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JAPAN

1. Policy Instruments

MONETARY POLICY

Monetary policy is conducted primarily by the Bank of Japan in cooperation with, or subject to the approval of, the Ministry of Finance. Commercial banking institutions in Japan are of various types. Some are private, while others have been established and run by the government; some are of a general nature, while others fulfill specialized functions. There are no separate discount houses of the British type in Japan. The most important category of banks is that known as "All Banks," which in terms of the amount of loans or the size of deposits constitutes over 80 per cent of the commercial banking system. It consists of "City Banks," "Local Banks," "Trust Banks," and "Long-Term Credit Banks." Other categories of bank-type financial institutions are usually restricted in nature to rather narrow purposes. They include institutions such as agricultural or industrial cooperatives, credit associations, or investment corporations. Monetary policy is concerned by and large, although not exclusively, with the category of "All Banks"—where, in turn, it affects primarily the large (and heavily concentrated) "City Banks."

The following are the actual or potential instruments at the disposal of the Bank of Japan.

The Discount Rate. This is the major instrument used in the conduct of monetary policy in Japan. The rate, or rates, apply to bills discounted at the Bank of Japan and to advances against collateral from the Bank to commercial banks (there are usually no overdrafts on the Bank). These loans and discounts have been very important in Japan not only as a means of bridging temporary gaps in banks' reserves, as is customary elsewhere, but also as a major long-term (in effect) source

of liquidity for the banking system. Since, as will be mentioned later, the government's budget has been approximately balanced for reasonably long periods of time and open-market operations are of minor importance, borrowing from the central bank is the only major source of additional banking liquidity beside the accumulation of foreign exchange reserves.

During most of the period, the Bank of Japan applied a system of multiple discount rates. This was known as the "higher-interest-rate system." Each bank was allocated a quota of loans from the Bank of Japan, for which a low "basic" discount rate was in force. Above this quota a higher rate—the "first penalty rate"—came into effect. Sometimes a second margin of Bank of Japan lending was established, beyond which a still higher rate—the "second penalty rate"—was applied. Until August 1955, the basic discount rate was of practically no significance for monetary policy: loans to all the banks considerably exceeded their rationed quotas so that the first penalty rates, and very often the second, were the relevant rates for marginal decisions. In August 1955, the basic rate was increased considerably and quotas were changed. From that date on, the basic rate became indeed the usually meaningful figure. Higher penalty rates were still applied even at later dates, but sparingly and in exceptional cases. In 1962, the system of "higher interest rates" was abolished altogether.

In addition to influencing the amount of banks' borrowing through changes in the discount rate, the Bank of Japan sometimes determines actual ceilings of the amounts lent to each individual bank. This is done in connection with rationing the credit granted by commercial banks to their customers, a practice which will be mentioned shortly.

Reserve Requirements. The minimum-reserve requirement instrument has been used only for the last few years and is still of minor significance. Traditionally, commercial banks in Japan have held practically no reserves beyond the cash used in day-to-day operations and small deposits at the Bank of Japan required for interbank clearing. In 1957, a law was passed which enabled the Bank of Japan to require the banks to hold reserves, in the form of deposits at the Bank of Japan, at a ratio not exceeding 10 per cent of the banks' deposits. In fact, reserve requirements were laid down for the first time in September 1959; the reserve ratios varied then according to the type of bank

and the type of deposit, but they were all very low—around 1 per cent of bank deposits. Minimum-reserve ratios were slightly raised in October 1961 and again in December 1963; on the latter date, they reached .5 per cent of time deposits and 3 per cent of sight deposits. Apparently these increases, besides being slight, were not considered as monetary measures intended to affect current monetary developments. As a rule, reserve requirements have thus not played any significant role; although towards the end of 1965, a reduction of legal reserve ratios (to virtually zero) was undertaken apparently as a means of encouraging monetary expansion.

Open-Market Operations. The instrument of open-market operations, as this term is normally understood, was not employed in Japan until recent years. This has been attributed to a number of factors, chief of which were the lack of a substantial organized capital market and a low pegging of rates on government securities. Occasionally, the Bank of Japan conducted a transaction in securities with a commercial bank, but this was usually a bilateral, ad hoc transaction—with a specific bank, in a specific security, and for a specified period. It was usually motivated by the desire to bail the bank concerned out of a particular difficulty or, conversely, to provide it with an outlet for a particularly large accumulation of reserves. It was not used as an instrument of over-all monetary policy.

Towards the end of the period (since 1963), open-market operations became more significant in size and probably a more integral part of over-all monetary policy; they are still, however, conducted in a bilateral manner rather than strictly in the open market.

Direct Credit Control. The Bank of Japan has maintained, with varying degrees of severity, a direct control on the amount of credit granted by each individual bank. In general, this has been an important instrument, in fact, the only significant tool of monetary policy aside from discount rate manipulations. Naturally, the use of this control is limited to periods when the banks wish to expand their loans more than the Bank of Japan is willing to allow: It cannot be used to encourage an expansion of credit. By and large, therefore, this instrument was relevant primarily when the monetary authorities were trying to limit rather than encourage the expansion of credit.

The control system was adapted in its present form in 1954. It op-

erates not on a formal, legal basis but through "moral suasion" by the Bank of Japan and is known as the "discount-window operation," or "official guidance." Despite its informal character, it is extensive and rather detailed, particularly with regard to the few large "City Banks," and the "Long-Term Credit Banks." The Bank of Japan, in consultation with the banks, determines—at least at certain periods—the amount of credits that each can extend to the public in a month's time; it sometimes follows the actual development of the banks' accounts on a day-by-day basis. The Bank of Japan imposes its views both by moral suasion and by pressure and sanctions, either threatened or actually practiced. Sanctions include primarily a restriction of the amount of Bank of Japan lending to the "delinquent" bank; or, insofar as the banking system as a whole is concerned, a threat that discount rates will be further increased if the "voluntary" control proves to be ineffective.

