as a determinant of both i and c . The left-hand side is output. The equilibrium condition is that output equals demand.

In response to the bubble, the central bank can then pursue one of two policies (or a policy in between). It can target inflation or, equivalently, try to achieve constant output, constant y , by increasing the interest rate in the face of the bubble. But such a policy clearly comes with a change in the composition of output. Output, y , may be constant. But investment, i , is higher, and by implication consumption, c , is lower. In other words, on the way up, the bubble leads to excessive capital accumulation.

It can instead target investment, making sure that there is no excessive capital accumulation. This implies increasing the interest rate so i , not y , remains constant. This policy is clearly more aggressive than the first, and generates a recession: Investment is the same, but because of high interest rates consumption is lower, and so are demand and output.

Which strategy should the central bank pursue? The first strategy is the one recommended by Bernanke and Gertler (1999). It keeps output stable as the bubble grows. But it may imply a very unpleasant aftermath once the bubble has crashed—a lot of useless capital, serious collateral problems for firms, and thus a potentially low natural level of output for some time after the crash (the higher capital stock, and the collateral

problems, work in opposite directions here).¹ The second strategy targeting investment avoids this problem. But it does so at the expense of tighter monetary policy and thus lower output as the bubble grows.

Admittedly, the choice facing the central bank is not pleasant. But this is not the point. The point is that the right strategy is likely to be somewhere in between the two pure strategies, that is, to tighten money more in the presence of a bubble than is implied by inflation targeting.

The reason the central bank faces an unpleasant choice is a very standard one: It has one instrument, namely r , in the presence of two targets, y and i . This characterization of the choice may be too stark, for at least two reasons.

First, there is at least one other instrument at the government's disposal: fiscal policy. Together, loose fiscal policy and tight money can achieve the desired outcome. The need for the combined use of the two instruments is a recurrent theme in macroeconomic textbooks, even if it has taken a back seat in current policy discussions.

Second, the discussion takes as given that the bubble b has a life of its own, independent of the stance of monetary policy. But this is surely wrong. Bubbles, by definition, are not based on fundamentals, but on animal spirits. And there are good reasons to believe that the stance of monetary policy can excite or dampen these spirits.

If Alan Greenspan stated that a reasonable level for the Dow Jones was 8,000, and that he was willing to move the interest rate so as to get there, few of us doubt the stock market would tumble down, even in the absence of any change in the interest rate. (This is not a recommendation to the Federal Reserve, for reasons to be discussed below.)

This suggests that his announcement of a policy that bubbles will be dealt with harshly might prevent the emergence of such bubbles in the first place. If this were truly the case, then the central bank, by announcing a differential response to inflation and to bubbles, could achieve both of its goals: an output level equal to the natural level and no bubble (and, by implication, no distortion). This is surely too optimistic a view. But it suggests that announcing that monetary policy will react to bubbles may have substantial benefits and few costs.

It is important to note at this point that the two arguments I have presented are not about "pricking bubbles" but about preventing their emergence. An analogy to inflation and inflation targeting is relevant here. Reducing inflation when it is high is difficult and painful. This is not what inflation targeting is about; inflation targeting is a way of avoiding high inflation in the first place. Similarly, pricking a large bubble is difficult—and surely much more uncertain than reducing inflation. This

1. A very nice discussion of what may happen in general, and of what happened in Japan after the crash, is given by Fleming (1999).

is why announcing today that the right value for the Dow Jones is 8,000 would be a highly dangerous move. Just as for inflation, this is not what is proposed here. What is proposed is a policy designed, if not to prevent bubbles, at least to prevent them from becoming too big.

This last argument, however, takes us back to the initial assumption—that bubbles are easily identifiable. In fact, bubbles are hard to identify, even when they have gone on for a while and appear very large. This is a fortiori true when they are younger and smaller. So how can the advice above be translated in a world where the central bank never knows for sure whether fundamentals or nonfundamentals are at work? Quite simply, I think it translates into an additional term in the Taylor rule.

Write the standard Taylor rule as

$$(r_i - r_n) = \alpha_\pi(\pi - \pi^*) + \alpha_y(y - y^*), \quad (2)$$

where r is the real interest rate, and r_n is the natural interest rate (the rate of interest consistent with output being at the natural level), π and π^* are actual and target inflation, and y and y^* are the actual and natural levels of output. The discussion above suggests introducing an additional term $\alpha(P/E) - (P/E)^*$, namely, the deviation of the price-earnings ratio from what can be called the natural price-earnings ratio, on the basis of expectations about the growth of earnings and the required rate of return on equity. Other things being equal, if the P/E ratio is too high, the central bank should increase the real interest rate; if it is too low, the bank should decrease the rate.

One natural objection at this point is that the central bank knows little about the “natural P/E ratio.” The point is well taken, but it applies to at least two other components of the Taylor rule: How much does the central bank know about the natural interest rate, and about the natural level of output? The issue of having to know the right natural interest rate is typically finessed by replacing r_n by a constant in the specification of the rule. But this is not satisfactory. A rule aimed at the wrong natural rate could be very bad for the economy in the long run. And, in Europe or in Japan today, reasonable estimates of the natural level of output cover a wide range of output values. In other words, constructing an estimate of P/E^* based on the long-run warranted rate of growth of earnings and an estimate of the required rate of return on stocks is no different from constructing estimates of r_n^* or y^* . In this sense, the subliminal message sent by the apparent simplicity of the Taylor rule is misleading: Monetary policy is not so easy.

In much of this discussion, I obviously had the current stock market boom in the United States in mind. But, on the basis of this discussion, let me now return to Japan. Here, the essay by Jinushi, Kuroki, and Miyao delivers a clear message, and one that I very much believe. The arguments I have developed imply that monetary policy should have been tighter

than implied by inflation targeting on the upside of the bubble, more expansionary on the downside. The evidence is that the opposite happened. Jinushi and colleagues show that there was a “delay in restraint” in 1987-88, and “insufficient restraint” in 1990, and then “delay in easing” from 1992-95. (This confirms the empirical results in Bernanke and Gertler 1999.) This will not come as a great surprise; Japanese monetary policy made the bubble and its aftermath worse than they could have been. Unfortunately, one cannot rule out the possibility that the outcome will turn out to be similar in the United States.

Liquidity Traps and Monetary Policy

Turning to current Japanese monetary policy, I find myself very much in agreement with the arguments presented by Bernanke in his essay for this volume. Even at zero short-term interest rates, there is plenty that monetary policy can and should do. Let me develop four points in turn.

One of the major macroeconomic issues in Japan is how much of the poor performance in the 1990s was the result of a decrease in the natural level of output (due to the poor state of financial intermediation, etc.), and how much to a deviation of output below this natural level.

