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Japan's Experience with Use of Monetary Policy and the Process of Liberalization

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Financial liberalization, which had started progressively in Japan during the 1970s, accelerated in the 1980s. The move towards greater freedom in financial transactions and the increased scope for the working of market forces have had, and are likely to have, significant implications for the conduct of monetary policy. These are main issues addressed in this paper which is divided in three parts. Part I of the paper briefly reviews the conduct of monetary policy in the postwar period when the Japanese financial system was based on a wide of regulations. It also provides a succinct account of the process of financial liberalization in the 1970s and 1980s. Part II discusses a set of issues concerning the working of monetary policy in the new financial environment. Part III offers a brief assessment of the costs and benefits of financial liberalization and identifies major areas for consideration in the authorities' efforts to improve the Japanese financial system further.

I. Overview of the Process of Financial Liberalization

A. Financial system and the working of monetary policy before 1973

The Japanese financial system which was restructured after the Second World War was based on a wide range of regulations imposed on financial institutions and transactions: competition between different types of financial institutions was limited; interest rates were regulated; and international capital movements were made subject to tight controls. Household savings were generally deposited at banks and post offices at low controlled interest rates. Postal savings were mainly channeled to finance public sector corporations and some private enterprises through government financial institutions, while banks extended credit mainly to the private corporate sector whose financial deficit was particularly large given the high investment ratio (Table 1). The corporate sector had little direct access to open capital markets which remained underdeveloped. "Indirect financing" — that is, through the intermediation of banks — dominated. By contrast, relatively little credit was available to the household sector, and the government did not

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Table 1
Gross Saving and Investment Balance
(in percent of GNP)

	1960s		1970s		1980s	
	1st half	2nd half	1st half	2nd half	1st half	2nd half*
Private Saving	26.5	30.0	31.5	30.6	28.9	28.0
Household Saving	*(15.4)*	*(17.6)*	*(20.0)*	*(20.9)*	*(18.4)*	*(16.5)*
Private Investment	26.3	26.6	28.2	22.2	21.2	22.3
Corporate Investment	*(19.4)*	*(17.6)*	*(17.9)*	*(11.8)*	*(12.9)*	*(14.6)*
Public Sector Financial Balance	-0.8	-2.6	-2.6	-7.9	-6.7	-2.2
External Balance	-0.6	0.8	0.7	0.6	1.0	3.6

* *CY1985–CY1988.*

borrow in open markets, maintaining the "balanced budget principle" since 1949.

The structure of interest rates — both lending and borrowing — was built around the discount rate of the Bank of Japan. But the magnitudes of changes in the discount rate were fairly limited (Figure 1). To adjust domestic bank credit expansion, the Bank of Japan largely relied on the control of commercial bank lending by changing the availability of its own credit to the commercial banks. Moreover, the impact of central bank lending policy was reinforced by exogenous factors affecting bank reserves: in economic boom periods, the increased demand for currency by the general public tended to put a considerable pressure on bank reserves; and, in such periods, a rise in net cash receipts of the government resulting from higher tax revenues also exerted pressure on bank reserves. Nevertheless, the effect of changing pressures on bank reserves could not alone be relied upon to control bank credit expansion sufficiently quickly and closely. In periods of restraint, credit ceilings were therefore concomitantly applied to the major banks, which were generally heavily indebted to the Bank of Japan.

As indicated in the OECD report on monetary policy in Japan,[1] this conduct of monetary policy did not imply that the Bank of Japan espoused the credit view, ignoring the importance of money. In fact, the course of money supply was roughly similar to that of domestic credit, as the authorities used exchange controls and other measures to insulate the domestic financial market from international ones, and domestic credit restraint was not frustrated by undesirable capital inflows under the fixed exchange rate system (Figure 2). The association between changes in domestic financial conditions and

[1]For a fuller analysis of the conduct and transmission process of monetary policy in the 1960s, see the OECD report "Monetary Policy in Japan" (1972) prepared by Shigehara. Also see the OECD report "The Role of Monetary Policy in Demand Management — The Experience of Six Major Countries" (1975) co-authored by Shigehara and Thygesen.