FISCAL POLICY

The central government's budget consists of various accounts. The most important among these is the general account, which encompasses most of the normal government activities, both of a current and of a capital nature. In addition, there are about forty special accounts. These have widely different functions, sources of income, and types of expenditure. Some of them channel savings accumulated by governmental saving institutions or by the social security system into capital expenditures. A major "special account," from the standpoint of size, is the foodstuffs control program, which is essentially a form of subsidization of mass-consumed (and mass-produced) foodstuffs, primarily rice. Another major special account is the foreign exchange account. Strictly speaking, the latter is not a legitimate part of the government's budget but a reflection of the movement of foreign exchange in the country's foreign transactions. In Japan, as frequently in other countries with foreign exchange control, these transactions are handled formally through the Treasury.

In principle, the government adheres to a balanced-budget policy, and has indeed maintained a balanced budget over the period as a whole and over any reasonably long fraction of it. Over short periods, deficits or surpluses do show up. As a rule, the general account provides a surplus, which is transferred to some of the special accounts, thus maintaining an over-all balance.

The budgetary procedure in Japan apparently does not allow a large measure of administrative flexibility. Supervision of the budgetary performance by the parliament (the Diet) is tight; rules are determined in advance for the annual budget without leaving much leeway in actual execution.

The government does not, as a rule, borrow much from the public (including the commercial banks). As mentioned earlier, interest rates on government bonds are pegged at a low level, considerably below comparable rates in the market. Likewise, the government does not normally deal in short-term borrowing from (or lending to) foreign countries. Budgetary cash surpluses and deficits are expressed, thus, mainly in changes in the government's indebtedness to the Bank of Japan.[1] The Bank is not restricted by law in its extension of credit to the government. It is, moreover, obligated to underwrite the government's short-term securities. The government itself, on the other hand, is legally denied the right to borrow at long term from the Bank of Japan or to sell long-term securities to it. In effect, the Bank of Japan's obligation to "underwrite" government securities implies that it has to actually buy these securities, since the public would not buy them under the conditions of their issuance; some securities are resold, however, to governmental agencies. In the earlier years of the period, a sizable portion of the government's indebtedness to the Bank of Japan took the form of loans. These later declined, and from about 1954 to 1961 loans to the government were nil or negligible in comparison with the amount of government bonds at the Bank. Since 1962, however, loans—this time in the form of debentures rather than advances—again became prominent.

2. *Statistical Analysis*

Data on changes in policy and target variables are presented in diagrammatic form in Chart 1. It appears that the series (not shown in the chart) of balance-of-payments surpluses and deficits since 1958 gives almost the same impression, so far as turning points in directions

[1] The word "cash" should be emphasized. "Accrued" obligations of the public to the government, or vice versa, are certainly widespread. It may also be mentioned that from time to time the government becomes indebted to commercial banks due to the latter's assumption of deferred government payments. For instance, food subsidies may first be paid out by commercial banks, which are later reimbursed by the government.

of movements are concerned, as the series of gold and foreign exchange reserves. It was therefore decided to take the latter—with minor modifications suggested by the former—as the indicator of balance-of-payments disturbances. An upward movement of this magnitude is considered an upward imbalance (that is, a balance-of-payments surplus); a downward movement, an imbalance in the opposite direction.

The period under review is divided, accordingly, into subperiods of upward disturbances, downward disturbances, or stability in the balance of payments. The classification of the period into subperiods appears in the first column of Table 1. In Chart 1, subperiods of downward disturbances are shaded by diagonal lines, subperiods of stability are shaded gray, and subperiods of upward disturbances are not shaded.

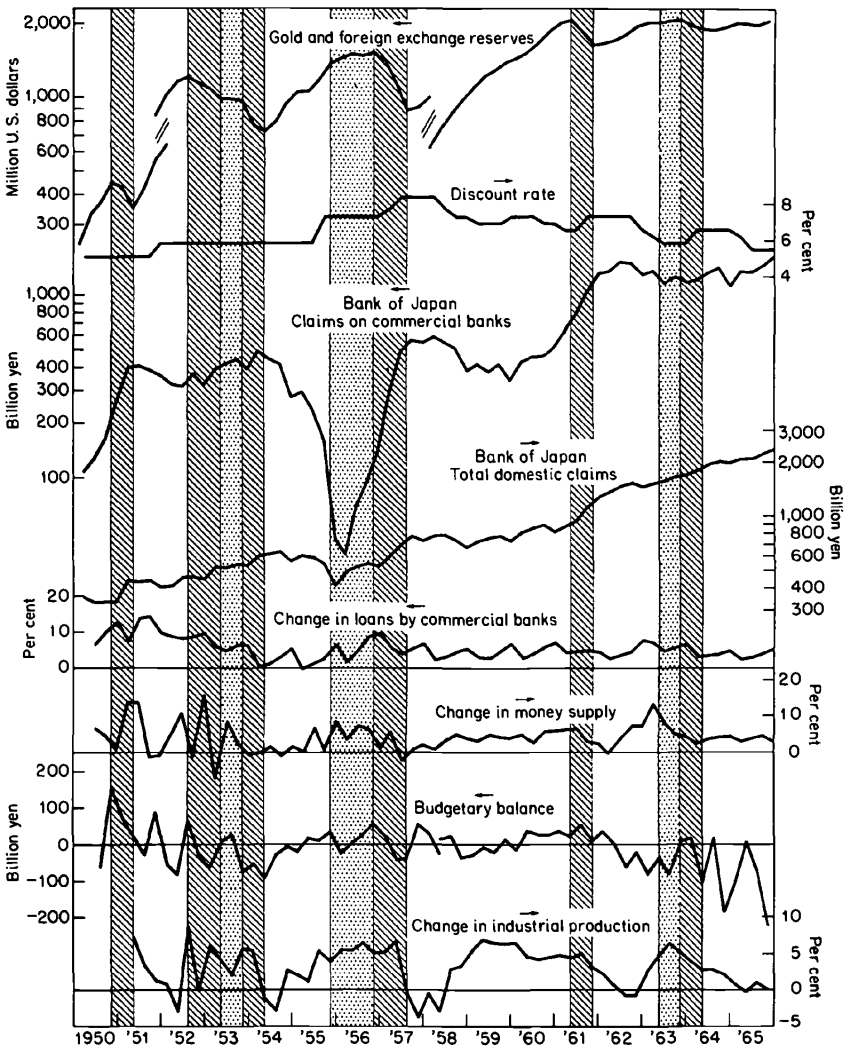
The remaining columns of Table 1 show the over-all trend of each of the policy variables considered during each subperiod of disturbance. For convenience of observation and exposition, each such movement is given a sign. It is marked by a plus sign when the movement of the variable complies with the assumption that the variable is manipulated in the direction required for balance-of-payments adjustment (for brevity, this will be referred to as an "adjusting direction"), by a minus sign when the variable moves in a direction opposite to that which balance-of-payments adjustment would require, and by an asterisk when the variable does not move, although balance-of-payments adjustment would have justified an upward or a downward movement.[2] It should be clear, in line with the discussion in the for-