I fully agree with Bernanke that the old method of looking at what is happening to inflation is still the right way to proceed, at least as a first pass. The Phillips curve wisdom remains largely true in modern treatments of the determination of prices, wages, and output: If output is above its natural level, then we are likely to see inflation increase. If it is below, inflation is likely to decrease. As inflation is slowly decreasing today in Japan, this strongly suggests that output is below its natural level.

One caveat is in order here. Part of the lore of macroeconomics is the story of how the increase in inflation in the 1970s changed the Phillips curve relation from one between the unemployment rate (or equivalently, and more relevant in the case of Japan, the output gap) and the level of the inflation rate to one between the unemployment rate and the change in the inflation rate. In Japan and elsewhere, we may now be seeing the same process in reverse. Low and fairly stable inflation may well be shifting the way people form expectations of inflation, and shifting the relation back to one between the output gap and the level of the inflation rate. Put another way, low inflation rather than declining inflation may in the current context be the signal that output is too low.

I also fully agree with the point first made by Krugman (1999), and developed by Bernanke, that, even with zero nominal interest rates, monetary policy can still affect long real rates, and thus aggregate demand and output.

Let me use a bit of algebra here. If we look at an economy in which nominal rates are approximately equal to zero, the expectations hypothesis

implies that the T -year nominal interest rate (yield to maturity on a T -period coupon bond) is approximately equal to the unweighted average of current and future 1-year rates:

$$i_T \approx \frac{1}{T} \left[\sum_1^T i_{1t}^e \right], \quad (3)$$

where i_T is the T -year nominal rate, and i_1 is the 1-year nominal rate. By implication, the T -year real interest rate, r_T is given by

$$r_T \approx \frac{1}{T} \left[\sum_1^T i_{1t}^e - (\log p_T^e - \log P_0) \right], \quad (4)$$

where P_0 is the price level today, and p_T^e is the price level expected T years from now. This relation implies that, for a given sequence of expected nominal interest rates, an increase in p_T^e translates $1/T$ for 1 in a decrease in the long real rate today.

So suppose the central bank wants to decrease the 10-year real rate by, say, 200 basis points. All that is needed is for it to convince markets that the price level 10 years from now will be higher by 20 percent. Equivalently—if we take for granted that, eventually, changes in money translate into proportional changes in the price level—all that is needed is for it to convince markets that money growth will be cumulatively higher over the next 10 years by 20 percent.

How does it achieve this change in expectations? In this context, many economists have advocated the use of inflation targeting by the Bank of Japan. If initial expectations are that inflation is likely to run at 0 percent on average for the foreseeable future, the announcement that the Japanese central bank is targeting an inflation rate of 2 percent a year for the next 10 years should in principle be enough to decrease the long-term real rate today by 2 percent. In practice, however, financial markets tend to believe deeds more than words. Thus, an alternative strategy may be to increase the stock of high-powered money today by, say, 20 percent, and commit not to reverse the increase in the future. Given the initial increase, the commitment not to reverse may be more credible than just an inflation target.

This use of monetary policy has often been presented as rather exotic, perhaps too exotic to be relied on. Krugman's (1999) "responsible irresponsibility" presentation of the case as the need for the BOJ to engineer more inflation, while conceptually right, may have been counterproductive here. In fact, this use of monetary policy is far from exotic. Indeed, one can argue that monetary policy works mostly—entirely?—through its effects on expectations.

If, when the federal funds rate changed in the United States, financial markets did not expect this change to last for some time, the change

would barely affect the term structure of interest rates. It is only because financial markets expect the change in the federal funds rate to last for some time—or even, as is typically the case these days in the United States, to signal further changes to come—that the term structure is so strongly affected by monetary policy. Expectations are crucial. The only thing specific to Japan today is that the emphasis is not on changes in future expected nominal interest rates, but on the expected future price level. This is not an essential difference.

A very similar argument applies to the effect of monetary policy on the current nominal—and by implication on the current real—exchange rate.

Again, let me start with some basic algebra. Assuming the interest parity condition holds, solving it forward gives

$$e = \left[\frac{(1 + i_T^*)^T}{(1 + i_T)^T} \right] e_T^e, \quad (5)$$

where i_T is the T -period domestic nominal interest rate, i_T^* is the T -period foreign nominal interest rate, e is the nominal exchange rate, and e_T^e is the nominal exchange rate expected to prevail T years from now. The nominal exchange rate today depends on the T -year domestic and foreign rates, and on the nominal exchange rate expected 10 years from now.

Much of the focus has been on the implied relation between domestic nominal interest rates and the nominal exchange rate. The traditional way to engineer a depreciation and thus to increase demand and output is to decrease the domestic interest rate, leading to an increase in e , and thus to depreciation today. This is the channel that is not available to Japan at this stage: The BOJ has decreased i_T roughly as far it can go.

This does not mean that monetary policy cannot affect the exchange rate. To see why, one needs to shift the focus to the relation between the exchange rate today and the exchange rate expected T years from now. Note the implication of the above relation: Given domestic and foreign interest rates, a change of x percent in the expected exchange rate T years from now will be reflected, no matter what the path of interest rates, and no matter what T is, in a change of x percent of the nominal exchange rate today.

If we believe that relative purchasing power parity holds in the long run (i.e., if we believe that, for T large enough, the nominal exchange rate eventually reflects changes in the price level), then all the central bank has to do is to convince markets that the price level will be higher than they anticipated. If it can convince markets that the price level 10 years from now will be 20 percent higher than they expected, then the yen will depreciate today by 20 percent. How does it do that? This leads us back to the previous discussion, and to the same answer: This is probably best

achieved through a combination of inflation targeting and a current large increase in the stock of high-powered money.

There is one interesting difference between the long-term real rate and the exchange rate channels, however. In an economy without indexed bonds, the decrease in real interest rates will not be directly visible. But the decrease in the nominal exchange rate will. This will allow both the central bank and financial markets to assess the credibility of the new policy, and help them assess in the future.

One last point. I have a much less positive view of measures aimed at changing relative interest rates (say, rates on corporate bonds relative to government bonds) through changes in their relative supply. If done through open market operations, in which the central bank buys, say, commercial paper rather than government bonds, the amounts are likely to be much too small to make any significant difference. The ratio of high-powered money to GDP in Japan is about 12 percent. Thus even a change of 20 percent of high-powered money represents a change equal to only 2.4 percent of GDP. With a ratio of government bonds to GDP approaching 100 percent in Japan, whether the increase in money is used to buy short- or long-term government bonds is unlikely to make much difference to their relative equilibrium rates of return. To make a difference would imply either letting the central bank be very long in some securities and very short in others, or letting the money supply change by truly enormous magnitudes. Such a policy is neither desirable nor necessary.

