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China's Business Cycle and Monetary Policy

A Thesis

Presented to

the Faculty of Arts and Humanities

University of Denver

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

by

Hailun Zhang

March 2013

Advisor: Tracy Mott

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Degree Date: March 2013

Abstract

Economic reform that began in 1978 became a landmark in the evolution of the Chinese economy. The Chinese economy then gradually transferred from a planned economy to a market-oriented economy. I mainly focus on China's business cycles and monetary policy after 1978 in this paper.

I use GDP growth to measure the Chinese business cycle. Instead of the level of GDP, the business cycles in the thesis I am talking about are ups and downs in the rate of growth.

In Chapter Two, I illustrated all five business cycles which have occurred over the past 30 years. I also introduced some of China's financial background in Chapter Three, including institutional condition, banking system, economic reform and existing problems. This background introduction gives a clearer picture of China's financial situation and implementation of monetary policy. In Chapter Four, I analyzed some aspects of China's monetary policy such as the credit plan, interest rate, and exchange rate. Chapter Five discussed China's inflation situation and some relevant monetary policy decisions.

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CHAPTER ONE: INTRODUCTION

China had a planned economy from 1949 to 1977. Economic reform that began in 1978 became a landmark in the evolution of the Chinese economy. The Chinese economic reform began in December 1978 by reformists within the Communist Party of China (CPC) led by Deng Xiaoping. The Chinese economy then gradually transferred from a planned economy to a market-oriented economy.

I use GDP growth to measure the Chinese business cycle in this paper. Boom time happens when GDP growth rate goes up. That's because after economic reform, China's GDP growth rate has always been positive. So instead of the level of GDP, the business cycles in the thesis I am talking about are ups and downs in the rate of growth.

China experienced five business cycles between 1978 and 2008. With the deepening of reform, the pattern of the Chinese business cycle changed gradually. The amplitude of business cycles was smaller and the fluctuation of the economy was less volatile with high GDP growth rate. Decentralization was a very important policy in Chinese economic reform. According to our research, the trigger of the Chinese business cycle was gradually transferred from central government to local government. Through economic reform, China retained its central bank while allowing private enterprise. Not only has the economic system changed but there have also been improvements in investment and foreign trade that have impacted China's economy significantly. We do

realize that China has achieved impressive progress during economic reform. Huge progress can be largely attributed to economic policies China has implemented. But within this progress, we identified many issues. The policy efficiency and problems can be highly related to China's financial conditions. In Chapter Three, I focus on the Institutional Conditions of Monetary policy in China. I analyze China's financial organization, including the reform process and structure of the banking system. During China's business cycle analysis, economic policy is one of the most important factors. In this thesis, I mainly focus on China's monetary policy including the credit plan, interest rate policy, and exchange rate policy which are discussed in Chapter Four. Chapter Five is about the causes of inflation and the ability of monetary policy to deal with inflation.

				growt h rate			rate		growt h rate
1978	3645	11.7%			1994	48198	13.1 %	16370	31.4 %
1979	4063	7.6%			1995	60794	10.9 %	20019	22.3 %
1980	4546	7.8%			1996	71177	10.0 %	22974	14.8 %
1981	4892	5.2%	961.00		1997	78973	9.3%	24941	8.6%
1982	5323	9.1%	1200.4 0	24.9 %	1998	84402	7.8%	28406	13.9 %
1983	5963	10.9%	1369.0 6	14.1 %	1999	89677	7.6%	29855	5.1%
1984	7208	15.2%	1832.8 7	33.9 %	2000	99215	8.4%	32918	10.3 %
1985	9016	13.5%	2543.1 9	38.8 %	2001	109655	8.3%	37213	13.1 %
1986	1027 5	8.8%	3120.6 0	22.7 %	2002	120333	9.1%	43500	16.9 %
1987	1205 9	11.6%	3791.6 9	21.5 %	2003	135823	10.0 %	55567	27.7 %
1988	1504 3	11.3%	4753.8 0	25.4 %	2004	159878	10.1 %	70477	26.8 %
1989	1699 2	4.1%	4410.3 8	-7.2%	2005	183217	9.9%	88774	26.0 %

1990	1866 8	3.8%	4517.0 0	2.4%	2006	211923	11.6 %	109998	23.9 %
1991	2178 1	9.2%	5594.5 0	23.9 %	2007	265810	11.9 %	137324	24.8 %
1992	2692 3	14.2%	8080.0 9	44.4 %	2008	314045	9.0%	172828	25.9 %
1993	3533 4	14.0%	12457. 88	54.2 %					

Table 1 China GDP Growth Rates (1978-2008)

(sources: National Bureau of Statistics of China)

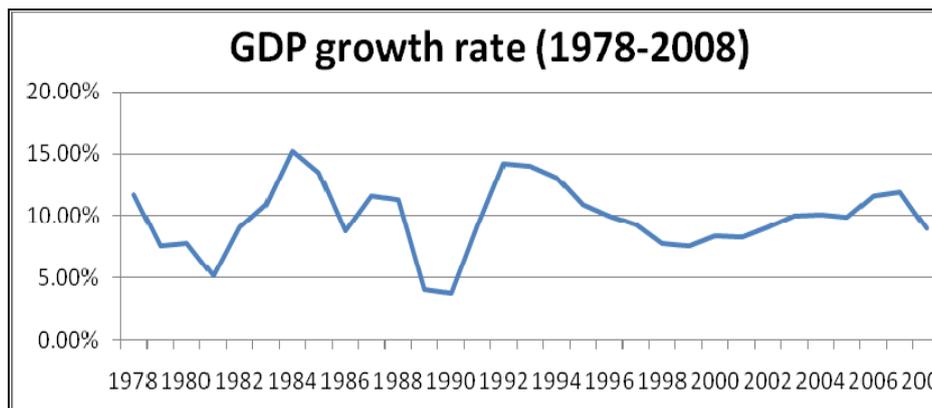


Figure 1 GDP Growth Rate (1978-2008)

(sources: National Bureau of Statistics of China)

As we can see from Table 1 and Figure 1, the first three cycles are very short in length. The first three business cycles lasted four years, five years and four years respectively. The duration became longer after 1990. The length of the fourth business cycle was nine years. The length of the fifth cycle was longer than nine years. Also, the shape of the last two business cycles became flatter and less volatile.

The First Business Cycle:1978-1981

According to Figure1, the length of the first business cycle was four years. The government's policy at that time was intended to introduce a market economy to the current planned economy. This was the first business cycle after economic reform. Although market economy policies had been introduced into the economy, the planned economy still played the main role during this business cycle. Reform policies during this period were mainly for rural areas. Development began in the agriculture industry. Improvement of agriculture ameliorated a serious imbalance among agriculture, light industry and heavy industry in the composition of the economy.

In the meantime, political stability has increased since 1977. Investment also increased in 1977 and reached its peak in 1978. During The Third Session of the Eleventh Central Committee of the Party, government introduced the slogan "adjust, reform, amend, improve". In order to drive economic growth, government arbitrarily invested heavily in industry. Investment soared but unfortunately, the stimulation of investment failed due to the bold investment target and lack of consideration. The economy ended up with high inflation and financial deficits. Poor development of the primary industry and the third industry with a fast growth of industry induced an imbalanced economic development. In 1978 and 1979, fixed investment reached 69.936 billion RMB and 74.59 billion RMB which corresponds to an increase of 4.58 percent and 6.65 percent, respectively. In the same period, the fiscal deficit grew from 17 billion RMB in 1979 and 12.7 billion RMB in 1980. In order to finance this unaffordable investment, the government forced the People's Bank of China to issue 13.4 billion RMB. The CPI

soared 6% in 1980. In 1981, the government changed the economic target from developing industry to eliminating the fiscal deficit. Fixed investment dropped by 10.51% percent to 66.751 billion RMB.

In this period, state-owned enterprises began to have the power to decide their own business strategy. This reform improved the competitive strength and profitability of state-owned enterprises. Government also increased the procurement price of agricultural by-products in order to improve the income of farmers. Although these policies benefited the expansion of the economy, the financial burden of the government became severe.

The Second Business Cycle: 1982-1986

The second business cycle started in 1982 and ended in 1986. As we can see in Figure1, the peak of GDP growth rate reached 15.2% in 1984 during this business cycle. Expansion started in 1982 and lasted until 1984. Depression also lasted two years, from 1985 to 1986. The fluctuation during this period was not very volatile which means the economy of China during this business cycle was comparatively stable.

Investment kept expanding during this business cycle. Since 1982, fixed investment was greater than 100 billion RMB. Because investment grew so rapidly, the economy became overheated in 1984. According to the Statistical Report of National Economy and Social Development in 1985 issued by the National bureau of Statistics of China, the total demand soared and become unsustainable. Total demand exceeded total supply. Imports also expanded rapidly. The CPI rose to 9.3% in 1985. In 1986, in order to stabilize the economy, government decided to tighten investments. Investment dropped in 1986.

Since the Chinese economy changed from a planned economy to a market economy, the total salary in the entire economy started to increase. Consumption began to play an important role in this business cycle.

Year	Consumption (100 million)	Consumption growth rate	GDP	GDP growth rate	Salary (100 million RMB)	salary growth rate
1981	2627.9	12.73%	4892	5.2	820	6.16%
1982	2902.9	10.46%	5323	9.1	882	7.56%
1983	3231.1	11.31%	5963	10.9	934.6	5.96%
1984	3742	15.81%	7208	15.2	1133.4	21.27%
1985	4687.4	25.26%	9016	13.5	1383	22.02%
1986	5302.1	13.11%	10275	8.8	1659.7	20.01%

Table 2 Consumption and Salary Growth Rate (1981-1986)

(sources: National Bureau of Statistics of China)

As GDP grew, consumption in this business cycle also increased tremendously. The growth rate of consumption reached 25.26% in 1985. But the total supply of the Chinese economy didn't match the growth of consumption and income. The main problem during the second business cycle was that the total demand exceeded the total supply: fixed investment was overheated; purchasing power exceeded stock supply; the level of imports increased too quickly. The CPI grew rapidly.