Figure 1. Japan: Interest Rates and Exchange Rate

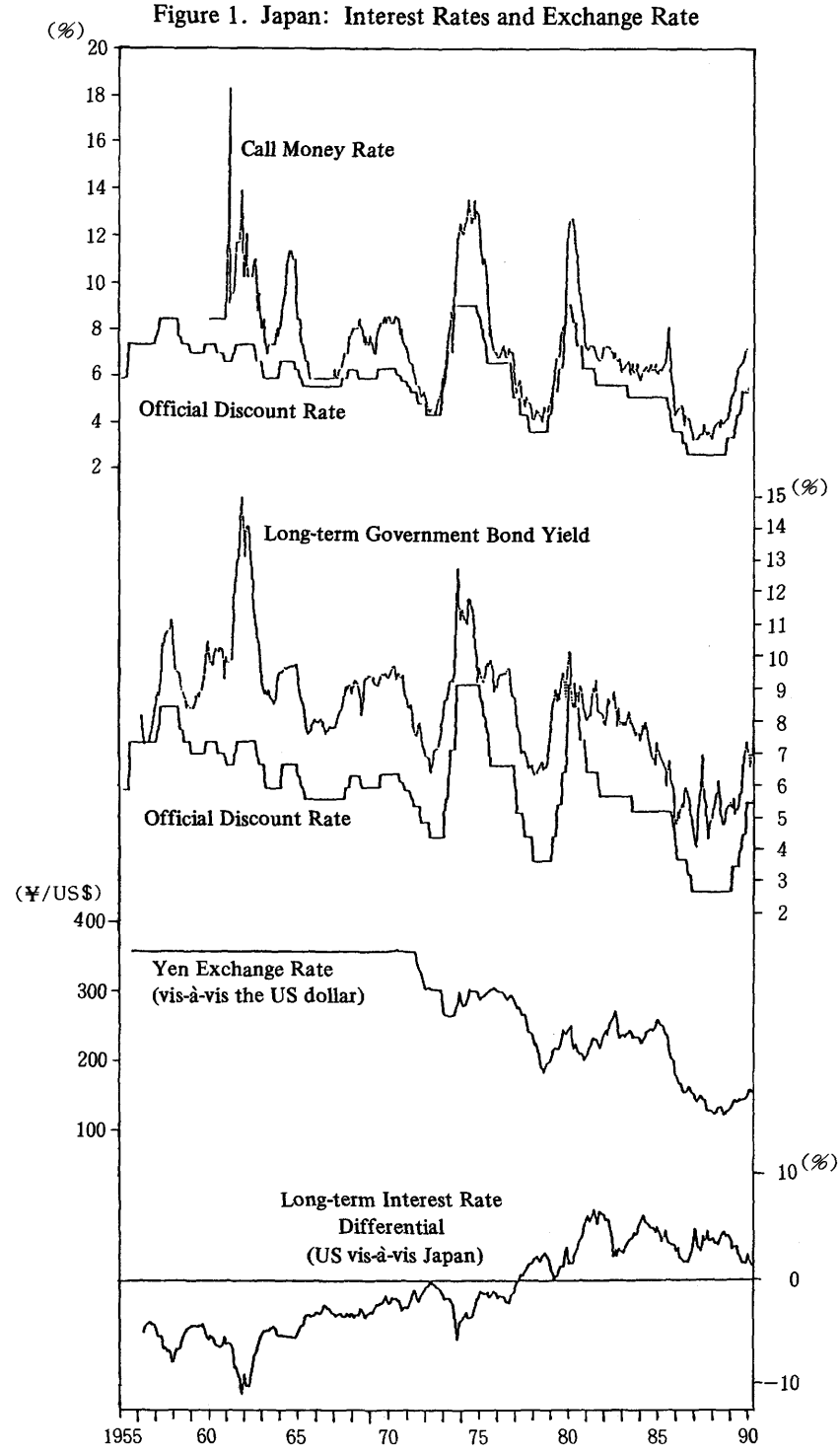
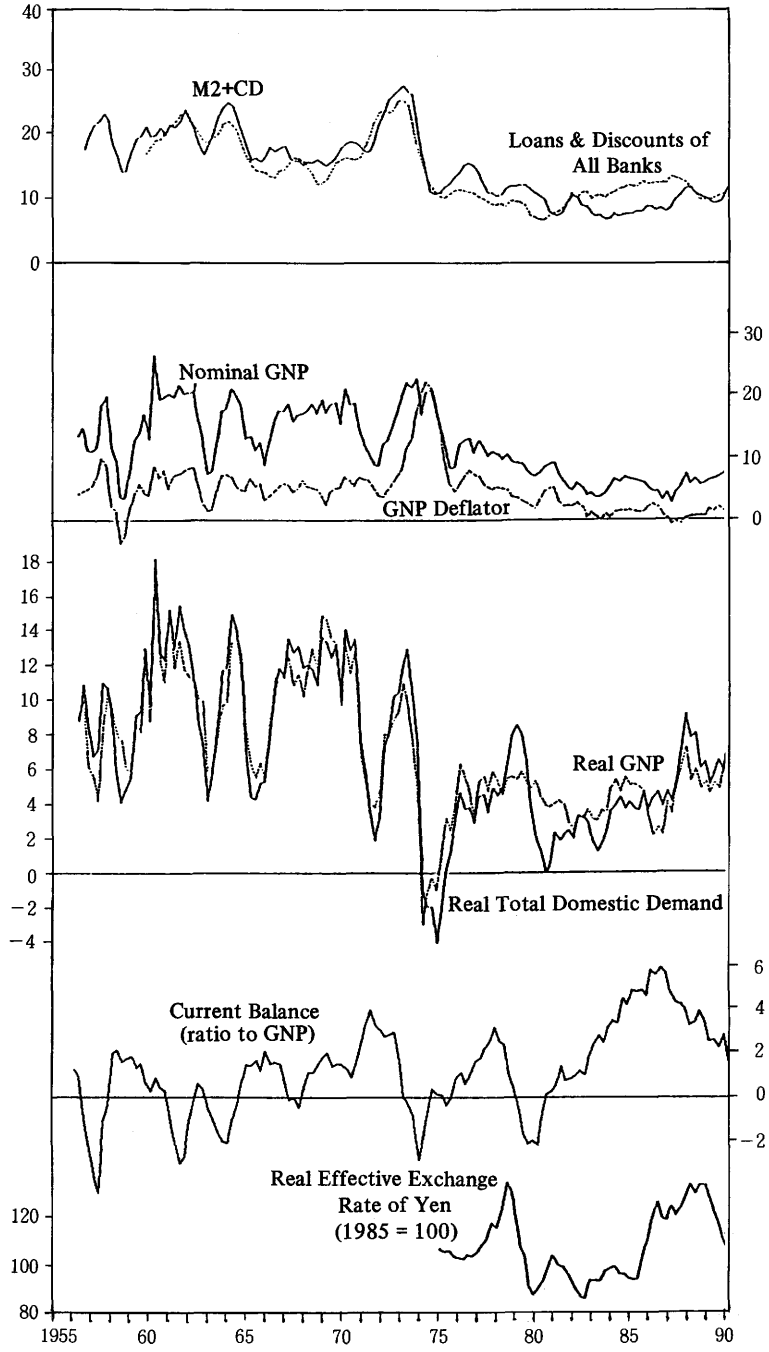


