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Chapter 4 Monetary Policy Instruments

The CBC bases monetary policy decisions on the framework introduced in the previous chapter and uses various instruments described in the following sections, including reserve requirements, discount windows, open market operations, financial institution redeposits, selective credit management and moral suasion to achieve its policy goals. The CBC initially affects reserve money and interbank call-loan rates, which in turn affect various monetary aggregates, interest rates and other financial and economic variables, and eventually achieves final monetary policy goals.

Section 1 Reserve Requirements

1. Rationales for Reserve Requirements

Financial institutions are subject to reserve requirements established by the CBC. They are a fraction of banks' liabilities kept in the form of cash or reserves held at the CBC. Financial institutions stated here refer specifically to depository institutions that receive deposits from and extend credit to the general public. The rationales for imposing reserve requirements are:

(1) Reserve requirements provide assurance over the liquidity of the financial system and safety of customers' deposits. If financial institutions do not have sufficient liquidity, they can apply for temporary accommodations using the reserves they hold at the CBC as collateral.

(2) Required reserve ratios are an important monetary policy instrument. Through adjusting the ratios on various types of deposits, the CBC can influence financial institutions' ability to extend credit, which in turn helps control money growth.

2. Major Reforms over the Past Decade

The reserve requirement system in Taiwan went through several major changes in the past decade. In November 1994, the computation and maintenance periods of required reserves were both extended to one month (previously ten days). In September 1996, an ad hoc committee consisting of scholars, bankers and the CBC staff was formed to reform the reserve requirement system. Changes proposed by this committee served as a basis for the revision of the *Central Bank of China Act,* which was passed by the Executive Yuan (Cabinet) in 1997, and then enacted by the Legislative Yuan (Congress) in July 1999. These changes included removing the floor and lowering the ceiling on required reserve ratios. They were not only an integral part of Taiwan's regulatory adjustments for ascension to the World Trade Organization (WTO), but also gave the CBC the legal authority to impose reserve requirements on all types of bank liabilities when necessary.

(1) Lowering the Ceiling and Removing the Floor on Required Reserve Ratios

Requiring banks to hold a certain fraction of their liabilities in accounts with the CBC, which bear very low interest, imposes an additional cost on banks. Banks are thus compelled to pass the cost onto customers by charging higher interest rates on loans and/or offering lower rates on deposits. In addition, financial deregulation and innovation have blurred the distinction between banks and non-bank financial institutions (NBFIs), such as securities firms, insurance companies, and mutual funds. The fact that NBFIs are totally exempted from reserve requirements has also created a source of unfair competition against banks in the financial industry. The CBC, therefore, lowered the ceiling and removed the floor on required reserve ratios on all types of deposits in the revised *Central Bank of China Act* of 1999. The CBC then reduced actual reserve ratios imposed on banks several times. These measures have decreased the cost of bank operations and increased banks' competitiveness relative to NBFIs.

In addition, these measures allowed the CBC to gradually close the gap between required reserve ratios imposed on transaction and non-transaction deposits, which helped eliminate the distortion created by banks' preference of the latter over the former. This is consistent with the practice adopted by most advanced economies as the definition of monetary aggregates has been widened and blurred since the 1980s.

From a monetary policy perspective, removing the floor on required reserve ratios also increased the flexibility of monetary policy. It gave the CBC more room to adjust required reserve ratios both upwards and downwards in response to economic and financial conditions.

(2) Imposing Reserve Requirements on Banks' Foreign Currency Liabilities

During the 1980s and mid-1990s in Taiwan, banks' holdings of foreign liabilities were subject to a ceiling and a fraction of these liabilities had to be retained as redeposits at the CBC. This was incompliant with WTO rules for facilitating liberalization of capital movements and cross-border financial services. As part of Taiwan's WTO commitments, the CBC had to replace these regulations with market-based measures on capital movements. In December 2000, in accordance with the revised *Central Bank of China Act,* the CBC began to impose required reserve ratios on foreign currency deposits. The requirement was not only consistent with WTO rules, but also put NT dollar deposits and foreign currency deposits on an equal footing. Moreover, it introduced a new monetary instrument which allowed the CBC to modulate abrupt short-term capital movements.