Government implemented a new policy in the rural area in 1981. Family Contract Responsibility System replaced the old public-owned agriculture economy in the rural area. Local managers became responsible for the profit and losses of the enterprise. This privatization of agriculture started at the beginning of the reform. Compared with agriculture, the industrial sector began to privatize in 1990s. After handing in a quota of output to the government, farmers could keep the rest of their output as private property.

Chinese agriculture entered a boom. Private enterprises and town and village enterprises (TVEs) expanded rapidly. Since 1979, governments have pointed out that TVEs are one important part in the economy. The Regulation of Town and Village Enterprises Development Problems which was enacted in 1979 enacted a series of policies to support the TVE's development, including low or no taxes, subsidies, low interest rate loans, etc. Banks started to play an important role. Enterprise investment was financed by State funds. Bank loans replaced a large part of state funds and became the main financing channel for enterprises investment. A significant expansion in loans also contributed to the overheated economy.

Industry reached an 18% growth rate in 1985, much greater than the government's 8% target. In order to support the high growth of industry, China had to increase the import of materials. This unexpected increase of imports caused a 1.27 billion RMB trade deficit. (Liu Jiangyao, 2009)

The Third Business Cycle: 1987-1990

The third business cycle lasted from 1987 to 1990. Expansion was recorded in 1987 and 1988, and the depression started in 1989 and lasted until 1990. During this business cycle, the average GDP growth rate was 7.8%, salary increased 7.5% and the average growth rate of agricultural and industry output was 11%. Despite the rapid growth of the Chinese economy, it still faced many serious problems. During 1986 and 1987, the loans for fixed investment increased by 43% which was much higher than the national income growth rate of 32%. The cash that banks used to pay salary and personal expenses in 1987 was 40.6% higher than in 1985. (Liu Jiangyao, 2005). The economy was overheated.

Inflation became serious. On the other hand, the average growth rate of agriculture in this cycle was 4.2%, whereas the average industry growth rate was 16.9%. The average amount of grain per-capita dropped from 395.5 kilograms in 1984 to 376 kilograms in 1987. This insufficient food supply induced a rising grain price. There was serious imbalance between agriculture and industry. In the same period, basic industry and infrastructure were poor. Trains were overloaded and coal and steel were in short supply. Because of this serious imbalance in the economy, the Chinese government made a policy adjustment in 1988. China loosened the credit policy as they assumed that the main factor inducing the increase in the CPI was the increased prices of food. Inflation became more serious as the CPI reached 11.8 in 1988. Serious inflation induced a panic. People rushed to supermarkets to snap up food and went to banks to withdraw cash. The government began to tighten monetary policy in 1989. The CPI went down gradually. Supply and demand became comparatively stable.

The Fourth Business Cycle: 1991-1999

This business cycle lasted 8 years. Expansion began in 1991 and lasted through 1992. The depression lasted 7 years from 1993 to 1999. Compared to the previous business cycle, the duration of the fourth business cycle was nearly two times as long, the average GDP level was comparatively high and volatility was low. This means that during this period, the Chinese economy was relatively stable.

During 1989 to 1991, China tightened both monetary policy and fiscal policy. Budgets and investment decreased and prices dropped. The entire national economy suffered from recession. The profit of enterprises decreased. Government faced a huge

fiscal deficit (The report of performance of budget plan in 1991 and the drafted budget in 1992, 1992). In order to improve the economy, The Chinese government implemented active fiscal policy to stimulate industry and social demand. As we can see in Table 1, fixed investment increased by 23.85% in 1991. In the meantime, government also devaluated RMB to increase exports and improve international trade. In 1991 the economy began to grow at a much more rapid rate. GDP growth rate rose to 9.2% in 1991; agriculture increased by 3%, and industry grew by 14.2%.

In 1992, President Deng Xiaoping's southern tour speech pointed out that technology and science needed to be boosted, and reforms needed to be implemented more rapidly. In 1992 GDP growth rate rose to 23.61%, fixed investment increased 44.43% and industry increased 20.8 %.(statistical report of national economy and social development in 1992, 1993)

The recession during this business cycle started in 1993 and lasted 7 years. Compared to the first 3 business cycles, the recession in the fourth business cycle was much less severe. The overheated economy induced unstable fluctuation in the economic system. Overinvestment led to a high unsustainable industry growth rate, high price level and an insufficient of materials and natural resources. The Chinese government adopted new policies immediately to cool down the economy. Reform included: separation of the central bank from commercial banks, encouragement of the development of private enterprises, adoption of a tax sharing system, and implementation of different policies in different industries. During a 4-year adjustment, the investment growth rate dropped and the CPI returned to a comparatively low level. Most importantly, the economy kept

growing at a fast pace. With this low CPI and high economic growth rate, Chinese economy finished its “soft landing”.

The fifth business cycle: 2000-2008

The duration of the fifth business cycle was more than 9 years. Expansion lasted 8 years. Economic growth rate reached 11.9% in 2007 and recession started in 2008. The economic fluctuations were less volatile during this business cycle. The amplitude of the business cycle was comparatively small. GDP level was high. These characteristics indicated that the development of Chinese economy was healthy and that the expansion of different industries was balanced. Macro policy was the main factor which affected this business cycle.

The Chinese government carried out a pro-active fiscal and monetary policy to create economic incentives after the Asian financial crisis. Government issued 864.3 billion Yuan in treasury bonds at the end of 2004. Agriculture, forestry, transportation, ecology etc. had improved rapidly. In the meantime, government lowered the tax rate to stimulate investment, consumption and foreign trade. Ameliorating income distribution also increased social demand. The Economy grew very fast between 2000 and 2004. The government implemented a steady monetary and fiscal policy instead of a pro-active economic policy after 2004. Economic policy changed because the Chinese economy did not suffer from either insufficient demand or deflation after 2004. The government decided to adopt a prudent fiscal policy to avoid an overheated economy. The counter-cyclical economic policies implemented by the government stabilized the economy. This was the main reason that the fifth business cycle was less volatile.

The typical characteristics of Chinese business cycles

Based on the GDP growth rate, we use “trough-to-trough” measure to calculate the duration of business cycles. China used to have a planned economy before 1978. The government controlled the whole economy. Government investment led to economic fluctuation. The duration of business cycles was a function of the economic plan implemented by the government.

Year	GDP (100 million)	GDP growth rate	Year	GDP (100 million)	GDP growth rate
1952	679		1965	1717.203777	17.98%
1953	824.189657	21.38%	1966	1873.078613	9.08%
1954	859.384232	4.27%	1967	1780.281489	-4.95%
1955	910.784418	5.98%	1968	1730.164346	-2.82%
1956	1028.981289	12.98%	1969	1945.781118	12.46%
1957	1069.290064	3.92%	1970	2261.324065	16.22%
1958	1308.20906	22.34%	1971	2435.25676	7.69%
1959	1440.363809	10.10%	1972	2530.224149	3.90%
1960	1457.473017	1.19%	1973	2733.353749	8.03%
1961	1220.937307	-16.23%	1974	2803.74257	2.58%
1962	1151.239035	-5.71%	1975	3013.110833	7.47%
1963	1236.367202	7.39%	1976	2961.472658	-1.71%
1964	1455.539374	17.73%	1977	3221.051773	8.77%

Table 3 GDP Growth Rate (1952-1977)

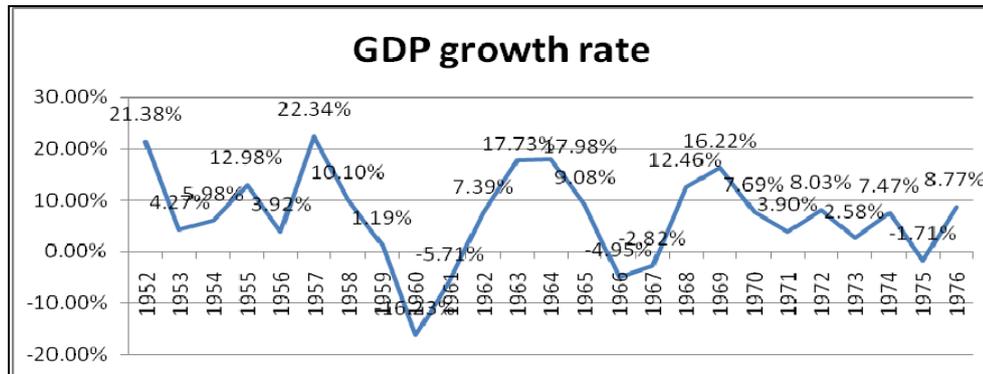


Figure 2 GDP Growth Rate (1952-1977)

According to Wenxian Gao who mentioned in the “ A Discussion about Business Cycle Fluctuation after 1949” , Chinese business cycles between 1949 and 1976 can be divided into some smaller business cycles: 1953-1957; 1958-1961, 1962-1967, 1968-1972 and 1973-1976. I selected the date from 1953 to 1976 because the Chinese economy suffered from an extremely volatile business cycle from 1953 to 1976. There are 3 main phases during this period: 1953-1961, 1962-1967, 1968-1976. During the first phase, from 1953 to 1961, the GDP growth increased 18.94% in one year; it soared from 3.92% in 1957 to 22.34% in 1958. In 1961, the GDP growth rate dropped by -16.28% which was 38.62% lower than its peak. During the second business cycle, the highest point was 17.98%, which was 22.93% higher than the lowest point. In the third phase, there were 3 small cycles (1968-1972, 1972-1974, 1974-1976). Nearly every cycle during this period lasted only two years. At this time, the market economy began to replace the planned economy. Although the Chinese economy had not gotten rid of the planned economy altogether, the market had become an increasingly important factor which affected the state of the economy.

