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The Monetary Policy Transmission in China- "Credit Channel" And Its Limitations

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The Monetary Policy Transmission in China

--“Credit Channel” and its limitations

The Monetary Policy Transmission Mechanism can also be called as “Monetary Transmission Mechanism” or “Monetary Mechanism”. According to Professor John B. Taylor (1995) of Stanford University, monetary transmission mechanism is a process through which the monetary policy triggers the changes of real GDP and inflation rate by certain transmissions.¹ The question that how the monetary policy functions during this process has being hotly discussed in theoretical debates, which then divided into different schools. These schools argue that the main channels of monetary policy transmission include money channel, interest rate channel, exchange rate channel, credit channel and so on. Here, after analysis, we contend that the Chinese monetary policy transmission is typically a “credit channel”, but, at present, some limitations exist in this channel, which defy the effectiveness of implementing macro-adjustment and regulation from central bank.

1. The Theory of “Credit Channel” in Monetary Policy Transmission

In order to criticize the traditional monetary theory, the “credit channel” of monetary policy transmission mechanism is put forward. During 1950s and 1960s, economists such as Pintinkin, Gurley, Shaw, etc. began to emphasize the importance of financial intermediaries and credit markets, which they believed play an important role in economy. They argued that the traditional monetary transmission mechanism pays attention to the connection of the output and the total amount of money, though, it ignores the financial structure and financial flow. In fact, it is the two ignored factors that bring great impact on the monetary policy transmission. Gurley and Shaw (1955, 1956, and 1960) emphasized that financial intermediaries exert influence on credit supply rather than money supply. In this way, financial intermediaries enhance efficiency of savings turning into investments and then affect

¹ John. B. Taylor, The Monetary Transmission Mechanism: An Empirical Framework ,Journal of Economic Perspectives, Vol. 9, Fall 1995.

the whole economic activities. Gurley and Shaw pointed out that the main channels of monetary policy transmission probably have diverted from money quantity, which is traditionally considered as the medium of exchange. Whereas, the “financial capability” of economy may have a closer relation with the gross expenditure.

Modigliani (1977) argued that the traditional theory of monetary mechanism ignores the functions of financial intermediaries and bank credits. With the increase of extension and endogenousness of money, the special economic condition on which the traditional monetary mechanism depends has been gradually undermining. As a cognition tool and policy foundation, the limitations of traditional theory become much clearer. In a new situation, monetary authorities can substantially decide and regulate the nominal income through exogenously controlling total bank credit instead of money supply.

Tobin (1978) himself also confessed that his Q theory has left out some important characteristics of the monetary transmission mechanism indeed, that is, the liquidity constraints. Consumers become shortsighted due to the liquidity constraints. It even does not need a low interest rate to stimulate them when they use loans and incomes that are gained through selling properties. However, as to enterprises, their investment behaviours are confined not only to the interest rates but to the availability of cash flow and credit. He stressed that credit rationing is a common phenomenon in credit markets. Under the liquidity constraints, the expenses of individuals and enterprises primarily depend on the availability of loans, which is subjected to monetary policy and credit policy. Credit rationing is a kind of credit mechanism which provides credit according to some credit criteria such as the borrowers' properties, financial conditions, managerial capacities, guarantees, etc. rather than the interest rates. Obviously, it can not meet all the credit demand. In neoclassical price theory, the automatic adjustment of interest rates equalizes the capital demand and capital supply in credit markets, in another word, the prices (or interest rates) will lead to credit clearance. However, it is the asymmetric information among financial markets participants

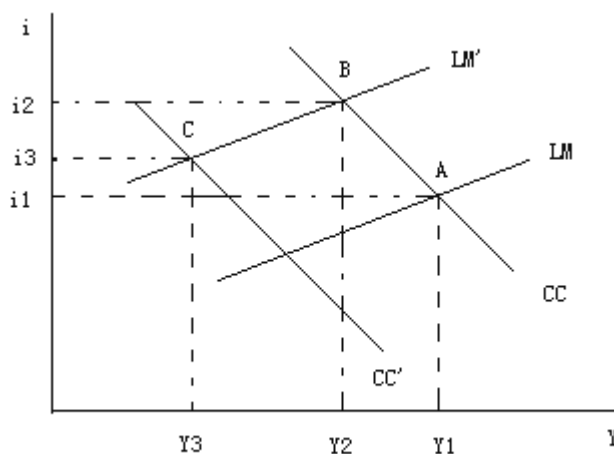
that requires credit rationing, which, inevitably, makes the credit markets imperfect ones, and thus paralyzes the demand-and-supply principle, which is considered to be the core of the neoclassical price theory. Stiglitz and Weiss (1981) elaborated how the asymmetric information induces credit rationing problems in “Credit Rationing in Markets with Imperfect Information”. Due to the asymmetric information, banks are likely to raise the interest rates in order to cover the potential investment risks of borrowers’ which can not be monitored, but it results in two unfavourable consequences: the borrowers with low risks will leave the markets, or they are forced to invest in high risk project. As is can be seen, the raised interest rate decreased the expected utility instead of increasing it. Therefore, banks would rather refuse some loan demand at lower interest rates than meet all of them at higher levels.