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The Political Economy of Deflationary Monetary Policy

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For the past 20 years, both academic and practical discussions of monetary policy mostly have been about how to keep central banks from allowing *too much* inflation. Modern theoretical approaches to monetary policy emphasize the time-inconsistency problem for central banks—because central banks get a short-term real output gain from surprise inflation, commitments to low inflation will not be believed by the public, and thus inflation expectations will rise. Recent empirical academic studies of central bank independence, exchange rate pegging, inflation targeting, and simulated “policy rules” all have stressed the importance of different central bank strategies and institutional arrangements in explaining cross-national variation in average inflation levels.

In the realm of practice, developing-country central banks have spent much of the past two decades in the IMF-advised pursuit of monetary stabilization, while central banks in the industrial democracies have been consolidating their long and costly victories over the relatively high inflation that began in the 1970s. In the end, stabilizing inflation expectations at low levels in the OECD countries proved a little easier than the theoretical literature might have led one to expect, but getting central banks to keep down inflation and inflation expectations was still seen as the hard part of monetary policy.

Then one comes to the Bank of Japan (BOJ) in the past decade. Suddenly, the problem is not keeping inflation from rising, but how to keep the price level from falling; suddenly, the responsible academic and practicing monetary economists are not criticizing a central bank for being too lax with regard to inflation, but for being too tough. And as the essays in this volume by Jinushi, Kuroki, and Miyao and by Bernanke make clear—as do a host of other recent publications, including Bernanke and Gertler (1999), Krugman (1999), Posen (1998b), and Svensson (1999)—the BOJ by all recognized standards has been too tough on inflation, and on the Japanese economy, during this period.

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Prices have been falling for 3 years, and are continuing to fall on most measures, while unemployment is rising, and both growth and the yen-dollar exchange rate have been allowed to languish at unfortunate levels (the first too low, and the second too high). This is the paradigmatic case for looser monetary policy, when growth is below potential, and labor and capital are underemployed, in part because prices are falling. Except for a couple of quarters in Switzerland in the 1980s and Canada in the 1990s, both of which met rapid responses by their central banks, no other industrial democracy has allowed deflation to occur since the Great Depression.

The interesting question is one of political economy: Why? Why is the BOJ pursuing this deflationary policy when everything would lead us to expect that a central bank would want to (at a minimum) stabilize the price level? Why is the BOJ able to get away with such a policy politically when the bulk of political economy research on monetary economics in the past 20 years has been about how difficult it is for central banks to oppose calls for inflation?

In their essays in this volume, Bernanke and Blanchard both make it quite clear that the BOJ, or for that matter any central bank, can create inflation if it wants to do so (an idea that history should have made an easy sell to objective observers). In their essay, Jinushi, Kuroki, and Miyao demonstrate that at one time the BOJ was reasonably typical of OECD central banks in its behavior, taking both output and inflation goals into account (if, to a salutary degree, a little above average in its opposition to inflation). In his essay, Shafer, to my mind, convincingly rebuts the claims in this volume of Sakakibara that Japanese monetary policy was determined by US mercantile and political pressures through the exchange rate.

So why is the BOJ refusing to reflate the Japanese economy, and in fact raising interest rates in the absence of inflationary pressures?¹ The officials of the BOJ have offered several reasons, as have the authors of the essays in this volume, and I will now review them. The existence of such a very large number of explanations for a clear and consistent policy strategy is itself an indicator that the actual motivation is not evident, and that the supposed reasons offered are not terribly convincing.

Economic Excuses

The first category of reasons to consider for the BOJ's willing acceptance of deflation is the purely economic, that is, reasons based on arguments that the BOJ is optimizing a reasonable objective function over macroeco-

1. On 11 August 2000, the BOJ's policy board voted to raise the overnight money market rate from 0 to 0.25 percent. This was the first time in 10 years that the BOJ raised interest rates.

conomic variables, but that external constraints limit it. A first reason is the BOJ's repeated claims that it is bound by its mandate for "price stability" to keep inflation at bay at (almost) all costs. As pointed out in Posen (1999), no postwar central bank has treated any similar mandate as literally binding them to a policy of zero-measured inflation.

In fact, the two arguably most successful central banks of the post-Bretton Woods era, the Deutsche Bundesbank and the Swiss National Bank, explicitly targeted 2 percent measured inflation as their long-term goal consistent with practical price stability, and flexibly altered this goal in the face of difficult shocks.² Certainly, as Jinushi, Kuroki, and Miyao demonstrate, in keeping with the earlier work of Ueda (1997) and Cargill, Hutchison, and Ito (1997), the Japanese economy had both better overall performance and—for all practical purposes—price stability when the BOJ took its mandate a little less literally.

The remaining economic explanations must rely on claims that something has changed in Japan during the past decade to justify the BOJ's policy stance. It is therefore worth stressing just how striking is the evidence of a large shift in Japanese central bank behavior, whatever the surrounding conditions. The results of Jinushi, Kuroki, and Miyao's research—that the BOJ became much more "conservative in the 1990s" (in the sense of Rogoff 1985), putting a far greater weight on inflation relative to output goals—are extremely robust. The authors use the two different methods that are standard in the literature for assessing a central bank's behavior: estimating a Taylor-rule central bank policy reaction function on output and inflation, testing for structural breaks in the relative weights on the goals³; analyzing narrative accounts from the central bank's own statements, and searching for the coincidence of shifts in the narrative with structural break(s) in the time-series behavior of monetary and macroeconomic aggregates. Both give clear indications of a shift toward counterinflationary conservatism in 1987. Bernanke and Gertler (2000) and Kuttner and Posen (2000), using similar but not identical methods, independently come up with the same break point in BOJ behavior, showing a shift toward greater conservatism.

Of course, such a large shift in central bank behavior itself influences the economy, however much it may be a reaction to prevailing economic conditions. In making monetary policy decisions, the placing of such a high relative weight on current inflation levels at the expense of real output predictably has led to greater output and exchange rate volatility

2. See Bernanke et al. (1999, chaps. 2-4), for an extended discussion of why central banks should not target zero inflation, and how the German and Swiss central banks anchored inflation expectations even with above-zero inflation targets.

3. I say two methods because I do not believe that there is any meaningful difference between the authors' first exercise of estimating a Taylor rule, strictly speaking, and their third of fitting a Svensson (1997) policy rule to time-series data.

in Japan, as well as to very sticky deflationary expectations.⁴ It is this feedback of tight monetary policy upon the economy that gives the lie to the BOJ's claim that its motivation for the so-called zero interest rate policy (ZIRP) was that it wanted to reflate the economy, but could do no more.

The ZIRP was defined as keeping the nominal overnight money market rate at zero, starting in February 1999, until "deflationary concerns subside."⁵ For more than a year, the BOJ contended that such a policy represented the limit of possibility for looser monetary policy, even if they wanted to go looser. This argument was formalized at length in the working paper by Okina (1999), which Bernanke addresses in his essay, and which was strongly promoted by the BOJ in interactions with English-speaking economists. It later gave way to alternative justifications for the lack of monetary policy response to deflation, which I discuss below.

