

International Finance Discussion Papers

Number 252

December 1984

POSTWAR FINANCIAL POLICIES IN TAIWAN, CHINA

by

Robert F. Emery

NOTE: International Finance Discussion Papers are preliminary materials circulated to stimulate discussion and critical comment. References in publications to International Finance Discussion Papers (other than an acknowledgment by a writer that he has had access to unpublished materials) should be cleared with the author or authors.

## Postwar Financial Policies in Taiwan, China

by

Robert F. Emery

The objective of this paper is to examine the monetary policies of Taiwan, China, since the reactivation of its central bank in 1961 to see what lessons can be learned from its credit control operations, rather than the subject of financial reform per se. Although there have been certain innovations as the authorities have improved their control of money and credit, there has been no dramatic financial reform in Taiwan, China, since the 1961 reactivation. The financial structure in Taiwan, China, has remained relatively stable, partly because of the authorities' willingness to allow relatively high interest rates whenever this was required as a result of inflationary pressures. To the extent that there has been a major financial reform in the postwar period, this occurred in 1950 when high nominal interest rates (125 percent, compound rate) were paid on certificates of deposit to successfully eliminate the 85 percent rate of inflation at the time.<sup>1/</sup>

### Taiwan's Financial System in Brief

Following the founding of the People's Republic of China in 1949, the central banking functions for Taiwan, China, were transferred to the Bank of Taiwan, a provincial bank. However, the central bank continued to collect statistics and to supervise banks. The Bank of Taiwan--which was established on May 20, 1946, and received its capital from a treasury appropriation--handled such central bank functions during the 1950s as issuing bank notes, serving as fiscal agent for the provincial government, and, in conjunction with other government authorities, adjusting interest rates and bank reserve requirements.

The views represented in this paper are the author's and they do not necessarily represent the views of the Federal Reserve Board or any other members of its staff.

<sup>1/</sup> For the details of that reform, see "Interest Rates as an Anti-Inflationary Instrument in Taiwan," by Reed J. Irvine and Robert F. Emery, National Banking Review, September 1966, pp. 29-39, and "Monetary Policy in Taiwan" by S.C. Tsiang, Conference on Experience and Lessons of Economic Development in Taiwan, Institute of Economics, Academia Sinica, Dec. 1981, pp. 249-274.

On July 1, 1961, the central bank was reactivated and once more assumed most of the traditional functions of a central bank.<sup>1/</sup> Its three basic objectives since 1961 have been to stabilize the internal and external value of the currency, to promote financial stability, and to provide sound guidance to all banking institutions--all three of these objectives being aimed at fostering economic growth. One function that the central bank did not resume in 1961, however, was that of carrying out commercial bank activities. It had acted, in part, as a commercial bank while operating on the mainland prior to 1950, but the bank has been prohibited from engaging in such activities since it was reactivated in 1961.

The information provided in Table 1 gives some idea of the 12 types of financial institutions that operate in Taiwan, China and their relative importance. Although the central bank last April accounted for 20 percent of the assets of the financial institutions in Taiwan, China, the commercial banks (including foreign banks) had roughly half of the assets listed. The rest of the assets were scattered among the remaining 10 types of financial institutions, with no single institution having more than 10 percent of the total.

The financial system of Taiwan, China, can usefully be characterized as a specialized system. Although the commercial banks extend a variety of credits, there are many other institutions providing finance in a variety of forms and to a diverse group of borrowers. Farmers, for example, are served by 282 credit associations, and small- and medium-sized businesses are able to obtain credit from eight medium and small business banks which evolved from former mutual savings and loan companies.

---

<sup>1/</sup> With regard to the fiscal agency function, however, the central bank serves only the Taipei area, while the Bank of Taiwan's branches serve all of the remaining areas in Taiwan, China.

Table 1. Taiwan, China: Assets of Financial Institutions  
(In billions of New Taiwan Dollars; as of April 30, 1984)

	<u>Assets</u>	<u>As a % of Total</u>	<u>No. of Units</u>
Central bank	740	20.2	1
Domestic banks	1,662	45.4	16
Postal savings system	363	9.9	1,092
Credit cooperative associations	238	6.5	75
Credit departments of farmers' associations	207	5.7	282
Medium business banks	152	4.1	8
Investment and trust companies	115	3.1	8
Local branches of foreign banks	112	3.1	30
Life insurance companies	54	1.5	9
Fire and marine insurance companies	12	0.3	14
The Fuh-Wha Securities Finance Company	4	0.1	1
Bill finance companies	3	0.1	3
Total	<u>3,662</u>	<u>100.0</u>	

---

Note: The above data are not presented on a consolidated basis. To convert to U.S. dollars, the exchange rate at the end of April 1984 was approximately NT \$40 per U.S. dollar.

Source: Financial Statistics Monthly, Central Bank, Taipei, May 1984.

Various data also indicate that there has been considerable financial deepening since the early 1960s. Between 1962 and 1983, narrow money supply (M1), measured as a percentage of GNP, increased from 11 percent to 31 percent, while broad money (M2) rose from 25 percent to 89 percent. On the other hand, the ratio of public and private bonds to GNP only increased from 2 percent to about 5 percent.