Figure 2. Japan: Selected Economic and Financial Data
(percentage change: annual rate)



**Compiled from the index of the nominal effective exchange rate of the yen against the currencies of 17 industrial countries and a cost indicator of relative normalized unit labor costs in manufacturing.*

the development of the real economy was remarkably distinct. The timing and magnitude of economic adjustment were respectively very quick and large. On the whole, the highly regulated financial system succeeded in financing the rapid growth of the Japanese economy up to the early 1970s. Between 1960 and 1973, growth of real GNP averaged 9.4 percent. Annual average inflation rate was 5.8 percent in terms of consumer prices, and 2.2 percent in terms of wholesale prices.

B. Transformation of the financial system in the 1970s

1. *Underlying forces for change*

During the 1970s, however, structural changes in the macroeconomic environment following the first oil crisis and the end of the "high growth era" put this system under strain. The investment ratio fell sharply, reducing the corporate sector's need for borrowed funds. At the same time, the household saving ratio rose from about 16 percent in the 1960s to around 20 percent in the 1970s. The counterpart of net private domestic saving was large government deficits, financed by government bond issues in considerable amounts.[2]

Another related change was the emergence of Japan as a net capital exporter. Up to the mid-1960s, rapid economic growth gave rise to periodic balance of payments crises which forced the authorities to restrain domestic demand. But from the late 1960s onwards, Japan's underlying current account position gradually shifted to show a persistent surplus. This tendency was interrupted only by successive oil price shocks.[3] Against the background of a persistent current account surplus, capital outflows were encouraged. The progressive dismantling of capital controls under the floating rate system (introduced in the spring of 1973) culminated in the introduction of a new Foreign Exchange and Foreign Trade Control Law at the end of 1980 which established the general principle that external transactions be decontrolled subject to emergency clauses. As Japanese financial markets became more closely integrated with those abroad, tight regulations on domestic financial transactions gradually became untenable.

2. *Government bond markets*

Between the late 1960s and the early 1970s, government bonds with maturity of 7 years were issued through underwriting syndicates of institutional subscribers or placed with the government's Trust Fund Bureau at below market rates of interest.[4] High commissions, however, meant that the effective interest rates earned by private institu-

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[2]Deliberately expansionary fiscal actions of significant importance were taken in mid-1965 for the first time in the postwar period. The government then abandoned the "balanced budget principle" maintained since 1949, increased public expenditure by issuing long-term government bonds. Actual bond issues started in January 1966. The government bond issuance was subsequently reduced as the economy picked up.

[3]For an account of the use of monetary policy in response to the two oil shocks and the performance of the Japanese economy, see Shigehara (1982).

[4]The maturity of the long-term bonds was lengthened to 10 years in 1972.

tional subscribers were rather high for the initial holding period. The financial institutions acquiring these bonds were not allowed to sell them on the secondary market, which tended to remain underdeveloped as a consequence. The Japanese Fiscal Law prohibits the Bank of Japan's subscription to new government bond issues. But, part of the bonds held by financial institutions for more than a year was purchased by the Bank of Japan; as late as 1975, about one third of outstanding government bonds was held by the Bank of Japan. The Bank of Japan's outright purchase of such bonds was generally kept in line with a trend increase in the monetary base (currency in circulation plus bank reserves) associated with underlying economic growth.

With the government's increased reliance on new bond issues for its deficit financing, however, the amount of government bonds outstanding rose from less than 10 percent of GNP in the mid-1970s to over 30 percent by the early 1980s. The Bank of Japan could not continue to purchase a substantial portion of such bonds initially subscribed by the banks, as it would undermine control of the monetary base and hence the money supply. Banks have continued to subscribe to government bonds through the underwriting syndicate system, but, since 1977, they have been allowed to limit its net holdings by becoming heavy sellers on the secondary market. The share of bonds subscribed by the security companies increased, reflecting an important widening of the capital market through sales to corporate and individual investors. These developments tended to constrain the issue rate to follow the yield available on the secondary market which expanded rapidly. The maturity range of new bonds was enlarged with the addition of 5-year discount bonds in 1977, the issuance (through public offering) of 3-year bonds in 1978, and that of 2-year bonds in 1979 and 4-year bonds in 1980.

3. Short-term money markets

The emergence of a large secondary market in government bonds in turn stimulated the development of freer short-term money markets. Prior to 1967, only an interbank money market existed, the call money market. No comparable market existed for non-bank short-term financing. To fill the gap, the so-called Gensaki market developed during the 1970s — a market that involves transactions in bonds with a repurchase agreement at a specified date. This market provided short-term financing for the security companies and functioned as a free, although marginal, short-term money market for non-financial corporations. But, as an increasing number of corporations switched their liquid funds from bank deposits to more attractive Gensaki instruments offered by the security firms using government and other bonds, the banks started to put pressure on the authorities to enable themselves to issue alternative, and competing, financial instruments. Accordingly, banks were allowed to issue negotiable certificates of deposit (CDs) within certain limits in 1979 (Table 2).