The problem with this argument by the BOJ is not just its economic absurdity, including conflating real and nominal interest rates, ignoring all nonbank channels of monetary policy transmission (such as the exchange rate), and asserting completely inert inflation expectations in Japan—all of which Bernanke and Blanchard amply make clear. The problem is also that the monetary policy pursued was itself having a predictable (and publicly predicted) deflationary, destabilizing effect on the economy. Contrary to its self-portrayal, the BOJ's policy was not neutral or at its limit, and the Japanese economy was not going its own bad way despite monetary efforts. In fact, as mentioned above, the deflation and real volatility were exactly what any monetary economist would have predicted to be the result of pursuing tight monetary policy at zero or negative inflation in an advanced economy.

It is on this point that I believe Jinushi, Kuroki, and Miyao go astray. In their "Interpretations" section, they ascribe the current problems to both a structural shift in the Japanese Phillips curve and the aforementioned increase in BOJ conservatism. Because they believe that part of the deflationary problem is due to the economic situation itself, they give the BOJ a bit of an out. In their conclusions, this contributes to their skepticism about the wisdom of the BOJ adopting an inflation target under the present circumstances. Yet the worsening of the inflation-output trade-off at single-digit inflation levels is a well-known, well-established regularity. There is also good reason to believe that counterinflationary conservatism

4. Such a limiting case of central bank conservatism is what King (1997) has called the "Inflation Nutter," not expecting any real world central bank to approximate this strategy.

5. See, e.g., Yamaguchi (2000): "Then, in April 1999, the Bank decided to continue the zero interest rate policy until such time that it could be ascertained deflationary concern had been dispelled."

increases the sacrifice ratio of a rise in unemployment for a given drop in inflation.⁶

In short, the flattening of the Japanese Phillips curve in the late 1990s that Jinushi, Kuroki, and Miyao find, along with all the attendant ills of volatility and misery, are directly due to the BOJ—it was the BOJ that knowingly allowed inflation to go below 2 percent in the first place, that kept inflation there, and that had to have known it was increasing the real costs of trying to establish its counterinflationary credibility by keeping inflation there. It was not a condition that the BOJ policy board came upon, forcing a reoptimization, from which a tighter policy resulted *ex machina*.

Some Japanese observers, as well as the BOJ, have attributed part of recent Japanese deflation to structural shifts in the economy brought on by deregulation and recession-induced restructuring⁷ (as opposed to just debt deflation, aggregate demand deficiency, and poor monetary policy, which would seem sufficient cause). Even if such salutary developments were to account for a significant portion of the ongoing deflation, which seems doubtful, they would be *increasing* price and wage flexibility in the Japanese economy, and therefore *steepening* the Japanese Phillips curve (i.e., reducing the sacrifice ratio). That could not bring about the structural shift in the other direction that Jinushi, Kuroki, and Miyao find in their econometric investigations, and that would justify a shift toward tighter policy.

A more sophisticated version of the BOJ-cannot-do-more-than-ZIRP argument emerged in 2000, when the bank found the claims of literal impossibility to loosen were met with incredulity by much of the economics profession (in part following the wide citation of the prepublication version of Bernanke's essay in this volume). This "practical impossibility" view asserted that, although the BOJ or any central bank of course can always engage in expansionary policy, no matter what the condition of the banking system or the level of nominal interest rates, actually to do so would be extremely risky.⁸

6. See Ball (1994), Debelle and Fischer (1994), Akerlof, Dickens, and Perry (1996), and Posen (1998a) for evidence and discussions of why this is the case.

7. BOJ Deputy Governor Yukata Yamaguchi (2000) states: "The current decline in the CPI is partly attributable to such structural changes as those in the distribution system in addition to the appreciation of the yen and the falling prices of consumer durables." As reported in July 2000, "consumer prices in Japan are currently falling at the fastest rate in the last decade. . . . Central bank policy board members argue that much of this is 'good deflation,' but they have yet to produce convincing evidence" (Stephanie Strom, "Convalescing, Japan Debates A Rate Rise," *New York Times*, 5 July 2000, A1).

8. In the words of BOJ board member Kazuo Ueda (1999), "Hence, suggestions have been made to go beyond traditional tools of operations. The list is very long: long-term government bonds, stocks, consumer durables, real estate, foreign exchanges [sic], and so on. . . . Whether central banks can systematically affect the prices of these assets is an old question to which no one has a satisfactory answer. . . . [O]utright purchases of nontraditional assets . . .

It is no doubt true that the BOJ at present would not be able to move inflation as predictably as in the precrisis era because its primary instrument (the nominal overnight interest rate) was at its lower bound, the normal bank channel of monetary transmission was disrupted by financial fragility, and the economy was in such bad shape. Indeed, the BOJ would have to rely on large open-market operations in the Japanese Government Bond (JGB) market and in the foreign exchange market (unsterilized), or on buying large amounts of nonstandard assets for central banks (e.g., private-sector obligations or real estate). And it would be difficult to predict what the necessary size and lags of such purchases would need to be to have the desired effect.

But so what? Just because a policy is difficult to implement precisely does not mean that it carries enormous risks beyond inexactitude, or that it cannot be the best of available alternatives. Remember, doing nothing is not a neutral option for the BOJ—by seemingly sitting tight at the supposed practical limit of ZIRP, the bank is actually choosing to impose deflation, financial uncertainty, and output volatility on the Japanese economy.

Monetary policy often has to be made when there is great uncertainty about the transmission mechanism, and all one can know with confidence is the direction in which one wants policy to move price and credit conditions. This certainly was the case repeatedly in the United States when, in the 1980s, the Federal Reserve had to cope with financial deregulation and the breakdown of stable monetary aggregate relationships and, in the 1990s, the Fed had to deal with structural change that was initially undetectable and always impossible to observe directly. Meanwhile, central bankers in emerging-market economies facing the ongoing conditions of thin markets, frequent shocks, threat of capital flight, forecasting difficulties, and continuous structural change are still required to make policy decisions on a regular basis.

As for the risks of the BOJ pursuing “nonstandard” operations, they cannot be specified because they are difficult to imagine on a purely economic basis. Bernanke, Blanchard, and Kashyap make clear in this volume that practical matters—such as the BOJ’s balance sheet and capital position, the taboos on purchasing JGBs, the need to coordinate with the Ministry of Finance on foreign exchange intervention, and the potential for “beggar thy neighbor” effects from a yen devaluation—are all essentially trivial and can be dealt with if the BOJ has the will to do so. And these

generate various types of costs for the central bank and for the economy, some of which we may not be aware of and most of which are not explicitly dealt with in formal models economists use. These costs certainly ought to be weighed against possible benefits of the operations before any decision is made. I hope we will not be the one to make such a risky decision.”

are the concerns that BOJ officials raise in discussions with monetary economists, including central bankers, around the world.