3. Structure of the Reserve Requirement System

At present, depository institutions, including domestic banks, local branches of foreign banks, medium business banks, credit cooperative associations, credit departments of farmers' and fishermen's associations, and the Department of Savings and Remittances of the Chunghwa Post Co., Ltd. (also called the Postal Savings System), are subject to reserve requirements. Reservable liabilities include transaction deposits such as checking deposits and demand deposits, non-transaction deposits such as saving deposits and time deposits, foreign currency deposits, and other types of liabilities such as bank debentures and repurchase agreements. Eligible reserves include cash in vault and reserves deposited at the CBC or other agent banks authorized by the CBC. Agent banks mainly refer to agricultural banks accepting redeposits from community financial institutions.

(1) Reserve Requirement Ratios

According to the revised *Central Bank of China Act* of 1999, the reserve requirement on transaction deposits is set at the range of 0-25 percent (formerly 15-40 percent and 10-35 percent on checking and demand deposits, respectively); that on non-transaction deposits is set at a range of 0-15 percent (formerly 7-25 percent and 5-20 percent on time and saving deposits, respectively). The range for other types of liabilities is set at 0-25 percent. For the purpose of implementing monetary policy, the CBC may impose additional requirements, which are not bound by the above ratios, on the increment of checking deposits, demand deposits, and other liabilities when deemed necessary.

(2) Reserve Accounts

Banks hold two types of reserve accounts at the CBC: A accounts (non-interest bearing; withdrawals and transfers may be made at any time) and B accounts (interest bearing). Banks' minimum deposits in B accounts for any maintenance periods are a fraction of required reserves of the preceding period determined by the CBC. Since November 2001, the fraction has been maintained at 55 percent (formerly 60 percent). Banks may not make withdrawals or apply for accommodations against B account deposits unless in emergency or to comply with the CBC's monetary policy.

Table 4-1 displays the remuneration rate, which was roughly in line with the trend of money market interest rates, on B accounts of required reserves between 1998 and 2004.

Table 4-1 Remuneration Rate on B Accounts of Required Reserves

Unit: %

Date (mm-dd-yy)	Remuneration Rate
11. 16. 1998	2.70
01. 07. 1999	3.20
07. 17. 2000	4.00
10. 04. 2001	2.50
11. 12. 2002	2.25
03. 21. 2003	1.75

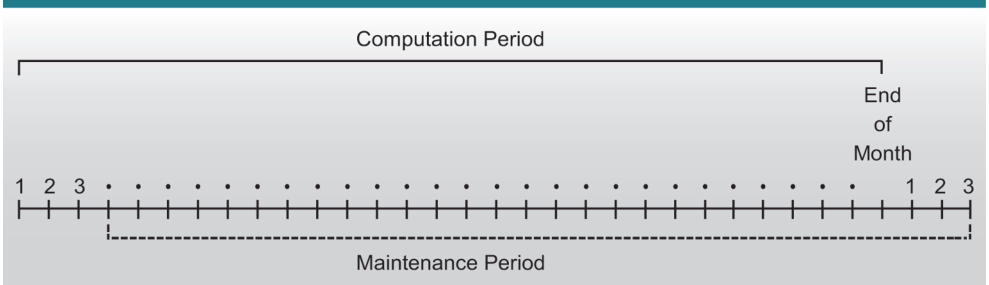
(3) Computation and Maintenance Periods

Reserve calculation systems in the world can be divided into two types: contemporaneous and lagged. Under the contemporaneous reserve calculation system, the time pattern of the maintenance period coincides with the computation period. Under the lagged reserve calculation system, the maintenance period lags the computation period by one period or more.

