On March 31, 2003, the Center on Japanese Economy and Business organized a symposium featuring Professor Kazuo Ueda, Member, Monetary Policy Board, Bank of Japan. Professor Ueda’s presentation, based on his published paper below, discusses the relationship between Japan’s stalled economy, the deflation of general prices, and the deflation of asset prices. He argues that the collapse in asset prices, not general prices, has had deleterious effects on Japan’s financial system and, in turn, on the economy. He further suggests policy responses to deal with persistent deflation and Japan’s ongoing financial and structural problems.

Frederic Mishkin, Alfred Lerner Professor of Banking and Financial Institutions, Columbia Business School and David Weinstein, Carl S. Shoup Professor of the Japanese Economy, Associate Director for Research, Center on Japanese Economy and Business, served as commentators. Professor Hugh Patrick, Director, Center on Japanese Economy and Business, served as moderator.
There is much confusion in popular discussion of Japan’s deflation and associated economic problems. This confusion tends to arise from a failure to distinguish between three related, but different phenomena: the stagnation of the real side of the economy, the deflation of general prices, and the deflation of asset prices. The deflation of general prices has certainly persisted since the mid- or late 1990s, depending on the price index one looks at. However, the extent of the price decline has been mild. The cumulative decline in the consumer price index (CPI) since its peak in 1998 has been no more than about 3%. It is hard to believe that such mild declines in general prices have been the root cause of the stagnation of the economy.

Declines in asset prices have been as large as they were during the Great Depression. Both TOPIX and the price index of urban commercial land have plummeted by 70-80% from their peaks. The collapse in asset prices has had serious effects on Japan’s financial system, and in turn, on the economy, including general prices. In this short paper I attempt to discuss the relationship between such deflationary forces.

In section one, I first discuss some salient features of the recent deflation in Japan. This section contains a quick survey of analyses of the causes of the recent deflation of general prices. In section two, I briefly summarize the behavior of the price level, and of nominal and real interest rates during the Great Depression. I also refer to the literature on the causes of the Depression, paying particular attention to the so-called debt deflation theory and the role of the negative financial accelerator. The discussion in this section provides a benchmark against which to evaluate Japan’s deflation experience since the 1990s. This is done in section three, where I basically show that Japan in recent years has not seen as serious a debt deflation as that experienced in either Japan or the U.S. during the Great Depression. There is no evidence of a sharp rise in real interest rates and thus in the real debt burden as a result of the deflation in general prices. It is also clear, however, that any significant rise hereafter in the rate of general price deflation substantially raises the risk of throwing the economy into a deflationary spiral.

As stated above, it has been the deflation of asset prices, not that of general prices, that has generated serious negative effects on the balance sheets of borrowers and, over time, on those of lenders. Through this route a negative financial accelerator has set in, adding to deflationary forces in the economy. This process is described in section four. Finally, in section five, I turn to the discussion of the appropriate policy response to deflation. Debt deflation caused by deflation in the general price level can be cured by macroeconomic policy to stop deflation, and measures to address problems in financial intermediation. Japan’s recent case is, however, a difficult one as the deflation of general prices has not been the root cause of these problems. Moreover, asset price deflation was a natural market response to the bubble of the late 1980s. In addition, there is some evidence that the return on capital has been on a secular declining trend since sometime in the 1980s, giving support to the view that “reforms” are a key to sustained recovery. Worse still, the failure to address financial system instabilities at an early stage has substantially reduced the effectiveness of macroeconomic policy in easing even general price deflation. Such a complicated chain of events has not been well understood and has led to confusion in popular discussion on “deflation.” Anyway, one thing seems clear, namely, the need to address the financial system problems as soon as possible.

1. Japan’s deflation since the 1990s

The behavior of Japanese final goods prices has been fairly stable since the early 1990s. Figure 1 shows movements of the CPI and the GDP deflator. The average annual rate of change in the indexes is 0.3% and -0.75%, respectively, over the period of 1992-2001. The larger decline in the GDP deflator reflects the large secular decline in the deflator for investment resulting from technological improvements, and also its nature as a Paasche-type price index based on a commodity basket that changes over time. The two indexes have been falling since the mid- and late 1990s respectively. At the same time, however, there is at present no clear tendency for the deflation to accelerate..