The first step toward establishing a money market occurred in 1976 when the Chung Hsing Bills Finance Corporation began to operate. Since then four types of money market instruments have come into general acceptance, viz., commercial paper, bankers' acceptances, negotiable certificates of deposit and treasury bills. One of the objectives in establishing the money market has been to channel financial savings from the unorganized private money market (i.e., private moneylenders) to businesses. In this regard, the money market appears to be off to a good start as it has generally grown much faster than the rate of growth of bank loans with the exception of the Treasury bill component.<sup>1/</sup> It is also hoped that the establishment of the money market will pave the way for more flexible interest rate movements. In April 1980, the central bank helped the Bankers' Association of Taipei add a further component to the money market by assisting in the establishment of an interbank call loan market. It is expected that this new market will help the commercial banks in the management of their reserve positions.

With regard to the financial system and the government's mode of operation, the government since early in the postwar period has been an important shareholder in the province's commercial banks. Of nine regular commercial banks in July 1984, the government held over 50 percent of the shares in

---

<sup>1/</sup> Shirley W.Y. Kuo, The Taiwan Economy in Transition, Westview Press, Inc., Boulder, Colorado, 1983, p. 321.

five of the banks. This may have helped to reinforce the public's confidence in the banking system. The postal savings system has also been operated in such a way that roughly 90 percent of the funds received are redeposited in the central bank. These deposits are then placed with four specialized banks to supplement the loanable funds of those banks, in order to achieve a better allocation of resources in the economy.<sup>1/</sup> The central bank has also taken special measures to aid export industries. One of these included the establishment in December 1974 of a NT \$5 billion (about \$132 million) special financing facility to provide credit to commercial banks for working capital loans to export industries.

#### Special Economic Developments and the Central Bank's Response

During the 1970s various developments prompted the central bank to change the financial system. However, none of these adjustments could really be characterized as a major financial reform. For example, in February 1970 the government liberalized substantially the gold cover ratio adding "securities and commercial paper" to the legal reserves--such as gold and silver--that could be held as backing behind the currency issue. Central bank authorities stated that this change was made because currency issue fluctuates seasonally and the change would facilitate the central bank's adjustment measures.<sup>2/</sup> Probably the more important influences leading to this liberalization of the gold cover requirement were the unsettled international monetary conditions at the time, as well as the elimination during the postwar period of the gold cover requirements by many countries, including the United States in 1968.

<sup>1/</sup> Since March 1982, the Bank of Communications has been allocated 40 percent of the reposit of postal savings in the central bank, the Farmers Bank of China and the Land Bank of Taiwan 25 percent each, and the Business Bank of Taiwan, 10 percent.

<sup>2/</sup> Annual Report: 1970, Central Bank, Taipei, 1971, p. 25.

Another development was the central bank's response to the artificiality of prices in the government bond market that prevailed up to the middle of 1971. Dissatisfied because the bond prices did not reflect accurately the forces of supply and demand, the central bank on July 2, 1971, established an open market for government bonds by authorizing 10 financial institutions both to function as government bond brokers and to let bond prices fluctuate in line with changes in bid and asked prices. Since June 1966 the Bank of Taiwan had been the sole agent handling the purchase and sale of government bonds at par value.

In 1972, as the large current account surplus swelled money supply and banks' excess reserves (see Table 2), the central bank responded with an innovative monetary instrument. Beginning in August 1972 the central bank began to sell to commercial banks its own certificates of deposit in one-, three- and six-month maturities. This action was highly successful in reducing commercial banks' excess reserves to levels that the central bank could deal with much more easily.

To deal with strong inflationary pressures in 1973--mostly generated from abroad--the government revalued the exchange rate in February from NT \$40 to NT \$38 to the U.S. dollar, issued NT \$1 billion in savings bonds to the general public in June, and in October began to issue treasury bills every two weeks. In addition, the central bank raised interest rates and reserve requirements in July, and in October raised interest rates again. As further anti-inflationary actions were taken in 1974, the inflation was eventually brought under control by April 1974.

One other special action occurred in 1977 when certain textile companies experienced financial difficulties. Five of the companies producing artificial fiber merged and the central bank used money that it had set aside

Table 2. Taiwan, China: Selected Economic Indicators

Year	Percentage Changes			Income Velocity GNP/M	Reserve Position	
	Year-end	Consumer Price Index			Excess Reserves in Mill. NT \$ Dec. Avg.	Central Bank Credit in Mill. NT \$ Dec. Avg.
	Money Supply	Yearly Avg.	Dec. Avg.			
1961	20.0	7.9	2.9	9.7	77	14
1962	5.0	2.4	2.9	9.5	-104	986
1963	28.1	2.2	0.7	8.4	- 63	129
1964	35.0	-0.2	0.5	7.3	-245	379
1965	15.9	-0.1	0.7	6.9	-437	739
1966	12.2	2.0	1.6	6.9	-338	752
1967	30.1	3.4	4.4	6.1	-559	1,028
1968	11.5	7.9	6.1	6.4	-793	1,892
1969	15.6	5.1	5.7	6.4	-954	1,664
1970	15.0	3.6	3.8	6.4	-1,046	1,594
1971	30.6	2.8	2.7	5.7	255	1,037
1972	34.1	3.0	2.6	5.1	2,724	441
1973	50.4	8.2	24.0	4.4	510	1,115
1974	10.5	47.5	33.1	5.3	7,230	25
1975	28.8	5.2	0.2	4.4	3,404	-
1976	25.1	2.5	3.6	4.2	8,970	-
1977	33.6	7.0	6.8	3.7	6,698	-
1978	37.0	5.8	7.7	3.2	5,708	1,267
1979	7.7	9.8	12.5	3.6	3,728	-
1980	22.7	19.0	22.2	3.6	2,296	2,463
1981	13.8	16.3	9.9	3.8	11,421	-
1982	15.6	4.0	3.0	3.5	7,560	1,803
1983	18.1	1.4	0.1	3.2	3,131	2,282

Sources: A Supplement to Financial Statistics Monthly, Central Bank, October 1983; Taiwan Statistical Data Book, Council for Economic Planning and Development, June 1983; and Taiwan Statistics Monthly, Central Bank.

in a long-term fund, to subscribe to the preferred stock of the newly-merged company. This allowed the company to repay overdue debt to commercial banks.

