

Some Reflections on Monetary Policy Issues in Japan

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I. Introduction

During the 1980s, a number of industrial countries have been faced with difficult problems in the use of monetary policy. In particular, the role of monetary aggregates as a guide to policy has been undermined in several of them. More specifically, the problems relate to the usefulness of monetary aggregates as leading indicators, the reliability of the impact of policy changes on the growth of the money supply, and instability in the long-run relationship between money and nominal income.

Even in those countries where these problems have not arisen in the 1980s, it has been suggested that financial innovation and liberalization may complicate the conduct of monetary policy in the 1990s.

This article first discusses Japanese experience with monetary aggregates in the 1980s. It also examines the implications of financial liberalization and innovation for the conduct and transmission channels of Japanese monetary policy in the years to come.

II. Monetary Aggregates and the Inflation Objective

It was in July 1978 that the Bank of Japan started to publish forecasts on broad money supply developments. The announcement was made on a quarterly basis and in terms of a range of year-on-year growth rates of M2. By announcing the projected course of money supply and commenting on its possible implications for the central bank's ultimate objectives with due caution about the possibility of a short-run instability in the relationship between money on the one hand and real income and prices on the other, the Bank hoped that it could obtain valuable assistance in expediting anti-inflationary monetary policy.

Before the adoption of this procedure, some economists argued for the implementation of monetary targets in Japan. Indeed, some econometric tests showed that the demand for money was fairly stable in Japan, even relative to some of the countries which adopted strict monetary targeting. But, most policy advisers in the Bank were cautious about the implementation of target-oriented monetary management and argued for the

adopted procedure in a country like Japan where people often tend to attach unnecessarily high value to numerical precision. In particular in such an environment, failure to achieve targets, even if only due to vagaries of the demand for money, might distort market expectations and undermine the credibility of policy. By announcing monetary projections, the Bank of Japan elevated the status of money supply as a crucial indicator, but the Bank made it clear that the stance of monetary policy should not be dominated by the behavior of monetary aggregates especially over the shorter term.

It may be of some interest to hear the views of some outside observers about the conduct of Japanese monetary policy in this setting. In a paper prepared some years ago, Hamada and Hayashi examined monetary management in Japan over recent years and argued that an important reason for the smooth conduct of monetary policy in Japan is that the Bank of Japan aims at not immediate but medium-run control of broad money without paying too much attention to narrow money which can often exhibit erratic movements (Hamada and Hayashi, 1985). They observed that "the Bank pays sufficient attention to other indicators than a single monetary aggregate. The Bank watches levels of interest rates, price indices, liquidity conditions of firms, the retail-sales index, the general business outlook, and the yen exchange rate. Monetary policy in Japan has been successful because the perspective of the Bank is multi-scoped rather than single-scoped on a single aggregate."

It must be added that the Bank itself should be more modest in evaluating the past record of Japanese monetary policy, as there can be pitfalls in a multi-scoped approach to monetary management as well.

Financial de-regulation and innovation accelerated in Japan in more recent years. This contributed to some short-run erratic movements in money velocity and complicated monetary projections to some extent. But the significance of money supply as an early warning signal has not been lost. Probably the Bank has been fortunate in that financial de-regulation and innovation have proceeded in an environment of relative price stability, so that volatile financial activities have been fairly limited.

In this context, brief comments on some specific issues relating to the role of monetary aggregates in a new environment would be in order. Indeed, some have argued that in countries where financial liberalization and innovation occurred extensively, the usefulness of monetary aggregates as a guide to policy has been undermined:

- the long-run relationship between the money supply and income has been eroded;
- the money supply is less useful as a leading indicator, with previously established causal relationships with nominal income disappearing or reverting to lagging relationships; and
- control over the monetary aggregates via interest rate changes has become less certain.

Where does Japan stand in these respects?

First, on the question of whether or not there is any long-run tendency towards an

equilibrium relationship between money and income, the cointegration tests conducted at the Institute for Monetary and Economic Studies of the Bank of Japan suggest that the null hypothesis of no cointegration is rejected in the case of M2+CD at the 5 percent level. One study (Yoshida and Rasche, 1990) covering the period from the first quarter of 1968 to the first quarter of 1989 found the Augmented Dickey-Fuller (ADF) statistic to be 3.34 whereas the relevant critical value at the 5 percent level is 3.2. Another study at the Bank (Research and Statistics Department, 1990) covering the period from the first quarter of 1965 to the first quarter of 1989 obtained the ADF statistic of 4.84, significantly above the critical value of 3.45 at the 5 percent level.

Recently at the Institute, a new demand for money function was constructed, using an augmented error-correction model (Yoshida and Rasche, 1990). The result of this model exercise suggests that, while the longrun equilibrium relationship between *real* money and *real* GNP remained stable during the period from the first quarter of 1956 to the second quarter of 1985, it was affected by financial de-regulation which introduced large-denomination time deposits in 1985. But this measure appears to have resulted only in a once-and-for-all shift in the level of equilibrium real M2+CD, and have left the equilibrium elasticities unchanged.