A more disaggregated look at price developments turns out to be useful. Figure 2 presents average inflation and output growth by industry for the period 1990-2002. The data points seem to lie on a downward-sloping schedule, suggesting the importance of supply side forces as determinants of cross sectional differences in the rate of price changes. Among the components of the CPI, although the data are not presented, the

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* For figures, see pages 10-15.

1. In this paper, the CPI and GDP deflator have been adjusted for the effects of the 1997 hike in the consumption tax rate. Specifically, the rate of change in the indexes has been adjusted downward by 1.5% for 1997 and by 0.5% for 1998 to undo the effects of the tax change.
Examples of serious debt deflation can be found in the experiences of industrialized countries in the 1920s and 1930s.

—Professor Kazuo Ueda

Goods component has been falling faster than the others. Among services, those sectors that have experienced significant deregulation, such as transportation and communications, have seen larger declines in the rate of inflation. Deregulation in the non-manufacturing sector has certainly been an important part of the background for the deflation of general prices. A closer look at the goods component of the CPI reveals that import-competing goods have suffered larger price declines than the rest, as shown in Figure 3. This again lends support to the view that supply side forces have been important.

Turning to demand side factors, one can immediately point to the possible existence of a large GDP gap as the dominating force behind the deflation of general prices. Most estimates of the GDP gap are very large. For example, assuming 2% growth in trend output and the absence of a gap in the early 1990s, the GDP gap for 2002 must be larger than 10%. This is, however, hard to reconcile with the mild deflation of about 1% and the absence of a tendency for this deflation to accelerate. One needs to argue that the gap is much smaller (the growth rate of trend output is much lower), or that the effect of the gap on prices has been very small. In addition, one needs to rely heavily on supply side forces as a determinant of inflation.

Hirose & Kamada (2002) present one estimate of trend growth and the GDP gap. It shows that the trend growth rate is now around one percent, much lower than in other literature on the subject. It also presents a statistical analysis pointing to the importance of low-price imported goods as a contributing factor to the deflation since the mid-1990s. Using time series analysis, Kamada & Hirakata (2002) attempt to decompose the causes of changes in the rate of inflation into demand side and supply side factors. They find that, during the recent period of deflation supply, side factors such as international comparative advantage shocks have played dominant roles. It seems fair to say that more analyses and, perhaps, more data are necessary to determine the relative contributions of supply side versus demand side factors. The seemingly small effect of cyclical factors on inflation remains a puzzle.

In contrast to the behavior of general prices, the volatility of land and stock prices during the last two decades is worth pointing out. TOPIX went up by almost 400% between 1980 and 1989 and has fallen by about 70% from its peak. Similarly, the price index of urban commercial land in six large cities rose by almost 50% between 1980 and 1992 and has declined by 85%. Moreover, as of March 2003, i.e., more than ten years since its peak, it is still not clear whether they have reached bottom.

Asset price volatility has been as high as it was during the Great Depression, but has not been accompanied by volatility in general prices. In fact, this represents a shared feature in the experiences of many industrialized economies with respect to their stock market booms-and-busts since the mid-1990s. The asymmetry between asset and general prices is surely an important topic for future study.

2. Why is deflation a problem?

Deflation of general prices, if unanticipated, creates a transfer from debtors to creditors by raising the real interest rate (ex post). Even an anticipated deflation raises the real interest rate, if nominal rates are at the zero bound and cannot be reduced further.

To the extent that debtors have higher propensities to spend out of income than creditors, such transfers reduce aggregate demand, adding to deflationary forces in the economy. In addition, under asymmetric information, banks may reduce lending in response to a decline in the net worth of debtors, setting in motion a negative financial accelerator process. Accelerator effects become more serious if financial institutions also suffer from balance sheet problems.

Examples of serious debt deflation can be found in the experiences of industrialized countries in the 1920s and 1930s. Figure 4 shows Japan’s call market rate, the rate of change in the GDP deflator, and the real interest rate (defined by the difference between the two). Deflation exceeded 10% and the real interest rate 15% in the early 1930s. As a result, the debt burden of borrowers rose sharply. For example, net interest payment relative to cash flow rose from about 80% in 1929 to more than 200% in 1930. As is well known, a similar pattern of movement in the variables is found for the U.S. in the 1930s. In addition, as Bernanke (1983) documents well, the debt deflation was exacerbated by the decline in the economy’s ability to carry out financial intermediation.