Currently, most central banks in industrialized countries employ the lagged system due to its simplicity in forecasting fund conditions in the banking system. In contrast, the CBC adopts the contemporaneous system because precise timing of monetary policy operations requires a close and immediate link between reserve money and monetary aggregates.

In practice, the maintenance period has been set to be one month since November 1994, running from the fourth day of each month to the third day of the following month. The CBC requires banks to hold an average amount of reserves over the maintenance period rather than a specific amount on each day. When the reserve of a bank falls short by less than one percent of the required amount for the maintenance period, it may make up for the shortfall by carrying over the excess reserves it holds from the previous period. From the banking perspective, the combination of the three devices, namely the intra-period average calculation, the inter-period carry over and the three-day leeway, provides banks with flexibility in meeting their reserve requirements. From a policy perspective, these devices help the CBC to manage fund conditions in the banking system across several maintenance periods. As a result, the stability of reserve money and call loan rates may be achieved more easily. Chart 4-1 displays the computation and maintenance periods of required reserves.

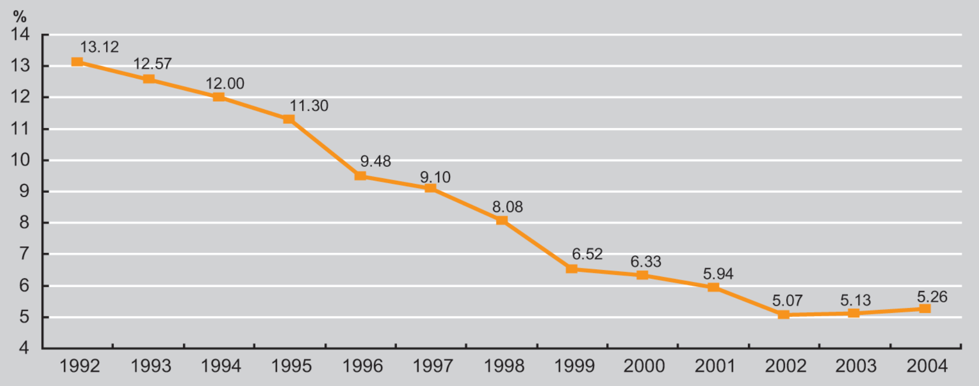
Chart 4-1 Computation and Maintenance Periods of Reserves



4. Adjustment of Reserve Ratios

Between 1992 and 2004, in line with the international trend, the CBC lowered the required reserve ratio on deposits denominated in NT dollars several times. During the same period, based on the outlook for monetary growth and conditions regarding the flow of funds in the money market, the CBC also issued negotiable certificate of deposits (NCDs) when necessary to mop up the excess liquidity resulting from the lower ratio. As a result, with an eye on financial stability, the operating costs of banks were significantly lowered. In addition, the difference between the reserve ratio on transaction deposits and non-transaction deposits narrowed considerably. As shown in Chart 4-2, the weighted average of the ratio was reduced from 13.12 percent in 1992 to 5.26 percent in 2004.

Chart 4-2 The Average Reserve Ratio on NT Dollar Deposits



Note: $\text{Average Reserve Ratio} = \dfrac{\text{Total Reserves}}{\text{Total Reservable NT Dollar Deposits}} \times 100\ (\%)$

Source: Financial Statistics Monthly, the Republic of China, the Central Bank of China.

In December 2000, the CBC began to impose reserve requirements on newly taken demand and time deposits denominated in foreign currencies. The purpose was to curb foreign exchange speculation by forcing banks to maintain an appropriate level of foreign currency liquidity at the CBC. The ratio was initially set at 5 percent, then raised to 10 percent, and later reduced to 0.125 percent in June 2002 in response to changes in economic and financial conditions. Table 4-2 displays the required reserve ratios on various types of bank liabilities between 1992 and 2004.