The second issue relates to the use of monetary aggregates as leading indicators. One study at the Bank of Japan (Research and Statistics Department, 1989b) suggests that the close correlation between quarterly developments in M2+CD and the behavior of GNP deflator in the subsequent quarters which had been observed in the 1970s somewhat loosened in the 1980s, and the lead period for money shortened. For the period from the first quarter of 1972 to the second quarter of 1979, the correlation coefficient between M2+CD and GNP deflator reached a peak of 0.91 when GNP deflator was lagged 6 quarters. On the other hand, for the period from the third quarter of 1979 to the fourth quarter of 1987, the highest coefficient obtained was 0.61, and this was when GNP deflator was lagged two quarters.

It should be added that the correlation coefficient has not changed between the two periods when a broader measure of domestic liquidity including postal saving deposits, bank debentures, government bonds and so on was used instead of M2+CD. The highest coefficient was 0.89 when GNP deflator was lagged 6 quarters for the period up to the second quarter of 1979. For the subsequent period, the same value of 0.89 was obtained when GNP deflator was lagged two quarters. But, obviously the compilation of statistics for this broader liquidity measure requires a longer time than data on M2+CD which can be obtained in about two-weeks' time. We therefore continue to attach importance to the M2+CD measure.

The third issue concerns the role of interest rates in controlling monetary aggregates. One study (Suzuki, 1989) based on a five-variable VAR model for short-term money market rates, M2+CD, real GNP, GNP deflator and the exchange rate, has found a significant lead relationship from money market rates to money supply for the period

from the second quarter of 1973 to the second quarter of 1988. The F-statistic was significant at the one percent level. Another study (Horiye and Naniwa, 1989a) carried out VAR variance decomposition estimates three sub-periods: from the fourth quarter of 1962 to the fourth quarter of 1976; from the first quarter of 1977 to the fourth quarter of 1988; and from the first quarter of 1981 to the fourth quarter of 1988. The result of this study at the Institute suggests that the role of interest rates in influencing subsequent developments in money supply has increased over time. More precisely, these variance decomposition estimates suggest that 30 percent of changes in money supply was due to earlier changes in interest rates, and 51 percent due to earlier innovations in money during the 1980s. On the other hand, only 9 percent of changes in money was due to earlier changes in interest rates during the first period, and 19 percent of monetary changes was accounted for by earlier changes in interest rates during the second period.

Needless to say, empirical findings based on VAR models can vary importantly, depending on alternative orderings of variables, alternative methods of trend removal, alternative lag lengths on the VAR equations and so on. Extreme care would therefore be needed in interpreting the results of VAR exercises.

The same caveats are relevant to the assessment of VAR findings about the exogeneity or endogeneity of interest rates in Japan. With such caveats, it should be mentioned that the VAR estimates at the Institute (Horiye and Naniwa, 1989b) suggest that Japanese money market rates have become more "exogenous" in recent years. VAR variance decomposition estimates at the Institute suggest that 76 percent of changes in interest rates is accounted for by their earlier changes, and only 2 percent by earlier changes in real GNP and 9 percent by earlier changes in GNP deflator during the 1980s.

Finally, some brief comments would be in order on the possibility or desirability of the monetary authorities becoming more precise about the objectives for price stability and the speed with which to achieve them. In the United States, debate is actually going on House Resolution 409 which calls for Federal Reserve monetary policy to be conducted with a view toward achieving price stability in 5 years.

It is normally around the turn of each calendar year that the Japanese government prepares a draft budget for a new fiscal year starting in April of the following calendar year. Around that time, the government also publishes its own economic forecasts for the new fiscal year which include projections for wholesale and consumer prices. For the new fiscal year starting in April 1990, the government forecasts an increase of 0.6 percent for wholesale prices and an increase of 1.6 percent for consumer prices. The increases for FY 1989 was 3.5 percent for wholesale prices, and 2.9 percent for consumer prices, both of which were affected by the introduction of the general consumption tax in April 1989. Moreover, the government's medium-term economic plan includes a guidepost for prices. In the 5-year plan established in May 1988, the average annual rate of increase of about 1.5 percent in CPI is set as a guidepost for the period from 1988 to 1992. For the same period, the annual rate of change in WPI is estimated to be about zero.

The question is whether something more would be needed to assist the central bank in pursuing its primary objective of achieving price stability over time. While the results of the government's annual numerical exercises are presented as projections, the general public takes it that there are certain normative elements in them. Moreover, announcing them as annual targets may sometime not help the central bank. Suppose that an unexpected exogenous price shock, for example, an appreciation of the yen exchange rate takes place. In such a situation, the central bank may wish to see an absolute decline in wholesale prices, and would not like to be constrained by the previously-set price target. On the other hand, the central bank cannot totally ignore the short-run costs in terms of lost output and higher unemployment which might result from pursuit of the previously-set annual price target, for example, in the wake of a sharp rise in oil prices.