3. Japan’s general price deflation since the 1990s and the debt burden of borrowers

Japan since the 1990s is nowhere close to the U.S. or Japan of the 1930s in terms of the impact of general price deflation on the debt burden. Figure 5 plots the real interest rates faced by major borrowers, non-financial firms and the government. The real interest rates are calculated as gross interest payments divided by total debt minus the rate of increase in the deflator for domestic demand. As may be seen, the real interest rates have declined slowly since the mid-1990s. Of course, one could say that we would have liked to see much lower real interest rates to stimulate aggregate demand. There is, however, at least no evidence that deflation has increased real interest rates. A gauge like interest payments relative to cash flows tells the same story. For non-financial corporations this ratio has been falling steadily since the

2. See I. Fisher (1933) or M. King (1994).
3. See, for example, Bernanke (1983) and Bernanke & Gertler (1990).
early 1990s. It is now around 12%, compared with a level of more than 40% in 1991 and 1992.¹

Several caveats have to be kept in mind here. First, the zero bound constraint will become increasingly serious if the rate of deflation rises from here. Nominal interest rates are virtually zero on debt instruments with less than a year to maturity. Even on those with longer horizons, rates are not far from zero. For example, as of April 2003, the rate on five year government bonds (JGBs) is around 0.25%; that on the ten year JGBs is around 0.7%. Obviously, the room for downward adjustment is limited. Consequently, it is very important to avoid an acceleration in the deflation of general prices.

Second, some debtors are in trouble. A typical example is the banks. Given that most of the banks’ liabilities are short term, it would come as no surprise if banks were suffering heavily under deflation and the zero bound on nominal interest rates. Figure 7 shows the margin between lending and borrowing rates for Japanese and U.S. banks along with their credit cost ratios, i.e., bad loan write offs and provisions relative to total loans. Although margins are much lower in Japan than the U.S., they have not been shrinking. In this sense, the deflation of general prices and the zero bound have not bitten into banks’ profitability. However, the figure also shows that these margins have not covered credit costs in some recent years. This is the non-performing loan (NPL) problem and we will return to it shortly.

4. The negative financial accelerator in Japan since the 1990s

Without doubt the sharp fall in asset prices has been the major reason for the recent instability in the Japanese financial system. Less clear is the causality between the financial system problems and the deflation of general prices. To shed some light on this issue, let us first look at Figure 8, where the relationship, by industry, between inflation and the degree of seriousness of the NPL problem is shown. The figure clearly reveals that the lower the rate of industry inflation, the less serious is the NPL problem for that industry. Although a correct interpretation of the relationship in the figure requires further research, the relationship is evidently at odds with the view that the deflation of general prices has been the cause of NPLs.

In Figure 9 we show the relationship, by industry, between NPLs and the extent of land holding (land as a share of total assets) at the peak of the bubble. Assuming that the real estate observation does indeed contain significant information in this regard, there would seem to be a positive relationship between the two variables. That is, the larger the land holding, the more serious the NPL problem, providing evidence of causation running from asset price deflation to NPLs.⁴ One might wonder why NPLs have not disappeared after a decade of bad loan write offs and provisions. The total amount of money banks and the government have spent on NPLs amounts to about 20% of GDP. Figure 10 provides some clue as to why. The figure presents the evolution of bank loans by industry since the late 1980s. Loans to “bubble industries” such as real estate and construction did not begin to decrease until the late 1990s. Only loans to non-banks began to decline in the mid-1990s as public discussion and the government’s handling of NPLs focused on this industry. Thus, there was clearly reluctance on the part of banks to dispose of NPLs swiftly, leading to forbearance lending and to much larger NPLs later.