Table 4-2 Reserve Ratios on Bank Liabilities

Unit: %

Types of Deposits Date (mm-dd-yy)	Checking Deposits	Demand Deposits	Savings Deposits		Time Deposits	Foreign Currency Deposits	Other Liabilities
			Demand	Time			
01. 09. 1992	27.250	25.250	17.750	8.875	10.875	–	–
09. 17. 1993	26.250	24.250	16.750	8.125	10.125	–	–
08. 12. 1995	25.250	23.250	15.750	7.625	9.625	–	–
09. 25. 1995	24.250	22.250	14.750	7.125	9.125	–	–
11. 07. 1995	23.750	21.750	14.250	6.875	8.875	–	–
03. 08. 1996	22.500	20.500	13.000	6.525	8.525	–	–
08. 24. 1996	22.000	20.000	12.500	6.400	8.400	–	–
09. 25. 1997	21.250	19.250	11.750	6.250	8.250	–	–
10. 16. 1997	19.750	17.750	10.250	5.750	7.750	–	–
08. 03. 1998	19.250	17.250	9.750	5.550	7.550	–	–
09. 29. 1998	18.750	16.750	9.250	5.350	7.350	–	–
02. 20. 1999	15.000	13.000	5.500	5.000	7.000	–	–
07. 07. 1999	15.000	13.000	5.500	5.000	7.000	0	0
10. 01. 2000	13.500	13.000	6.500	5.000	6.250	0	0
12. 08. 2000	13.500	13.000	6.500	5.000	6.250	5.000	0
12. 29. 2000	13.500	13.000	6.500	5.000	6.250	10.000	0
10. 04. 2001	10.750	9.775	5.500	4.000	5.000	5.000	0
10. 08. 2001	10.750	9.775	5.500	4.000	5.000	2.500	0
06. 28. 2002	10.750	9.775	5.500	4.000	5.000	0.125	0

Source: Financial Statistics Monthly, the Republic of China, the Central Bank of China.

5. Liquid Asset Requirement System

All depository institutions in Taiwan are required to hold a certain amount of liquid assets in their portfolios in order to meet changing fund demands at any time. The CBC may, after consulting with the Ministry of Finance (MOF, and since July 2004 with the Financial Supervisory Commission of the Executive Yuan), set a minimum ratio of liquid bank assets to reservable liabilities. The function of the liquid asset requirement system is similar to the reserve requirement system described above. Through imposing a minimum liquidity requirement and administrating reservable liabilities and eligible assets, the CBC is able to influence how banks use their money and how banks manage their liquidity.

The reservable liabilities of depository institutions for the liquid asset requirement system include all types of NT dollar deposits, the net borrowing positions of inter-bank call loans and repurchase agreements. The eligible liquid assets include excess reserves (total reserves minus required reserves), net lending positions in inter-bank call loans, redeposits with maturities less than one year, and various types of marketable securities including treasury bills, NCDs, bankers' acceptances, government bonds, commercial papers, corporate bonds and bank debentures.

The liquid asset requirement system, established in 1977, has helped to expand Taiwan's money market and protect banks from liquidity shortages. The statutory liquidity ratio was initially set at 5 percent and then rose to 7 percent in 1978 and has stayed at this level to this date. In practice, since the mid-1990s, with the advancement in liquidity risk management, most banks have maintained much higher liquidity ratios than the required ratio.

Section 2 Discount Window

The discount window is where banks obtain discount loans from central banks. In practice, the CBC can affect the volume of discount loans in two ways. One is by setting the discount rate or the price of the loans; the other is by affecting the quantity of the loans through its administration of the discount window. Both are important policy tools as the volume of discount loans affects reserve money and monetary aggregates.

In addition to its use as a tool for monetary control, discounting is also important in preventing financial panics. The CBC, like all other central banks worldwide, is the lender of last resort for banks. In other words, when banks have no one else to borrow from, they may come to the CBC for discount loans-loans that are particularly effective for providing liquidity to the banking system during a banking crisis because the reserves are immediately channeled to the banks that need them most.