[2] Similar use of plus and minus signs, in a context limited to the study of a single policy variable (the central bank's domestic assets), was made by Nurkse and by Bloomfield in their aforementioned studies. See Nurkse, *International Currency Experience,* pp. 68–70, and Bloomfield, *Monetary Policy under the Gold Standard,* pp. 47–51.

It should be emphasized—indeed, this point could not be overstressed—that the use of such signs in the present study (as, I believe, in its predecessors) does *not* have any normative connotation. Giving, for instance, a plus mark to a certain movement does by no means indicate that this movement is considered desirable in general, or by some particular yardstick, or that a different policy would be somehow less desirable. As was stated in the preceding chapters, the present study does not attempt to pass judgment on the appropriateness of policies pursued by various countries at various times. It does not intend to discuss the merits of various policy targets; and it does not purport to examine the issue—nor, a fortiori, to reach conclusions about it—of the adequacy of certain policy instruments for given policy targets. The present study is viewed as merely a necessary step on the road for such inquiries. Thus, if any convenient "neutral" symbols could be used for the purpose of identification, they would have been adopted. The plus and minus signs were selected because no other symbols are completely neutral, while these signs enjoy the advantages of having been used in distinguished and well-known precedents and of being visually convenient.

CHART 1

Japan: Time Series of Selected Variables



Note: Diagonal-line areas represent periods of downward imbalances; gray areas represent stability; and white areas represent upward imbalances.

TABLE 1

Japan: Movements of Policy Variables During Subperiods of Disturbances

Subperiod	*Gold and Foreign Exchange Reserves (indication of disturbance)* (1)	*Discount Rate* (2)	*Bank of Japan Claims on Commercial Banks* (3)	*Bank of Japan Total Domestic Claims* (4)	*Commercial Bank Lending to Public (rate of change)* (5)	*Money Supply (rate of change)* (6)	*Budgetary Balance* (7)
II–IV 1950	rise	[a]	+ rise	* stable	n.a.	n.a.	surplus
IV 1950–II 1951	fall	[a]	− rise	− rise	− rises	− rises	* surplus
II 1951–III 1952	rise	[a]	* stable	+ rise	* stable	* stable	+ balanced
III 1952–II 1953	fall	[a]	− rise	− rise	* stable	− rises	− deficit
II–IV 1953	stable	[a]	stable	rise	stable	falls	deficit
IV 1953–II 1954	fall	[a]	− rise	− rise	+ falls	+ falls	* deficit
II 1954–IV 1955	rise	[a]	− fall	− fall	− falls	* stable	− balanced
IV 1955–IV 1956	stable	stable	rise	rise	stable	rises	surplus
IV 1956–III 1957	fall	+ raised	− rise	− rise	* stable	+ falls	− deficit
III 1957–II 1961	rise	+ reduced	* no trend	+ rise	* stable	* stable	− mostly balanced
II–IV 1961	fall	+ raised	− rise	− rise	* stable	+ falls	* moderate surplus
IV 1961–II 1963	rise	+ reduced	* no trend	+ rise	* stable	+ rises	+ mostly deficit
II–IV 1963	stable	stable	fall	rise	stable	stable	mostly deficit
IV 1963–II 1964	fall	+ raised	− rise	− rise	+ falls	+ falls	* mostly deficit

Note: + indicates a movement in the direction required for balance-of-payments adjustment.
− indicates a movement in the opposite direction.
* indicates no movement or a very slight one.

[a] not applicable.

mer chapter, that at this stage each variable is examined *by itself,* and not yet as part of the general pattern; and is judged according as it moves in an "adjusting" direction or not.

The stage is thus set for the observation of policy variables. If a variable moves consistently in the direction conforming to the need for balance-of-payments adjustment, it would be tentatively concluded that manipulation of this variable was indeed motivated by the purpose of adjustment. If no such consistent behavior is found—and, a fortiori, when a variable consistently behaves in the opposite fashion—it must be concluded that the variable under consideration did not serve as a tool of balance-of-payments adjustment.

Looking, first, at the discount rate (column 2 of Table 1), it is immediately apparent that this variable moved consistently—indeed, with no exception—in an adjusting direction: the rate was raised when a downward disturbance in the balance of payments took place, and lowered in opposite instances. The evidence thus suggests the tentative conclusion that discount rate policy was used by the Bank of Japan as an instrument of balance-of-payments adjustment.[3]

Next, in column 3 of Table 1, Bank of Japan lending to commercial banks is examined. Here a consistent pattern again appears, but in the opposite direction. These loans move regularly upward at times of a downward disturbance in the balance of payments, and vice versa; these are, of course, movements which would augment disturbances rather than correct them. In the few exceptions to this pattern the variable in question merely did not move, instead of moving in a disadjusting direction; only in one instance, the upward disturbance of 1950, did the variable actually move in a way consistent with balance-of-payments adjustment.

The fact that commercial bank borrowing from the central bank increased, as a rule, when the discount rate was raised and diminished when the rate was lowered may seem somewhat surprising. This relationship may be explained, however, in the light of concurrent changes in other variables. I will come back to this relationship after examining the other related variables.