Comparing the business cycles before and after Chinese economic reform, we find some consistent changes in the business cycles after 1978:

First, the amplitude of business cycles was smaller and the fluctuation of the economy was less volatile. The economy was much more stable than it was before the economic reform.

President Deng Xiaoping pointed out during the economic reform that economic development must be the most important strategy of China. Political movement was no longer the crucial factor of economic fluctuation. Government took economic development seriously and the Chinese economic environment became stable. In the meantime, the effect of agriculture on business cycle was no longer as important as it was before 1978. Business cycles before economic reform in China were more like “agriculture cycles”. Before 1978, famine was one of the most serious problems in China. The food supply was insufficient. Boom time usually happened in the years after a good harvest. The Economy slumped after a poor harvest. Chinese agriculture developed rapidly through economic reform. The food supply was no longer a serious problem after 1984. China’s agriculture development eliminated the agriculture factor from the list of “factors that affect business cycles”. The reaction time by the government to the economic movement was shorter and the policy that government implemented was better. For example: in 1988, China suffered from severe inflation. The CPI reached 11.8%. Government neither took action in time nor made an effort to guide people through the inflation. Then the public began to doubt the ability of government to solve the economic problem and panicked. People flooded the markets with panic purchase of necessities like

oil and salt, purchasing enough for a year. In order to control inflation, the Chinese government arbitrarily increased interest rates. This immediately led the economy to slump and caused a severe depression. But the situation was much better in 1993 and 2004. During the depression in the fourth business cycle, China successfully finished its first “soft landing”. During the fourth business cycle, the CPI dropped from 24.1% to 8.3% but GDP maintained a very high growth rate. In 2004, the Chinese economy became overheated. Through macro-control, government achieved the second “soft landing”. During the fifth business cycle, inflation was moderate and the GDP growth rate was under control.

Second, there is a high growth rate of GDP. The real estate and car industry were two representative industries during the structural economic improvement through the economic reform. The demand for durable goods increased due to the improvement of per-capita GDP. Take real estate as an example; the development of real estate benefits many industries, like cement, steel, chemical, coal and ore. All these correlated industries become an integrated network and promote one another. The car industry is similar to the real estate industry. Since 2002, China has sped up industrialization and urbanization. The total demand for real estate and cars has increased dramatically. This improvement of the economic structure and changes of demand led to a high growth rate of GDP to some extent.

Although economic reform transformed the Chinese economy from a planned economy to a market economy, business cycles in China have still been affected by planning. The government is still the main factor that causes business cycles.

The Chinese economy changed a lot through 30 years of economic reform. Most of the commodity prices have opened and have become market oriented. Private enterprises are experiencing a huge development. But the reform is not completed yet. The planned economy is still playing a role in the new Chinese economy. For example: 1. State-owned enterprises are still the main players in the market. Government is responsible for the profits and losses of these state-owned enterprises. Because of that, state-owned enterprises are less profit driven and comparatively inefficient. The whole market is not efficient as we expect. 2. Government still controls a large part of the industry, especially the financial industry. The main player is still the government. 3. The market mechanism is still not complete. Regulations have not been well established.

Business cycles in China are still affected by the planned economy. More precisely, Chinese business cycles are more like “government-induced business cycle”. Boom time starts because the Chinese government artificially expands credit. Government increases investment in order to develop the economy. This is not a market-oriented result. Huge investment leads to an overheated economy. Development is unsustainable, similar to the situation Roger Garrison mentioned in the book *Capital-Based Macroeconomics*. In order to control the overheated economy and inflation, government tightens fiscal and monetary policy to drag the economy back to normal status. When the economy goes down, this process starts again. In China, political power still plays an important role in economy. The duration of business cycles are highly correlated to changes in the government.

Fourth, Local government became one of the most important triggers of Chinese business cycles

The first three business cycles were induced by the central government. China started fiscal reform in the 1980s. The central government began its fiscal decentralization reform to let the sub national governments have more power in financing their needs and gradually build up their accountability. Local government had the right to decide their own economic policy and were responsible for their own fiscal revenue. Local economic development also became a very important criterion of the performance of local government. This reform stimulated a huge local economic development but this also led to contentions over capital between sub national governments and a fanaticism of pursuing high investment. The trigger of business cycles shifted from central government to local governments.

Some Factors Which Affect Business Cycles

There are lots of factors which affect Chinese business cycles. In this part, I focus on four aspects: The changes to the economic system, investment, the change of economic structure and foreign trade.

The Changes to the Economic System

The Reform of the Central Bank

Before 1978, there was only one bank- The People's Bank of China (PBOC). The PBOC was a government-owned bank. It served as both the central bank and a commercial bank. Between 1950 and 1978, the PBOC controlled nearly 93% of the total financial assets of the country and handled almost all financial transactions (Thomas G.

Rawski, p509). In 1978, the PBOC was separated from the government and became a autonomous entity. Over the same period, three state-owned banks- Bank of China, Construction Bank of China and Agriculture Bank of China took over some of the PBOC's commercial business. Another state-owned bank - The Industrial and Commercial Bank of China was established in 1984 to take over the rest of the commercial transactions of the PBOC. In 1984, the PBOC was formally established as the central bank of the People's Republic of China. The central bank became a useful policy tool of government that could affect the economy and business cycles. Overinvestment led to an increase of material imports and a huge deficit. The CPI increased to 9.3% in 1985. In order to control the inflation, government implemented tightened monetary policy through the PBOC. The PBOC increased the requirement of reserves and tightened the credit .The PBOC also depreciated the exchange rate of RMB and increased the interest rate. Then the growth of industry, investment and prices decreased in 1986. The PBOC also played an important role in dealing with high inflation in 1988. Implementing countercyclical policy through the PBOC became one of the most important tools of the government in adjusting the economy and stabilizing business cycles.

The Development of Private Enterprises

Before economic reform, all enterprises in China were state-owned. Although state-owned enterprises still played an important role in the economy, private enterprises increased rapidly after the introduction of the market economy. Private industrial enterprises expanded with the decrease of state-owned enterprises' output growth after

1978. In 2006, the output of private industrial enterprises reached 4159.24 billion RMB which was 18 times more than the output of state-owned industrial enterprises. The market share of state-owned industrial enterprises dropped from 67.6% in 1978 to 5.3% in 2006 (Huang Ze-Lin, 2008). One typical characteristic of state-owned enterprises is that they do not need to worry about financial budgets or losses because the government is responsible for their profits and losses. Under this kind of “soft budget constraint”, the investment and consumption demand of the state-owned enterprises are neither determined by their business performance nor their money stock. For example, if a state-owned enterprise suffers from serious loss due to their incompetent products, the government will most likely give them financial support in order to avoid bankruptcy. Even if a state-owned enterprise does not have money to invest in other fields or to expand their output, the government will likely give them financial support. A “soft budget constraint” can contradict the market economy mechanism and result in inefficiencies and unfairness. Without the unlimited financial support of the government, private enterprises find it difficult to survive in the market; especially, private enterprises and state-owned enterprises compete with each other in lots of industries in China. With unlimited support from the government, State owned enterprises have the advantage over private enterprises. This unfair support from government to state-owned enterprises will induce the loss of private enterprises’ market share or private enterprises’ bankruptcy. Without the pressure of market competition, state-owned enterprises often lose significant amounts of government income and increase the government’s fiscal burden. These factors explain why the decrease of state-owned industrial enterprises improved

the soft budget constraint of government. More importantly, the effect of state-owned enterprises on economic fluctuation decreased. The reduction of state-owned enterprises' share avoided the situation in which government would have to take steps to save these state-owned enterprises. The economy became much more stable and fluctuation was less volatile. Private companies are profit-driven and market-oriented. They have high expanded potential and efficiency during the reform. They also have a very strong ability to adjust to the market during recessions. They decrease the amplitude of the business cycle to some extent as well. That is one of the reasons why the last two business cycles in China after 1990 were less volatile than the first three.

Investment

Investment is highly correlated with change of GDP in China.

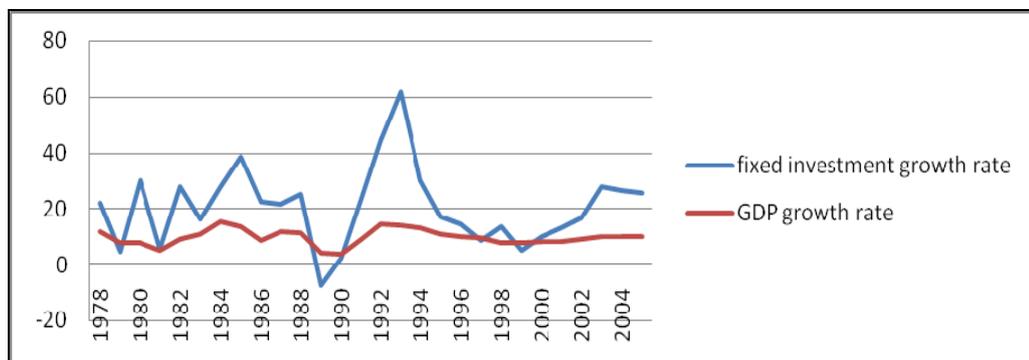


Figure 3 Fixed Investment and GDP growth Rate

According to the Figure 3 above, the fixed investment growth rate is highly correlated with GDP growth rate. Fixed investment is an important trigger of GDP expansion. The correlation coefficient between the growth rate of real investment and the growth rate of real GNP reached 79.5% from 1979 to 1997. (Cui Youping, 2007)

The fluctuation of investment, especially fixed investment, has largely affected economic growth. During the five business cycles in China, fixed investment was always the main factor which stimulated economic boom time. When fixed investment increased in one industry, it would not only benefit that one industry but also the whole frontier and related industry. Once investment increased, industries like cement and steel increased, and then drove the development of other related industries. Likewise, when fixed investment decreased, the economy would shrink to adjust to the lack of investment. Investment also created job opportunities and increased income. Social demand was stimulated and consumption increased. In order to satisfy the increase of social need, enterprises increased investment again. The expansion continued until the resources could not sustain it any longer.