C. Financial liberalization in the 1980s

A number of new instruments were introduced in the early 1980s. The security

Table 2
Financial Liberalization in Japan: Chronology

1979	May	Issuance of CD started
1980	Jan.	Security companies introduced the medium-term government bond fund
	Dec.	New Foreign Exchange Law enacted
1982	Apr.	New Banking Law enacted
1983	Apr.	Retail sale of public bonds by banks started
	June	Short-term Euroyen loan to non-residents liberalized
1984	Apr.	Acquisition of CP, CD issued overseas permitted for investor
	May	Report of Yen-Dollar Adhoc Committee publicized
	June	Conversion of foreign currencies into yen liberalized Short-term Euroyen loan to residents liberalized Dealing in public bonds by banks initiated
	Dec.	Issuance of Euroyen CD permitted for overseas branches of Japanese banks and foreign banks
1985	Apr.	MMC put into sale Medium- and long-term Euroyen loans to non-residents liberalized
	June	Yen-denominated bankers' acceptance market established
	July	Foreign-currency-denominated convertible bonds issued by banks in overseas markets
	Oct.	Government bond futures market introduced Interest rates on large time deposits liberalized
	Nov.	Trust banks owned by foreign banks opened
	Dec.	50% securities subsidiaries of foreign banks established
1986	Feb.	Short-term government bonds (TB) newly issued Six foreign securities firms became regular members of the Tokyo Stock Exchange
	June	Euroyen bond issues by foreign banks permitted
	Oct.	Public issuance of 20-year government bonds introduced
	Dec.	Japan Offshore Market (JOM) established
1987	Feb.	Underwriting of foreign CP by Japanese banks abroad permitted
	May	Trading in overseas financial futures markets permitted for banks, securities firms and insurance companies
	June	Osaka Stock Futures 50 introduced on the Osaka Stock Exchange
	Sept.	Auction method for 20-year government bonds implemented
	Nov.	Partial auction method or 10-year government bonds implemented Domestic CP market established Issuance of Euroyen CP by foreign firms permitted
1988	Jan.	Issuance of Samurai CP permitted
	May	Financial Futures Law enacted
	Sept.	TOPIX and NIKKEI 225 introduced
	Oct.	Securitization of mortgage loans by banks permitted
	Nov.	Mortgage-backed Securities Law enacted
1989	Feb.	52 sogo banks converted to ordinary banks
	May	Medium- and long-term Euroyen loan to residents permitted
	June	Tokyo International Financial Futures Exchange established Small-lot MMC put into sale
1990	July	Announcement of the abolition of capping and flooring rates on Small-lot MMC Holding of foreign currency denominated overseas deposits up to 100 million yen liberalized

companies in 1980 introduced a short-term investment trust — the medium-term government bond fund. Then, since 1981, banks have been permitted to offer a new type of time deposits up to 3 years, while trust and long-term credit banks have been allowed to offer new types of trust and debentures respectively. In 1983, the banks were allowed to sell the newly issued long- and medium-term government bonds to the general public over the counter.

In 1984, a new financial liberalization package was announced including measures aimed at promoting a greater internationalization of the yen. These measures were outlined in a report of the working group on Yen/Dollar Exchange Rate Issues jointly established by the Japanese Ministry of Finance and the U.S. Treasury.

Some measures to liberalize interest rate regulations were also announced. In 1985, large-denomination deposit instruments with fully market-determined interest rates were introduced. Money Market Certificates (MMCs) with a lower minimum threshold and at market-related interest rates became available (Table 3). Restrictions on the size and maturity of both instruments as well as CDs have been gradually reduced. However, interest rates on smaller-denomination deposits (which amount to about half of the value of all existing deposits) are still regulated. The authorities prefer "gradualism" in financial liberalization to secure some adjustment time for the management of smaller financial institutions such as Shinkin banks. Interest rates on all time deposits are scheduled to be liberalized by 1993 (Figure 3).

As for bank lending rates, a new method of determining the short-term prime rate that relies more on market interest rates was introduced in early 1989. A competitive bidding system in the primary market for 10-year government bonds was established in the spring of that year.

As new financial instruments opened further possibilities of arbitrage, the range of financial assets available in short-term money markets became much wider. A commercial paper market was established in November 1987. Its growth since then has been particularly rapid. Financial innovations such as swaps and options have also developed against the background of technological progress.

Despite a series of measures taken to de-regulate financial transactions, some segments of the Japanese financial system remain underdeveloped.

— Higher and fixed commissions and requirement of collateral for corporate bond issues tend to reduce the attractiveness of the domestic corporate bond market relative to the Euro bond market.

— A security transaction tax increases the effective cost of transactions in securities with short remaining periods and discourages the development of the short-term bond market.

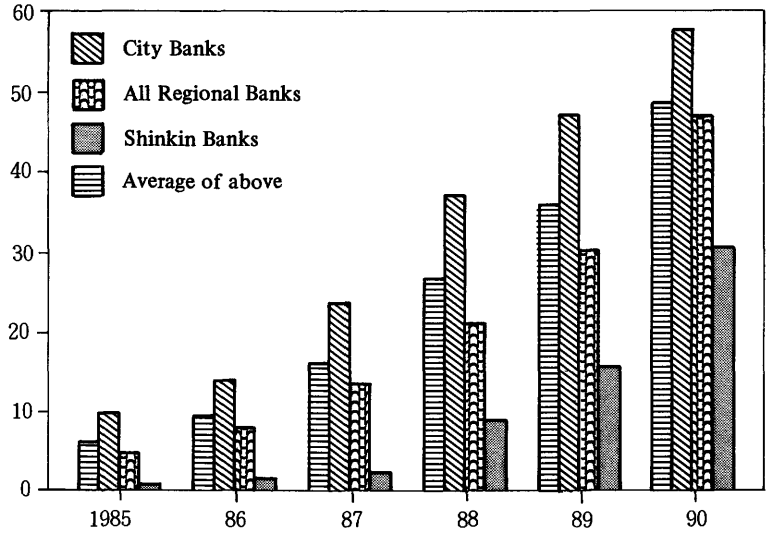
While transactions in short-term government papers (Financing Bills and Treasury Bills) are exempted from the transaction tax, Financing Bills have been subscribed by the Bank of Japan almost in their entirety at fixed rates below the discount rate, and general-