[3] It should be recalled that data on discount rate variations are relevant, so far as the "basic" rate is concerned, only from August 1955 onward. Partial information on the manipulation of the "penalty rates" indicates, however, that discount rate variations were employed in an adjusting direction also during the downward disturbance of the first half of 1954 and the following upward disturbance of mid-1954 to the end of 1955.

The other component of the Bank of Japan's domestic claims is its net claims on the government. Unfortunately, the amount of such claims as they appear in the data is misleading, because the size of these claims is heavily affected, in a biased way, by foreign exchange movements. A decline in foreign exchange reserves, for instance, would usually, but not necessarily always, mean a (net) sale of foreign exchange (not drawn, most often, from the Bank) by the government's foreign exchange fund to the public. This, in turn, would increase the government's deposits at the Bank, or be used to redeem government debt to the Bank, thus reducing the government's net indebtedness to the Bank. An impression of a movement in an adjusting direction may thereby be created. But, in fact, the adjusting impact is that of the movement of foreign exchange itself, and recording its reflection in the government's accounts at the Bank would amount to double counting.[4]

In an indirect way, however, some conception of this variable can be gained by looking at the movements of the budgetary balance. As will be recalled, the government conducts its financial transactions (other than those in foreign exchange) primarily with the Bank of Japan rather than with the public or with commercial banks. Movements of the variable under consideration are, thus, primarily the mirror reflection of the government's cash balance. It will be observed later that this balance does not show a consistent reaction to imbalances of payments throughout the period and during the 1950's it may be regarded as having been changed most often in a disadjusting direction.

Due to the deficiency of the data on the Bank's net claims on the government, for the purpose at hand, the recorded magnitude of total domestic assets of the Bank may also be biased. However, it is not difficult, perhaps, to guess what an unbiased record would have shown. The budgetary balance, as has just been mentioned, usually did not tend to move in a way which would offset the movements of the Bank's claims on commercial banks: on the contrary, the two moved most often together, in a disadjusting direction. It may therefore be quite safely assumed that had bias-free data on the Bank's total domestic claims existed, they would have shown consistent movements in a disadjusting direction. Moreover, even without the necessary correction

[4] From published sources, there does not seem to be a reliable way of separating the effect of the government's foreign exchange transactions from its other transactions.

(that is, including movements biased in an *adjusting* direction), the data give the same indication. This is shown in column 4 of Table 1, in which the frequency of movements in a disadjusting direction appears to be only slightly less than in column 3. This finding about the direction of changes in the central bank's domestic assets is similar in principle to those suggested by Nurkse and Bloomfield.[5]

Loans of commercial banks to the public are represented in column 5 of Table 1. They increased continuously at a rather fast pace throughout the period under review, and the rate of increase appears to be rather stable over the subperiods of balance-of-payments disturbances. The rate does not seem to vary much among these periods; in the few instances where it does, the variations show no consistent tendency either in the adjusting direction or in its opposite.

Money supply, on the other hand, which may be observed in column 6, does seem to react to balance-of-payments disturbances in an adjusting direction, at least from the beginning of 1954. From that period on, the rate of increase in money supply most of the time was less during periods of downward disturbances in the balance of payments, and greater during periods of upward disturbances.

Turning to the fiscal variables, it appears much more difficult to distinguish any consistent reaction to balance-of-payments disturbances. Both government revenues and expenditures show a clear long-term expansionary trend, as should be expected. However, the rate of increase, although not quite stable, does not seem to be associated with balance-of-payments fluctuations.[6] The budgetary cash balance, or the government's excess demand, is represented in column 7 of Table 1.[7] It appears that, for the period as a whole, no clear-cut pattern may be distinguished. However, during the 1950's, movements of the balance in a disadjusting direction do seem to dominate.

Let us now turn from the examination of subperiods of disturbances

[5] See, again, Nurkse, *International Currency Experience,* and Bloomfield, *Monetary Policy.*

[6] To save space, these variables are not shown in Table 1 and in Chart 1.

[7] Revenues and expenditures, and thus the budgetary balance, are compiled *net* of the foreign exchange account of the budget. The latter, as has been pointed out earlier, does not form a part of the government's excess demand; its inclusion would not only have distorted the budgetary accounts for the purpose on hand but also clearly introduced a bias in favor of movements in an adjusting direction.

From 1958 on, the budget is presented in this way in the source (*International Financial Statistics*). For earlier years, the exclusion of revenues and expenditures in the foreign exchange account was done by us.

TABLE 2

Japan: Reference Dates of Cycles of Foreign Exchange Reserves

Cycle	*Trough*	*Peak*	*Trough*
1951–54	II 1951	III 1952	II 1954
1954–57	II 1954	IV 1956	III 1957
1957–61	III 1957	II 1961	IV 1961
1961–64	IV 1961	IV 1963	III 1964

to the application of reference cycle analysis.[8] In principle, the two methods should yield roughly the same indications, since they are rather similar: the cycle contains one subperiod of upward disturbance and one of downward disturbance—although it may also contain parts of subperiods of stability. However, using both methods may help to suggest patterns; and findings which are fully supported by both may deserve greater confidence. The cycle, in the present context, is that of foreign exchange reserves—which indeed manifest, as may be observed from Chart 1, rather clear cyclical movements. The reference dates will be determined by the turning points of these cycles, which will be defined from trough to trough. An expansionary phase (from trough to peak) will thus be the phase of the cycle in which foreign exchange reserves rise; and the contractionary phase—its opposite. The reference dates are shown in Table 2.

The positions of the policy variables during the reference-cycle stages are presented in Chart 2. In part A, it may be seen that the discount rate moves almost invariably in a consistent pattern—it falls when foreign exchange reserves rise (that is, along the stages from trough to peak), and rises when reserves fall. Bank of Japan claims on the public (i.e., on commercial banks), represented in part B, also follow a generally consistent pattern—falling during the expansionary phase of the cycle, and rising during the contraction. Total domestic assets of the Bank of Japan, shown in part C, reveal a weaker pattern: [9] during the expansionary phase, their level appears, as a rule,

[8] See, again, Burns and Mitchell, *Measuring Business Cycles,* Chapter 2.