In the first three business cycles most of the fixed investment was driven by state-owned enterprises because a large part of the Chinese economy was still planned. Most of the investment came from the government. Private investment grew in the last two cycles. Government implemented tight fiscal and monetary policy in 1988 because of a high CPI. State-owned investment decreased at first. Then, private investment began to decrease in 1989. Private investment shrunk at a quicker rate than state-owned investment. Private investment was much more sensitive to the market than the state-owned investment. Once they saw the market going down they would halt investment immediately. Government started to increase investment again in 1991. The growth rate of state-owned investment was still 10% higher than the private investment growth rate. Until 1993, private investment started to soar. The growth rate of private investment reached 72%.

During the Asia financial crisis in 1997, government increased state-owned investment to expand domestic demand. Unfortunately, few private investments followed because of the down time. Huge state-owned investment try to stimulate the market again in 2002, private investment followed and the growth rate started to rise again. Private investment growth rate increased from 5.1% in 1999 to 46.4% in 2003. State-owned investment acted as a market guide. Private investment felt safe entering the market with the guide of state-owned investment.

Changes to economic structure

Changes to the Structure of Industry

China divides its economy into three parts: The primary industry is involved in the extraction and collection of natural resources, including agriculture, forestry, animal husbandry and fishery, etc.; The secondary industry of an economy is dominated by the manufacture of finished products. The secondary industry makes products that are more likely to be consumed by individuals, such as the mining industry, manufacturing, electricity, gas and water and architecture; The tertiary industry includes all industries which do not belong to the primary or secondary industry categories. We can also define the tertiary industry as an industry made up of companies that primarily earn revenue through providing intangible products and services. Service industry companies are involved in retail, transport, distribution, food services, as well as other service-dominated businesses. An optimal structure of economy can help economy stay in a balanced status. In developed countries, such as the US and UK for example, the growth rate and employment in primary industry has gradually decreased since the 1970s. The

weight of output and employment in developed countries' secondary industry was increasing before the 1960's but has since begun to decline. The relative weight of the tertiary industry has increased in most developed countries since the 1960s. In most of the developed countries, the weight of the third industry is now more than 60%. We can conclude that during industrialization secondary industry increases and plays a major role in economic development. But in the post-industrialization stage, tertiary industry will grow and will accompany a decrease in secondary industry. Many criteria like income elasticity, productivity, resource efficiency can help economic development by changing the industry structure. With the development of the economy and industry structure, the weight of the primary industry decreases and that of the tertiary industry increases. After economic reform, the structure of the Chinese economy changed significantly. In alignment with the conclusion, as we can see in the Figure 4, the weight of the primary industry decreased significantly after 1978. The secondary industry fluctuated over the past 30 years, but kept its weight between 40% and 50%. The tertiary industry grew rapidly. The weight of the tertiary industry expanded from 21.63% in 1979 to 41.82% in 2008.

Year	Primary Industry (%)	Secondary Industry (%)	The Tertiary Industry (%)	Year	Primary Industry (%)	Secondary Industry (%)	The Tertiary Industry (%)
1978	28.19	47.88	23.94	1994	19.86	46.57	33.57

1979	31.27	47.1	21.63	1995	19.96	47.18	32.86
1980	30.17	48.22	21.6	1996	19.69	47.54	32.77
1981	31.88	46.11	22.01	1997	18.29	47.54	34.17
1982	33.39	44.76	21.85	1998	17.56	46.21	36.23
1983	33.18	44.38	22.44	1999	16.47	45.76	37.77
1984	32.13	43.09	24.78	2000	15.06	45.92	39.02
1985	28.44	42.89	28.67	2001	14.39	45.15	40.46
1986	27.14	43.72	29.14	2002	13.74	44.79	41.47
1987	26.81	43.55	29.64	2003	12.8	45.97	41.23
1988	25.7	43.79	30.51	2004	13.39	46.22	40.38
1989	25.1	42.83	32.06	2005	12.12	47.37	40.51
1990	27.12	41.34	31.54	2006	11.11	47.95	40.94
1991	24.53	41.79	33.68	2007	10.77	47.34	41.89
1992	21.79	43.46	34.76	2008	10.73	47.45	41.82
1993	19.71	46.57	33.72				

Table 4 Major Trends in Chinese Industry

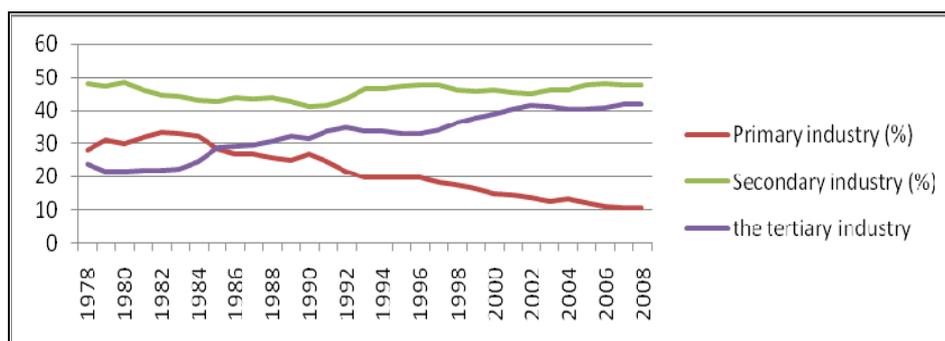


Figure 4 Major Trends in Chinese Industry

At the beginning of the economic reform, primary industry accounted for 30% of all GDP. In 2008, the primary industry had already dropped to 10.73% of total GDP. Then in

the years following 1978, primary industry as a percentage of total GDP increased because of the family contract responsibility system in the agriculture industry. Policy induced the increase in agricultural productivity. Then the size of primary industry began to decrease. Aside from the decreased importance of primary industry, the structure of primary industry improved. Before economic reform, agriculture was the main part of primary industry, accounted for more than 80% of the primary industry. The structure of the primary industry became much more diversified after 1978.

Year	Total Output of Agriculture, Forestry, Animal husbandry and Fishery	Agriculture (%)	Forestry (%)	Animal Husbandry (%)	Fishery (%)
1978	139.7	80	3.4	15	1.6
1980	192.26	75.6	4.2	18.4	1.7
1985	361.95	69.2	5.2	22.1	3.5
1989	653.473	62.8	4.4	27.6	5.3
1990	766.21	64.7	4.3	25.7	5.4
1991	815.7	63.1	4.5	26.5	5.9
1992	908.47	61.5	4.7	27.1	6.8
1993	1099.55	60.1	4.6	27.4	8
1994	1575.05	58.2	3.9	29.7	8.2
1995	2034.09	58.4	3.5	29.7	8.4
1996	2235.37	60.6	3.5	26.9	9
1997	2378.84	58.2	3.4	28.7	9.6

1998	2454.186	58	3.5	28.6	9.9
1999	2451.906	57.5	3.6	28.5	10.3
2000	2491.58	55.7	3.8	29.7	10.9
2001	2617.96	55.2	3.6	30.4	10.8
2002	2739.075 4	54.5	3.8	30.9	10.8
2003	2969.18	50.1	4.2	32.1	10.6
2004	3623.899	50.1	3.7	33.6	9.9
2005	3945.089	49.7	3.6	33.7	10.2

Table 5 Total Output of Agriculture, Forestry, Animal Husbandry and Fishery

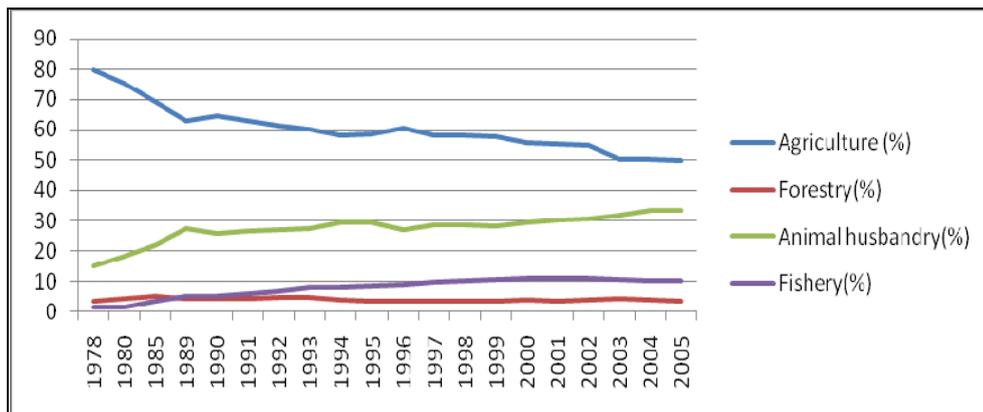


Figure 5 Percentage of Agriculture, Forestry, Animal husbandry and Fishery in the Primary Industry

As we can see in the Table 5 and Figure 5, the relative size of the agriculture industry decreased; the percentage of the agriculture industry comprised of forestry remained nearly the same; animal husbandry and fishery experienced a burgeoning development. In 2005, animal husbandry as a percentage of total agriculture increased from 15% in 1978 to 33.7% in 2005; the size of the fishing industry also increased from 1.6% in 1978 to 10.2% in 2005. This huge change was induced by the change in the

consumption structure. According to the increase of income, the demand for diversity of food stimulated the development of other primary industries. The diverse and balanced development of primary industry evaded volatile fluctuation in primary industry through the course of the business cycle.