I hasten to add that the recent stagnation in the economy, especially its weakness since 2001, is adding to the NPL problem. Although official bad loans are still dominated by loans to bubble industries, loans requiring caution are of a wider variety and seem to reflect the weakening of the overall economy. Researchers have had difficulty obtaining solid results on the effects of financial instability on the economy. With the accumulation of data and use of fine techniques, however, the literature is finally obtaining some interesting findings in this area. Nagahata & Sekine (2002) carry out a time series cross section analysis of the determinants of business fixed investment. Along with other determinants, their analysis examines the importance of the balance sheet conditions of both borrowers and their main banks. They find that the deterioration of borrower balance sheets has had significant negative effects on investment. They also find that the deterioration of lenders’ balance sheets has exerted significant negative effects on the investment of firms without access to the bonds market. The deterioration of balance sheets can be mostly explained by declines in asset prices and by NPLs (in the case of banks). Moreover, most of the declines in bank lending since the mid-1990s can be attributed to these two factors, together with the liquidity problems of banks during 1997-98. Thus, a

⁴. One reason for the small declines in real interest rates is shown in Figure 6, where the spread between the interest rate paid by non-financial firms and the 10 year government bond rate is plotted. The spread has clearly risen since 1997. This is, however, not directly due to the deflation of general prices, but, as we discuss in the next section, to declining borrower creditworthiness and the increased cost of financial intermediation.

⁵. Of course, deflation decreases this variable by lowering nominal interest payments faster than cash flows. This effect is offset by a rise in the real value of the principle. In order to see the net impact one needs to look at the real interest rate, which is what we have in Figure 5.

⁶. See Ueda (2000) for a more careful analysis of this point along with the discussion of other causes of the NPL problem.
negative financial accelerator has clearly been working."

The negative effects of financial instability spread throughout the economy during the credit crunch in 1997-1998. The Asian economic crisis, a premature tightening of fiscal policy in 1997, and the Russian crisis in 1998 were the triggers for the crunch. Several financial institutions went under. Risk premiums and the demand for liquidity rose sharply across the financial system. Japanese banks, already suffering from NPLs, were now facing difficulty in raising funds. Naturally, they started calling in their loans to non-financial companies. Even large companies were feeling the pressure of the credit crunch. Many said in our interviews that all but the main banks are saying that they would not be able to roll over loans at the year’s end. Therefore, businesses had to cut back on their investment. In retrospect, the failure to resolve the NPL problem at an early stage resulted in the credit crunch and has become one of the reasons for the stagnation of the economy since.

The case of Japan since the 1990s is more complicated. As I have hopefully made clear, the deflation of general prices has not been the major problem. Instead, asset price deflation and its interaction with the financial system and the economy have been at the core of the problem. There are two views on the asset price deflation of the period. One view holds that the bubble of the late 1980s had to burst. The other recognizes a secular decline in the return on capital starting sometime in the late 1980s and associated declines in asset prices and investment.7 The two are not inconsistent with each other, but mutually reinforcing. The second view seems to need the first to explain the temporary rise in asset prices. The two differ in their estimates of where prices will end up, but are in accordance in claiming that adjustments in asset prices and investment were inevitable. To be sure, the negative accelerator story suggests that the economy and asset prices may fall further than is necessary. Hence, beyond a certain point, policies to support asset prices may be justifiable. It would, however, be difficult to determine whether the economy had reached such a stage. Also, a more fundamental policy response would be to address the problems of the financial system and other inefficiencies in the economy.

The role of macroeconomic policy is also not straightforward. Stopping the deflation in final goods prices will surely ease the pain of the type of adjustment I have just described, but it does not mean that the economy can dispense with the need for adjustment. Raising the rate of inflation of general prices by a couple of percentage points would not mean much for asset prices.8 In fact, it is the ratio between asset and general prices that has had to adjust.9 Moreover, as I explain below for monetary policy, the problems in the financial system have lowered the effectiveness of macroeconomic policies in stimulating the economy.