[9] But, here, the distorting effect of the inclusion of foreign exchange transactions of the government should be recalled.

CHART 2

Japan: Patterns of Policy Variables
During Balance-of-Payments Cycles

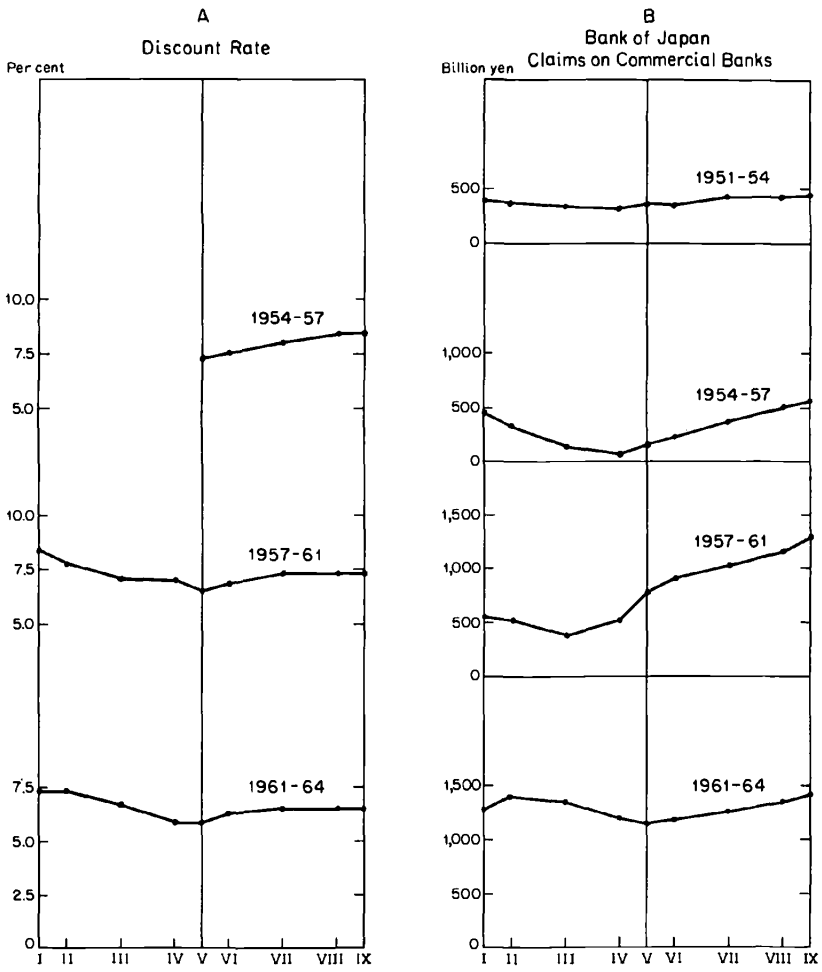
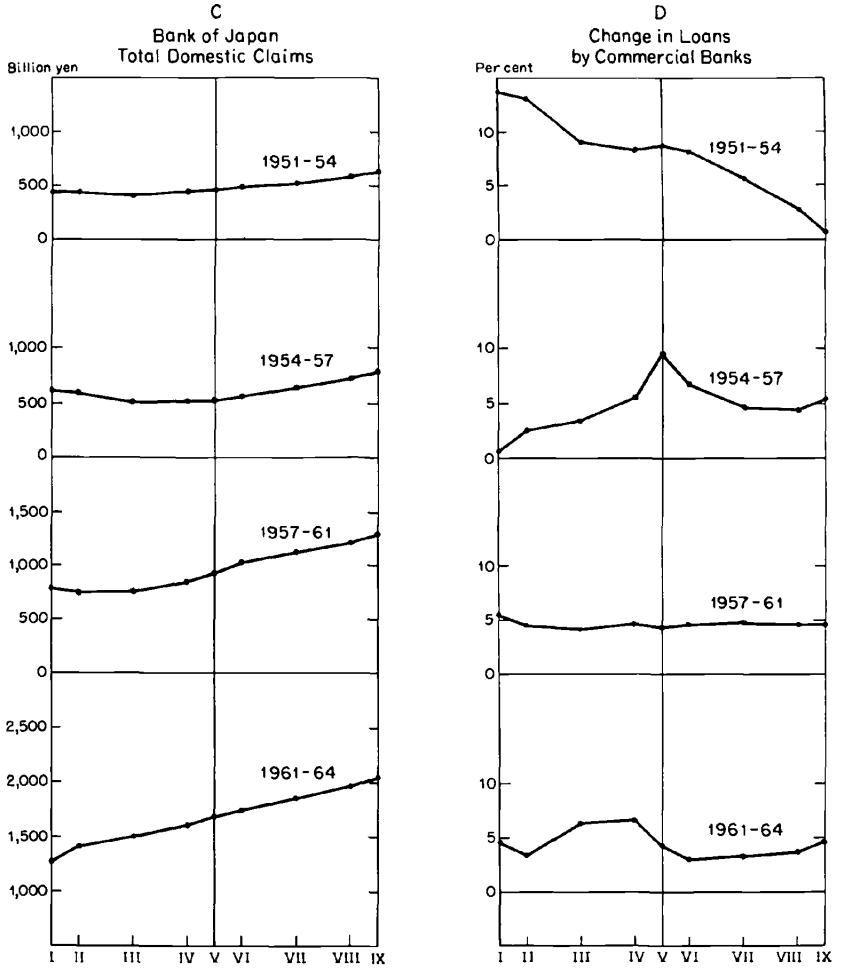
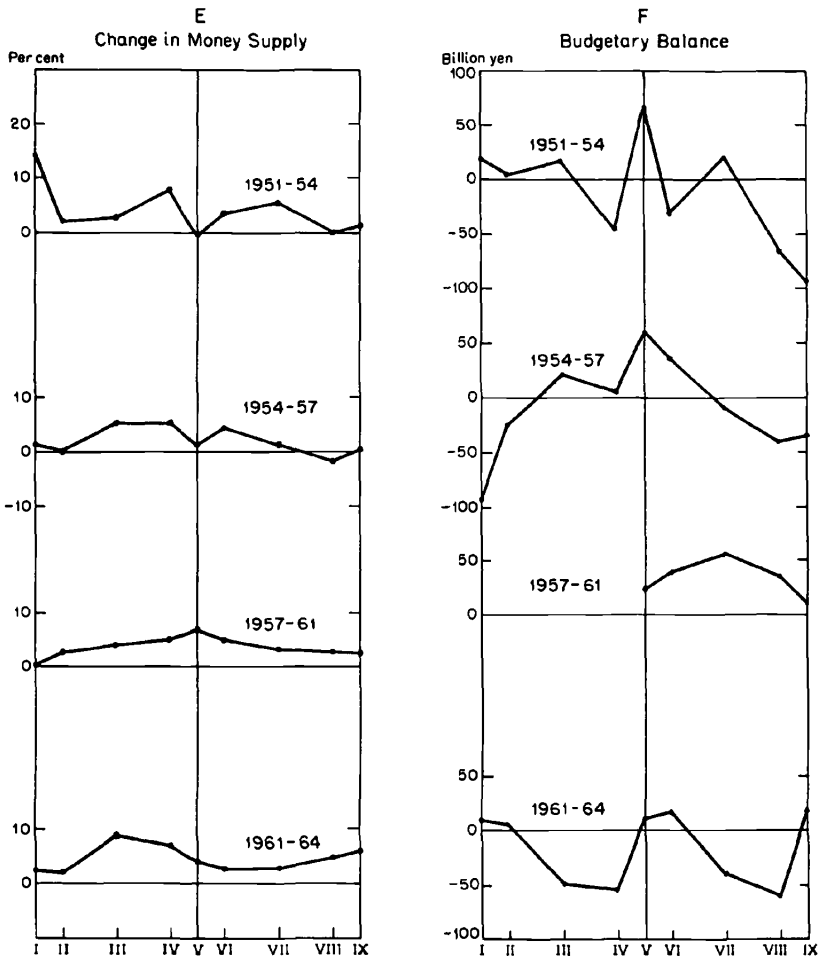