The credit channel includes bank lending channel and balance sheet channel. The former indicates that through the control of money supply, central bank influences enterprise investments which depend heavily on bank loans and thus manage the aggregate output. Take monetary contraction for example, the transmission of which works as following: money supply is reduced → bank deposits are reduced → bank loans are reduced → enterprise investments are reduced → aggregate output is reduced. The latter substantially also has a kind of wealth effect, again, take monetary contraction for example: monetary authorities reduce money supply → the market capitalization of enterprises are lowered → adverse selection and moral risk are aggravated → availability of loans declines → enterprise investments are reduced → aggregate output is reduced. Both of the two channels share the same characteristics: central bank influences the loans provided for enterprises via monetary policy tools, and thus regulates the aggregate output. To this extent, both bank lending channel and balance sheet channel are called credit channel.

2. The Transmission Mechanism of Credit Channel

Bernake B.S and A.S. Blinder firstly discussed how the monetary policy is transmitted by credit channel in the article of Credit, Money and Aggregate Demand in 1988. At that time, they established a model of bank credit channel (CC-LM model, see the diagram 1 below). “CC” is the abbreviation of credit and commodity, standing for the clearance in both credit markets and commodity markets. CC curve replaces IS curve in this model. According to previous IS curve, investments are solely determined by interest rates, but in this model, investments rest with interest rates of both non-risk bonds and bank loans. Besides, there is no imperfect substitutability between the two. The model thus involves three kinds of financial assets: money, bonds and bank loans. CC curve and LM curve jointly determine the equilibrium of GNI and the bond rates. CC curve and LM curve jointly determine the equilibrium of GNI and the bond rates.

Diagram 1: LM and CC curve



The monetary transmission mechanism embodied in CC-LM model is: when monetary authorities implement contractive monetary policy, the bank demand deposits will decline, making the LM curve move to LM'. As is shown in the diagram, interest rate ascends while yield goes from Y1 down to Y2; moreover, a reduced bank credit supply follows, making the CC curve move to CC', which induces a further decrease in yield, from Y2 to Y3. It should be pointed out that i_3 stands for lending rate and i_2 stands for bond rate. $i_3 < i_2$ reflects the existence of credit rationing.

3. The positive analysis of the Chinese monetary policy transmission mechanism— “credit channel”

a) Two premises of “credit channel”

In monetary policy transmission mechanism theory, “credit channel” is based on two premises: firstly, the credit markets are imperfect, and bonds and bank loans can not perfectly substitute for each other. Due to the external finance premium, certain borrowers have to depend on bank loans; secondly, monetary authorities influence the loan supply through the administration of required reserves.

It can be seen from Chinese financial structure that the monetary financial assets make up a great proportion of the total financial assets (see table 1). Since 1990s household deposits have constituted more than 30% of the total financial assets and kept an upward trend after 2000. It reached 37.3% in 2000, 37.82% in 2001 and 38.13% in 2002. Although the percentage of securities such as stocks has increased after 1990s, it only occupies approximately 15%. The insurance funds are even much fewer (see table 1). And as for enterprise financing, although corporate bonds have been issued since 1986 and enterprises could finance in stock markets from early 1990s, enterprises substantially seldom get capitals in this way, and bank loans remain the main financial sources for them, particularly, in recent years, the proportion of bank loans, which function as indirect financing way, is on rise. In 2001, bank loans took up 75.9% of the total financial sources and the figure increased quickly in the following two years, reaching 80.2% in 2002 and 85.1% in 2003. Meanwhile, however, enterprises’ capitals from stocks and bonds dropped conspicuously, from 8.5% in 2001 to only 4.9% in 2003 (Zhu Ye, 2003). Obviously, bank financial assets take a dominant position in the total financial assets and credit markets compose the main parts of Chinese monetary policy transmission. This, therefore, makes banks the primary transmission channels of

Chinese monetary policy transmission and makes credit transmission mechanism the primary means of Chinese transmission mechanism.

Table 1: Structural Changes of Financial Assets in China

	1978	1985	1990	1995	2000	2001	2002
monetary financial assets	100	95.47	91.97	91.12	80.27	81.68	82.57
incl. household saving deposits	13.93	25.91	39.31	43.77	37.3	37.82	38.13
securities		3.92	6.72	7.35	17.77	15.97	14.59
incl. stock (liquidity market value)		0	0.25	1.38	9.88	7.42	5.478
insurance funds		0.61	1.32	1.53	1.96	2.35	2.85
Total financial assets (%)	100	100	100	100	100	100	100
total financial assets (0.1 billion RMB)	1512.5	6261.4	18112.08	67764.9	172484.5	195038	227984.4

Sources: Economic Statistic Yearbook of China (1981-2003), website: [Http://www.circ.gov](http://www.circ.gov)