International Linkages and Their Impact on the Financial Markets of Taiwan, China

During the postwar period, particularly after the move to realistic exchange rates in April 1958, the economy of Taiwan, China, evolved into a very open economy. Domestic financial markets are now strongly influenced by the trade balance, capital flows and the relationship of the exchange rate for the New Taiwan dollar to the currencies of the province's major trading partners.

One external influence disappeared about 20 years ago. This consisted of the bank deposits resulting from the United States foreign aid program in Taiwan, China. Under the foreign aid program, these U.S. dollar deposits were used to import goods, but the local importer had to provide the equivalent in local currency to pay for the imports. This local currency became counterpart funds, jointly administered by Taiwan, China, and the United States. The considerable time lag between the generation of local currency from aid imports, and its use in financing development projects, served to "sterilize" purchasing power and reduce inflationary pressures. During the 1950s and the first half of the 1960s, these deposits were an important factor tending to contract the money supply.<sup>1/</sup> With the phase-out of U.S. aid around 1965, however, this altered the situation drastically and forced the central bank to find some means of replacing the loss of this contractionary factor. One alternative utilized was offering attractive rates on deposits (i.e., interest rates that were positive in real terms) to increase the amount of quasi-money.

Probably the most important external influence over the years on domestic financial markets--and particularly the money supply--has been the trade surplus and capital inflows. In 1972-73 and again in 1977-78, for

1/ Annual Report: 1965, Central Bank, Taipei, 1966, p. 48.

example, large trade surpluses expanded the money supply sharply, one important result being a horrendous jump in the rate of inflation to as high as 47 percent in 1974 as measured by the consumer price index. (See Table 2 and Chart 1.) In 1978, the main factors expanding bank credit (and hence the money supply) were the large trade surplus and the inflow of capital.<sup>1/</sup>

In line with a general increase in interest rates, and also in an attempt to reduce the amount of funds converted from foreign exchange to domestic currency, thereby decreasing the rate of domestic monetary expansion, the central bank in January 1974 raised the interest rates paid on time deposits denominated in foreign currencies. (Interest rates paid on foreign currency deposits are under the control of the central bank.) At this time the central bank also encouraged imports (a contractionary factor) by once more allowing the use of import acceptance credits for up to 180 days. These and other actions were successful in slowing sharply the rate of inflation by March 1974.

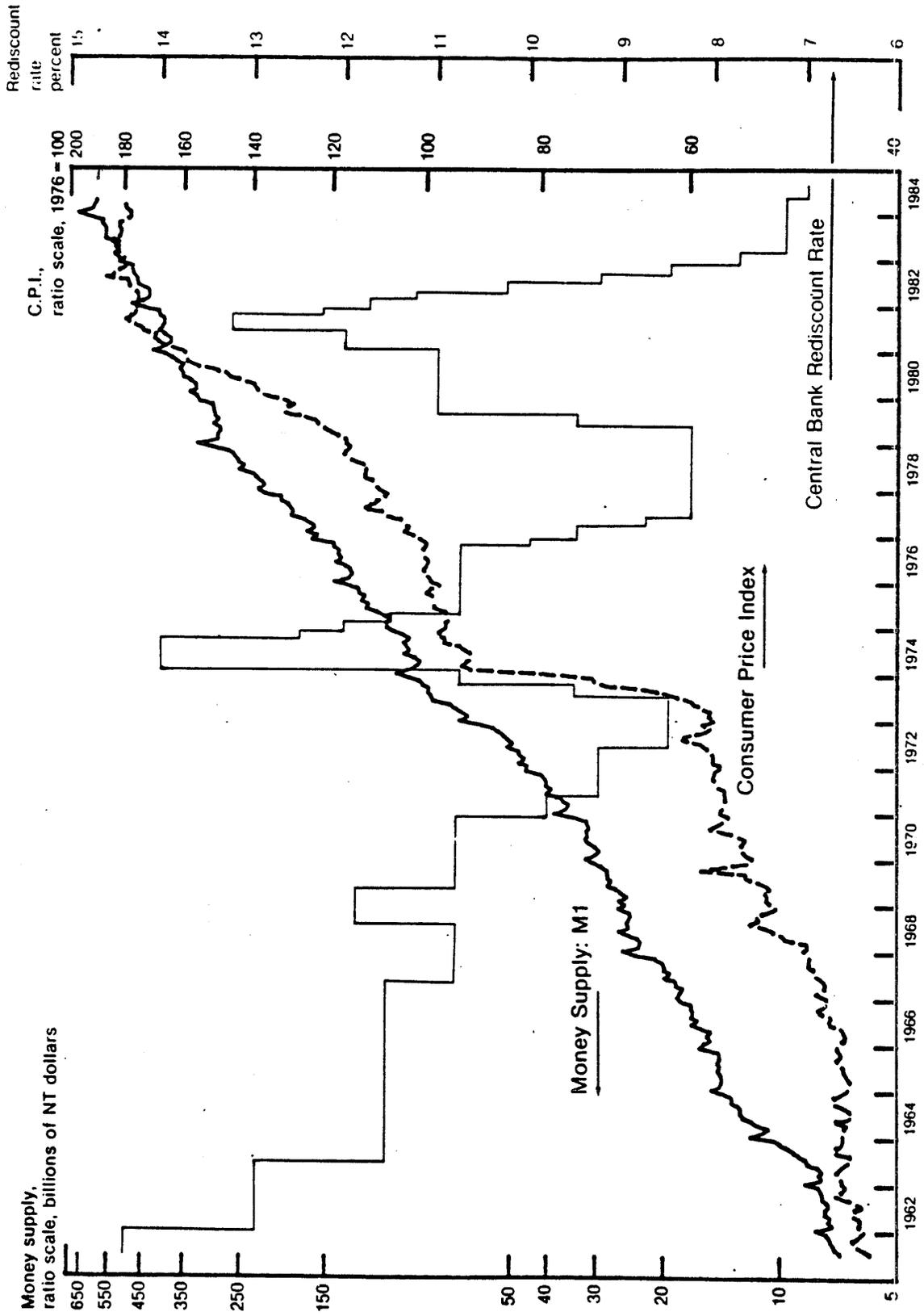
During the first half of 1978, the Taiwan, China, authorities became dissatisfied with their exchange rate system which pegged the New Taiwan dollar to the U.S. dollar. Both the United States and Japanese exchange rates experienced sharp fluctuations in 1978, which caused problems for Taiwan, China, in carrying out its domestic policy objectives, such as maintaining price stability. The authorities felt that with their pegged system, exchange rate movements did not reflect the balance of payments of Taiwan, China, but rather that of the United States.