Yet the most senior officials at the Bank have engaged in nothing short of scaremongering to the general public and to markets that looser monetary policy could have disastrous consequences. In a December 1999 interview with the *Financial Times*, Masaru Hayami, governor of the BOJ, “warned that setting a target for inflation in an attempt to increase private demand was a dangerous policy that ‘could cause uncontrollable inflation.’”⁹ Later public statements by Hayami and by Deputy Governor Yamaguchi surrounding the interest rate hike of 10 August 2000 were a bit more restrained, but nonetheless forcefully asserted that a preemptive interest rate *increase* was all that stood between Japan and at least a partial repeat of the 1980s’ asset price bubble, if not accelerating inflation:

Officials from BOJ Governor Masaru Hayami on down began explaining that a slight increase in interest rates wouldn’t amount to a monetary tightening. . . . They argued that if the BOJ didn’t fine-tune interest rates preemptively, the central bank might be forced to sharply jack up interest rates if economic activity and prices shot up later.¹⁰

We often hear the argument that monetary policy should be changed only when the risk of inflation becomes evident. . . . As a matter of fact, in the bubble period of the late 1980s, the conduct of monetary policy was based on this argument . . . what are the lessons learned from the experience of the late 1980s in today’s context? . . . First, the policy change in response to a clear and present risk of inflation would inevitably be monetary tightening, and, moreover, cumulative interest rate hikes would probably be needed as was the case in 1989 and 1990. . . . Second, if the zero interest rate policy continues for a long period even after the economy clearly recovers, more economic agents will tend to conduct activities based on the expectation that current extremely low interest rates will be sustained indefinitely. This is what happened in the bubble period, leading to an enormous waste of resources which continues to inflict pain on us today.¹¹

The characterization of the current economic situation presented to the Japanese public and financial markets by the BOJ’s leadership is one in which any signs of recovery not offset by contractionary monetary policy would lead to spiraling price expectations.¹²

9. Quoted in “Japanese Business Turns Positive,” *Financial Times*, 10 December 1999. <http://www.ft.com>.

10. Kenneth McCallum, “BOJ Watch: Some Analysts Expect Next Rate Hike in Jan-Mar,” *Dow Jones Newswires Column*, 24 August 2000.

11. Yamaguchi (2000).

12. This claim comes despite Yamaguchi, e.g., admitting just two paragraphs earlier in the speech cited above that “the BoJ has recently stated that Japan’s economy is coming to a stage where the condition for lifting the zero interest rate policy is being met. However, *since there are no inflationary risks* [emphasis added], some argue that the termination of the zero interest rate policy is unnecessary. . . .”

These assertions are directly contradicted by all the available econometric evidence on inflation dynamics, as well as the experience of preemptive monetary policy around the world. Several cross-national studies have demonstrated that inflation is a very inertial process at low (below 20 percent per year) levels, and only becomes more persistent as the rate of change in prices approaches zero.¹³ In other words, there is no precedent for an advanced country to go from 3 years of deflation to an annual inflation rate even in the high single digits without an extended period of economic boom in between—and presumably, such a noticeable boom period would allow plenty of time for monetary policy to respond as required.

The idea of a speculative asset price boom in Japan within the foreseeable future is laughable, given the factors of debt and land overhang, the changing regulatory environment, and structural change discussed in the essays by Mikitani, Shimizu, and Kashyap in this volume. Who would buy, especially in an environment where the BOJ has led a loud chorus of Japanese government officials using their authority to bemoan the economy's purportedly declining potential growth rate and the vast overcapacity of capital waiting to be junked rather than used?¹⁴ To argue with some merit that loose monetary policy contributed to the Japanese bubble of the late 1980s is not the same as proving that loose monetary policy is sufficient to generate an asset price boom irrespective of the recent past, current balance sheets, or perceived prospects.

This is why we have to look beyond the realm of economics for an explanation, let alone justification, of why the BOJ has pursued the policies it has in the past decade. On the economic arguments: The BOJ's ZIRP, and later increase in interest rates, do not constitute in any way a loose monetary policy, once real interest rates and credit conditions are considered; the BOJ has many options for how it could further loosen policy; the difficulties presented by these nonstandard open-market operations (in scale or in assets purchased) are not only surmountable, but not all that different from those confronting most of the world's central banks on a recurring basis; any structural changes contributing to deflation are either induced by the Bank's policy or are best accompanied by an expansive policy; and the risks of a policy-induced rise in inflation leading to spiraling inflation expectations or an asset price bubble are essentially zero in present-day Japan, which is beset by deflation and lack of confidence. Finally, as is nearly universally acknowledged by macroeconomists, the direct costs to the real economy of low positive rates of inflation are

13. See Dornbusch and Fischer (1993), Fuhrer (1995), and Sarel (1996) for examples of this evidence and summaries of the literature on the dynamics of inflation based on cross-national panels.

14. E.g., Hayami (2000) makes both of these claims in some detail.

small,¹⁵ whereas the costs and risks from deflation are demonstrably much larger. This distance from accepted best practice for central banks is also why the BOJ's recent behavior stands out as so divergent from its past good practice in the 1970s and 1980s (in Jinushi, Kuroki, and Miyao's analysis), and from Bernanke's basic arbitrage logic of what works.

Political Explanations

By "political explanations," I mean those reasons that have to do with pressure on the BOJ to change its policy preferences from those considerations that could be satisfied by a standard utility-maximizing model of central bank behavior taking inflation, output, and observable macroeconomic constraints into account. These can be institutional factors, such as the relationship between the central bank and the finance ministry; they can be international factors, such as the pressures from the US government on Japanese policymakers to which Sakakibara gives great pride of place as an explanation for BOJ behavior; and they can be ideological factors, imposed on the ostensibly technocratic decisions of the central bank by its own leadership.

I will argue here that the pattern of policies pursued by the BOJ since the bubble, and especially its reluctance to loosen policy in recent years (as documented by Jinushi, Kuroki, and Miyao), are best explained by ideological factors. In this sense, I agree halfway with the assessment in Bernanke's title: Japanese monetary policies from 1992 to the present were "self-induced," but given their intent and their effect on the economy, they were hardly an instance of "paralysis."