As for the required reserves operation, after a series of reforms and improvements, it has played an important role in macro-adjustment and regulation, since the People's Bank of China exclusively conducted the function of central bank in 1984. In the same year, the People's Bank of China established the required reserve rates according to the types of deposits that were, enterprise deposits 20%, savings deposits 40% and rural deposits 25%. In 1985, the criterion was changed and the rates of the three were changed into the same level, 10%. In the following years, it was raised to 12% in 1987 and further to 13% in September of 1988. After that, the rate levelled off until 1998, in which the People's Bank of China reformed the required reserve rate dramatically. It not only adjusted the saving scope and examinations of financial institutions, but also combined both required reserve accounts and excess reserve accounts into "reserve accounts", at the same time, the rate of which was cut down to 8% from 13%. In 1999, the rate was adjusted to 6% and was raised 1 percent in

September of 2003, from 6% to 7%. Last April, differentiated required reserve system was put into effect. It raised 0.5 percent of the required reserve rate towards some financial institutions whose capital adequacy ratios were lower than a certain level. In another word, although the general required reserve rate for financial institutions was 7%, the one for those with low capital adequacy ratios was 7.5%. And the rate was raised 0.5 percent once again 6 months later, in October. Thus the general required reserve rate was 7.5% and the differentiated one was 8% for such financial institutions. The People's Bank of China regulates economy through required reserve rate and it functions effectively. Take the adjustment and application of the required reserve rate during 2003 and 2004 for example, since when the Chinese economy has confronted with great pressure of inflation and structural adjustment. In September of 2003, about 15 billion available capitals in financial institutions were blocked due to the raised 1 percent of required reserve rate. Likewise, because of the conduct of differentiated required reserve rate and the 0.5 percent of the required reserve rate raise in 2004, more than 20 billion available capitals in commercial banks was frozen, which influenced the commercial banks' credit supply a lot. According to the statistic data from the People's Bank of China, the growth of RMB loans of the total financial institutions was 2.26 trillion in 2004, 482.4 billion less than that in 2003².

b) The Regulatory Ways of the “Credit Channel” in China

So far, after the People's Bank of China functioned as central bank from 1984, monetary policy regulation in China has experienced two stages: the direct one and the indirect one. From 1984 to 1997 was the period of typically direct regulation. During that time, the People's Bank of China operated credit capitals under the guidance of “Unify Planning, Divide Finance, Lend according to Borrowing, Finance one another”. Besides, the macro financial regulation was a direct, planning and administrative one, aiming at the adjustment of credit quota and the corresponding quantities of central bank lending. In this regulation

² Monetary Policy Report, 2004, website of People's bank of China

system, credit quota became the intermediate target of monetary policy, and accordingly, central bank lending became the principal part of monetary policy tool system. Since 1998, the People's Bank of China has turned the intermediate target from credit quota control to money supply and adopted the indirect monetary policy regulation system, which mainly depends on open-market operation that acted as its monetary policy tool.

1) The transmission system of direct monetary policy regulation. In this pattern, the People's Bank of China provides lending for commercial banks and imposes policy-related operations for appointed use on them. During 1984 and 1993, the central bank lending used to be the main channel through which central bank issued base money. The base money issued in this way occupied more than 80% of the total increase. The figure even reached 84% in 1994. However, the situation changed a lot in recent years. The proportion fell to 24% by 1998 and -9% by 1999. From 1995 to the end of 1999, as for the absolute amount, the balance of central bank's refinanced loans provided for the four wholly state-owned commercial banks came down to 490 billion from 1200 billion. Especially till recent years, due to the adequate liquidity of the four commercial banks central bank lending is no longer needed, on the contrary, net payback occurs. By the end of 1999, the balance of central bank's refinance loans only made up 6.3% of their total debts. The central bank loans provided for policy banks were mainly concentrated on the loans for agricultural development banks. Owing to the excessive loans between 1994 and 1996 loan demand declined dramatically in 1997, and because of the closed operation on acquired capitals conducted by agricultural development banks the central bank lending stop increasing, the net reduce of which was 100 billion in 1998 and 30 billion in 1999 (Xie Ping, 2000).

Investigations were made on state-owned enterprises' liabilities towards commercial banks, commercial banks' liabilities towards central bank and the relation between base money supply and inflation rate from 1985 to 1993 (see table 2). As can be seen in the table, central bank's refinanced loans to commercial banks were once the primary channel for central bank

to issue base money. The proportion of commercial banks' liabilities towards central bank in the total base money supply during that time span was 80.16%, 79.23%, 63.03%, 73.38%, 75.3%, 72.44%, 67.42%, 71.28% respectively. This indicated that while it provided lending for commercial banks to support state-owned enterprises, central bank increased basic money supply. By econometric analysis, Jiang Hai and Qi Jie (2000) found that there was significant correlation among state-owned enterprise' liabilities towards commercial banks, commercial banks' liabilities towards central bank and the amount of base money provided by central bank. Associated with every one unit increase in the state-owned enterprises' liabilities towards commercial banks, there would be 0.56 unit growth in commercial banks' liabilities towards central bank and 1.18 units growth in base money supply.