Table 3
Deregulation of Deposit Instruments in Japan

	Large Time Deposits (introduced Oct. '85)		MMC (introduced Mar. '85)				Super MMC (introduced June '89)			New Short-Term Prime Rate[c] (introduced Jan. '89)
	minimum amount (¥ million)	maturity (months)	maximum interest rate (%)	minimum amount (¥ million)	maturity (months)	maximum issue per capital account (%)	maximum interest rate[a] (%)	minimum amount (¥ million)	maturity (months)	(%)
1985 Oct.	1,000	3 ~ 24	CD−0.75	50	1 ~ 6	150				
1986 Apr.	500				1 ~ 12	200				
Sep.	300			30		250				
1987 Apr.	100		1~12 mths CD−0.75 1~24mths CD−0.5	20	1 ~ 24	300				
Oct.		1 ~ 24		10		abolition				
1988 Apr.	50									
Nov.	30									
1989 Jan.										4.25
Apr.	20									
June							6 mths CD−1.25 12 mths CD−0.75	3	6, 12	4.875
Oct.	10		(absorbed by large time deposits)				3mths CD−1.75 2-year CD−0.5 3-year, 10 year gov't bond coupon − 0.7		3, 6, 12, 24 36	
Nov.										5.75
1990 Jan.										6.25
Mar.										7.125
Apr.							b	1		

[a] *There existed capping and flooring rates until November 5, 1990.*
[b] *After November 5, 1990, interest rates on Super MMC reflect market interest rates more directly.*
[c] *Determined by commercial banks individually.*

Figure 3. Relative Importance of Deposits with Unregulated Interest Rates
(in percent of total deposits: end-March)



ly held until redemption. The government started to issue Treasury Bills in the auction market for short-term financing in 1986. However, the amount outstanding at end-1989 accounts for about 5 percent only of the total value of short-term instruments existing in the money market.

II. Working of Monetary Policy in the New Environment

Financial liberalization has important implications for the implementation of monetary policy:

a) it may influence the central bank's choice of instruments of policy;
b) it should increase the role of market expectations in determining interest rates and thus affect the central bank's operating techniques;
c) it can change the roles of monetary aggregates and other financial variables as the intermediate objectives of monetary policy and the usefulness of various information variables in assessing the thrust of monetary policy; and
d) it may affect monetary policy transmission channels linking changes in interest rates and/or credit availability with the ultimate objectives of monetary policy.

These issues will in turn be discussed in the following sections.

A. Choice and use of instruments

Types of instruments of monetary policy used in Japan have evolved in response to new developments in domestic money and capital markets. Indeed, the Bank of Japan

now relies importantly on open market operations, using a variety of securities and other papers:

i) Commercial and similar bills traded among financial institutions in an open market established in 1971.
ii) Non-collateralized commercial papers issued by prime industrial borrowers and traded in an open market established in 1987.
iii) Short-term government papers (Financing Bills and Treasury Bills).
iv) Long-term government bonds.

Central bank lending policy remains an important weapon in the arsenal of the Bank of Japan. While variation of minimum reserve requirement is another traditional instrument in the arsenal, it has not been used actively since 1981.

The primary operating target of the Bank of Japan continues to be short-term money market conditions. In employing various policy instruments, *either* to put pressures on bank reserves with the view to changing monetary conditions, *or* to offset pressures on bank reserves arising from exogenous factors such as changes in currency in circulation and net cash receipts of the government with the view to maintaining stable monetary conditions, the Bank of Japan generally uses its instruments in the following manner:

i) Variations in central bank lending and operations in the bill and commercial paper markets in adjusting bank reserves in the very short run.
ii) Operations using Financing Bills and Treasury Bills in offsetting pressures on bank reserves arising from seasonal factors working over a period of about 1-3 months.
iii) Outright purchase of government long-term bonds roughly in line with a trend rise in the monetary base associated with economic growth.

This is not a satisfactory state of affairs from the viewpoint of the central bank. The Bank would prefer the short-run adjustment of bank reserves to be conducted solely through buying and selling operations in open and well-developed markets for short government papers. These instruments carry no credit risks and they are naturally most appropriate central bank assets as the counterpart of the monetary base, if they can be traded in open markets with sufficient speed and minimum transaction costs. However, despite a wide range of actions taken by the government to liberalize the financial system, government short-term debt markets are left underdeveloped. In this situation, central bank lending to commercial banks, using, as collateral, long-term government bonds held within their portfolio,[5] remains an important instrument which the central bank can use most flexibly to adjust reserve availability.

B. Formation of interest rates and the role of expectation

The central bank's manner of adjusting pressures on bank reserves can provide an

[5]A security transaction tax discourages short-term buying and selling transactions in long-term government bonds.

important signal to money market participants about its intention to maintain or change money market conditions and affect market participants' expectation about the future course of interest rates. Changes in the central bank lending rate have strong announcement effects on market expectations. Moreover, they also affect the levels of interest rates on small-denomination deposits which remain regulated.