During the process of industrialization, the growth of secondary industry drove the growth of the growth of the economy. Furthermore, rapid expansion of secondary industry was highly correlated with the change of its structure. From 1978 to 2005, the output of secondary industry increased from 174.52 billion RMB to 8704.67 billion RMB. The annual growth rate reached 11.3%. Secondary industry as a percentage of total economic output stabilized around 40% to 50% (China: 30 years of reform and opening-up, 2008). After economic reform, manufacturing as a percentage of secondary industry was very stable. Technology-intensive industries developed rapidly which optimized the structure of secondary industry. Secondary industry gradually changed from labor-intensive and capital-intensive to technology-intensive. Industrial expansion also focused on quality as a primary target instead of quantity. The size of the coal, textile, food and manufacturing industries decreased significantly. Oil and gas extraction, oil refining transportation equipment manufacturing and the manufacturing industry of electronic and telecommunications equipment expanded very fast. The development of the manufacturing industry of electronic and telecommunications equipment was especially impressive. The proportion increased from 6.66% in 1985 to 10.16% in 2004.

The development of tertiary industry was one of the successes of the economic reform. The expansion of tertiary industry was much higher than that of the other two

industries. The average annual growth rate of tertiary industry was 10.7%, 1.1% higher than the average annual growth rate of GDP. At the beginning of economic reform, the tertiary industry was mainly constituted of financial institutions, restaurants, transportation and other traditional services industries. Through a 20-year development, other service industries, like tourism, consulting, banking, insurance, real estate, education, also expanded quickly. The importance of traditional service industries dropped while others, such as education, entertainment, public services, real estate and public health, increased dramatically.

The Change to Consumption Structure

Improvement to employment, housing, education, and income changed the pattern of consumption. The main part of the consumption became housing and transportation instead of groceries, commodities and clothing. Before economic reform, China had a serious constraint of personal credit- all personal expenses would have to be paid with personal savings. With the development of the economy, the elasticity of consumption demand for large durable consumer goods became very high. During the late 1970s to early 1980s, the watch, bicycle, sewing machine, and radio industries expanded dramatically. In the late 1980s, the increased demand for televisions, washing machines and refrigerators stimulated a fast growth of light industry. After 2002, the auto and real estate industries began to develop. From 2002 to 2004, the average growth rate of the real estate industry increased to 10.7%. The growth rate of the auto industry reached 89.7% in 2003(Report of Research on Chinese Economic Cycles, p10). The change in the

consumption structure was the result of industrialization, urbanization and economic development.

The Widening Gap Between The Rich and The Poor

By setting up a model, Yin Heng, Gong Liutang and Zhou Hengfu found out, if the beginning status of the economy is a comparatively less developed equalitarianism, implementation of “encourage some people to become rich sooner than others” policy can accelerate economic growth. But, with the development of economy, increased income distribution inequality then starts to dampen the economic growth (Yin Heng, Gong Liutang and Zhou Hengfu, 2005, “Income inequality and economic growth: back to Kuznets’ assumption”). Before economic reform, income distribution in China was comparatively equal due to the planned economy. During the reform, the government chose to let some people and regions prosper before others in the hope that they would carry the backward regions. The speed of economic growth increased tremendously. And with the high economic growth rate, the inequality of income distribution became severe. According to the Report of Research on Chinese Economic Cycles, the Gini coefficient was 0.30 in the early 1980s and reached 0.33 in the late 1980s. The Gini coefficient became 0.434 in 1994 and increased to 0.458 in 2000. In 2008, the Gini coefficient was 0.65. Unfortunately, the gap between the rich and poor had been widened. According to 2006 data, the income of the lowest 10% population was equal to one ninth of the income of the highest 10% population in the urban area. In China, the majority of consumers are from the middle and low income groups. *Analysis and Forecast of Chinese Social Circumstance in 2008* pointed out that although the consumption of the high income

group is around 1.96 times higher than the national average, this consumption is mainly focused on luxury goods. *Analysis and Forecast of Chinese Social Circumstance in 2008* also pointed out that although the middle class had high demand potential, they did not have the buying power to match. The percentage of middle class consumer spending as a percentage of total consumption continued to decrease. All this suggests the consumption of the middle class will significantly affects social demand, which will further affect economic growth. Since the fluctuation of China's business cycle is a reflection of economic growth, the inequality of income distribution is a crucial factor in business cycle fluctuations.

Foreign Trade

During economic reform, Deng Xiaoping committed China to adopt policies that promote foreign trade and economic investment. This “open door” policy linked the Chinese economy with the international economy. Before economic reform, foreign trade was not a significant part of the Chinese economy. From 1953 to 1978, the total volume of foreign trade increased from 2.37 billion dollar to 20.64 billion dollar, but Chinese foreign trade as a percentage of GDP dropped from 1.23% to 0.75%. Foreign trade was overlooked before economic reform. The Chinese government implemented policies to stimulate foreign trade after 1978. The growth of foreign trade was higher than the growth of GDP. Chinese foreign trade rose in the international rankings from 32nd in 1978 to 3rd in 2008. The total volume of foreign trade in 2008 reached 2561.6 billion dollars.

Year	Foreign Trade	Export	Import
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	Ranking	Weight	Ranking	Weight	Ranking	Weight
1981	22	1.1	19	1.1	21	1.1
1982	20	1.1	17	1.2	22	1
1983	20	1.2	17	1.2	18	1.1
1984	16	1.4	18	1.4	17	1.4
1985	11	1.8	17	1.4	11	2.1
1986	12	1.7	16	1.5	11	2
1987	17	1.6	16	1.6	14	1.7
1988	15	1.8	16	1.7	14	1.9
1989	15	1.8	14	1.7	14	1.9
1990	16	1.7	15	1.8	18	1.5
1991	15	2	13	2.1	15	1.8
1992	11	2.2	11	2.3	13	2.1
1993	11	2.7	11	2.5	11	2.8
1994	11	2.9	11	2.9	11	2.8
1995	11	2.9	11	3	12	2.7
1996	11	3	11	2.9	12	2.6
1997	10	2.9	10	3.3	12	2.5
1998	11	3	9	3.4	11	2.5
1999	9	3.2	9	3.5	11	2.8
2000	7	3.6	7	3.9	8	3.4
2001	6	4	6	4.3	6	3.8
2002	5	4.7	5	5.1	6	4.4
2003	4	5.6	4	5.9	3	5.3
2004	3	6.2	3	6.5	3	5.9
2005	3	6.7	3	7.3	3	6.1

2006	3	7.4	3	8	3	6.4
2007	3	7.7	2	8.8	3	6.7
2008	3	8	2	9.4	3	7

Table 6 Foreign Trade, Exports and Imports

According to Table 6, the speed of development in foreign trade was tremendous. During 1978 to 2008, the average annual growth rate of foreign trade was around 19%, nearly two times more than the average growth rate of global international trade. Chinese foreign trade increased 124 times in 30 years.

A lengthy debate exists about the causative relations between the GDP growth rate and changes in foreign trade: whether economic growth becomes a trigger of foreign trade or an increase of foreign trade stimulates the economic growth. All these viewpoints have the assumption that foreign trade and economic growth affect each other.

JustinYifuLin and Yongjun Li conclude in “A Re-Examination of International Trade’s Contribution to China’s Economic Growth” that in the 1990s a near 10% increase in export led to a 1% increase in Chinese GDP. This multiplier was lower in the 1980s, likely because the relative weight of exports was too small. This number was stabilized at around 20% in late 1990s.

Year	Growth Rate of Foreign Trade (%)	GDP Growth Rate (%)	Year	Growth Rate of Foreign Trade (%)	GDP Growth Rate (%)
1978	39.4	11.7	1994	10.91	13.1
1979	42.1	7.6	1995	18.7	10.9

1980	28.95	7.8	1996	3.21	10
1981	16.39	5.2	1997	12.17	9.3
1982	-5.43	9.1	1998	-0.37	7.8
1983	4.78	10.9	1999	11.3	7.6
1984	22.76	15.2	2000	31.5	8.4
1985	29.99	13.5	2001	7.46	8.3
1986	6.09	8.8	2002	21.78	9.1
1987	11.92	11.6	2003	37.1	10
1988	24.37	11.3	2004	35.7	10.1
1989	8.66	4.1	2005	23.2	9.9
1990	3.36	3.8	2006	22.38	11.6
1991	17.49	9.2	2007	23.5	11.9
1992	22.05	14.2	2008	17.8	9
1993	18.23	14			

Table 7 The Foreign Trade and the GDP

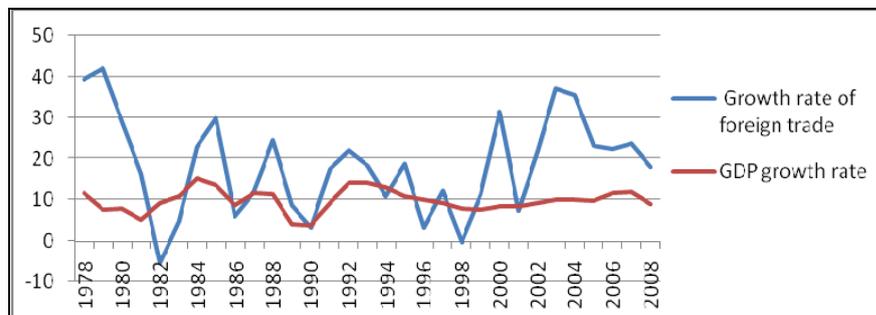


Figure 6 The Foreign Trade and the GDP

As we can see in Table 7 and Figure 6, the peak of foreign trade was reached in 1984, 1987, 1992 and 2004. During these years, Chinese GDP also had a very high growth rate. On the contrary, when the foreign trade growth rate decreased because of economic crisis, the GDP growth rate also dropped significantly. For example, during the

economic crisis in 1982, the Chinese foreign trade growth rate decreased from 16.39% in 1981 to -5.43% in 1982. The GDP growth rate in 1981 was only 5.2%. As a result of the Asian financial crisis, foreign trade decreased by -0.37% in 1998. Economy suffered from insufficient domestic demand because of the economic downturn. A decrease in foreign trade made the situation worse. The GDP growth rate dropped to 7.8% in 1998 and decreased to 7.6% in 1999. GDP growth is highly correlated with changes in the level of foreign trade.