In fact, since undertaking the ZIRP in February 1999, and perhaps since gaining independence from the Ministry of Finance in April 1998, the BOJ has taken great pains to give the public the impression that it has pursued an activist policy. Ueda (1999) characterized the ZIRP by saying: "This was already a very extreme monetary policy stance, and we had gone to the extreme using a traditional tool, i.e., the overnight rate. I must say that we needed a lot of courage to go to the zero rate." Yamaguchi (2000) took much the same line, declaring: "To avoid such a [deflationary] situation, in February 1999 the Bank adopted the zero interest rate policy, which was a drastic monetary easing measure." In describing the rate

15. Both Barro (1995) and Sarel (1996) find in their international datasets that the real GDP costs of inflation are statistically indistinguishable from zero at annual rates below 12 and 8 percent, respectively, and do not rise to any economically meaningful amount until at least 20 percent (about where inflation's persistence erodes and accelerating inflationary spirals become possible).

hike ending the ZIRP, Hayami was quoted as saying that the BOJ was engaging in “fine-tuning” the easy policy.¹⁶

The quotations above, when combined with the statements accompanying the interest rate increase about preemptively acting at the first signs of inflation (or even before), indicate that the Bank clearly wants to be seen as in charge of events rather than as just reacting. The desire to put the best light on the policies undertaken, and in times of low confidence to act as though in command, is certainly understandable on the part of a central bank, which always must concern itself with the credibility of its actions. Yet even if credibility for central banks is (to paraphrase Mervyn King) a matter of saying what one is going to do, and then doing what one says, it helps to be able to explain why one is doing what one is doing.

This need to explain the reasons for monetary policy decisions—in terms of ultimate goals, beliefs about the structure of the economy, and forecasts from current trends dependent on policy—is particularly important for independent central banks. Central banks can only remain independent over the long run if they have public support (Posen 1995), and public support requires a combination of competence, transparency, and accountability.

Since the BOJ gained independence in April 1998, its structure has built in a good amount of formal transparency. It publishes the minutes of its monthly monetary policy meetings (with only a one-meeting lag), recording the votes of its nine members and admitting their differences of opinion. Transparency of process alone, however, does not provide full transparency; an articulation of the central bank’s goal, and enough information to track the bank’s performance in meeting that goal over time, are also required.¹⁷ Without a clearly defined goal, even if the goal is occasionally set aside (but with those instances explained), accountability is impaired. In the case of the BOJ, not only is there no standard to which to hold it accountable, there is no process by which the public can do so: no published inflation reports, no required testimony before the Diet, no direct role for elected officials in setting the BOJ’s intermediate target.

In this context, attributing the BOJ’s policy stance in recent years to a desire to assert its independence makes some sense. It also highlights just how far the BOJ is going beyond the practices of most other even newly independent central banks, and thus is reflecting its own beliefs about

16. See McCallum, “BOJ Watch.” Since the inflation of the 1970s, most central banks have abjured the use of the term “fine-tuning” for fear that it gave the impression of excessive confidence and activism.

17. See the discussions of monetary transparency in Posen (1999) and Kuttner and Posen (2000).

independence rather than the behavior inherent to such banks. Independent central banks want to be seen as outside partisan control, and particularly as unwilling to subject policy to electoral demands; such banks will respond to what are believed to be unreasonable demands from the fiscal authority by publicizing their disapproval. In general, however, an independent central bank does not disagree with a policy proposal just because it comes from the government, does not set interest rates simply to demonstrate refusal of a government request, and does not provide less explanation to markets of its policy than do elected officials when it is in a public dispute with them.¹⁸

In the summer of 2000, the BOJ did all these things.¹⁹ The supreme irony is that the BOJ behaved for the most part like an independent central bank from the mid-1970s to the mid-1990s, when it was formally under Ministry of Finance control—sufficiently so as to be an outlier in regressions of the relationship between independence and inflation (Walsh 1997), and to show no sign of engaging in political monetary cycles (Cargill, Hutchison, and Ito 1997)—meaning that it made its wishes known without engaging in open conflict with elected officials, as the “new” BOJ does. It will surprise no one that I therefore agree with Bernanke, my past coauthor on inflation targeting issues, in his assessment that “cooperation with the fiscal authorities in pursuit of a common goal is not the same as subservience.” One need look no further than the US example of cooperation between the Alan Greenspan-led Federal Reserve and the Clinton administration to see the benefits that can be gained in so doing without loss of credibility.

In this light, it is clear that if part of the motivation for the BOJ’s recent stance is a desire to assert its independence, it is doing so because of an idiosyncratic belief about what is necessary to take advantage of independence, not because independence requires it to take such actions. In fact, such obstreperousness by central banks, when unaccompanied by measures to enhance accountability, has occasionally backfired, with the result being diminished public support, and therefore diminished functional, if not legal, independence.

This is why I believe that Jinushi, Kuroki, and Miyao’s claim that the BOJ would have made the same mistakes in the past decade if its strategy

18. See Bernanke et al. (1999) and Laubach and Posen (1997) for historical descriptions of the behavior of newly independent central banks (including that of the Reserve Bank of New Zealand, the Bank of Canada, the Bank of England, and the early history of the Bundesbank).

19. Hayami—in explaining the BOJ policy board’s refusal to agree to a 1-month delay in voting in August 2000, requested by the Ministry of Finance in line with the new BOJ law—told reporters at a news conference: “It is precisely at such a time . . . that we must exercise our independence.” See Bill Spindle, “Heard in Asia: Rate Rise Alone Is Unlikely to Spoil Japan’s Recovery,” *Asian Wall Street Journal*, 14 August 2000, 13.

had been one of “explicit inflation targeting” rather than “implicit” does not hold water. Perhaps deciding whether or not to prick the bubble would not have been made easier, but every decision since would have been improved. Simply put, if the BOJ had been required to state and justify an explicit, public, numerical goal for policy, its leadership would have had to admit that it was (and is) targeting zero measured inflation, and that it is doing so in pursuit of another goal rather than price stability per se—and such a policy would never have been allowed to stand. It would not have survived public scrutiny, whereas what Jinushi, Kuroki, and Miyao call the “implicit” framework for the BOJ has allowed an unjustifiable policy to be covered with smoke and mirrors.

Even better, had there been (as advocated by Bernanke et al. 1999) a strict division through an inflation target between goal dependence of the BOJ striving for the target set by elected officials, and an instrument of the BOJ setting policy as it chose to meet that target, there would have been full explanations of the reasons for the target, perhaps prompted by the central bank. In addition, there would have been an anchor for inflation expectations, which has been lacking due to the opaqueness of the BOJ’s framework, and the absence of which has made any policy measures more risky.