With both banks and non-banks becoming more active in asset and liability management in the new environment, changes in market participants' perception about the future course of the central bank action on short-term money market rates can affect interest rates over a wide maturity spectrum more rapidly and significantly. Their perception can change not only in response to the central bank's attitude towards the supply of reserves and changes in the central bank lending rate, but also in response to other signals, for example, the Bank's messages included in the Governor's speeches and his oral remarks at press conferences. Moreover, publication of economic or financial data can immediately influence market interest rates, if market participants expect that the authorities' interpretation of such data will lead to a change in policy. Depending on the situation, the central bank may accept such market development. There are, however, some incidences of market interest rates being distorted by the market's wrong interpretation of a central bank action, an unfounded press report about the implications of an international accord on the exchange rate for the future course of domestic interest rate policy, and so on.

The Bank of Japan's action affecting money market conditions usually centers on the overnight money market rate, letting the interplay of this and market forces determine the levels of other short-term money market rates. This practice enables the central bank to assess the direction and strength of prevailing forces in the market.

C. Monetary aggregates, other intermediate and information variables

Before turning to the question of how financial liberalization has affected the role of monetary aggregates and other financial variables in the conduct of monetary policy, it may be useful to make a brief review of Japan's experience with money supply control (Shigehara, 1990b).

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 strictly target-oriented monetary management. An important matter of concern was that failure to achieve targets, even if only due to vagaries of the demand for money, might distort market expectations about the central bank's future course of action and undermine the credibility of policy. By announcing monetary projections, the Bank of Japan elevated the status of money supply to 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.

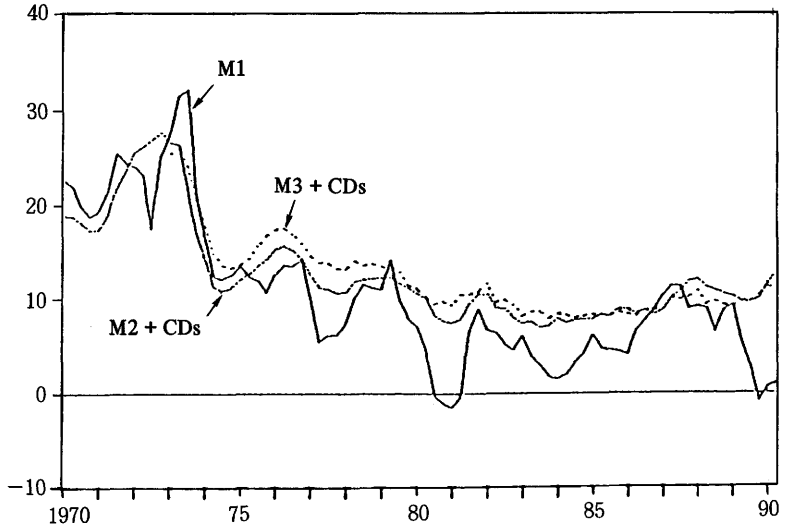
Hamada and Hayashi, Japanese academics, observed that an important reason for the smooth conduct of monetary policy in Japan during the period they examined — the 1970s and early 1980s — was that the Bank of Japan aimed at not immediate but medium-run control of broad money without paying too much attention to narrow money which often exhibits erratic movements (Figure 4). They noted 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" (Hamada and Hayashi, 1985).

In fact, growth of M2+CDs decelerated gradually from the annual average rate of 18.1 percent in the first half of the 1970s to 11.9 percent in the second half of the same decade. It declined further to 8.1 percent in the first half of the 1980s and picked up somewhat to 9.3 percent in the second half. Real GNP growth averaged 5.8 percent and 4.6 percent at an annual rate in the first and second halves of the 1970s, respectively. The annual average rate of real economic growth continued to decline somewhat to 3.8 percent in the first half of the 1980s, but picked up to 4.4 percent in the second half. Particularly noteworthy is Japan's achievement on the price front. Inflation rate in terms of GNP deflator declined steadily from the annual average rate of 9.6 percent in the first half of the 1970s to 5.5 percent in the second half. It continued to fall to 2.1 percent in the first half of the 1980s and was reduced to 1.0 percent in the second half, despite some reacceleration of monetary growth in terms of M2+CDs and a pick up in economic growth.

While the actual growth of M2+CDs followed the projected course fairly closely during most of the 1980s, some erratic movements in the velocity started to complicate the projection of M2+CDs from the fourth quarter of last year. Several factors appear to have contributed to this.

i) A reduction in the minimum unit of large-denomination time deposits at market rates and that of MMCs at market-related rates, which increased an incentive to shift funds from other types of financial instruments not included in the measure of M2+CDs.

Figure 4. Growth of Money Supply
(year-to-year change: per cent)



Notes: 1. *Data on M1 and M2+CDs (M2 only before May 1979 when CDs were introduced) are taken from the balance sheets of the following financial institutions: the Bank of Japan, the Foreign Exchange Fund, All Banks (excluding Trust Accounts, and including Sogo Banks which are members of the Second Association of Regional Banks), Shinkin Banks, the Norinchukin Bank and the Shokochukin Bank.*

2. *Definitions of various measures of money are as follows.*
   M1: cash currency in circulation + demand deposits
   M2 + CDs: M1 + Quasi Money (=total deposits − demand deposits) + Certificates of Deposits
   M3 + CDs: M2 + CDs + deposits with Post Offices and Agricultural Cooperatives, Fishery Cooperatives, Credit Cooperatives, Labor Credit Associations and money trusts and loan trusts of All Banks.