CHAPTER THREE: INSTITUTIONAL CONDITIONS OF MONETARY POLICY IN CHINA

The efficiency of monetary policy is largely determined by the institutional backgrounds and conditions of the country. As Yanfen Huang mentioned in *The Money Supply Process and Monetary Policy in China*, the necessary institutional preconditions for a successful conduct of monetary policy include: (1) Establishing an autonomous central bank, which is a prerequisite for creating the central bank's credibility. (2) Having a well-functioning, market-based banking system. (3) Developing an efficient financial market. During the 30 years after economic reform, China's financial system has been changed from a monobank system to a two-tier banking system. Government implemented policies to cultivate and develop the financial market. In the meantime, government also introduced indirect control mechanisms into the monetary policies.

The Banking System before Economic Reform

Before economic reform, China's banking system was a monobank system. The People's Bank of China (PBOC) had a monopoly on currency issuance, transaction clearing, saving collection and lending for working capital investment. PBOC acted both as a central bank and as a commercial bank. Before 1978, the PBOC controlled about 93% of all financial assets of China (Allen, Franklin & Qian, Jun & Qian, Meijun, 2005). The specialized banks—the People's Construction Bank of China (PCBC) and the Bank of China (BOC) were the special departments of the PBOC. During the pre-reform period,

enterprises received investment and construction funds in the form of budgetary grants. Bank lending was only related to the enterprises' transitory working capital. The main role of the PBOC was that of a cashier for the Ministry of Finance. The conventional view of the bank's role in China in pre-1978 was merely that of a passive or accommodating instrument of central planning (Leroy Jin, *Monetary Policy and the Design of Financial Institutions in China*, 1978-90). There was another important characteristic of China's financial system in the pre-reform period – two separate monetary circuits. The currency circuit referred to the transactions of consumption and wage payments for the non-state sector; the bank transfer circuit was used to clear transactions related to production and investment activities among enterprises and institutions. There were strict regulatory barriers between these two circuits before economic reform. Before 1978, residents both in the urban and rural area could only use cash for payment; enterprises could not withdraw cash from their bank accounts unless they obtained approval from the PBOC. Under this financial background, monetary authority could easily use a “cash plan” to control the currency flow and implement the “credit plan” to manage the bank transfer circuit.

The Three Stages of the Financial Sector Reform

The First Phase of the Banking System Reform 1978-1984

Since economic reform, greater emphasis has been placed on the role of banks and monetary policy. The financial sector has been considerably reformed. Banks have become specialized and diversified.

During the first period, the PBOC continued to control the majority of commercial activities. The most significant progress in the banking system during the economic reform was the abolishment of the monobank in China. During 1979-1984, the Agricultural Bank of China (ABC), the Bank of China (BOC), the People's Capitalize Bank of China (PCBC) and the China International Thrust and Investment Corporation (CITIC) were established. Different banks had different functions: The ABC was responsible for the agriculture and rural economy. It guided and controlled Rural Credit Cooperatives. The BOC provided services to foreign exchange related banking business. The PCBC specialized in monitoring state budget, financed investment, and was also engaged in general banking business. The CITIC's task was to attract foreign capital and advanced technologies to China. In 1979, the government decided that bank loans should gradually replace budgetary grants as the main financing sources of investment. All of the investment funds for enterprises' were no longer granted by the state budget.

In addition, just like in the real sector, China's state specialized banks adopted a system of profit retention in 1983(Zhou Zhengqing, *Research on the Monetary Policy in China*, 1993). After paying business tax, banks could keep a specific proportion of the profits to develop business and to fund employee welfare. Because of this policy, state specialized banks became profit-driven.

The Creation of a Two-Tier Banking System: 1984-1994

The Industrial and Commercial Bank of China (ICBC) was established in 1984 to assume the remaining commercial lending activities of the PBOC. The PBOC became the

central bank of China in 1984. A two-tier banking system in China took shape. The Banking system became more diverse. Four nation-wide commercial banks (ABC, ICBC, BOC, and CBC) were permitted to compete with state-owned specialized banks in all banking business. In order to meet local funding needs, some regional development banks were established during this period. The non-bank financial institutions also expanded. Urban credit cooperatives expanded to serve small individually or collectively owned enterprises in urban areas. Trust and investment companies also developed very quickly. Most of these trust and investment companies were founded by local governments and the four state banks. In 1998, many trust and investment companies merged with state banks. Other non-bank financial institutions, such as leasing companies, security companies and insurance companies also emerged during this period.

The Transition toward a Market-Oriented Financial System

A strategy arose from the Third Plenum of the Fourteenth Party Central Committee in 1993: establishing a structure conducive to the operation of a socialist market economy. This policy clearly pointed out the direction of future economic development: transformation of the BPOC into a modern central bank responsible for monetary policy and supervision of the financial system, separation of policy lending from commercial lending, gradual transformation of specialized banks into commercial banks and modernization of the infrastructure of the financial sector (Yanfen Huang, *The Money Supply Process and Monetary Policy in China*, P13).

Memorandum of the Chinese Communist Party Central Committee, 14 November 1993

As the central bank, the People's Bank of China shall conduct monetary policy independently.

The Central bank of China shall be under the leadership of the State Council.

The people's Bank of China shall manage the money supply and stabilize the currency value, by changing from relying mainly on control over the credit quota to the reserve ratio control.

The People's Bank of China shall supervise all other financial institutions.

The People's Bank of China will not conduct business with non-financial institutions.

The banking business and the securities business shall be separated.

A committee shall be formed to conduct monetary policy.

The commercial banks shall engage in the management of assets, liabilities and risks.

According to the situation of monetary supply and demand, the central bank shall make timely adjustments to the benchmark rates.

The interest rates of the deposits and loans in the commercial banks can be freely floated within a certain range given by the PBOC.

The memorandum pointed out that the PBOC obtained official permission from the Chinese Communist Party Central Committee to become independent in conducting monetary policy. As we can see, the financial supervision function of the PBOC was emphasized in the memorandum. The legal right of the PBOC to formulate and implement monetary policy has also been emphasized in the Central Bank Law (the PBOC law) which was approved in 1995. The PBOC law mentioned that in order to stabilize the value of the currency and promote the growth of the economy, the PBOC should gradually use more indirect methods to control the money supply such as market based operations, discount rate adjustment, reserve ratio and providing loans to banks (Article 22). The application of the mandatory credit plan shall be gradually reduced or abolished. The PBOC law also mentioned that the government shall sell bonds to finance

its deficit instead of pushing the central bank to issue currency. Under the instruction of the PBOC law, the following financial reforms were carried out (Yanfen Huang, *The Money Supply Process and Monetary Policy in China*):

1. From 1994 on, the PBOC was no longer responsible for financing budget deficits.
2. In order to reduce the intervention of local government during monetary policy implementation in 1998, the PBOC reconstructed its organization. Local branches were replaced by nine interregional main branches which operate across provincial lines.
3. As of January 1, 1998 the credit-quotas of the state banks were abolished.

Then the Commercial Bank Law (the CB Law) was enacted on May 1st, 1995. The CB Law tried to guide the large domestic banks through a transform into independent commercial entities. According to the CB law, commercial banks shall operate independently and take responsibility for their own profits and losses. Government also implemented some policies to cooperate with the CB law. Three policy banks—The Import and Export Bank of China, the State Development Bank of China and The Agricultural Development Bank were founded to help state banks reduce policy-based lending. The Government also shut down some financial institutions that had incurred losses. State banks started to issue special treasury bonds to raise the capital adequacy ratio in order to write-off bad debts. Government also developed a competitive banking system: Co-operative banks started to expand after 1995. In the meantime, the first private banking institution—Minsheng Bank was established in 1995.

The Structure of Chinese Banking System

During the 30 year development after economic reform, the diversity of the financial sector has been improved.

Type	Ownership	Business Scope or Operational Independence	Law
The central bank: the PPBC	State-owned	<ul style="list-style-type: none"> • Formulating and implementing monetary policies • Exercising supervision and administration of the financial sector • Non-independence , under the leadership of the State Council 	The PBC law
State-owned commercial banks	State-owned	<ul style="list-style-type: none"> • Performing deposit money bank business • Subject to the intervention of government 	The CB law
Policy banks	State-owned	<ul style="list-style-type: none"> • Provision of policy loans • Their financing is secured by capital and other contributions from the government, financial bond placements with state commercial banks and borrowing from the international financial markets • Subject to the intervention of government 	none

Other commercial banks	Indirectly state-owned except Minsheng Bank. Normally they are joint-stock banks, but their main shareholders are government agencies or SOEs	<ul style="list-style-type: none"> • Performing deposit money bank business • Less subject to the intervention of government than state-owned commercial banks 	The CB law
Non-bank financial institutions:			

Trust and Investment Companies	Initially owned by the local government and the state-owned commercial banks. Now they have various types of ownership.	<ul style="list-style-type: none"> • Engaging in a wide scope of business • Subject to the intervention of local governments 	none
Rural and urban credit cooperatives including urban cooperative banks	Collectively-owned	<ul style="list-style-type: none"> • Performing deposit money bank business and extending loans normally to collective enterprises • Subject to the intervention of the municipal and county governments 	The CB law

Financial companies	Various, normally owned by SOEs	Engaging in intra-industry financing and other financial activities, like leasing, acceptances, bill discounting and credit guarantees	none
Financial leasing companies	Various, normally owned by SOEs	Engaging in financing the imports of capital goods and equipment for export-oriented enterprises	none

Table 8 The Institutions of China's Banking Sector

According to Table 8, there are 9 types of financial institutions in China's banking system. Compare to the pre-reform period, the diversity of the banking system had improved significantly. But banking system legislation is still not complete.