So what ultimately is the motivation for the BOJ to pursue the policies it has in the past several years? The BOJ in general, and Governor Hayami in particular, want to impose sufficiently stringent credit and economic conditions on the Japanese economy so that inefficient businesses will have no choice but to shut down. The BOJ wants to use monetary policy to induce structural reforms. This was made evident by remarks by Governor Hayami after the ending of the ZIRP:

Mr. Hayami also repeated his view that the zero interest rate policy was undermining structural reform in Japan and preventing the rise of promising high-tech industries. “If we retain zero interest rates indefinitely, these places will lose vitality . . . and it will end up being a minus for Japan’s economic recovery.”²⁰

This was not a last-minute, individual rationalization, but a broadly held view at the bank:

Yukata Yamaguchi, a career central bank official and member of the policy board, declared in a speech late last year that the many rate cuts the BOJ made in

20. Quoted in Spindle, “Heard in Asia.” An alternative translation: “Explaining the Bank’s move on Friday, Hayami said virtually free money was sapping Japan’s economic dynamism. ‘I think there may be a possibility this would work as a negative for the rebirth of the Japanese economy,’ he said” (Jane Macartney, “Japan: Analysis - BOJ Crusader Hayami Draws Sword As Critics Circle,” Reuters English News Service, 13 August 2000). The *Times of London* (12 August 2000, 21) put it thus: “[Hayami] said the ‘free money’ policy had encouraged irresponsible lending and provided companies with no incentive to embark on structural reform.”

the 1990s “might have dampened the restructuring efforts at Japanese financial institutions.” He warned that the central bank’s easy-money experiment might result in a “Pyrrhic victory,” where a deep recession is avoided but a true recovery can’t be sustained, because too many bankers and businessmen put off painful restructuring. Mr. Hayami, who doesn’t put it quite so bluntly in public, regularly warns of “moral hazards” in an economy where there’s no real cost for borrowing heavily and delaying reform.²¹

It must be noted that in both Hayami (2000) and Yamaguchi (2000) there is slight backpedaling, whereby they say that while loose money induces moral hazard, the reduction of moral hazard alone is insufficient justification for lifting the ZIRP. Yet if raising interest rates cannot be justified on an economic basis alone, which it clearly cannot when zero measured inflation is what is being targeted in the face of a significant output gap, there must be some noneconomic basis behind this preference. It is clear that “creative destruction,” invoked and praised repeatedly in Hayami’s speeches, is the motivating ideology.

We have come a long way from the arguments about whether Japan is (or was) in a liquidity trap, and whether the BOJ could do anything about it, which was the primary subject of Bernanke’s essay, and still is the main topic of discussion among academic monetary economists working on the Japanese situation. We have even gone beyond Jinushi, Kuroki, and Miyao’s evidence that the BOJ is pursuing a demonstrably tighter monetary stance given economic conditions than it would have in the past, and doing so with predictably destabilizing effects on the real economy.

We are now into the realm of motivating faith. I will not rehash the arguments based on mainstream economics for why macroeconomic-policy-driven creative destruction is overrated,²² because logic has little to do with faith. I will, however, point out three facts. First, there is no example of a central bank anywhere unilaterally inducing structural reform through its own tight monetary policy. Instead, an initiative from political authorities has always been required.

Second, there is little doubt that if an objective observer assessed the trade-off between, on the one hand, the costs and risks of a central bank keeping a debt-ridden economy in deflation and, on the other, the estimated benefits of the marginal increase in restructuring induced by tighter credit, the costs would significantly outweigh the benefits (especially given the lags before structural reform is felt relative to the compounded loss of wealth). Third, no Japanese citizen elected the BOJ to pursue this policy of promoting restructuring, and in fact no elected official delegated

21. Bill Spindle, “Hayami Sees Role as Enforcer—BOJ Chief Makes Case for Rate Rise to Force Firms to Restructure,” *Asian Wall Street Journal*, 5 June 2000, 1. A similar self-definition was offered by Hayami in an interview done with *Business Week* the same month.

22. See the discussion in Posen (1998a, chap. 6).

this task to the BOJ or put the goal of “encouraging creative destruction” into its mandate.

Explaining why the BOJ has been able to sustain its self-appointment as “enforcer” is a matter of political science, not even political economy. What has been made clear for the political economy of monetary policy from these events in Japan, and from the essays in this book, is that neither benevolent welfare optimization nor institutional design is sufficient to explain policy choices by central banks. Ideas, sometimes economically misguided ones, also play a role.

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The International Aspects of Japanese Monetary Policy

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My friend and former counterpart, Eisuke Sakakibara, has given us an enlightening review of US-Japan economic and financial relations since President Clinton moved into the White House. It is enlightening because of the light it sheds on the mindset and worldview at the Ministry of Finance in Tokyo during the 1990s. From my vantage point, first at the US Treasury and subsequently in the private sector, the history of this period looks quite different. I will highlight the core elements of Sakakibara's view, then outline the case for an alternative view, and finally argue that Japan's economic recovery depends on its leaders recognizing more clearly that they are challenged much more by powerful fundamental forces than by US officials. There are some encouraging signs recently that this recognition is taking place.

Sakakibara seems to see Japan and the world as driven from Washington by means of symbolic actions: For him, the 1990s begin with President Clinton's inauguration. The major forces acting in his view seem to be the shifting personalities in the administration. Political pressures, public relations campaigns, threats of economic sanctions, and trade negotiations were the major market movers, in his view, and determined the course of entire economies. He gives little attention to what, in my view, were the fundamental actions in Washington that had a positive effect on the global economy—elimination of the US budget deficit; brilliant monetary policy; leadership in the completion of landmark trade agreements; and responses to threats to global financial stability emanating from Mexico, Asia, Russia, and Brazil that, if not perfect, nonetheless contained the damage to the global economy.

Even if I were to accept the position that ascribes overwhelming power to officials, my recollections would still lead me to a very different view of the process in Washington through which policy toward Japan was formulated and implemented from the one that Sakakibara has put for-

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ward. For example, I sensed no watershed in US international economic policy when Robert Rubin moved from the White House to the Treasury. Perhaps his more public role as Treasury secretary made those outside Washington more aware of his sound judgment and immense influence, but he and others of like mind shaped policy from the first days of the Clinton administration.

Sakakibara's vision of a battle in Washington between populists and macroeconomists is similarly unrecognizable to me, although it is understandable how the Clinton administration might be seen in this way from Tokyo. There were two objectives of administration economic policy toward Japan, both of which reflected vital US interests. The first objective was microeconomic: To achieve through negotiation the removal of Japanese impediments to imports and foreign investment, which created an unfair and unbalanced economic playing field in the global economy. There may initially have been some residue of old US views that saw Japan as threatening and as strengthened by its closed system. But by far the stronger motivation was the desire to further the development of a global economy with rules that would be seen and accepted as fair by all participants. Many of us also believed that the removal of impediments to the functioning of markets would serve to revitalize a Japanese economy that seemed incapable of sustained growth without threatening the stability of the global economy through the scale of its current account surpluses. The second objective was macroeconomic: To encourage and support sustained, domestic-demand-led growth in Japan and thereby contribute to a strong, stable global economy, on which the Clinton administration's strategy for the US economy critically depended.