3. *Monthly data on M1 and M2 + CDs are obtained about two-weeks after the end of the corresponding month. Data on M3 + CDs, which has generally moved broadly in line with M2 + CDs, are obtained about a month after the compilation of data on M2 + CDs.*

ii) Interest-rate arbitrage by prime corporate borrowers who can issue commercial papers at relatively low rates and redeposit the funds in the form of large-denomination time deposits at higher rates.

iii) A shift from postal saving accounts (not included in M2+CDs) to bank deposits with higher interest rates, with the maturation of ten-year time deposits in such accounts placed in the early 1980s when interest rates were historically high.

This new development begs at least two questions. One concerns the stability of the

demand for money and the controllability of monetary aggregates through interest rate changes by the central bank. The other relates to the usefulness of credit ceilings in the new environment.

On the first question, empirical findings at the Bank of Japan, Institute for Monetary and Economic Studies covering most of the 1980s suggest that the role of interest rates in determining subsequent developments in money supply has increased over time. Looking ahead, some transitory factors, which have worked to destabilize the demand for money in recent months, can shortly disappear or at least weaken. But, different destabilizing forces may emerge from the on-going process of financial liberalization. At some point in time, the completion of financial de-regulation by itself should help stabilize the demand for money. However, continued technological innovation in financial products and other autonomous forces may work to destabilize it from time to time. Moreover, it is possible that the increased role of market forces in the pricing of bank deposits through financial liberalization may reduce the extent to which interest rate changes induce portfolio substitution between bank deposits and other similar assets included in the measure of money and "non-money" assets, thereby weakening money supply control through this channel. These possibilities must be kept in mind in the design of monetary policy at present and in coming years.

On the second issue, it is true that in the past when the Japanese financial system was highly regulated and international capital flows were tightly controlled, the Bank of Japan relied on direct quantitative control on commercial bank lending to non-bank sectors as an important supplementary instrument to adjust the volume of total credit to these sectors. Then, the development of the money supply was largely in parallel with domestic credit expansion, which, in turn, followed more or less the same course as total bank lending. However, direct quantitative control on commercial bank lending is no longer in use. At present, commercial banks follow the practice of individually informing the Bank of Japan about their quarterly lending programmes shortly before the beginning of each quarter; the Bank assembles them and publishes the total volume of planned lending. In the course of banks' preparation of their own lending programmes, the Bank of Japan may counsel them when deemed appropriate, but it does not give them mandatory guidance. In any event, given a significant progress in the de-regulation of financial transactions both domestic and international, Japanese non-bank borrowers' access to alternative sources of finance and innovations in financial engineering could negate the effect of compulsory control on the volume of domestic bank lending, even if it were reintroduced.

In the new environment, the task of assessing and achieving the appropriate thrust of monetary policy is more complicated than before. The usefulness of various monetary and credit aggregates as intermediate variables must continue to be reassessed in the light of the evolving situation. A "multi-scoped", eclectic approach to monetary control, long in use by the Bank of Japan, must be supported by continuing efforts to develop and

improve indicators of inflationary pressures as a guide to policy. In the de-regulated financial system, useful information can be found in the behaviours of prices in domestic asset markets including stock and land prices, the shape of yield curves, and exchange rates, bilateral and effective, although the possibility of unmeasurable speculative bubbles in auction markets distorting the interpretation of such indicators must be taken into account.

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 has just started to compile statistics on prices in this particular sector which accounts for an increasing important share 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.

D. Monetary policy transmission channels

It is too early to have a clear view on how the process of financial liberalization has actually affected the monetary policy transmission mechanism in Japan. 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 reversed only recently.

As to the importance of other transmission channels, econometric tests conducted at the Bank suggest that the interest sensitivity of domestic private demand in its entirety has not weakened over recent years. There is no clear econometric evidence that the interest sensitivity of inventory investment has changed over the recent years, nor is it clear whether the sensitivity will change in coming years. However, the impact of monetary policy on aggregate demand through its influence on business stock-building, which had been significant in the 1960s and 1970s, appears to have weakened, as improved inventory management techniques have led to a reduction in the level of inventories relative to GNP. There is some evidence that the interest sensitivity of business fixed investment, in particular investment for research and development, has increased. While liquidity constraints on private consumption and housing construction appear to have been alleviated, to some extent, by recent further development of consumer and mortgage credit facilities, this may tend to increase the interest sensitivity of household expenditure. There is some evidence of increased wealth effects on consumption.

Monetary policy can also affect aggregate demand through its effect on the exchange rate. Empirical analysis conducted at the Bank suggests that the importance of real interest rate differentials as an explanatory variable in the yen exchange rate equation has increased in recent years, while the importance of 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, and the effect on aggregate demand and prices through this channel may not be as important as in European and some other Asian economies where international trade transactions account for a considerably larger portion of GNP (Table 4).

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.

Table 4
Relative Importance of External Trade
(in percent of GNP / GDP)

	Exports in Goods (A)	Imports in Goods (B)	Total (A+B)
Japan	12 (10)	11 (6)	23 (16)
Korea	36 (36)	35 (31)	71 (67)
Philippines	16 (17)	25 (21)	41 (38)
Singapore	157 (143)	166 (163)	323 (306)
Malaysia	52 (57)	43 (40)	95 (97)
Indonesia	20 (23)	16 (17)	37 (40)
Australia	15 (14)	15 (15)	31 (29)
New Zealand	26 (22)	29 (22)	55 (43)
Germany	29 (26)	27 (20)	56 (46)
France	19 (17)	22 (18)	41 (35)
Italy	18 (15)	22 (17)	40 (31)
United Kingdom	22 (19)	25 (23)	47 (42)
Netherlands	57 (44)	57 (43)	114 (86)
Belgium	74 (59)	79 (59)	153 (118)
United States	6 (6)	9 (9)	15 (15)
Canada	28 (24)	27 (23)	55 (47)

Source: International Financial Statistics (IFS), IMF.