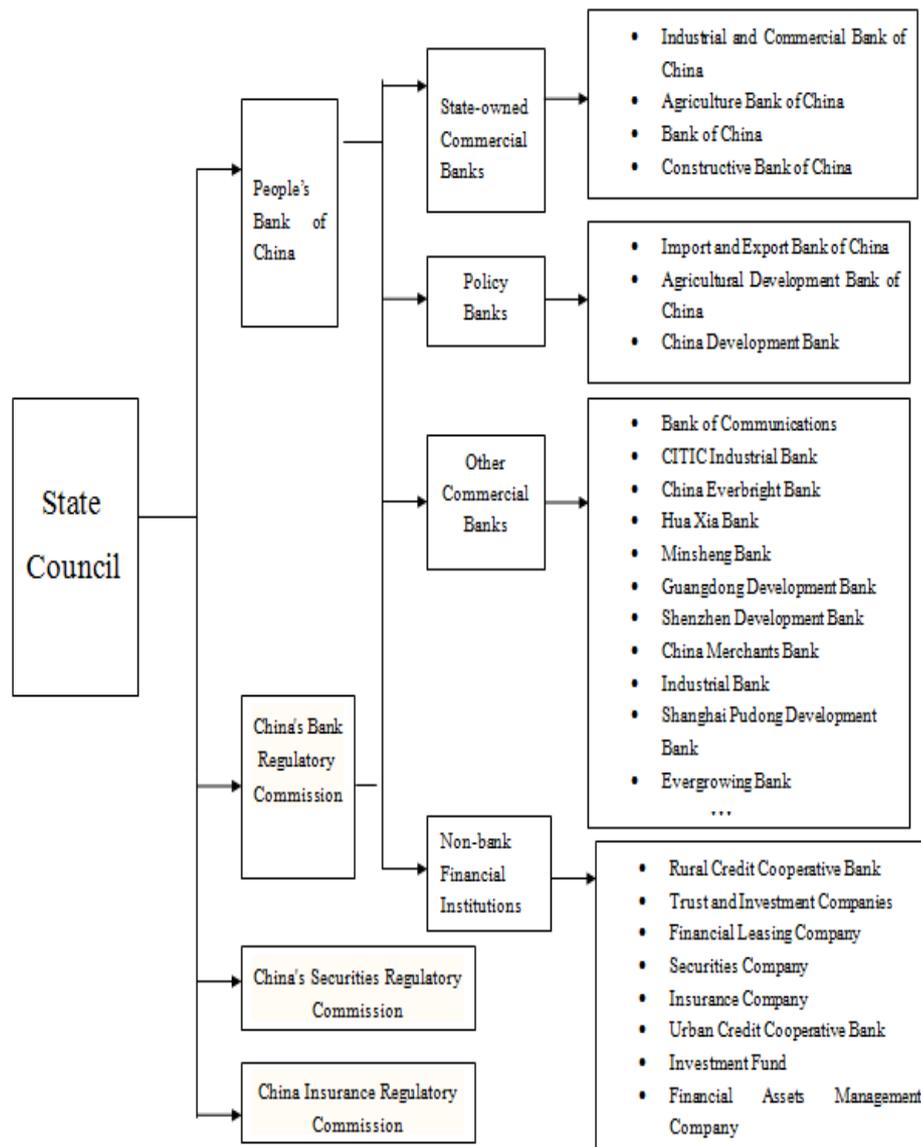


Figure 7 The Structure of the China's Financial Sector

The Problems of China's Banking System

Lack of Independence of the PBOC and Poor Banking Supervision

The condition of the central bank's independence is a very important criterion of monetary policy efficiency. The independence of the central bank can firstly avoid political pressures to some extent. Pursuing political achievements, such as economic

growth and a low employment rate is one of the most important tasks for politicians during their terms. In order to highlight political achievements, governors like to see fast economic growth, which had already been a main target after China's economic reform. If a central bank is under strict control by the government, like McDonough mentioned, it is inevitable "to be tempted to promote easy credit policies" (McDonough: *The Importance of Central Bank Independence in Achieving Price Stability*). Central banks have to issue more money and implement policies to help government expend total social needs in order to stimulate economic growth and lower the unemployment rate. Growth like this is short-term and will induce inflation. Lack of independence then weakens the efficiency of monetary policy. Even worse, the central bank probably needs to finance government budget deficits directly which has happened in China. The policies that the central bank implemented might relieve problems such as difficulties in financing government budget deficits or reducing unemployment in the short-term but may ultimately result in severe problems like high inflation and the need for severe credit-tightening later on. Also, according to Grilli (Grilli et al.1991), there were two aspects to judge a central bank's independence: economic independence and political independence. Economic independence can guarantee the right of the central bank to choose the suitable instrument to pursue the final goal of monetary policy. Grilli (Grilli et al.1991) pointed out that economic independence was mainly determined by: (1) whether the government can determine how much to borrow from the central bank. (2) whether the central bank controls monetary policy instruments (Grilli et al., 1991, p366-368). Political independence refers to the capacity of the central bank to choose the final goal of

monetary policy. As Grilli mentioned, political independence is determined by: (1) whether the governing authority of the central bank is under the control of the government. (2) whether government approval is needed before monetary policy implementation. (3) whether price stability is explicitly stated in the central bank law.

As we can see in Figure 7, the PBOC was led by the State Council as a government administrative organization before 1995 (Bank Regulations-1986). Apparently, the PBOC was not politically independent: The governor of the PBOC was appointed by the government; monetary policy decisions needed to be approved by the central government before implementation; The Law of the People's Republic of China on the People's Bank of China stated that there were two equally weighted objectives for the PBOC's monetary policy: development of the economy and currency stability. The PBOC didn't have much economic independence either. First, the PBOC was required to finance the government budget deficits. As a government organization, the PBOC branches covered all provinces, cities and counties. Local government intervened in the operation of local PBOC branches to ensure that they were cooperating with economic development plans. Local branches were governed by both the PBOC's headquarters and local government. This system made the PBOC vulnerable to government interference.

The PBOC gained some independence after 1995. The enactment of the PBOC law in 1995 stated that the PBOC was forbidden from providing credit to the government; the intervention by local government was phased out. Price stability became the primary objective of monetary policy. But unfortunately, it was still very difficult for the PBOC to maintain independence under the PBOC Law. The PBOC was still led by the State

Council. The governor was still appointed by the State Council. Although price stability has become the main target of monetary policy, the PBOC could not refuse requests by government, such as rescuing state-owned enterprises and maintaining political and social stability. Moreover, the objective of monetary policy was still subordinated to the government's economic development target. Monetary policy decision still had to be approved by the State Council as before.

The banking supervision system is still underdeveloped in China. Although banking supervision has been improved since 1978, it is still insufficient. First, as mentioned earlier, the PBOC still lacks independence; its supervision is subject to the intervention of government agencies. Also, the banking law system is still incomplete. As we can see in Table 8, there are no specific laws that govern policy banks, trust and investment companies, financial companies and financial leasing companies.

Obligations to the SOEs

During the reform period, the allocation of investment funds shifted gradually from non-repayable budgetary grants to interest-bearing bank loans (2.2.1). Because of this reform, the banking institutions were obligated to support the SOEs. This brought about serious moral hazard in the banking system. The bank was obliged to provide loans to the SOEs regardless of their capacities of repayment. Banks neither had the ability nor incentive to select borrowers. Moreover, compared to developed countries, the accounting and auditing system in China was still not well established. Banks would like to monitor their borrowers, but they could not get enough information. SOEs also had the privilege to low-cost credit because most banks wanted to loan to them. As I mentioned

earlier, SOEs had little concern for interest rate and investment risk because of the “soft budget” constraint. Although state-owned enterprises were also vested with a financial interest in maximizing profit, those that incurred losses could not be subject to bankruptcy. No matter how much they lost, they were always bailed out with financial subsidies or other instruments. SOE could still survive even after chronic losses. This “soft budget constraint” mechanism was the main factor that led to the low efficiency. Consequently, financial losses increased year by year due to the SOEs’ inability to repay. In order to rescue these SOEs, banks were required to provide the same businesses new loans. The situation deteriorated. Large non-performing loans worsened the profitability of state banks.

The government was caught in a dilemma. As Yanfen Huang pointed out in the *The Monetary Supply Process and Monetary Policy in China*, refusing loans to loss-making enterprises would cause widespread bankruptcies and unemployment, which would cause political and social problems. However, continuing to provide loans to them would wreck financial reform (Yanfen Huang, *the Money Supply Process and Monetary Policy in China*). Bankruptcies of these SOEs would surely increase the unemployment rate. In the meantime, some enterprises might also be hurt due to the decrease of aggregate demand. This can happen very fast. However, from a long-term point of view, even though bailing out these inefficient poor-performing SOEs may prevent widespread bankruptcies and unemployment, it can damage long-term economic performance. This also affects the ability of monetary policy to make a better trade-off between unemployment and inflation. If monetary policy only considers the one problem instead of making a trade-off between

the two, easily cause the other under such conditions. Once this situation happens, it affects the fluctuation of the economy, making cyclical ups and downs more volatile.

CHAPTER FOUR: MONETARY POLICY

Until 2008, China's economy had experienced five business cycles. The fluctuation of these business cycles was highly related to China's economic policy. During the 30 years period after economic reform, China's monetary policy gradually transformed from a direct credit control pattern to indirect control. The instruments of monetary policy were also improved.