Table 2: Relations between Commercial Banks' Debts for Central Bank and Inflation Rate

in =0.1 billion RMB or per cent

year	Bank debt of state-owned enterprises	Commercial banks' debt for central bank	Base money supply	Proportion of commercial banks' debt for central bank to base money supply	Annual growth rate of money base	Inflation rate
1985	4282.0	2193.1	2735.9	80.16		
1986	5353.3	2649.9	3344.7	79.23	22.25	6.0
1987	6173.1	2419.6	3838.6	63.03	14.77	7.3
1988	7201.4	3395.8	4627.6	73.38	20.55	18.5
1989	8683.1	4325.5	5744.1	75.30	24.13	17.8
1990	10652.3	5234.7	7226.0	72.44	25.80	2.1
1991	12338.8	6075.1	9010.8	67.42	24.70	2.9
1992	15030.9	6980.0	10168.6	68.64	12.85	5.4
1993	17947.8	9610.0	13387.2	71.78	31.65	13.0

Source: China's Statistic Yearbook, China's financial yearbook, Annals of People's Bank of China

The People's Bank of China satisfies the demand of policy-related loans with the provision of central bank lending, and thus achieves the goal of economic regulation. Table 3 demonstrates

the amount of policy-related loans offered by state-owned banks from 1979 to 1996. It was only 1.185 billion in 1979, taking up 0.58% of the total loans of state-owned banks. The figure went up to 31.45% in 1985 and reached 34.66% in 1996, the absolute amount of which was 1644.01 billion then. Commercial banks depend on central bank lending to solve their liquidity problems (the financial source of such lending is mainly the reserves turned in by state-owned banks). As is shown in table 4, before 1993, the total amount of policy-related loans provided by state-owned banks was almost the same as the loans provided by central bank for state-owned banks; the ratio of the latter to the former was 118.06% in 1985, it declined to 87.14% in 1987 and roughly 100% in 1989.

Table 3: Policy lending in State-owned banks (1979-1996)

Unit: 0.1 billion RMB

year	Total of policy lending	Total of loans from state-owned banks	Proportion of policy -related loans to total of loans from state-owned banks	annual growth rate of policy lending	annual growth rate of loans from state-owned banks
1979	11.8	2040	0.58	n. a.	n. a.
1980	333.6	2414	13.82	2715.19	18.33
1981	432.2	2765	15.63	29.57	14.54
1982	525.3	3052	17.21	21.54	10.38
1983	569.2	3431	16.59	8.35	12.42
1984	1266.2	4420	28.65	122.45	28.83
1985	1857.7	5906	31.45	46.71	33.62
1986	2340.3	7590	30.83	25.98	28.51
1987	2776.8	9032	30.74	18.65	19.00
1988	3286.8	10245	32.08	18.37	13.44
1989	4251.2	12064	35.24	29.34	17.75
1990	5459.2	14759	36.99	28.42	22.35
1991	8761.7	17594	49.80	60.49	19.21
1992	7410.9	21081	35.15	-15.42	19.82
1993	9322.6	25869	36.04	25.8	22.71
1994	11485.2	32441	35.40	23.2	25.40
1995	14159.7	39249	36.08	23.2	20.99
1996	16440.1	47434	34.66	16.1	20.85

Source: Zhangjie, Structure and Changes of China's Financial Institutions, Shanxi Economic Publication House, p. 259

Table 4: Central Bank's Lending to State-owned Banks

Unit: 0.1 billion RMB

	1985	1986	1987	1988	1989	1990
Total of policy lending from state-owned banks	1875.7	2340.36	2776.83	3286.82	4251.21	5459.21
Total of lending from central bank to stated-owned banks	2193.18	2649.99	2419.6	3395.88	4325.5	5234.71
Proportion of lending from central bank to policy lending	118.06	113.23	87.14	103.32	101.75	95.89
	1991	1992	1993	1994	1995	1996
Total of policy lending from state-owned banks	6781.7	7410.9	9322.6	11485.2	14159.7	16440.1
Total of lending from central bank to stated-owned banks	6075.1	6980	9610	10450	11510	14518.4
Proportion of lending from central bank to policy lending	86.93	78.03	83.93	71.3	62.83	63.4

Source: Zhangjie, Structure and Changes of China's Financial Institutions, Shanxi Economic Publication House, p. 259

The credit rationing theory testifies that commercial banks would provide loans for enterprises at lower rates than market clearance rate on the purpose of reducing undesirable results such as adverse selections and moral risks. Banks make the choice on the basis of loan risks and their own benefits. However, seen from the real lending rate (the inflation rate is removed) in history, the rates at which state-owned banks provided loans for enterprises were not only lower than market equilibrium rate but in most cases, the real lending rate being at minus levels. For example, the nominal lending rates in 1980 and 1981 were both lower than

the inflation rates (the inflation rate was 3.84% and 0.24% respectively). The real lending rate in 1988 was -10.58% , that was to say, even if all the enterprises had completely paid off the principals and interests of their loans, banks still suffered loss up to 10.58% because of inflation. Although the negative growth of real rates lowered in 1998, it stood at -9.88% . During mid-1990s, especially around 1994, the inflation rate exceeded 20%, which make the real lending rate fell further to -10.72% (see table 5). To conclude, before 1996, Chinese monetary policy transmission substantially worked in following way: central bank provided liquidities for state-owned banks, and the latter then subsidized state-owned enterprises with negative interest rates.