1. Types of Discount Window Facilities

(1) Rediscounts

When obtaining credit in the form of a rediscount, the borrowing institution transfers eligible papers that are based on real production activities, such as bankers' acceptances, trade acceptances and commercial paper issued by the private sector or public enterprises, to the CBC. In return, the borrower is credited in its reserve account held with the CBC by an amount equal to the discounted value of the eligible paper at the current rediscount rate. However, as the economy continues to evolve, it has become increasingly difficult for the CBC to verify whether the papers traded are actually based on real activities. This results in lengthening the time required for the CBC to complete the inspection procedure, which affects borrowing institutions' abilities to meet funding demands in time. As a result, most banks are generally reluctant to borrow in this way.

(2) Short-term Accommodations

Depository institutions may apply for short-term accommodations with the CBC not exceeding a maturity of ten days. Upon borrowing, the institutions provide collateral approved by the CBC. Satisfactory collateral includes eligible papers for rediscounts, government bonds, NCDs issued by the CBC, and other securities approved by the CBC. Among these, the CBC's NCDs are the most popular form of collateral.

The rate on borrowing depends on certain conditions. Depository institutions that provide satisfactory collateral, or borrow for monetary policy purposes at an amount less than their reserves in their B accounts may borrow at the rate on accommodations with collateral. Those that have difficulties in providing satisfactory collateral may borrow at the rate on accommodations without collateral. As expected, the rate charged on the former is much lower than that on the latter.

(3) Refinancing of Secured Loans

Depository institutions may apply for refinancing secured loans with maturities less than or equal to 360 days at the discount window providing that they put up securities approved by the CBC or reserves held in their B accounts as collateral. This type of credit is typically used to fund government-approved loans, monetary policy related loans, or emergency situations approved by the CBC. The rate on accommodations with collateral is applied on such loans.

2. Discount Rate Adjustments

In the last few years, banks have seldom used the discount window for borrowing since the banking system has had ample liquidity. Despite this, the adjustment of the discount rate is still important in signaling shifts in the CBC's monetary policy stance to the financial system and the general public. It complements the CBC's open market operations and supports the general acceptance of monetary policy when market conditions change. It is often the leading indicator for the financial market as it actively leads the change in various bank and market interest rates. In general, in an attempt to stabilize the macro economy, the CBC adjusts the discount rate upwards when the economy overheats and downwards when the economy slows down.

From December 2000 to June 2003, the CBC lowered the discount rate 15 times to shore up a sluggish economy. The rate stayed low until the fourth quarter of 2004, when the CBC adjusted the rate upwards twice in an attempt to preempt mounting inflation expectations as the economy showed strong signs of recovery from the third quarter of 2003 onwards. In response, both money market interest rates and bank rates followed suit. Table 4-3 displays adjustments in discount and accommodation rates between 1992 and 2004.

Table 4-3 Discount Rate Adjustments

Unit: %

Date (mm-dd-yy)	Rediscount Rate	Accommodation Rate with Collateral	Accommodation Rate without Collateral
01.09.1992	5.875	6.875	10.125
05.09.1992	6.125	7.125	10.125
10.05.1992	5.625	6.625	9.625
07.30.1993	5.625	6.125	9.625
11.05.1993	5.500	5.875	9.625
11.24.1994	5.500	5.875	9.625
02.27.1995	5.800	6.000	9.625
07.25.1995	5.500	5.875	9.625
05.24.1996	5.250	5.625	9.625
08.09.1996	5.000	5.375	9.625
08.01.1997	5.250	5.625	9.625
09.29.1998	5.125	5.500	9.625
11.11.1998	5.000	5.375	9.625
12.08.1998	4.750	5.125	9.625
02.02.1999	4.500	4.875	9.625
03.24.2000	4.625	5.000	9.625
06.27.2000	4.750	5.125	9.625
12.29.2000	4.625	5.000	9.625
02.02.2001	4.375	4.750	9.625
03.06.2001	4.250	4.625	9.625
03.30.2001	4.125	4.500	9.625
04.23.2001	4.000	4.375	9.625
05.18.2001	3.750	4.125	6.000
06.29.2001	3.500	3.875	5.750
08.20.2001	3.250	3.625	5.500
09.19.2001	2.750	3.125	5.000
10.04.2001	2.500	2.875	4.750
11.08.2001	2.250	2.625	4.500
12.28.2001	2.125	2.500	4.375
06.28.2002	1.875	2.250	4.125
11.12.2002	1.625	2.000	3.875
06.27.2003	1.375	1.750	3.625
10.01.2004	1.625	2.000	3.875
12.31.2004	1.750	2.125	4.000

Source: Financial Statistics Monthly, the Republic of China, the Central Bank of China.