Therefore, on July 11, 1978, the government unpegged the new Taiwan dollar from the U.S. dollar; however, a managed float was not introduced at the time. Instead the currency was administratively revalued by 5.6 percent against the U.S. dollar. (This moved the rate from approximately NT \$38 to NT

1/ Annual Report: 1978, Central Bank, p. 29.

Chart 1

Taiwan, China: Selected Economic Indicators



\$36 to the U.S. dollar.) Then, about seven months later on February 1, 1979, new foreign exchange regulations were issued and a managed floating rate system was introduced. Earners of foreign exchange were no longer required to surrender their earnings to the central bank. These actions gave the authorities more flexibility in managing the exchange rate, and since a change from roughly NT \$36 to NT \$38 to the U.S. dollar in August 1981, and a further depreciation to about NT \$40 per dollar in the summer of 1982, the rate has roughly stabilized at the NT \$40 per U.S. dollar level.

#### Financial Policies and Instruments

In attempting to achieve the three basic objectives listed earlier, the central bank carries out the following important functions: (1) issues the currency; (2) regulates interest rates; (3) determines reserve ratios; (4) acts as a lender of last resort; (5) supervises and examines financial institutions; (6) acts as fiscal agent for the government; (7) holds and manages official foreign exchange; (8) collects financial data; and (9) conducts economic research.

With regard to its activities in the field of monetary policy, the central bank is able to utilize both general and selective credit controls. The main general controls include changing the central bank's rediscount rate and the amount of credit accommodation for banks, setting maximum rates on banks' deposits and the range per banks' loan rates, raising or lowering bank reserve requirements, buying and selling foreign exchange, and conducting open market operations. The last of these instruments has not been particularly important because of the underdeveloped money market, but open market operations could play a larger role in the years ahead if the money market continues to develop rapidly. Aside from moral suasion (which can be used in either a general or selective manner), the central bank's main selective controls have

included regulating downpayments and maturities for consumer and construction credits, limiting credit extended to securities dealers and securities finance companies, and imposing maximum loan ratios in relation to the appraised value of commodities or real estate used as loan collateral.

Interest rate regulation and the discount window.--Since the central bank's reactivation in 1961, the most important monetary instrument used has been interest rate regulation. The central bank fixes not only the various discount rates that it charges borrowing banks, but also prescribes the upper limit for bank deposit rates and approves the range of interest rates on bank loans as proposed by the Bankers' Association. Bank regulations also specify that the minimum lending rate must exceed the maximum deposit rate.<sup>1/</sup> A quick glance at Chart 1 indicates that the central bank made fairly frequent use of its discount rate weapon in the 1970s and 1980s.

Although there was a revision of the general banking law in July 1975, it fell far short of constituting a reform of the interest rate system. The two major interest rate actions were to specify that the central bank can set a ceiling (i.e., maximum) rate for interest paid on deposits, and that commercial banks' maximum and minimum lending rates should not exceed a range of 0.25 percentage points.

The central bank has the authority to provide three types of accommodations to banks: (1) rediscounts of eligible bills, with maturities not exceeding 90 days for commercial and industrial bills and 180 days for agricultural bills; (2) temporary advances not exceeding 10 days to cover a deficiency in reserves;

<sup>1/</sup> In November 1980, the central bank issued new interest rate guidelines. These specified that the Bankers' Association could propose changes in the ceiling deposit rates in response to market conditions and specified that negotiable certificates of deposit (a relatively new liability for the banks) and bank debentures could carry interest rates in excess of the deposit rate ceilings set by the central bank.

and (3) refinancing of secured loans not exceeding 360 days. In actual practice, a very high proportion (over 90 percent) of the monetary authority's accommodation is for rediscounts, rather than for the other two types. Accommodation is also provided in foreign currencies, including for import financing, and for export financing (in local currency). Of the central bank's six discount rates, the lowest rate has generally been the rate for export financing.<sup>1/</sup>

Since its reactivation in 1961, the central bank has also used a penalty rate system. Until January 27, 1974, this applied to a bank's borrowing from the central bank that was in excess of 10 percent of the bank's average daily balance of deposits for the previous week or ten days. The penalty rate was set at the same level as the maximum permissible commercial bank lending rate. In recent years, the penalty rate has been related to a bank's reserves. Thus, since August 1980, for central bank accommodation in excess of 35 percent of a bank's required reserves, a penalty rate 20 percent above the normal accommodation rate has been imposed.