Table 5: Interest Rate of Loan for Fixed Assets, Inflation Rate and Real Interest Rate of Loans (%)

year	1979	1980	1981	1982	1983	1984
Interest rate of loan	2.16	2.16	2.16	4.32	4.32	7.2
Inflation rate	2	6	2.4	1.9	1.5	2.8
Real interest rate of loan	0.16	-3.84	-0.24	2.42	2.82	4.4
year	1985	1986	1987	1988	1989	1990
Interest rate of loan	7.92	7.92	7.92	7.92	7.92	3.6
Inflation rate	8.8	6.00	7.30	18.50	17.80	2.1
Real interest rate of loan	-0.88	1.92	0.62	10.58	-9.88	1.5
year	1991	1992	1993	1994	1995	1996
Interest rate of loan	8.46	8.46	8.46	10.98	11.70	10.08
Inflation rate	2.90	5.40	13.00	21.70	14.80	6.10
Real interest rate of loan	5.56	3.06	-4.54	10.72	-3.10	3.98

Note: a) the interest rate of loan is the benchmark rate within one year or one year;

b) The interest rate of loans during 1979-1995 is minimum rate according to different units and different varieties of business

c) Fixed interest rate in 1996 is chosen from the benchmark rate in Aug. 23

d) Real interest rate is the rate of loan removing inflation rate

Source: China's Statistic Yearbook, China's financial yearbook, Annals of People's Bank of China

2) The transmission system of indirect monetary policy regulation. Although savings deposits increased conspicuously in commercial banks after 1996 and bank positions were adequate at that time, the credit rationing of commercial banks was in the form of “reluctant to lend”. In the second half of 1996, the growth of bank loan suddenly lowered, and in the fourth quarter of that year, credit quota surplus appeared the first time. This situation lasted throughout the next year. By the end of 1997, central bank issued “Notice of Improving Loan Quota Administration of State-owned Commercial Banks”, pronouncing that in 1998 it would strengthen the administration of the additional volume of commercial banks’ loans, change from mandatory plan to guidance plan and conduct credit capital management system of “planning guidance, self-balance, proportion management, indirect regulation”, which was on the basis of risk management and asset-liability ratio management. It was considered to be the “significant reform in macro financial adjustment and regulation” (commentary in People’s Daily).

From then on, Chinese monetary policy had experienced a series of significant reforms, including required reserve system reform, interest rate liberalising reform, central bank rediscount mechanism reform, establishing inter-bank bond markets, expanding the quota of inter-bank borrowing and so on. These measures successfully enabled the monetary policy regulation to transform from traditionally the planning administrative and mandatory one into indirect one on the basis of market. Moreover, they created circumstances for the expansion of open-market operation, making it the main channel for central bank to adjust monetary base. Therefore, Chinese monetary policy transmission chain was changed: central bank → monetary markets → commercial banks → enterprises.

Open-market operation began in 1996, but it stopped after only a few transactions. It resumed in 1998 because of the need of monetary policy. Operating 36 times in that year, central bank issued 70.1 billion base money. In 1999, radical changes happened to the main channel of base money supply, open-market operation then becoming the primary of which. The net

amount of base money issued in this way during the whole year was 192 billion, making up 52% of the total amount issued. Due to the increase of foreign exchange swap, central bank began to withdraw excessive liquidities from commercial banks in 2002, which was a turning point compared with the issue of base money two years before. The net withdrawal of base money from 2000 to 2002 was 81.7b, 29.6b and 102.1b respectively. Because the bonds held by central bank in the open-market operation was limited, central bank decided to convert the repurchase agreements signed between 25 Jun. and 24 Sep.2002 that had not mature yet into central bank bills. The number of central bank bills amounted to 19 after the conversion, 193.75b in total. From late April to early September in 2003, central bank initiatively conducted sterilization operation by issuing the bills. During this period, the commercial bank loans and foreign exchange swap kept increasing rapidly. From 22 Apr. to 23 Sep., central bank issued 545 b bills in case of the over-growth of base money, fortunately, 425.43b (the net amount) of which was withdrawn. It has been proved that open-market operation effectively controls the speed of commercial banks offering loans by regulating commercial bank liquidities.

Table 6: Transactions in Monetary Market since 1998

Unit 0.1 billion RMB

Year	Issuing volume in inter-bank bond market			Transaction volume in inter-bank bond market		Transaction volume in inter-bank market
	treasury bond	policy-related financial debt	other debt	cash	Repurchase	
1998	1514	410	n. a	33	1021	1978
1999	2098	1570	n. a.	75	3949	3291
2000	2260	1645	n. a.	683	15782	6728
2001	2124	2690	35	840	40133	8082
2002	3197	2975	45	4412	101885	12107

Source: China' s financial yearbook (2002), Feng (2003)

4. The Present Limitations of “Credit Channel” in China

The limitations of Chinese credit channel consist in the degree to which monetary policy influences bank loans. At present, due to the existence of other variables that lie in the way of monetary policy transmission, these limitations become more and more distinct. The barricades present mainly in open market, foreign exchange policy, financial structure and so on, all of which will be elaborated in the following paragraphs combined with practice in China.

a) The Limitations of Open-market Operation.