Focusing now on monetary policy, I show in Figure 11 the difficulty the Bank has been facing in combating deflation. The ratio of base money to nominal GDP shown in the chart displays a sharp upward deviation from its trend prior to around 1995, with the ratio roughly doubling since then. Yet deflation has persisted, albeit at moderate rates. This is a clear case of monetarism failing to explain the relationship between money and inflation. Possible reasons behind this are suggested in the same figure. The rate of growth of bank loans has been either around zero or negative during the same period, in line with financial sector problems. As I mentioned above, this has reduced the ability of low interest rates to stimulate the economy. Moreover, as the chart makes clear, short-term interest rates hit the zero bound during this period, depriving the Bank of further room to use standard monetary policy.10

Given the nature of the problem, it would be nice if measures could be found that address financial sector problems as well as macroeconomic deflationary forces. The Bank, in fact, has been adopting such steps. In an attempt to ease corporate financial problems, the Bank has been accepting commercial paper, corporate bonds and some asset backed securities as collateral

5. Policies to deal with the problems

The prescription for 1930s-type debt deflation has been proposed by, among others, Bernanke & Gertler (1990). The financial accelerator problem may be dealt with by transferring income to debtors with promising projects, at least to the extent that such projects and borrowers are identifiable. The same thing may be said about banks. Macroeconomic policy can take care of general price deflation.

The problems in the financial system have lowered the effectiveness of macroeconomic policies in stimulating the economy.

—Professor Kazuo Ueda

7. One could say that a similar mechanism was working during the Great Depression, which was only aggravated by the deflation of general prices.
8. See, for example, Hayashi & Prescott (2002) for an expression of such a view.
9. This could be a debatable point. A rise in the rate of general price inflation will leave asset prices unaffected if the real interest rate remains unchanged. If, however, the zero bound on nominal rates were to have prevented the real interest rate from falling, the real rate would decline as inflation rises. Discussions in section 3 suggest that evidence is mixed on this point. There is no clear sign that the real interest rate has risen because of deflation. But it is also difficult to refute the possibility that the real rate is higher than it should be.
10. The ratio of asset prices to the GDP deflator has declined sharply since the peak around 1990 and is now back at where it was around 1983 for both stock and land prices. Thus, a fair amount of adjustment has already taken place. As pointed out above, however, it is difficult to determine whether the process is over, incomplete or has gone too far.
when carrying out its operations to supply liquidity. In the last monetary policy meeting the Bank decided to study the possibility of buying some asset backed securities outright in order to strengthen such efforts. Since late last year, the Bank has been buying equities from banks, helping them to reduce equity holdings to below TIER one capital, as dictated by law. Its intention has been to ease the pain of asset price adjustment felt by the banking system without necessarily supporting asset prices. We would like to try harder to find other measures to achieve the same end.

References:


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I agree with a fair amount of Professor Ueda’s analysis, but I have some different views about how much the Bank of Japan (BOJ) is to blame for the malaise in the Japanese economy right now and also what the central bank and Japan should do. First, I will talk about what I agree with.

The first issue that Professor Ueda raised is that mild deflation by itself is not a disaster, and this is not the same kind of deflation as the kind that we saw in Japan and the United States in the 1930s. I should point out that we have not had a depression in Japan of the type that occurred in the U.S. in the 1930s. Japan has had a very anemic growth rate over the past ten years or so, but we have not seen a collapse of the Japanese economy.

Professor Ueda mentioned that the big problem is what I like to call a “creeping financial crisis”. The financial sector is in huge trouble with very weakened balance sheets, and this means that businesses that are very dependent on bank lending have been doing very poorly. In fact, what you see is a bifurcated Japanese economy in which bank-dependent businesses are languishing while large exporters who have access to international capital markets are doing well. So I strongly agree with Professor Ueda that this is a key problem.

Another point that Professor Ueda mentioned is the need for structural reforms in Japan. I also believe that a key issue is the problems in the banking sector and also in other parts of the financial sector.

I also agree that the BOJ cannot solve all of the problems and there is no question in my mind that, without a banking and a financial sector that it efficiently transfers capital to people with productive investment opportunities, the Japanese economy can never reach the growth rates that it should reach. You may recall that it was only approximately ten years ago that everybody was talking about the Japanese overtaking the U.S. economy. Actually, this was something that could have happened. I think that there are tremendous inherent strengths in the Japanese economy, but it is being held back. At any rate, I think that this is very important.