The basic philosophy followed by the central bank since its 1961 reactivation has been to reduce gradually the interest rate structure in order to bring it closer to the interest rate levels in industrial countries and also to narrow the spread between loan and deposit rates. The expectation of the authorities in the early 1960s was that this would help accelerate agricultural and industrial development, improve the competitiveness of exports, and also make government bonds more attractive since the yields on these bonds had traditionally been low.

---

<sup>1/</sup> Effective May 9, 1984, for example, the rediscount rate (i.e., the basic discount rate) was lowered to 7.0 percent, while the rate for export financing was lowered to 6.75 percent.

However, there have been three times since 1961 when the central bank has had to reverse direction and move rates up in order to restrain inflation. This occurred--in a mild way--in 1968, and more vigorously in 1973 and 1979, as shown by the trend in the central bank's rediscount rate in Chart 1. The details regarding the central bank's use of interest rate and discount policy are discussed at some length in a later section assessing the effectiveness of policy instruments.

It should be noted that in connection with its discount policy, the central bank also varied substantially the amount of bank accommodation provided during various phases of the economic cycle. For example, during the last seven months of 1974, when the authorities were anxious to revive the economy, there was a substantial increase in central bank credit to the banks, the result being a 74 percent increase in accommodation during all of 1974 over the previous year. Similarly, credit accommodation has been curtailed during tight money periods, thereby reinforcing the central bank's interest policy during restrictive periods.

Use of reserve requirements. -- The reserve requirement weapon has generally been used less than the discount weapon. Over a 14-year period to 1974, for example, commercial bank reserve requirements were changed only four times for demand deposits and five times for time deposits. (See Table 3.) Since the mid-1970s, the central bank has been reluctant to raise the reserve requirement to the maximum permitted by law as this might act as a partial drag on economic growth. An indirect indication of this was a mid-1960s statement that the reserve requirement was lowered "...in order to sustain economic growth."<sup>1/</sup>

<sup>1/</sup> Annual Report: 1966, Central Bank, p. 55.

Table 3. Taiwan, China: Rediscount Rate and Reserve Requirement

Effective Date of Change	Central Bank Rediscount Rate (%)	Effective Date of Change	Commercial Bank Reserve Requirement Demand Deposits (%)
July 1, 1961	14.40	July 1, 1948	15
Jan. 1, 1962	12.96	May 1, 1953	13
July 1, 1963	11.52	Aug. 1, 1958	10
May 6, 1967	10.80	Jan. 1, 1959	13
Aug. 12, 1968	11.88	Feb. 1, 1959	15
May 10, 1969	10.80	Jan. 1, 1966	12
Dec. 22, 1970	9.80	May 6, 1967	15
May 29, 1970	9.25	May 10, 1969	12
July 1, 1972	8.50	July 21, 1971	15
July 26, 1972	9.50		
Oct. 24, 1972	10.75		Checking Account
Jan. 27, 1974	14.00		
Sept. 19, 1974	12.50		
Dec. 13, 1974	12.00	July 21, 1975	25
Feb. 22, 1975	11.50	Nov. 21, 1978	30
Apr. 21, 1975	10.75	May 16, 1979	25
Oct. 22, 1975	10.00	June 29, 1982	23
Dec. 15, 1975	9.50		
Apr. 1, 1977	8.75		
June 10, 1977	8.25		
May 16, 1979	9.50		
Aug. 22, 1979	11.00		
Jan. 5, 1981	12.00		
June 15, 1981	13.25		
Oct. 21, 1981	12.25		
Dec. 17, 1982	11.75		
Feb. 26, 1982	11.25		
Apr. 17, 1982	10.25		
July 12, 1982	9.25		
Sept. 18, 1982	8.50		
Dec. 30, 1982	7.75		
Mar. 16, 1983	7.25		
May 9, 1984	7.00		

Sources: Taiwan Statistics Monthly, Central Bank.

During the period from 1961 to the present, Taiwan, China, has had two different systems of reserve requirements. During the first period from 1961 to July 3, 1975, the reserve requirement varied according to: (1) which of five categories a bank belonged; (viz., commercial, industrial, savings, trust, or Chinese native); (2) the type of deposit (e.g., demand, time or passbook); and (3) whether the minimum ratio was for a guarantee reserve requirement or a payment reserve requirement.<sup>1/</sup> The central bank was allowed to set the guarantee reserve requirement within a rather narrow range of about 3 to 5 percentage points (e.g., for demand deposits, between 10 and 15 percent), but the payment reserve requirement was fixed at a flat rate (e.g., 15 percent for commercial bank demand deposits). As to the difference between these two, the guarantee reserve had to be deposited with the central bank, while the payment reserve could be held (within certain limits) in the form of vault cash, as current deposits with other banks, or as a cash deposit with the central bank.

During the late 1960s the banks were lax in observing the minimum reserve requirements. To deal with this problem, the central bank in 1970 amended the reserve requirement regulations, specifying that if a bank had a reserve deficiency, the central bank would impose, as a penalty, an interest charge for 10 days on the amount of the deficiency at a level 50 percent above the prevailing call loan rate. This action was successful in causing the banks to be more attentive to their reserve positions.