Regulating monetary base through open-market operation is commonly employed in western countries that possess advanced market economy, and it is an important policy tool of central bank as well. But it is not true within China. The term structure and amount of bonds held by central bank in treasury bond open-market operation is either limited or unreasonable. Besides, the institutional defects within inter-bank market are also inflected in the varieties of issued treasury bond, the medium term (1 to 10 years) ones of which are of great proportion while the over-short term (less than 1 year) ones and long term (more than 10 years) ones are of scarcity. Moreover, the frequency of treasury bond issue is far from revolving issue except for the one with seven-year term whose frequency is a bit higher than others. Take the year 2003 for example, among the total book-entry bonds issued that year, the par value of the medium term ones amounted to more than 250b, in comparison, that of the over-short term ones and long term ones was just above 35b and 90b respectively. The weekly, monthly and annual operations (especially short term repo-transactions) in treasury bond open-market operation have little impact on reserve rate and liquidity of commercial banks, monetary base and money supply. At present, the target that treasury bond open-market operation aims at is commercial banks' excess reserves, the balance per month varied from 540b to 660b during 2000 and 2002. At the same time, the bonds held by commercial banks were approximately

2500b. Therefore, open-market operation helps the excess reserves and bonds exchange for each other. But the monthly net amount was only $\pm 40b \pm 60b$. Obviously, the impact of such “liquidity regulation” on monetary base is too weak to bring sterilization into play. Meanwhile, considered as high quality assets, treasury bonds are largely held by commercial banks that are unwilling to sell them, which lead to the lack of exchange base in open-market transactions. As is demonstrated above, open-market operation presently, in China, haven't exerted great influence on base money issue yet.

b) The Increase of the Foreign Exchange Swap Impedes the Effectiveness of Base Money Issue.

Due to the ever-increasing foreign change reserves, the RMB counterpart of which has become the main factor that impedes base money issue. Since 1994, China has carried on managed floating exchange rate, which is substantially a fixed exchange rate policy which pegs U.S. dollars. In recent years, voice coming from other countries such as Japan and America imposes great appreciation pressure on RMB. Since such expectation become more and more strong, various kinds of international capitals flux into China, which in turn aggravate the situation. In order to maintain the advantages in international trade and export and ensure the stable growth of domestic economy, foreign exchange administration authorities have to withdraw the excessive foreign exchange in foreign exchange markets wishing to stabilize the currency exchange rate. As a result, inevitably, the same amount of base money is additionally issued. That's why foreign exchange soared after 1994, and the foreign exchange swap in central bank kept rising. Between 1995 and 1998, the annual growth was 374.05b, 229.27b, 280.42b and 307.06b respectively. The base money issued through this way reached 1146b by 2003, undoubtedly, it became the main channel through which base money increased. On the other hand, as the open degree differs among areas, enterprises with direct foreign investments and export foreign exchange income mostly locate

in the eastern coastal areas and thus the RMB supply induced by foreign exchange is firstly centralized there. So the more prosperously the external-oriented economy develops, the more finance it gets; the weaker external-oriented economy, the less finance it gets. Under such circumstances, a financial support configuration for economy development is formed: the poor become poorer, the rich become richer. It substantially results in an unbalanced structure of money supply, that is, the effective supply for underdeveloped areas and inland provinces is inadequate, while that for developed areas and coastal provinces is excessive.

Table 7: Channels of Base Money Supply (1995-2003)

Unit 0.1 billion RMB

		Lending to financial institutions	Foreign exchange swap	others	total
1995	Increase amount	890	2303	411	3604
	Proportion (%)	25	64	11	100
1996	Increase amount	3008	2765	374	6147
	Proportion (%)	49	45	6	100
1997	Increase amount	-112	3072	-845	3805
	Proportion (%)	-3	81	22	100
1998	Increase amount	1661	440	1222	3323
	Proportion (%)	50	13	37	100
1999	Increase amount	1222	1013	1447	3682
	Proportion (%)	33	28	39	100
2000	Increase amount	3313	753	-1496	2570
	Proportion (%)	129	29	-58	100
2001	Increase amount	-2261	4162	1459	3360
	Proportion (%)	-69	124	43	100
2002	Increase amount	-331	3469	2149	5287
	Proportion (%)	-6	66	40	100
2003	Increase amount	-289	6353	1639	7703
	Proportion (%)	-4	82	22	100

Source: Xie/Zhang (2002), Quarterly Report of People's Bank of China (Jan. 2004)

c) The Unreasonable Financial Structure Offsets the Effect of Monetary Policy.

In China, over 80% assets and liabilities of the whole banking are possessed by the four state-owned commercial banks— the Industrial and Commercial Bank of China, the Agricultural

Bank of China, the China Construction Bank and the Bank of China, which objectively form monopoly. During 1996 and 1998, 68% additional loans throughout the society were provided by the four banks. From 2002 to 2003, both of the deposit balance and the loan balance in the four, as a whole, weighted more than 50% of that in the total financial institutions (see table 8). To some extent, therefore, Chinese monetary policy is not decided by central bank but manipulated by the four state-owned banks. This phenomenon is rarely seen in the world, let alone the big countries. Furthermore, owing to some political and historical reasons, there is no full competition among them (oligopoly competition pattern), which enables them to arrive at consensus and agreement easily on certain issues. As a matter of fact, whether the required reserve policy, interest rate policy, credit policy and other policy tools of central bank could ultimately be applied to economy depends heavily on the four banks' total assets, assets structures and the ways to employ them, for the four's behavior most probably diverges from the direction of monetary policy.