Notes: Figures show export and import volumes of goods as percent of real GNP/GDP in 1987. Volume figures of exports and imports are calculated on the basis of export and import values (on a customs-clearance basis) deflated by export and import price indices shown in IFS. Figures in parentheses represent the ratios of nominal values of exports and imports to nominal GNP/GDP in 1987. For Indonesia, the wholesale price index is used as a proxy for the import price index which is not shown in IFS.

III. Costs and Benefits of Financial Liberalization and Tasks Ahead

As financial liberalization leads to more active asset and liability management by banks and non-banks with the view to increasing income and capital gains, prices in auction markets can move more quickly and sharply in response to changes in market participants' perceptions about the future course of interest rates. In the second half of the 1980s, the volatility of the yen exchange rate increased remarkably (Table 5). The volatility has also increased for bond yields and stock price/earnings ratios.

While there is no clear empirical evidence about the negative economic effects of the short-run fluctuations of prices in financial auction markets,[6] the undesirable economic consequences of sustained misalignments of auction market prices, not explicable by fundamentals, have been well recognized, particularly with respect to the exchange rate. Domestically, a sustained period of sharp stock price upswings until the end of 1989 gave rise to concern about its sustainability. The subsequent downturn from the beginning of this year suggests that while the prolonged swings have partly reflected changes in interest rate expectations, there was an element of speculative bubble, with market participants basing their views on what other market participants seem to think and driving stock prices in one direction for a sustained period of time.

Precipitated adjustment of the stance of monetary policy in response to sharp changes in stock market conditions could undermine the credibility of the central bank. Although both short- and long-run behaviors of stock prices should not be ignored as they contain useful information, the central bank must examine as wide variety of indicators of inflationary pressures as possible, including other asset market prices, such as land prices which have continued to rise in Japan.

One important consequence of financial liberalization is greater competition among financial institutions. This has led to the narrowing of profit margins on their lending which have tended to increase returns on saving and to reduce the cost of borrowing. Within the non-bank sector, the benefits of financial liberalization have accrued largely to corporate borrowers and wealthy savers. Smaller savers placing funds in small-denomination deposits at regulated interest rates have benefited less, although they can now have fairly easy access to consumer credit and some other financing facilities.

A notable development in the pattern of corporate finance in Japan over the past few years was that large corporations, which had enjoyed long-standing customers' relationships with major banks, reduced borrowing from them and increased recourse to equity finance. The shift was accelerated 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 middle and retail markets. Since the beginning of this year the change in the

[6]See International Monetary Fund (1984), Bailey et al. (1986) and Cushman (1986, 1988). See also Dixit (1989a, 1989b).

Table 5
Financial Market Volatility in the 1980s

	1st half	2nd half
Government Bond Yield	0.7	0.8
	(0.4)	(0.6)
Market Return on Stocks	3.4	4.8
	(3.5)	(5.4)
Exchange Rate (¥/US$)	14.6	41.4
	(14.5)	(17.4)

Notes: Figures represent standard deviations of monthly data. Standard deviations based on 11 month-moving average are shown in parentheses.

share market conditions has hindered the use of equity financing by large corporations.

A rise in the city banks' share in the credit market for small- and medium-sized companies has been achieved by greater reliance on the issuance of CDs and large-denomination time deposits at attractive market rates. In response, an increasing number of smaller credit institutions sought the outlet of their loanable funds outside the conventional credit market. They expanded investments in equity and other investment trusts and foreign-currency bonds. Such investments carry the risk of large changes in net returns which can arise from unforeseen changes in the spread between short and long rates, and variations in stock market prices and the exchange rate. Preventing financial disruptions is naturally an important concern of the authorities, and their supervisory function has been strengthened to minimize the danger of such undesirable consequences in the new environment. But securing the soundness of the financial system while prompting greater competition among financial institutions and increasing efficiency is not an easy task. The problem of moral hazard is particularly complicated.

In any event, sharper competition between financial institutions and the narrowing of profit margins provide an drive to greater efficiency in the provision of financial services. The importance of economies of scope in addition to economies of scale is increasingly recognized by Japanese financial institutions. The compartmentalization of financial services between types of banks and the separation of activities between securities companies and banks, both originally established immediately after the World War II, are actually under review by the government advisory bodies. The restructuring of the U.S. financial system, in particular the possibility of modifying the Glass-Steagal framework, and the EC initiative for financial integration (Shigehara, 1990a), including the removal of restrictions on providing financial services by the end of 1992, may also influence their deliberation.

As noted in this year's OECD report on "Progress in Structural Reform," further

financial liberalization in Japan should involve reform of the postal savings system. It observed that "the scope for the working of market mechanisms should be enlarged and measures taken to level the playing field between the postal savings system and the private banking sector." Such reform would also require review of the roles of public financial institutions which rely on funds collected by postal offices for their credit extension. Further action to develop efficient markets for short-term government debt instruments, including the modification of tax provisions presently discouraging transactions in government bonds with short remaining periods, is also essential not only from the viewpoint of monetary policy but also from the viewpoint of facilitating the use of the yen as an international currency.

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