In 1972, when the banks had excess reserves and the reserve requirements were already at their maximum (except for savings banks), the central bank resorted to selling both foreign exchange and short-term non-transferable certificates of deposit to those banks with excess reserves.

In 1975 there was a substantial reform of the reserve requirement system following a revision of the general banking law. Effective July 4, the

1/ Prior to 1968 the "payment reserve" was called a "cash reserve."

reserve requirement system was simplified by unifying the required reserve ratios for all financial institutions and by combining into one type of reserve the guarantee and payment reserves. In addition, the minimum and maximum range for the legal requirements was increased (e.g., from 10-15 percent to 15-40 percent) so as to give the central bank more flexibility in employing this monetary instrument. As a result of this reform, reserve requirements were differentiated only according to the maturity of the deposits and the type of deposit (e.g., demand vs. savings). To avoid a disruptive change the total average reserve ratios in July 1975 were reportedly kept as close as possible to their previous levels.

The key element in this reform was the widening of the permissible range of legal ratios. Until this change, the ranges had been too narrow for the reserve requirement weapon to be used effectively at all times.

The central bank does have the power to impose a marginal reserve requirement on the increase in checking and demand deposits that occurs after a specific date. However, the bank has so far not utilized this power.

About two years after the unification of the guarantee and payment reserve requirement into one reserve requirement, the central bank introduced on August 1, 1977, a new additional liquid asset ratio requirement. This second reserve requirement of liquid assets to deposits was set at a minimum of 5 percent. The central bank stated that the purpose of this action--which was authorized in 1975 under the revised general banking law--was to ensure that the banks maintained the proper amount of liquidity.<sup>1/</sup> Imposing a liquidity reserve requirement in addition to a general reserve requirement is a fairly common practice among some of the countries in Southeast Asia.

---

<sup>1/</sup> Acceptable liquid assets include excess reserves, net amounts due from banks, Treasury bills, negotiable certificates of deposit, bankers acceptances, commercial paper guaranteed by banks or dealers, government bonds, and other securities approved by the central bank.

Even after the new reserve requirement system was introduced in July 1975, the central bank still did not make much use of this monetary instrument. Between 1975 and May 1984, for example, the reserve requirement changed only three times (in 1978, 1979 and 1982) for checking and passbook deposits, and even less for time and savings deposits. During 1981, when the discount rate was changed four times, there was no change at all in reserve requirements. (See Table 3.) Also, the range of adjustment during 1975-84 (viz., 7 percentage points for checking deposits) was only moderately larger than the 5 percentage point range that was utilized prior to 1975. Thus, not much use has been made of the higher, permissible, maximum reserve requirements.

All of this points to the conclusion that the reserve requirement weapon, while useful at times, has not been in the forefront in the central bank's efforts to restrain inflation. Rather, discount policy has been used much more frequently and flexibly than reserve requirements.

Open market operations -- Although the central bank began to make some use of open market operations in 1979, i.e., about 2-1/2 years after the formal establishment of a money market in Taiwan, China, this monetary instrument appears to be much less important than discount rate policy-- including central bank loans to commercial banks. During the period from 1979 through 1983, the amount of yearly central bank credit accommodation far overshadowed the amount of commercial paper, treasury bills and bankers' acceptances purchased by the central bank. For example, in 1983 the amounts were NT \$122 billion and NT \$18 billion, respectively.<sup>1/</sup>

Prior to the commencement of open market operations in January 1979, the central bank did engage in some limited open market operations--but solely on the selling side. Thus, in August 1972 when the central bank wanted to reduce the banks' large reserve position, it sold central bank time certificates of deposit to commercial banks. Later, in April 1973, the central bank

1/ Annual Report: 1983, Central Bank, p. 38.

for the first time issued its own Class B, 91-day, treasury bills to commercial banks and the general public. Apparently encouraged by the results in 1972, the central bank in 1977 and 1978 again sold its own time certificates of deposit to banks in order to reduce their excess reserves.

In a move to enlarge the scope of the money market and to make its open market operations more flexible, the central bank in November 1983 began to issue treasury bills on a noncompetitive basis for small investors. Since then, purchasers of small amounts have been awarded treasury bills under a noncompetitive system on the basis of the weighted-average price of the accepted competitive bids.

In view of the trend to date, it can be concluded that open market operations have not been the central bank's primary instrument of monetary control. While these operations have been helpful at times, changes in the level of the discount rate and central bank accommodation have been more important. However, it is possible that at some time in the future open market operations may become more important and possibly even surpass all other monetary instruments in importance.

Moral suasion and selective credit controls -- The central bank has made some use of moral suasion from time to time; however, this instrument--at best--has been merely a supplement to the bank's more powerful direct controls. Moral suasion was used in 1968, for example, when banks were cautioned against supplying an excessive amount of credit that might be channeled into speculative investment. This warning, plus an active use of discount and interest rate policy, was successful in moderating bank credit expansion.<sup>1/</sup> Much later, in January 1977, the central bank again used moral suasion to induce the government-owned Chinese Petroleum Corporation to repay its foreign loans, thereby

1/ Annual Report: 1968, Central Bank, p. 36.

drawing down deposits with local commercial banks. This was successful in reinforcing the tight money policy as it tended to squeeze the reserve position of the commercial banks.