Table 8: Market Shares of Deposit and Loan of Wholly State-owned Commercial Banks (RMB Business)

Unit 0.1 billion RMB

	2002		2003	
	deposit	loan	deposit	loan
Wholly state-owned commercial banks	101881.1	74098.1	127119.8	87075.1
All of the financial institutions	170917.4	131293.9	208055.6	158996.2
Shares of wholly state-owned commercial banks (%)	59.6	56.4	61.1	54.8

Source: Annals of People's Bank of China (2002, 2003), China's Financial Yearbook

d) Drawbacks and Abuses to Some Extent Exist in the Window Guidance.

Window guidance derives from one of the monetary policy tools— moral persuasion. That is, central bank indicates its judgment of economy situation and expresses its intention that what

it wants all the banks to do through either formal statement or private talk. Although sometimes the application of this monetary policy tool can impose great influence on bank credit supply, the most serious defect lies in that it induces unfair result: the ones who conform to it suffer loss, while the ones who take adventures become rich. Supervision sectors pointed out in 2003 that joint-equity commercial banks were deregulating too fast, whereas state-owned commercial banks were more docile. Moreover, window guidance to some extent hurts banks' independence and may lead to the homogenization of financial institutions' assets, all of which depend on the prediction accuracy and persuasion form of central bank. In China, the greatest harm brought by window guidance is that it results in the severe fluctuation in loan supply: when they are advised, commercial banks stockpile their capacities, but they will provide excessive loans after the special period. For instance, commercial banks contract loan supply in the forth quarter in 2003 according to the persuasion, however, on the whole, loans increased dramatically in the following quarter in 2004. As for China where bank finance dominates, severe fluctuation in loan supply means severe fluctuation in economy and investment.

e) The Ones that Credit Channel can Influence are mostly Small and Medium Sized Enterprises, Whose Operations Depend Heavily on External Finance.

In contrast, banks can't increase interest rate towards large sized enterprises because of their strong self-finance capacity and besides, most of the large enterprises and large projects are virtually the apples of central bank's eye, as traditional Chinese saying goes, "rich customers overwhelm shops". Therefore, neither the expansion nor the contraction of bank credit quota affects them very much, but it is the small and medium sized enterprises that become the victims of the increased interest rate. For example, authorities adopted a series of tight policies in 2004 on the purpose of restricting the acceleration of investment and preventing from inflation. After the lending rate deregulation in the end of that year many small and medium sized enterprises were struck heavily. A survey from the People's Bank of China

indicates that in the third quarter of year 2004 the proportion of different kinds of enterprises that carried out down-float interest rate was, in a decreasing order, big-sized enterprises, medium-sized enterprises and small-sized enterprises. However, an inverse order was seen in the enterprises that carried out up-float interest rate, and the small ones constituted 55.5% of the whole (see table 9). The up-float interest rate increases the financial costs of small and medium sized enterprises, aggravating the operating condition of this weak group.

Table 9: Proportions of Types of Enterprises among Floating Range of Interest Rate in Quarter 3, 2004 (%)

Floating range	(0.9, 1)	1	(1, 1.3)	(1.3, 1.7)	Total
Big-sized enterprise	38.5	38.7	20.2	2.6	100
medium-sized enterprises	21.0	39.5	37.3	2.2	100
small-sized enterprises	11.9	32.6	50.2	5.3	100

Source: People's Bank of China (2004)

5. Expedite and Perfect Chinese Monetary Policy Transmission Mechanism

a) Accelerate the basic construction of money markets.

Firstly, strengthen the basic construction of the markets, expand the nationwide electronic network, and perfect the electronic trading system for inter-bank borrowing and bonds markets. Make full use of modern information technology to build the inter-bank borrowing trading system into a market network which covers the whole country and faces all the financial institutions. Perfect the trust, trading, settlement and clearing system of inter-bank bonds markets to pave way for the development of bonds markets and risk control. Secondly,

develop trading tools and remove barricades step by step. Develop new money markets trading tools such as financial bonds, and housing mortgage bonds in addition to expand the volume and varieties of treasury bond in coordination with fiscal sector. Connect bond wholesale markets with retail markets through OTC trading, connect rural markets (rural credit cooperatives) with urban markets through agent business, and connect capital markets with money markets through approving and examining securities corporations and funds corporations. Thirdly, popularize commercial acceptance bills, foster bill markets and perfect discount system. Support commercial banks to build specialized branches in centre cities, centralize bill-finance business such as acceptance, discount and inter-bank discount. Encourage joint-equity commercial banks to develop acceptance and discount business and expand rediscount for them. Make the discount markets the important places for enterprises and banks to carry out short term financing and the tools and vehicles for central bank to conduct indirect regulation.

b) Strengthen cost constraint and profit examination, reform state-owned commercial banks and set up modern financial enterprise system.