Pursuit of the first of these objectives inherently involved tough negotiations, with all of their trappings, including the public relations efforts and confrontation that play such a prominent role in Sakakibara's history. The Japanese side gave as good as they got in this process. The second objective was, at times, pursued publicly, but was much more often a matter for private discussion to avoid giving a win-lose coloring to what was a win-win agenda. Thus, those of us with macroeconomic responsibilities in Washington may have been perceived in Tokyo as less confrontational than our trade colleagues. Occasional tactical conflicts between objectives undoubtedly reinforced this perception, but the reality was a strong consensus from the early days of the administration on the pursuit of both objectives, with a recognition across agencies that both objectives were important and that they were complementary in serving US interests.

Whatever the administration's goals with respect to economic relations with Japan, their pursuit had nowhere near the impact on the exchange rate or on the Japanese economy more broadly as did the fundamental economic forces that were at work. The difference in focus between concrete actions to improve fundamentals on the one hand and words and

symbols on the other was an ongoing source of tension between Tokyo and Washington. If US pressure had been more successful in stimulating structural reforms or in encouraging growth policies, it would have had a stronger impact. There were some results on both fronts, but they were unfortunately gradual and, on the macroeconomic front, not sustained. Perhaps my greatest regret from my 4 years at the Treasury is that we failed in our quiet effort to dissuade the Japanese government from its mistaken tax increase of April 1997, which killed off the growth revival of 1996 that Sakakibara points to with justified pride. The result was disastrous for Japan. It also contributed to the Asian financial crisis later that year, when Japanese imports collapsed and distressed Japanese banks withdrew loans to other Asian countries.

Fundamentals account reasonably well for the major movements in exchange rates during the period. The dollar weakened against the yen in 1993 as the prospect of a decisive turnaround in the US budget deficit induced declining dollar interest rates. That such bullish news for the US economy should be bearish for the dollar was disconcerting to some reporters and commentators but no surprise to macroeconomists schooled in the Mundell-Fleming theory: Tightening fiscal policy and—to compensate for the aggregate demand effects—easing monetary conditions lead to a weakening of the currency in a floating exchange rate system. Europe was in recession in 1993, and interest rates fell sharply there, so dollar weakness was not evident against European currencies. In Japan, there was little further easing of interest rates, despite some slowing of growth, and the differential with the United States widened. This and a rising current account surplus in Japan were the fundamentals at work.

Yen appreciation was arrested during the winter of 1993-94 as markets responded strongly to preemptive Federal Reserve tightening, but resumed later in the year as the Fed eased off. In the first half of 1995, the Mexican debt crisis created expectations of weak North American economic activity and still lower US interest rates. At the same time, slow progress on both the structural and macroeconomic discussions with Japan meant that adjustment of the US-Japan trade imbalance, with the US budget deficit now shrinking, would require more exchange rate adjustment to compensate for the continued inflexibility and weak domestic demand.

These developments took the dollar-yen exchange rate to its record low in the spring of 1995. We at the Treasury were increasingly of the view that, although the direction was understandable in terms of fundamentals, the movement was extreme. We also looked ahead to Mexican stabilization and renewed strength in the US economy. It appeared to be one of those infrequent occasions when intervention could contribute to a durable correction. It did, although we will never know how much the intervention accelerated a turnaround that would almost certainly have come at some point.

From the late spring of 1995 until 1998, the dollar was strong against the yen. One fundamental force behind this is evident only with hindsight: The trend productivity growth rate of the US economy ratcheted up about 1 percentage point in the middle of the decade, bringing with it strong investment demand and attractive returns to those who placed capital in the United States. This put persistent upward pressure on the dollar. Once Japan slipped back into recession in 1997 and much of the rest of Asia found itself in crisis, the trend in the currency gained momentum.

Once again, a case could be made that the response of the dollar-yen rate to the fundamentals eventually became overdone. As this became clearer, the US authorities were willing to engage in cooperative action despite the absence of clear indications that fundamental trends were changing. (By this time, I was no longer on the Treasury team and therefore have no information concerning their specific thinking.) The yen did not respond at first, but began to recover when new fundamentals did emerge: a change of policy in Tokyo that brought meaningful fiscal stimulus, an effective response to the banking crisis, and a resumption of growth. The reduction of market liquidity following the Russian crises undoubtedly reinforced the turnaround for a time as investors covered exposures of all types, including short yen positions. But the stronger tone to the yen outlasted these technical conditions in the market.

Throughout virtually all of President Clinton's term, the relevant authorities favored a strong dollar and said so. Treasury Secretary Bentsen did make one on-the-run statement at the very beginning of his term that suggested he would welcome a lower dollar, a statement that I know he regretted. No subsequent statements or interviews succeeded in fully correcting the impression left then, because fundamental forces were pushing the yen upward and the dollar down. The trend was reversed sometime after Robert Rubin came to the Treasury and the fundamentals turned around. From time to time after the dollar turnaround, one continued to hear statements from others in Washington that earlier would have been interpreted as bearish for the dollar. But now markets ignored them. The record strongly suggests that the fundamentals drove the exchange rate and these exchange rate movements drove the perception of statements. It was not the statements or the sterilized intervention that created the durable movements in the markets.

It could hardly have been otherwise. An overwhelming body of empirical research suggests that the instrument available to a Treasury secretary—sterilized intervention—has a relatively small and short-lived effect on the market, except when it comes at a time of changing fundamentals. How, then, could what the Treasury says or is thought to believe have much impact when the actions it could take have so little effect? I would not argue that they have no effect, and I do not believe my former colleagues would either. That is why Treasury and Ministry of Finance

officials are well advised to choose their words carefully in order to avoid unintended consequences in the markets. But the fundamentals are by far the most important determinant of exchange rates.

A focus on the fundamentals led the Clinton administration to put its energy into eliminating the budget deficit and reducing barriers to the export of US goods, services, and investment as keys to better US economic performance. The Federal Reserve was expected to conduct monetary policy so as to allow maximum growth consistent with low inflation, and it did so. The exchange rate, by and large, was seen as the by-product of these policies and of other forces beyond official control, including economic developments abroad.

By contrast, Sakakibara's review minimizes the role that Japan's own authorities could have played in getting the Japanese economy on track sooner and paints a picture of an economy driven by the exchange rate, which in turn was managed erratically by US officials. In fact, Japanese officials have gotten results when they have focused on fundamental policy actions, as they did in 1995 to get recovery going (only to be derailed by the U-turn of April 1997), or as they did again in 1999.

If Japanese officials keep their focus on what they can do to improve Japan's fundamentals on both the macroeconomic and structural fronts, the Japanese economy will become healthier and the global economy more stable. This strategy will also reduce pressures that move the exchange rate in a direction problematic from the standpoint of Japan's economic performance. In the end, however, the exchange rate will not always behave as one government might wish, because it reflects a range of fundamentals, including forces acting abroad. Although there are times when it is both in the interests of governments to intervene cooperatively and in their power to influence the market, which may have drifted from fundamentals, these times are infrequent. Policy strategies need to be resilient in the face of exchange rate movements, as well as other shocks. This could serve as a definition of sound policy fundamentals.