The use of selective credit controls by the central bank has been rather limited and diverse in nature. For example, in 1972 the central bank sold about \$80 million in foreign exchange to certain designated banks in order to slow the rate of expansion of the money supply, and in 1975 a similar action was taken. In November 1975, in a move to stimulate exports and the economy, the central bank increased the maximum amount of financing allowed as a proportion of the total value of an export transaction from 70 percent to 85 percent. Then in 1977, when economic conditions were also sluggish, the central bank took steps to extend further the maturities of loans that had been provided under various government programs to certain industries. None of the selective credit controls utilized by the central bank since its reactivation appear to have been important in terms of their quantitative impact.

Conclusion: An Assessment of Policy Instruments and Responses

The main objective of this paper has been to see what lessons might be learned from the central bank's use of monetary policy since 1961. It is probably easier to judge the effectiveness of monetary policy when the objective is financial restraint to reduce inflationary pressures, rather than when the objective is economic recovery. An easy money policy may, or may not, lead to economic recovery. Hence, the following assessment of the degree to which monetary policy has been a success, neutral, or a failure in Taiwan, China, centers on the three main periods of deliberate monetary restraint since the central bank's reactivation in 1961. These three periods occurred in 1968, 1973-74 and 1979-80.

It should be recognized that it is often not possible to see clearly the relationship between accelerating monetary expansion and accelerating inflation. There are too many other factors capable of obscuring the relationship. In the case of Taiwan, China, these have included (as contractionary forces) the rapid rate of increase in the monetization of the economy in the 1960s,<sup>1/</sup> the sharp gains in agricultural productivity in the 1950s and 1960s, and the secular decline in the velocity of money in the past 25 years as shown in Table 2. All three of these factors have tended at various times to offset partly the relatively high rate of monetary expansion in Taiwan, China, in the postwar period. A major factor operating on the expansionary side--at times--has been the large trade surplus, the impact of which could have been lessened by a more flexible exchange rate system than what actually prevailed. Budget operations--at least since the early 1950s--have not been an important factor in influencing price stability and have been roughly neutral in their impact.

1968 developments. -- The central bank's basic policy since 1961 of lowering the structure of interest rates was interrupted in 1968 when incipient inflationary forces reappeared. Monetary expansion accelerated in 1968 due to a sharp rise in loans to the private sector and a slower rate of growth in time and savings deposits. Beginning in April, consumer prices began to rise more rapidly and by August were up 11 percent over the March 1968 level. During 1967 the consumer price index (annual average) increased only 3-1/2 percent. The central bank acted by raising its discount rate in August 1968 from 10.8 percent to 11.9 percent and holding it at that level through May 1969. Rates

---

<sup>1/</sup> Erik Lundberg has shown that Taiwan, China, had a tremendous expansion in both money supply and the banking system between 1955 and 1975, with broad money (M2) rising from 9 percent to 56 percent of the value of total output--a level of monetization roughly comparable to Japan's. See Erik Lundberg, "Fiscal and Monetary Policies", from Economic Growth and Structural Change in Taiwan, ed. by W. Galenson, Cornell University Press, 1979, p. 271.

on time and savings deposits were also raised in September. These actions, plus some use of moral suasion, were successful in bringing the rate of inflation under control in November-December 1968. During 1969-72 the rate of inflation remained relatively low, ranging between about 2-1/2 and 5 percent per year. (See Table 2.)

In short, although the inflationary threat in 1968 was not as strong as in 1973, the situation still did not get out of hand, and the response of monetary policy must be judged in this case as having been successful.

Inflation in 1973-74 -- The next major threat to price stability occurred in 1973 when two large trade surpluses in 1972 and 1973 led to a sharp acceleration in the rate of growth of the money supply (see Table 2), and the central bank was not able to neutralize the large increase in net foreign assets.<sup>1/</sup> Price stability was also threatened at this time by a sharp rise in international commodity prices, a widespread floating of exchange rates, and the 1973-74 oil shock.

Consumer prices began to rise in July 1973 and increased very rapidly through March 1974. (See Chart 1.) From a level of 8-1/2 percent, the central bank in 1973 raised its rediscount rate to 9-1/2 percent on July 26, to 10-3/4 percent on October 24 and to a whopping 14 percent on January 27, 1974. (See Chart 1.) In addition, rates on time and savings deposits were also raised in July and October 1973, and in January 1974. Unfortunately, the central bank did not increase rates quickly enough, allowing six months to pass before the rates reached their peak in January 1974. The result was a tremendous rise

---

<sup>1/</sup> The type of economic analysis used in this paper is based largely on the IMF/Polak model which, in a balance-sheet framework, views money as being affected positively by increases in net foreign assets and net domestic credit, and negatively by increases in quasi-money and other miscellaneous liabilities such as banks' capital accounts. See IMF Institute: Financial Policy Workshops: The Case of Kenya, Chapter 7: The Polak Model, International Monetary Fund, Washington, D.C. 1981.

in the price index from about 60 (1976 = 100) in June 1973 to 93 by March 1974-- an increase in nine months of 55 percent. The increase in prices was finally arrested by April 1974 and the central bank began to lower the rediscount rate in September 1974. The bank continued to reduce the rate piecemeal over roughly a three-year period until June 1977 when it reached a low of 8-1/4 percent.

In retrospect, the 1973-74 monetary policy must be considered something of a failure since the inflation rate rose to 47-1/2 percent in 1974 from only 8 percent in the previous year. (See Table 2 and change in yearly average consumer price index.) However, Taiwan, China, was one of the few less developed areas both to restore stable prices fairly quickly and to keep them relatively stable for as long as five years. In this, it was aided by the large trade deficit in 1974 which acted as a contractionary factor on the money supply, and by its willingness to accept a single, large, increase in prices rather than have the inflation spread out over a period of several years. It would be interesting to know if a substantial part of the inflation could have been avoided by a large, once-and-for-all, increase in interest rates in July 1973 to the levels they eventually reached in January 1974.