Such system should be a combination of responsibilities, rights and profits and under the guidance of “profit-targeted, market-directed, cost-constrained, customer-oriented”. Firstly, strengthen cost constraint. Only when the state’s ownership over state-owned commercial banks is formed into concrete system, can the state substantially act as a sponsor. The supervisory board is an organ that supervises state-owned commercial banks on behalf of the state, preserving the value of state-owned assets and making them rise in value. Complement state-owned commercial banks’ capitals through various channels. Conduct joint-equity reforms, gradually change the conditional wholly state-owned commercial banks into state-held joint-equity commercial banks and encourage them enter into markets. Secondly strengthen cost constraint and profit examination. Stick to the profit target when examine commercial banks operating achievements, and thus prompt them reinforce cost management

and profit examination. Meanwhile, establish incentive mechanism for branches of all levels, equalize the constraint mechanism and incentive mechanism. Connect institution incomes and individual incomes with the profit level of the banks they belong, and thus motivate the staff's enthusiasm. Thirdly, strengthen financial supervision, and perfect external constraint. Check the facility of financial institutions' major operating targets on the basis of divesting commercial banks of their non-performing loans. Remove a few financial institutions that can hardly be improved as to protect the benefits of creditors. Support commercial banks to develop intermediate business and reinforce the coordination and cooperation among the three financial supervisory authorities of banks, securities and funds.

c) Reform foreign exchange administration system and exchange system, alleviate the pressure of foreign exchange swap.

At present, although the convertibility of RMB current account has been achieved, it is under the coercive sales and purchases with banks. That is to say, except the allowed part, all the exchange got by domestic institutions under current account should be sold to appointed banks. On the other hand, if any exchange on current account is wanted, the institutions can only buy it from appointed banks by showing effective credence and commercial paper. The exchange reserves soar due to the lack of additional exchange pools, so central bank have to hold the market. Therefore, reforming exchange administration system, changing coercive sale and purchase into a willing one and increasing the exchange line and purchase quota for residents' private use abroad, "saving the exchanges in the pool of residents", is a way to alleviate the pressure of foreign exchange. The basic principles to exchange rate system reform are: expand exchange fluctuation range, free the rate from the stiff stance, make it reflect changes in demand-and-supply relation and make more room for monetary policy operation.

d) Open financial markets and create multiplex bodies for competition.

Although some new-risen joint-equity banks, local banks and branches of foreign-invest banks have come into being in China, there are strict restrictions for them to establish branches and develop business, and the ones on the entrance and development of private banks are even stricter. So banking should be open both externally and internally and the establishment of private banks and foreign-invest banks should be encouraged. Further complement for present banking system is the key to overcome the negative influence brought by monopoly. It should be emphasized that in the process of opening markets the discriminating restrictions for private banks must be eliminated, because it is unfair that the foreign-invest banks are allowed to enter while the domestic non-state-owned banks are restricted. Besides, the rapid-sprung private economy needs the support of private banks.

e) Improve the methods of window guidance and enhance its effectiveness.

Window guidance is a combination of the central bank's (the body conducts control) power and the commercial banks' (the bodies under control) benefits, so it could only be applied temporarily in the crisis period of macro-adjustment and regulation and could not be conducted as a continuously short, medium term policy. Moreover, the exertion of its influences must depend on certain economic financial condition, including commercial banks' recognition, central bank's prestige and position. So certain measures should be taken to make commercial banks cooperate with central bank willingly. Furthermore, it is necessary to take advantage of central bank's own technologic and information edges to analyze and predict the economic financial situation, capital conditions of commercial bank system, structures of industry and credit, publish the results timely, and thus influence the market expectation and enhance its prestige and position.

References

(The original versions are in Chinese)

1. Dai, Genyou (2001): Research on China's Monetary Transmission Mechanism. Economic Science
2. Hang, Song, Zhao Yandong (2004): The Effectiveness of China's Monetary Policy Transmission from the Views of Theories of Western Monetary Transmission Mechanism. In: Economic Perspectives, February.

3. He, Zerong (1998): Research on China's International Payment. In: Southwestern University of Finance and Economics
4. Jiang, Hai, Qi, Jie (2000): Positive Analysis of Transferring of Financial Risks during Institutional Shifts. In: Finance and Economic Research, February
5. Li, Yang, Yin, Jianfeng (2004): Smooth the System of Interest Rate, Perfect the Forming Mechanism of Interest Rate. In: China's Security Daily, 27th, September
6. Shi, Wenqi (2004): The environmental Issue of China's Monetary Policy Transmission. In: Financial Research, September s
7. Statistics Department of People's Bank of China (1996-2004): Statistic Quarterly of People's Bank of China, People's Bank of China
8. Su, Jian (1997): The Literature on Theories of Monetary Policy Transmission. In: Economic Dynamic, April
9. Xia, Bin (2004): Six Factors Affect the Effectiveness of Monetary Policy Transmission. In: Shanghai Security Daily, 19th, May
10. Xie, Ping (2001): Analysis of China's Monetary Policy 1998-2002. In: Financial Research, August
11. Yang, Li (2004): The Effectiveness of China's Monetary Policy Since 1998. In: Financial Research, November

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