CHART 2 (*continued*)



(*continued*)

CHART 2 (*concluded*)



to be either falling or rising less fast than during the contractionary phase.

Commercial bank lending to the public, shown in part D, shows a probably slight dependence on the stage of the foreign exchange reserves cycle. Only during the cycle of II 1954–III 1957 does this manifest itself as clear-cut cyclical behavior, namely, an increase in the rate of expansion of credit when reserves rise, and a reduction of this rate when reserves fall. A similar but much weaker pattern appears also during the cycle of IV 1961–III 1964. It is thus apparent that this variable did occasionally respond in an adjusting direction, but that such response was far from being a general rule.

The rate of increase of money supply, drawn in part E, appears as a rule to be higher during the expansionary phase than during the subsequent contraction. This observation conforms, of course, to the tentative conclusion reached earlier. However, the pattern of behavior of this variable throughout each of these two phases is rather weak. Only once, in the 1957–61 cycle, does a neat, perfect pattern appear—of a gradual rise during the expansion, and a gradual decline during the contraction. In the 1954–57 cycle this pattern is approached, though not perfectly matched, while in the other two cycles, no such patterns can be found at all.

The positions of the budgetary balance, represented in part F, do not reveal any consistent pattern. No regular contrast appears, either with regard to the sign of the balance (surplus or deficit) or its form of movement between stages of rising and of falling foreign exchange reserves. This evidence tends to indicate that budgetary policy was not directed, as a rule, toward adjusting balance-of-payments disturbances.

Before trying to interpret these findings, we must ask whether the policy measures which were identified by this analysis as being taken to adjust balance-of-payments disturbances, may not in fact be related to other economic targets, movements of which happened to be associated in a consistent manner with balance-of-payments disturbances. We turn now to the examination of this possibility.

As will be recalled, alternative competing targets will be represented in the study by three variables: the rate of unemployment, the rate (and direction) of price changes, and the rate (and direction) of changes in industrial production. The unemployment rate, at least

as it appears in available data, has been very low throughout the period under consideration. It is therefore assumed here, without further confirmation, that these changes could not, as a rule, have explained the policy measures taken. Even if this assumption is not fully warranted, it should be realized that the more significant changes in unemployment, at least, would not disappear from the analysis altogether, since these changes must be reflected in the rate of change of industrial production.

Two variables, standing for two targets, thus are left. One is the rate of change of the price level; the other, the rate of change in industrial production. Since the index of wholesale prices and the cost of living index (in Tokyo) give substantially the same indications of price movements, the latter index only will be used to represent this variable. The target of maintaining a stable price level will be considered violated here not when prices move, since prices moved upward almost continuously, but when their movement deviates from the price level's short-term trend (which is measured, in turn, by a three-year moving average).

The question posed is, thus, whether the manipulations of the discount rate and the budgetary balance could not be explained by either the wish to maintain a stable (movement of) price level or the wish to achieve a high rate of expansion of industrial production, rather than by the requirements of balance-of-payments adjustment. Again, more than one method will be used to test this hypothesis.

Take first the discount rate. In Table 3, each change in this variable is shown for the period from 1957 onward (the change in early 1957 being the first since August 1955 when the "basic" discount rate became meaningful). The direction of change of each of the three alternative target variables—foreign exchange reserves, the price level, and industrial production—is examined in each quarter in which the discount rate moved. If the direction of the latter movement is consistent with the assumption that it was made in order to adjust a certain target variable, in view of the concurrent change in that variable, the latter is given a plus sign for that quarter; if the change in the discount rate is in the opposite direction, the variable is assigned a minus. It is thus possible to get an impression at a glance of whether an assumption that manipulation of the discount rate was intended to serve a certain target is justified or, rather, not contradicted, by the data.