Inflation in 1979-81 -- The third inflationary threat occurred in March 1979 when prices began to accelerate as large trade surpluses and the second oil shock (1979-80) caused the rate of inflation to jump to 19 percent (annual average) in 1980 and to 16 percent in 1981, or roughly double the rate in 1978 and 1979. Again, the central bank acted to raise interest rates, increasing the rediscount rate in four steps from 8-1/4 to 13-1/4 percent between May 1979 and June 1981. (See Chart 1.) Bank deposit rates were also increased. By October 1981 consumer prices stopped rising and since then they have increased only slightly. Between October 1981 and May 1984, the central bank lowered the rediscount rate nine times from 13-1/4 percent to 7.0 percent. (See Chart 1.)

Again, monetary policy fell short of being successful during this period of restraint. Although the rate of price increases was not as steep as in 1973-74, nevertheless the consumer price index rose 50 percent between March 1979 and October 1981. As before, it would appear that a faster rate of increase in interest rates by the central bank to the top level would have been a more effective policy for restraining inflation. There was one long period from August 1979 to January 1981 when no change was made in the rediscount rate--yet consumer prices continued to rise rapidly. The central bank might also have made effective use of a penalty discount rate during 1979-81.

\* \* \* \* \*

Why is it that monetary policy was not more effective during 1973-74 and 1979-81? One of the main reasons is that it took too long to get interest rates up to a truly restrictive level--even though the first increase in rates began about the time that the rate of inflation began to accelerate. In retrospect, it would have been better to have moved fairly quickly to the 13 to 14 percent truly restrictive level than to have delayed the process--in one case, for as long as 17 months up to January 1981. The apparent lesson here is that the authorities should not be afraid to return to the historically high interest rate levels that prevailed in earlier cycles whenever the circumstances merit such action.

Another aspect that should be noted is that the state of the international trade balance is an important factor influencing how strong a restrictive monetary policy the authorities should pursue. In 1974 the large trade deficit helped significantly in exerting a contractionary impact, but in 1979-81 the problems of monetary restraint were exacerbated by a trade surplus in all three years.

Another reason why monetary policy was not more effective in 1979-81 was the rather weak use made of the reserve requirement weapon and open market operations, despite the reserve requirement reform of 1975. There appears to be a reluctance on the part of the central bank to make use of some of the higher ranges of the reserve requirement (e.g., up to 40 percent). As a result, the excess reserves of banks increased to a high level in 1981 (see Table 2)--a year in which no use was made of the reserve requirement weapon.<sup>1/</sup>

It should also be noted that the central bank may be pursuing an inappropriate policy in attempting to set Taiwan, China, interest rates at the same level as in the major industrial countries. (This policy was described earlier.) A more appropriate policy would be to let interest rates find their own level under relatively free market conditions, rather than be set at somewhat artificial levels through administrative action. In less developed countries and regions, capital tends to be relatively scarce, with a high opportunity cost, and it is only logical to expect this to be reflected in interest rates that will often be higher than the rates in the major industrial countries.

In short, more use should be made of all available monetary instruments, including the newly developed open market operations. Also, the most important instrument--interest rate policy--should be used more quickly and flexibly, along with central bank credit accommodation policies, both to dampen loan demand in inflationary periods and to stimulate a rise, which would be anti-inflationary, in time and savings deposits. Provided policies like these are pursued, the authorities should be more successful in bringing future inflationary pressures fairly quickly under control.

---

<sup>1/</sup> Erik Lundberg, in discussing the postwar period in Taiwan, China, also concludes that "there is no evidence that...reserve [requirement] policy was really effective in controlling the money supply and credit availability." See Erik Lundberg, op. cit., pp. 285-6.

REFERENCES

- Central Bank, Annual Report, 1961 through 1983, Taipei.
- \_\_\_\_\_, Financial Institutions in Taiwan, Taipei, 1982.
- Chang, Kowie, Economic Development in Taiwan, mimeograph (Taipei: Cheng Chung Book Co., 1968).
- Chiu, Paul C.H., "Performance of Financial Institutions," mimeograph (Taipei: Taiwan University, 1981).
- Emery, Robert F. and Irvine, R.J., "Interest Rates as an Anti-Inflationary Instrument in Taiwan," National Banking Review (Washington, D.C.: Comptroller of the Currency, Sept. 1966).
- Kuo, Shirley W.Y., The Taiwan Economy in Transition (Boulder, Colo.: Westview Press, 1983).
- Liang, Chin-ing Hou, "The Operations and Development of Financial Institutions in Taiwan (manuscript, 1979).
- Lundberg, Erik, "Fiscal and Monetary Policies," from Economic Growth and Structural Change in Taiwan, edited by Walter Galenson (Ithica: Cornell University Press, 1979).
- Perng, Paul F.N., "Monetary Policy 1973-77 and Recent Monetary Developments," mimeograph (Taipei: Central Bank, 1977).
- Tsiang, S.C., "Fashions and Misconceptions in Monetary Theory and Their Influences on Financial and Banking Policies" (Tubingen: Zeitschrift fur die gesamte Staatswissenschaft, 1979).
- \_\_\_\_\_, "Monetary Policy of Taiwan", from Conference on Experience and Lessons of Economic Development in Taiwan (Taipei: Institute of Economics, Academia Sinica, 1981).