Section 3 Open Market Operations

Like most central banks in advanced countries, the CBC uses open market operations as the most important and active tool of monetary policy. The CBC injects reserves into the banking system when it buys securities from dealers, and drains reserves when it sells. This changes the volume of reserve money and the interbank call-loan rate, which in turn, changes monetary aggregates and various market interest rates.

In practice, open market operations occur through auctions in which the CBC invites dealers to state interest rates for securities of the type and maturity that the CBC has selected to sell or buy that day. Because of changing economic conditions and technological advancement, this process has evolved over the years. Before 1997, only three bills finance companies were authorized to serve as brokers. Between 1997 and 1999, the CBC relaxed this restriction and allowed banks to make bids or offers directly. This change, however, lengthened the time and increased the cost of operations. To correct this situation, the CBC limited open market operations to a set of eligible counterparties in January 2000. In addition, it introduced a new automated online network system in April 2003 to expedite the auction process. In May 2003, the primary dealer system authorizing eligible counterparties and additional securities firms to participate in open market operations was initiated.

1. Tools of Open Market Operations

Depending on the reserve situation, the CBC conducts open market operations in one of the following two ways. When forecasts indicate that the supply of reserves will need to be adjusted for a prolonged period of time, the CBC may make outright purchases or sales of securities. Alternatively, when projections indicate only a temporary need to alter reserves, the CBC may engage in transactions that only temporarily affect the supply of reserves such as repurchase agreements (repos) or reverse repurchase agreements (reverse repos).

(1) Outright Purchases and Sales

Transactions on an outright basis occur largely through auctions in which dealers are requested to submit bids to buy or offers to sell securities. These securities include short-term bills, government bonds, and NCDs issued by the CBC. In general, the CBC conducts outright transactions only infrequently to meet long-term reserve needs.

(2) Repurchase Agreements and Reverse Repurchase Agreements

When a temporary addition to bank reserves is called for, the CBC engages in short-term repos with dealers; that is, it buys securities from dealers who agree to repurchase them back by a specified date at a specified price. Because the added reserves will be automatically withdrawn when the repurchase agreements mature, this arrangement temporarily injects reserves into the banking system. The opposite situation occurs when a temporary reduction of bank reserves is called for, whereby the CBC sells reverse repos. Since June 1983, the CBC has utilized this method to influence reserves on a temporary basis. Because of the flexibility and simplicity of these transactions, the CBC frequently uses this tool to manage liquidity in the banking system.

2. Issuance of Central Bank Securities

In addition to outright transactions and repos, the CBC has been issuing securities (CD/NCDs) regularly in the past two decades to drain excess liquidity brought forth by Taiwan's sustained trade surplus and excess savings. Such action decreases the supply of reserves, and is therefore considered an instrument of open market operations.

The CBC first issued CD/NCDs in the 1980s with maturities of 3-, 6- and 9-months, and 1-, 2- and 3-years. Financial institutions purchased these securities through auctions. In June 1999, the CBC introduced 14-day and 28-day CD/NCDs. Direct purchases were made at the rate and volume set by the CBC, which served as signals of the CBC's current monetary policy stance. In February 2000, the CBC started to issue CD/NCDs with maturities of 91-, 182-, 364-days, and 2-years. In January 2003, the CBC started to issue CD/NCDs with a maturity of 30-days instead of 14- and 28-days. The CBC then stopped issuing longer term CD/NCDs such as 364-days and 2-years. For the time being, the issuance maturities of CD/NCDs are 30-, 91- and 192-days.