TABLE 3

Japan: Changes in the Discount Rate and Movements of Policy Targets

Quarter	*Discount Rate* (*1*)	*Foreign Exchange Reserves* (*2*)	*Price Level (Cost of Living Index) Compared with Trend* (*3*)	*Industrial Production (rate of change)* (*4*)
I 1957	raised	+ fall	* stable	+ increases
II 1957	raised	+ fall	+ rises	+ increases
II 1958	lowered	+ rise	− rises	+ declines
III 1958	lowered	+ rise	+ falls	* stable
I 1959	lowered	+ rise	+ falls	− increases
IV 1959	raised	− rise	+ rises	+ increases
III 1960	lowered	+ rise	− rises	* stable
I 1961	lowered	+ rise	− rises	− increases
III 1961	raised	+ fall	+ rises	+ increases
IV 1962	lowered	+ rise	* stable	+ declines
I 1963	lowered	+ rise	− rises	* stable
II 1963	lowered	+ rise	− rises	− increases
I 1964	raised	+ fall	− falls	+ increases
I 1965	lowered	+ rise	− rises	+ declines
II 1965	lowered	− fall	− rises	+ declines

Note: + The change in the target variable would justify the direction of change in the discount rate.
− The change in the target variable would justify the opposite direction.
* The change in the target variable would call for no change in the discount rate.

It appears immediately that the movements of the discount rate are consistent with the assumption that this instrument was used for balance-of-payments adjustment—not a surprising finding, of course, at this stage of the analysis since a similar finding was the starting point of the present test. Table 3 also shows, however, that changes in the discount rate are not, as a rule, compatible with the assumption that they were intended to maintain a stable rate of change in the price level. This assumption is, indeed, so obviously contradicted by the data that it will not be subject here to further investigation. No such clear-cut indication is provided about the rate of expansion of industrial production. The assumption that discount rate policy was motivated by a desire to maintain stability on a high level in this rate ap-

pears to be refuted on a number of occasions, but not often enough to be dismissed on this evidence.

Additional evidence is provided, however, in Table 4 and Chart 3. In Table 4, subperiods of balance-of-payments disturbances serve again as units of observation. It may be seen immediately that the movements of the discount rate in each of these subperiods—with not a single exception—could be explained by a wish to correct imbalances of payments, but not by the desire to maintain a high rate of expansion in production. In the reference cycle analysis shown in Chart 3, the reference dates are determined by cycles in the rate of change of industrial production. The trough is defined as the point at which this rate is lowest (in rare cases it is even negative), and the peak as where

TABLE 4

Japan: The Discount Rate and Industrial Production During Subperiods of Disturbances

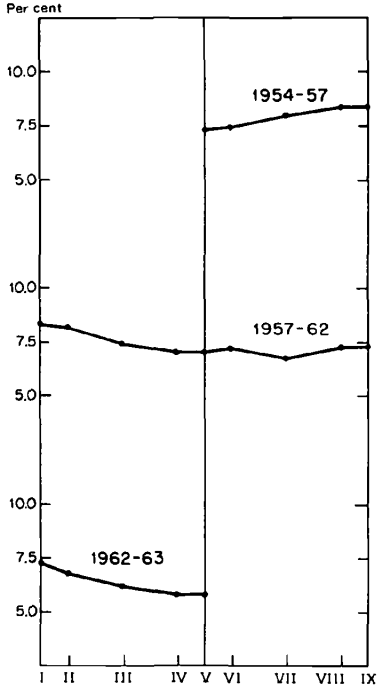
Subperiod	*Foreign Exchange Reserves* (*1*)	*Industrial Production* (*rate of change*) (*2*)	*Discount Rate* (*3*)
II–IV 1950	rise	n.a.	[a]
IV 1950–II 1951	fall	n.a.	[a]
II 1951–III 1952	rise	declines slightly	[a]
III 1952–II 1953	fall	stable	[a]
II–IV 1953	stable	increases slightly	[a]
IV 1953–II 1954	fall	declines slightly	[a]
II 1954–IV 1955	rise	stable	[a]
IV 1955–IV 1956	stable	increases	+ stable
IV 1956–III 1957	fall	no trend	+ raised
III 1957–II 1961	rise	no trend	+ reduced considerably
II–IV 1961	fall	stable	+ raised
IV 1961–II 1963	rise	declines and then increases	+ reduced considerably
II–IV 1963	stable	increases	+ stable
IV 1963–II 1964	fall	stable	+ raised

Note: + The policy variable changes in the direction required for balance-of-payments adjustment; no change would be justified by the movement of industrial production.

[a] not applicable.

CHART 3

Japan: Pattern of the Discount Rate
During Industrial Production Cycles



it is highest. It appears that a largely consistent pattern is displayed: in the trough, the discount rate is high; it is lowered towards the peak, when the rate is lowest, and raised again during the movement from peak to trough. However, this, of course, is the exact opposite of what a policy intended to lead to a high rate of expansion would have required. The actual policy followed reduced the discount rate—an expansionary measure—when the rate of expansion of production was highest, and raised the discount rate when expansion slowed down, that is, exactly when a fall of the discount rate would have been called for.[10] This evidence seems to provide another strong basis for

[10] The inverse relationship between the discount rate and the expansion of industrial production could, on the other hand, be explained by the opposite causal connection; namely, high interest rates lead to contractions, and low rates to expansions. An examination of the validity of such a statement, in general or in the specific case of Japan, is clearly beyond the scope of the present study.

rejecting the assumption that discount rate policy was intended to promote a high rate of growth. The assumption, on the other hand, that this policy was manipulated in the interests of balance-of-payments adjustment is strongly supported by these tests.