In any event, in the current environment, the central bank's periodic comment on current and prospective price developments, its timely warning against emerging inflationary pressures, and its demonstrated readiness to take appropriate monetary action at an appropriate time would be essential in sustaining credibility for the central bank's policy of maintaining price stability over time.

It might be added that in view of the growing importance of the service sector and its inadequate coverage in the existing price statistics, the Bank is actually trying to improve statistics on prices in this particular sector which accounts for more than 50 percent of the value added in the total economy. These statistics are going to be used more systematically and extensively in the Bank's assessment of overall price performance in Japan.

III. Monetary Policy Transmission Channels

It is too early to have a clear view on how the process of financial de-regulation and innovation has actually affected the monetary policy transmission mechanism in Japan.¹ In theory, the credit availability effect, which used to be an important transmission channel for monetary policy in Japan, should be weakened by the process. But, it has not been possible as yet to precisely measure the extent to which this effect has been affected, at least partly because the very easy stance of monetary policy has been corrected only recently.

As to the importance of other transmission channels, Kalman-filtering tests, conducted at the Bank, covering the period from the first quarter of 1965 to the fourth quarter of 1988 suggest that the interest rate sensitivity of domestic private demand in its

¹ For English-language sources of descriptions about the transmission process of monetary policy in Japan for the decades prior to the 1980s, see in particular Organization for Economic Cooperation and Development, "Monetary Policy in Japan," OECD Monetary Studies Series, December 1972; Kumiharu Shigehara and Niels Thygesen, "The Role of Monetary Policy in Demand Management: The Experience of Six Major Countries," OECD Monetary Studies Series, September 1974; and Yoshio Suzuki, *Money and Banking in Contemporary Japan: The Theoretical Setting and Its Application*, Yale University Press, 1980.

entirety has not weakened over this period. Inventory investment, which had responded quickly and largely to changes in monetary policy in 1960s and 1970s, appears to have become less sensitive to interest rate changes, as improved inventory management techniques for adjusting the level of inventories to changes in final demand have enabled both manufacturers and distributors to reduce their "excess" inventories. On the other hand, there is some evidence that the interest sensitivity of business fixed investment, in particular in non-manufacturing and R and D investment in manufacturing has increased. As for private consumption and housing construction, recent further development of consumer credit and mortgage credit facilities has tended to alleviate liquidity constraints to some extent. On the other hand, there is some evidence of increased wealth effects on consumption.

It remains to be seen whether "financial engineering" will weaken the impact of monetary policy on business investment. One argument is that the insulation effects of interest futures can negate the effect of monetary policy on business investment in real assets. But, if the opportunity cost of investment in real assets is taken into account by corporations using interest futures to avoid the effect of future interest rate changes on the cost of funds for financing their future fixed investment, the interest rate effect of monetary policy on their real investment activities will not be negated. An important point in this respect is whether creditors' prudential considerations will remain important even after financial de-regulation. If they do matter, not all corporations can have unlimited access to the capital market at a given interest rate.

A notable recent development in the pattern of corporate finance in Japan is that large corporations which have enjoyed long-standing customers' relationships with major banks have reduced borrowing from them and increased recourse to equity finance. But this change in the pattern of financing has not developed yet to such an extent that these firms may be subjected to equilibrium credit rationing. Indeed, the shift has been facilitated not only by the relatively cheap cost of financing in the bullish stock market, but also by the banks' interest in increasing lending at higher rates in the retail market where the buoyant business condition has reduced credit risks. It remains to be seen how the recent change in the share market conditions will affect the financing pattern of large corporations.

On the controllability of long-term interest rates, there is some econometric evidence in Japan that domestic bond rates have become increasingly correlated with foreign bond rates. But changes in domestic short-term money market rates continue to have significant impacts on domestic bond yields. Indeed, recent increases in Japanese money market rates have been followed by a significant rise in domestic long rates.

Finally, concerning the effects of monetary policy through the exchange rate, Kalman-filtering tests conducted at the Bank (Research and Statistics Department, 1989a) suggest that parameters for real interest rate differentials in the yen exchange rate equation have increased their values in recent years, while the importance of the parameter

for a cumulative change in the current account — a measure of risk premium for holding foreign-currency assets — has declined. This finding may imply that the impact of monetary policy on aggregate demand and prices through the exchange rate channel has gained importance over time. However, GNP shares of both exports and imports are still comparatively low in Japan (the share of exports being only 13 percent in 1988), and the effect on aggregate demand and prices through this channel may not be as important as in European countries where international trade transactions account for a larger portion of GNP.

On the whole, monetary policy transmission in liberalized markets may well fall more evenly on various components of demand. This should be interpreted as a broadly favorable development.

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