The CBC flexibly arranges maturities of CD/NCDs based on its outlook on fund conditions in the banking system. Through properly chosen CD/NCD maturities, the CBC keeps the daily supply of reserve money in balance with the banking system's demand. CD/NCDs are thus one of the most important instruments used by the CBC to maintain stability in short-term market rates.

Since 1999, CD/NCDs have become the CBC's most frequently used open market operation instrument. The outstanding balance at the end of 2004 reached NT $3.56 trillion, or 2.14 times the size of the daily average reserve money of the year.

Section 4 Financial Institution Redeposits

The financial institution redeposit system is an important tool used to control monetary growth and maintaining financial stability in Taiwan. In practice, the CBC may influence the level of reserves in the banking system through taking redeposits from or releasing them to depository institutions, and adjusting the proportion of redeposits allowed to be accepted by delegated banks. The Postal Savings System, as it is prohibited from making loans, accounts for the majority of the redeposits. Redeposits from other depository institutions account for a minor portion. At the end of 2004, the outstanding balances of redeposits from the Postal Savings System and other depository institutions placed with the CBC were NT$1.35 trillion and NT$0.53 trillion, respectively. They accounted for 17.56 percent and 6.89 percent of the CBC's total liabilities.

1. Redeposits from the Postal Savings System

The use of postal savings deposits by the Postal Savings System has been gradually deregulated in line with changes in economic and financial conditions in Taiwan during the past four decades. Since the inception of the Postal Savings System in 1964 and up until 1981, the system was only allowed to place its deposits with the CBC to provide medium- to long-term funds needed for economic development. A later regulation required its deposits generated from March 1981 onwards to be distributed among four specialized state-owned banks instead of the CBC. From October 1984 to December 1991, to absorb sustained excess liquidity in the banking system, the CBC joined the four banks in accepting postal savings redeposits. Postal savings deposits generated after 1992 were disposed of in two ways: deposits with any banks (including the CBC), or purchases of government bonds, treasury bills, securities issued by the CBC and bank debentures. Since 1997, the Postal Savings System has been allowed to gradually take on more responsibility and risk in managing its funds as it has been allowed to purchase bills and bonds issued by the private sector with the approval of the CBC, the MOF, and the Ministry of Transportation and Communications.

2. Redeposits from Banks

In addition to postal savings redeposits, the CBC may also accept redeposits from banks (mostly agricultural banks that accept a large sum of deposits from community financial institutions). This measure came into effect in March 1986, a time characterized by excess liquidity in the market, and alleviated some of banks' pressures to look for sources of loans and investments. However, to encourage proper management of funds by banks, the CBC set maximum proportions of redeposits that it can legally accept and limits the maturity of redeposits to less than one year.

Section 5 Selective Credit Management

There are two types of selective credit management policy in Taiwan: selective preferential loans and selective credit controls. Selective preferential loans refer to the provision of credit to financial institutions directed by the CBC for the purpose of financing selective categories of policy-related loans. In accordance with specific economic development objectives, credit for such purposes has been extended on favorable terms to certain borrowers. Selective credit controls refer to measures that restrict or intervene in financial institutions' extension of certain types of credit. This measure does not affect reserve positions directly. The direct impact falls on the bank credit market. By restricting the terms and sizes of bank loans, such a control places a lid on the speculative demand for bank credit. The following paragraphs describe these two credit management policies in detail.

1. Selective Preferential Loans

There are two types of selective preferential loans. One is through accommodations from redeposits of the Postal Savings System released by the CBC, and the other is through preferential loan programs jointly executed and supervised by the CBC and other government agencies.

(1) Preferential Loans Accommodated by Postal Savings Redeposits

Accommodations using postal savings redeposits include emergency relief such as loans extended to those who need funds to reconstruct homes and other buildings ravaged in the earthquakes of September 21 and October 22, 1999, assistance extended to small and medium businesses for purchases of machinery, and subsidies to first-time homebuyers.