Table 5 describes the two alternative target variables—foreign exchange reserves and industrial production—during periods in which the budget displayed clearly either surpluses or deficits. It may be seen,

TABLE 5

Japan: The Budgetary Balance and Movements of Policy Targets

Period	*Budgetary Balance* (*1*)	*Foreign Exchange Reserves* (*2*)	*Industrial Production (rate of increase)* (*3*)
IV 1950–II 1951	surplus	* stable	n.a.
IV 1953–I 1955	deficit	* no trend	+ low
II 1955–I 1957	surplus	− rise	+ high
II 1960–IV 1961	surplus	* no trend	* normal
III 1962–III 1963	deficit	+ rise	+ low

Note: See Table 3 for explanation of symbols.

from column 2, that the assumption that budgetary policy was used to adjust balance-of-payments disturbances could not be sustained by this evidence: it is supported by only a single episode—that of the budgetary deficit of III 1962–III 1963—out of the five listed in Table 5. The alternative assumption, that budgetary policy was used to serve the target of a high rate of expansion of industrial production, fares much better: it is supported by three episodes (out of four), and clearly rejected by none.

3. Summary and Interpretation

From all the evidence presented, it appears that budgetary policy in Japan did not usually serve as an instrument for adjusting balance-of-payments disequilibria. It seems possible that, insofar as budgetary policy was regarded as a tool to be used in the pursuance of economic

policy, it was allocated to the target of preserving a high rate of expansion of economic activity.

Monetary developments, on the other hand, definitely appear to respond to the movements of the balance of payments, and monetary policy may be viewed as being geared to the needs of balance-of-payments adjustment. Imbalances of payments lead to changes in monetary variables in accordance with the following typical pattern.

In a downward disturbance, that is, a downward tendency of foreign exchange reserves, the Bank of Japan invariably reacts by raising the discount rate. From the information available, it also seems likely that the Bank would use "moral suasion," or "discount-window guidance," in an effort to restrict the amount of credit extended by commercial banks to their customers. At the same time, however, the change in the public's *demand* for this credit would be expected to move in the opposite direction. This is a period in which the amount of liquidity available to the economy from the (net) acquisition of foreign exchange reserves is falling, that is, the loss of reserves tends to diminish the amount of liquid means. As a result, demand for bank credit by the public must rise. In the end, the rate of credit expansion may tend to show a slight tendency to fall during downward disturbances, although this tendency is far from being consistent. This seems to be an indication that the aforementioned restrictions on the supply of credit are effective. To what extent this may be attributed to cost restrictions (through the increase of the discount rate), or how much of it may be due to direct quantitative restrictions ("window guidance"), is impossible to tell on the basis of available information.[11]

But even when the rate of credit expansion does fall, this tendency

[11] The increase in the discount rate would act as a cost restriction in either of two ways. If the rates charged by banks on loans to their customers remain unchanged, the increased cost incurred by the banks themselves on their borrowing from the central bank would act as a deterrent to their borrowing and relending (or lending and rediscounting). If, on the other hand, the banks "pass on" the increase in their cost by raising the interest rates charged on their lending, the amount of credit demanded by the public should tend to decline. As a rule, the former channel was probably more important in the Japanese case. The rates charged by banks were subject to legal ceilings; usually, the rates found in effect were the ceiling rates. Thus, changes in the discount rate were not transformed into changes in the various rates charged by the banks, but acted through the reduction of profitability of the banks' lending. This, in turn, should presumably lead the banks, in such a time, to increase the proportion of favored, less risky loans in their total lending. The special difficulties realized in fact by Japan's small business sector during such periods may be an indication that this indeed was the process.

is only slight. To maintain the expansion of credit, commercial banks must take some compensatory action with regard to their own liquidity or reserves. Bank liquidity is affected by three major factors (disregarding the possibility of changes in the public's desired currency ratio): changes in the amount of foreign exchange reserves, changes in the amount of central bank lending to the government, and changes in central bank lending to the commercial banks themselves. Information about the second factor is deficient; but it does not seem likely that it operates with enough force to even nearly offset the operation of the first factor, namely, changes in foreign exchange reserves. Thus, in order to resist the downward pressure on their liquidity the banks resort to increased borrowing from the central bank. They do so despite the increased cost of this borrowing—presumably, as has been explained, as a result of increased demand by the public for bank credit.[12]

Money supply, in its turn, is affected by three major factors (disregarding the possibility of a change in the proportion of liquid assets held by the public in the form of assets not defined as money, such as time deposits). These are the changes in foreign exchange reserves, in central bank (net) lending to the government, and in the amount of bank lending (in all forms) to the public. A downward disturbance, as defined here, consists of a fall in foreign exchange reserves. Central bank lending to the government may, at most, only partly offset this movement; whereas the third component—bank lending to the public —tends somewhat to reinforce it. The net result is that, when foreign exchange reserves fall, the amount of money (more precisely, in the case of Japan, the rate of expansion of this amount) tends to fall too.

In a period of an upward disturbance, this pattern is reversed; and Bank of Japan lending to the government most often tends to increase. Commercial banks use the added liquidity acquired by them

[12] The tendency of commercial banks to increase their borrowing from the central bank when they suffer a loss of liquidity due to a decline of foreign exchange reserves, and, conversely, to repay debts to the central bank when additional liquidity is acquired through the rise of foreign exchange reserves, was recognized and emphasized in Nurkse's classic study, *International Currency Experience*, especially p. 70. Nurkse offered this tendency, which he termed "automatic neutralization," as a partial explanation of his finding that the "rules of the game" were not observed during the interwar period. Bloomfield (*Monetary Policy Under the International Gold Standard*, pp. 50–51) used it in a similar way in his analysis of the pre-1914 gold standard. But see the discussion of this topic in Chapter 2 of the present study.

not to increase the rate of expansion of their lending to the public but to repay debts to the Bank of Japan—despite the fall in the latter's discount rate, which is a practically invariable consequence in this situation. The rate of expansion of bank credit remains stable, or tends to rise, and the rate of expansion of money supply accelerates.

To sum up: the discount rate and the rate of expansion of money supply respond consistently to imbalance of payments. At times of downward disturbances, the discount rate is raised, and the money supply falls, whereas the opposite tendencies are manifested in episodes of upward disturbances. These, of course, are tendencies consistent with the assumption that monetary policy was used to adjust the balance of payments.