Professor Ueda also mentioned that many people try to blame the Bank of Japan for being the initial cause of these problems. I agree with him that this view is incorrect. The initial cause was a bursting of the asset price bubble. There were serious problems in the prudential supervision of the banks that helped lead to this kind of bubble, and then when the bubble popped, it created some serious problems.

However, there is one area of Professor Ueda’s discussion that I strongly disagree with. He implies that the BOJ really cannot fix the problems or help the economy recover from these troubles. I think that the BOJ has made it much more difficult to solve the financial sector problems. The BOJ has also made it more difficult to get the structural reforms that the Japanese economy needs to get its growth high again.

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—Frederic Mishkin
monetary policy is needed to get the reform process going. This has led the BOJ into a trap. If there are expectations that when monetary policy is expansionary, it will be taken back, then it is not going to be as expansionary as the monetary authorities would like. Indeed, the BOJ finds itself in exactly this situation. The markets clearly take the view that the BOJ is not willing to pursue expansionary policy for a sufficient period of time to make sure that the economy will come back strong again.

I think that the BOJ is in a situation where, as Franklin Delano Roosevelt said during our Great Depression, the only thing they have to fear is fear itself. The BOJ is very reluctant to take what they see as risks, which as I see it are not great risks because the thing they need to fear is not inflation but deflation.

In this case, I think the BOJ has to achieve reflation and do it with both words and actions. By words, I mean establishing an institutional framework that actually indicates what the central bank will do over a longer period of time. This is important because the key to effective expansionary policy is what you do to expectations. The BOJ needs to do two things. First, it needs to indicate that it is going to reflate the economy by making very strong efforts to get the price level back to where it would have been in the absence of deflation. Second, once this reflation is achieved they should then adopt an inflation target of approximately two percent. The reason for the inflation target is to protect the BOJ against fears of having uncontrolled inflation. What we have seen is that credibility for price stability is created not just by keeping inflation low, but also by not keeping inflation too low. That is what we mean by price stability. This is a very important issue and, in one sense, inflation targeting is an institutional framework that needs to be used by the BOJ to get out of their expectational trap.

What measures does the BOJ have to take to do this? Professor Ueda made two points. One is that monetary policy is not as effective as it was. However, does that mean monetary policy should not be used to get aggregate demand back up? I think the answer is no, and the BOJ just needs to do that much more aggressively and push harder. Indeed, there are many other measures that the BOJ can take, such as open market operations in other assets like long-term bonds. Their interest rates can be driven even further down. There is also the issue of equity prices and the FX market. Open market operations in these asset markets can help produce asset price changes that would be helpful in terms of getting the economy going again. Part of the reason I think the BOJ has been so reluctant to do this may have to do with their discomfort about the degree of independence they have.

Professor Ueda is concerned that expansionary policy would be at odds with the reform process. He does see that structural reform, particularly in the bankruptcy sector, is critical, and I would agree. However, I take the view that expansionary monetary policy is exactly what is needed to get the reform process going. For example, I would not have characterized the bank restructuring process in Japan the way Professor Ueda did. He characterized the government as doing the right thing but just not at the right time. They did not do the right thing. They injected capital into the banking system, but they did it as a half-measure with only a partial recapitalization of the banking system while allowing weak banks to remain open. We know, for example, that a half-measure is the worst thing to do. One must fully recapitalize the potentially healthy financial institutions so they start lending again. Half measures just leave bad banks in operation and do not stimulate the lending process.

Bank restructuring has not happened because the banks are politically powerful and they are in a situation where they can say, “if you close us down it is going to hurt the economy”. This is exactly a case where active monetary policy to pursue very

**Expansionary monetary policy is exactly what is needed to get the reform process going.**

—Frederic Mishkin
expansionary policy can help the process. If restructuring the banking system would initially weaken the economy, monetary policy can help overcome this weakness by stimulating the economy.

The second issue is structural reform. In order to do structural reform there needs to be investment. I see structural reform as less a problem for the business cycle issues in Japan but very critical for long run economic growth. It is not acceptable for Japan to have a GDP growth rate of one percent per year. It is clear that they should have numbers very similar to the United States and I would argue that there is even the potential for Japanese growth to be higher than the U.S.

Having very expansionary monetary policy will raise asset prices, will end the deflationary psychology in Japan and would actually be a tremendous help.