In view of the sluggish demand for mortgages caused by a real-estate downturn since the early 1990s, the CBC appropriated NT$100 billion to establish a preferential housing loan program for first-time homebuyers in November 1995. This program was well received by the general public and came to an end in May 1996. Around the same time, the CBC appropriated NT$15 billion to provide liquidity to the construction industry. These funds were released through commercial banks.

Because of the success of the preferential housing loan program, the CBC reintroduced the program in August 1998 and appropriated NT$30 billion for that purpose. In January 1999, the CBC and the MOF jointly initiated another preferential housing loan package worth NT$150 billion to stimulate the real estate market, of which NT$60 billion was for first-time home buyers, NT$89.8 billion for the buyers of new housing units, and NT$0.2 billion for first-time home buyers who are aborigines.

(2) Preferential Loans Administrated by the Government

To help boost the real estate market and relieve the mortgage burden on homebuyers, the CBC, the MOF and the Ministry of the Interior jointly initiated a preferential mortgage loan program in August 2000. A total of NT $1.5 trillion was earmarked for this purpose from 2000 to 2004. At the inception of the program, the government subsidized 0.85 of a percentage point of the annual interest rate. The subsidy was gradually lowered and reached 0.125 of a percentage point in May 2004. This policy measure was very popular and helped promote the recovery in the real estate market from the third quarter of 2003 onwards.

To provide short- to medium-term working capital and to lower the cost of funds for traditional industries, the CBC and the MOF jointly initiated the Preferential Loans and Credit Guarantee for Traditional Industries in October 2000. A total of NT$1.6 trillion had been assigned for this purpose by the end of 2004.

2. Selective Credit Controls

In practice, the only occasion when the CBC exercised selective credit controls was in the late 1980s, when it discovered that banks were financing too many loans for purchases of land and properties and to investment companies. The CBC thus stipulated that, from March 1, 1989, loans secured against land that were used to purchase land, to construct and to purchase residential or industrial properties should not exceed the publicly-announced land value as of the end of February 1989 plus 40 percent, and that the term of such loans should not exceed three years. In addition, unsecured loans for the purchase of land, loans secured against vacant plots of land, and loans secured against land that had not changed hands three or more times within a two-year period were temporarily curbed. Furthermore, the total amount of outstanding credit extended to investment companies was frozen at the end-of-February 1989 level, in order to discourage speculative activities. Loans used to purchase private residences for individual use, in contrast, were excluded from selective credit controls.

As the economy became more stable, these restrictions were gradually phased out in the early 1990s and were nonexistent by 1996. Overall, these measures proved to be very successful in preventing financial disorder in Taiwan.

To sum up, the CBC's monetary policy instruments include repurchase agreements, discount window lending, open market operations, financial institution redeposits and selective preferential loans and credit controls. When necessary, the CBC also exercises moral suasion, or jawboning, to enhance the effectiveness of monetary policy. This is a persuasion tactic used by the CBC to influence and pressure, but not force, banks into adhering to monetary policy. Tactics used are closed-door meetings or telephone conferences with bank management, increases in the severity of inspections and examinations, or appeals to public opinion. Sometimes, the CBC may publicly express its views on current economic and financial conditions and monetary policy stance in an attempt to communicate directly with the market and to attain support from the general public.

In the early 2000s, interest rates on bank loans charged to retail customers and small and medium enterprises were downwardly rigid (as market interest rates trended down in response to the loosening monetary policy of the CBC). This practice ignored consumer interest and retarded monetary policy transmission. To enhance the efficiency of the monetary transmission mechanism, the CBC encouraged banks to adopt the new base rate system and adjustable rate mortgages (ARMs), both of which adjust rates automatically according to a chosen benchmark interest rate, a mechanism that makes the pricing of loans more flexible and transparent. By the end of 2004, all domestic banks had adopted the new base rate system and ARMs.