In conclusion, my view is that it is true the BOJ is in a very difficult situation. On the other hand, in a difficult situation you do not want to fight the last war, but rather the current one.

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DAVID WEINSTEIN
Carl S. Shoup Professor of The Japanese Economy; Associate Director for Research, Center on Japanese Economy and Business

Thank you for inviting me here. I have a reputation for being an excessively blunt and sharp critic of Bank of Japan analyses of the economy. Indeed, when I heard that I would be discussing Kazuo Ueda’s presentation, I did worry that I might be overly critical. However, as usual, Kazuo threw me a curve ball. Simply put, Kazuo Ueda’s presentation was the best presentation on Japanese monetary policy that I have heard from a BOJ official in a long time. The only one that was this good was the last Ueda presentation I attended, but this time he has outdone himself.

Of course, I now have a major dilemma. The rule for discussants is, “If you can’t say anything critical, don’t say anything at all.” So I could end my comments now, but I won’t. What I will do is ask one question and amplify a few of his comments. The question I have is, “what is the message that the BOJ is trying to get out?” There seem to be two messages and they are confusing for economists and probably for market participants. One of the central results of monetary economics is that monetary policy can affect prices. In a move that is quite surprising to me, a large number of BOJ officials have disputed this result publicly and privately. To sharpen the point, there appears to be a fundamental divide between academic economists who argue that prices reflect monetary policy and the BOJ who argue that monetary policy cannot affect prices. To some degree I sense a tension in your remarks between Ueda the economist who writes, “Macroeconomic policy can take care of the deflation of general prices,” with some of your comments today which reflect a notion that prices and money are completely separate. This may reflect a larger debate in the BOJ about the effectiveness of monetary policy in reducing deflation. For example, you showed a figure that showed an increase in base money was interesting, but only showed up through 2001. In recent years, base money growth has been coming down. In fact, the latest number on base money for February of this year-end growth was 12.6 percent, which is the lowest growth rate since September of 2001. Many economists would argue that this reflects the excessive timidity of the BOJ in making a large and sustained increase in the money supply.

Let me now make a few amplifications of your comments. I think that we are in complete agreement that deflation exists in Japan. The next question is, “how much does deflation matter?” A sensible metric is real interest rates. The reason why we focus on real interest rates is because they tell us the trade off between savings and consumption or savings and investment. In the US, core CPI inflation is 1.9%, and the Federal funds rate is 1.25%; this implies that real interest rates are -0.65 %. In Japan, by contrast, the core CPI is -0.7%, and interest rates are 0. This means that the real interest rate is +0.7%. In other words, real interest rates for consumers are around 150 basis points higher in Japan! The Fed would need to raise interest rates by 150 basis points to accomplish a comparable drag on the economy. Few doubt this would throw the US into a major recession. Put simply, there is a very fundamental difference between Federal Reserve and BOJ policy. Some work done by my colleague Jim Harrigan and Ken Kuttner at the Federal Reserve suggests that a similar result would occur in Japan.

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The BOJ has to achieve reflation and do it with both words and actions.

—Frederic Mishkin

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Reserve Bank of New York shows fairly clearly that the Fed moved real interest rates more in the United States in five quarters than the BOJ did in five years. This makes clear my main point about deflation in Japan. Deflation has not raised Japanese real interest rates to historically high levels, but deflation does mean that the BOJ's zero interest rate policy is significantly tighter than the Fed's current policy.

As a fan of Japanese economic history, I can't resist talking about the prewar comparison. I completely agree that Japan's problems today are less than in the great depression. However, I'm not sure why BOJ officials keep bringing this period up. What made things worse during the depression was Inoue Junnosuke's policy of tightening money by going on the gold standard as the banking and world trade systems collapsed. Hayami's policies have been substantially better.

However, stories of the 20's and 30's demonstrate the clear power of monetary policy. As shown on the chart, between 1931 and 1932 GDP deflator rose from -12% to 3%. Government expenditure only rose 7% in real terms. The real reason why Japan pulled out of the depression so quickly was not the relatively modest fiscal stimulus but the devaluation of the yen from 0.5 to 0.2 in 1931. This would be the equivalent to moving the yen to around 300 yen to the dollar today. I think that the clear lesson from Japan's experience in the depression is that monetary policy works!

My final comment centers on how to ease the pain of adjustment. While I agree with your statement that “stopping the deflation of final goods will ease the pain of adjustment, but it will not dispense the need for adjustment,” I think that it is important to remember that easing the pain of adjustment may make the adjustment easier to accomplish. For example, inflation may help resolve some of the bad loans. Consider the following back of the envelope calculation. There are currently 482 trillion yen of loans outstanding in Japan. A reasonable estimate of the level of bad loans is 70 trillion. If the BOJ inflates by 15 percent while keeping interest rates at zero, the capital gain to banks would offset the bad loans! There is precedent for this. Indeed, this is how Japan solved the crisis following WWII. This may not satisfy an urge to punish bankers, but it would solve the problem.

(Figures follow)
Figure 1: Rate of Inflation

Figure 2: Real Growth & Inflation
**Figure 3: CPI-based comparison between imported and other goods**

![Graph showing CPI comparison](image)

**Notes:**
2. Imported goods consist of items common to both the Import Price Index and the Consumer Price Index, and their substitutes consist of items considered to be substitutable for import products but not covered by the Import Price Index.
3. Adjusted to exclude the effects of the special tobacco tax introduced in December 1998, and biscuits, prices of which were heavily affected by changes in monitored brands. Weight are obtained as respective shares in Goods (excluding agricultural & aquatic products).
4. Adjusted to exclude the effects of the consumption tax hike in April 1997 on the assumption that prices of all taxable goods fully reflect the rise in the tax rate.

**Sources:**
- Ministry of Public Management, Home Affairs, Posts and Telecommunications, "Consumer Price Index";
- Ministry of Economy, Trade and Industry, "Indices of Industrial Domestic Shipments and Imports";
- Ministry of Finance, "The Summary Report on the Trade of Japan";

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**Figure 4: The Real Interest Rate, Japan 1922-1935**

![Graph showing real interest rate](image)
**Figure 5: Estimates of Real Interest Rates**

![Graph showing estimates of real interest rates](image1)

**Figure 6: Interest Rate Spread against 10Y JGB (Nonfinancial Business)**

![Graph showing interest rate spread](image2)
Figure 7: Developments in Overall Margins

Japanese Banks

Overall margins after realized credit costs are taken into account.

Overall margins after realized credit costs and general and administrative expenses are taken into account.

U.S. Banks

Overall margins after realized credit costs are taken into account.

Notes:
1. Overall margins are defined as yields on domestic loans minus yields on average interest-bearing domestic liabilities after adjustments for swap expenses.
2. Realized credit costs are defined as the ratio of non-performing loans disposed of to total loans outstanding. Therefore, they are different from "credit cost" which is equal to expected losses.
3. General and administrative expenses, based on overall domestic operations because data for operations by

Source: FDIC "Historical Statistics on Banking"
Figure 8: Deflation vs NPL

Figure 9: NPL vs Land Holding
Figure 10: Bank Lending By Industry, 1989=1

Figure 11: Amount Outstanding of Bank Lending, Overnight Call Rate, and Nominal GDP/Monetary Base
1990年代以後の日本の環境

一般的に考えられていたように、1990年代以降の日本の経済は、特許の数が減少し、労働の質が低下する傾向が見られる。しかし、資本市場の開発と経済成長に寄与するための政策がなされる一方で、地方政府の財政問題も深刻化している。これらの課題を解決するために、地方自治体の財政再建を図ることも重要な課題である。

市場経済の活動は、競争の原則を遵守する必要がある。しかし、競争原則に従わない場合、不正の競争が発生し、経済の安定を脅かす可能性がある。そのため、市場経済の活動を規制するための法律が制定されている。

4. 日本の経済政策

日本経済の発展は、政府が経済の安定を図る方針を示すために、経済政策がなされている。政府は、経済成長を促進するために、財政政策を活用する一方で、経済政策を活用するための制度を整備することも重要である。

5. まとめ

日本経済の発展は、政府の経済政策を活用するための制度を整備することも重要である。経済政策を活用するための制度を整備することも重要な課題である。