Credit Plan

Brief Introduction of Credit Plan Evolution

Although the credit plan was gradually phased out, it played an important role in China's monetary policy history. The credit plan had a significant effect on the first two business cycles after economic reform. Before economic reform, monetary policy was implemented through the credit plan and the cash plan. The credit plan specified the amount of credit needed by enterprises. At that time, monetary policy was only a passive instrument to help the government achieve its objective. After economic reform, the credit plan was still the main policy instrument. Instead of simply specifying the amount of credit needed to support government's goal (before economic reform), the credit plan began to take the inflation and real GDP growth into account. The most important change happened in 1985. Owing to the establishment of the central banking system, the credit plan gradually transformed from a direct policy instrument to an indirect policy instrument. After 1985, the PBOC was responsible for the overall credit quota of

financial institutions. This overall credit plan was a goal of the country's credit operation and was passed to the headquarters of the state banks from the PBOC. According to the overall credit plan, the PBOC would give the state banks specific credit quotas. State banks could continue providing loans until the new loans reached the quotas. After implementation of the PBOC law in 1995, government planned to abolish the credit plan system. Then the credit plan was replaced by the guidance plan in 1998. Unlike the credit plan, the guidance plan was only a reference for the loan-decisions of the state banks. The PBOC could persuade the state banks to follow the guidance plan on lending but could not force them to implement it. After this reform, the credit plan was transferred to the "moral persuasion" or "window guidance" and was no longer the main instrument of monetary policy.

As a direct control instrument of monetary policy, the credit plan was not an efficient monetary policy choice. China executed the credit plan for a considerable amount of time because of the economy's unique state. First, China was short of capital needed to pursue high economic growth after economic reform. Through the credit plan, the PBOC could easily govern the money supply process and guide the capital flow to high priority sectors through the banking system. In the meantime, because of the decentralization process, investment funds which came from budgetary grants declined due to the deterioration of the central government's budget. The credit plan then became an instrument to channel subsidies to the SOEs in order to make up the decline of investment funds.

The implementation of the credit plan included two steps. The first step was a top-to-bottom process. Taking into account the planned growth in output and investment, the expected price level and the velocity of money, the PBOC figured out an overall credit plan draft which included the size and amount of new loans and the share of total credit that would be distributed among the state banks. Then, the PBOC transmitted the credit plan draft to the headquarters of state banks. The headquarters of state banks then passed the draft quota and deposit targets to their provincial and regional branches. Then the bottom-up process began. The local branches of the state banks would develop their own deposit target and credit plan dependent on the local funds and development needs and would then pass these on to local branches of the PBOC. Provincial branches of the PBOC would summarize the deposit and credit plan of local state bank branches and develop provincial plans. Provincial plans would be submitted to the headquarters of the PBOC. Based on these provincial plans, the PBOC would revise the initial credit plan and submit the final draft to the State Council for final approval. After the final credit plan was decided, the PBOC set final quotas for the headquarters of state banks, which then set quotas for their local branches. As mentioned, state banks could continue to provide loans until the new loans reached the quotas. When the local branches of the state banks did not run out their quotas but did not have enough deposits (funds) to make loans, they could borrow from the PBOC. This was a motivation for banks to attain higher quotas.

Year	Planned target (a)(billion Yuan)	Actual volume(b)(billion Yuan)	(b)/(a)
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1990	170	275.7	1.622
1991	210	287.8	1.37
1992	283	352.6	1.246
1993	380	482.6	1.275
1994	470	607.5	1.293
1995	570	691.5	1.213
1996	650	793.8	1.221

Table 9 The Efficiency of the Credit Plan

(Source: HangshengXie (1997), P.5)

As we can see in Table 9, there were huge discrepancies between planned targets and actual volume. According to the data, the credit plan was poorly implemented. Many economists argued the credit plan was, in fact, ineffective. Local branches of the central bank needed to cooperate with local authorities. The ambition of local government induced significant investment demand. Meanwhile, the soft constraint was also responsible for this huge gap. The World Bank (1995, p.52-54) proved that during the upswing, the credit plan ceased to be binding on domestic credit and loan expansion. Contrary to what we expected, the central bank's money supply decision seemed not to have stabilized the economy. The fact was, the credit plans induced economic fluctuation. In the boom time, the credit plan failed to control the expansion of domestic credit. As Jun Ma mentioned, "During all periods of economic overheating, the credit and cash issuance plans were not strictly adhered to and were repeatedly revised upwards by substantial margins" (Intergovernmental Relations and Economic Management in China,

p101). A high inflation rate and policy instability emerged because of the ineffectiveness of the credit plan. Then central authority launched an austerity policy immediately to sharply reduce credit when the inflation rate was too high. Because of the policy, credit was reduced tremendously and artificially. The economy suddenly entered a recession. Once the economy had been cooled down, the central authority then loosened its control and the credit growth rate would bounce back. This type of “stop-and-go” cycle characterized the PBOC’s monetary policy during the early stage of economic reform. It was also the main factor that caused the high volatility of the first two business cycles after economic reform.

The credit plan performed very well before economic reform. As the market-oriented economic reform proceeded, the banking system changed dramatically. The credit plan was finally phased out because of its ineffectiveness and mismatch to the reformed economic system. The efficiency of the credit plan was weakened by several reasons:

First, the most significant change after economic reform in the financial system was decentralization. As I mentioned previously, local branches of the PBOC were under control of the “dual leadership”. Local branches of the PBOC were led by both the head office of the PBOC and local government. Meanwhile, local branches of the PBOC enjoyed discretionary authority over a part of the PBOC’s annual lending to the banking institutions (*The Money Supply Process and Monetary Policy in China*, Yanfen Huang, p86). Because of decentralization, the PBOC was not able to draw up a precise credit plan on the basis of the credit needs. As mentioned before, the implementation of the

credit plan included “top-to-bottom” and “bottom-to-top” procedures. Local government strived for a larger share of bank credit because of the decentralization. Local branches of the PBOC would want to cooperate with local government authority because of the dual leadership. The result was, as the World Bank explained, much more a bottom-up exercise than a top-down one (World Bank, 1995, p43). Working with the local bank branches, local government found many ways to exaggerate their credit needs during the bottom-up procedure in order to get a high credit quota. The credit quota was set lower than the credit needs due to the PBOC’s awareness of this behavior. The credit gap always existed between the credit plan and practical credit demands. The gap referred to the amount of bank loans which was considered to be necessary but not included in the credit plan. Thus, credit quotas would inevitably be exceeded. During the implementation of the credit plan, the PBOC was always forced to adjust the credit quota upward because of the huge pressure of credit demand. This eroded the credibility of the credit plan and made the credit plan impracticable. The credit plan was likely more of a monetary game between local state bank branches which represented the interests of the local authority and the PBOC. There was also a discrepancy in objectives between the local state branches and the PBOC. Given a specific credit quota, the local state bank branches would prefer high yield investment projects. On the contrary, the PBOC favored essential projects such as those in the agriculture and infrastructure sectors which local state banks. The PBOC had the flexibility to revise the credit quotas ex post. Thus, when the PBOC observed the under-investment in essential projects by the local state branches, it had to provide additional credit to the essential projects to finance their need. This also drew up

the credit quotas. Furthermore, the local branch of the PBOC had the authority to provide loans to banking institutions. Local branches were under pressure from local governments to make up the credit quota which was beyond the planned quotas.

Another cause of the inefficiency of the credit plan was the diversification of the banking system after economic reform. Many nationwide and regional commercial banks and non-banks financial institutions grew rapidly. The increasing diversity of the banking system caused the decline of the four state-owned banks' share of the financial system. This means that even if the PBOC were able to implement the plan, it was difficult for the PBOC to monitor and control how the banking institutions used these funds, and thus the total money supply. Also, poor banking supervision system gave banking institutions channels to circumvent the credit plan. For example, banking institutions transferred funds to non-banking financial institutions because these institutions were outside of the jurisdiction of the credit plan and were subject to less strict regulation.

One target of the initial design of the credit plan was redistribution of funds. Usually, deposits would exceed the credit quota in high-income regions. On the contrary, deposits could not finance the credit quota in most low-income regions. The PBOC expected that the high-income regions would transfer surplus funds to the PBOC in the form of excess reserves. Then the PBOC could transfer these excess reserves to low-income regions. However in practice, regions with surplus funds were not willing to transfer anything to the PBOC. Regions with surplus funds would bargain for higher credit quotas more actively because of their high deposits while banks in low-income regions usually had difficulties in absorbing enough deposits to finance the assigned quotas. Hence the PBOC

finally had to provide additional funds to finance this gap between deposits and the credit quota.

Interest Rate Policy

Brief Review of Interest Rate Policy History

Interest rate policy before 1978

The interest rate is an important policy instrument of the Chinese government. Before 1978, the interest rate was controlled completely by the central government because of the highly centralized financial system. During the early stage after the establishment of People's Republic of China the economy was in a severe situation because of the instability of the communist regime. The PBOC encountered many problems; namely, financing the war expenses and rescuing the poor economy. In order to control high inflation and help the ailing economy, China implemented a high interest rate policy. According to the data, the interest rate on six-month fixed deposits reached 150% and the interest on saving deposits also soared to 30%-60% in May 1949. The lending rate to private business reached 90%-210%. The interest rate was higher than the inflation rate during this period. The policy intended to raise interest rate helped the PBOC absorb significant funds and prevented hoarding and speculation. The price level was comparatively stable in the early 1950s. The PBOC adjusted the interest rate level based on the inflation rate and the profit rate of different industries. Until June 1952, the one-month fixed deposit rate dropped to 7.5% and the one-year fixed deposit rate was only 12%. There were two policy principles during the period: first, different policies

were implemented by the PBOC between state-owned enterprises and private enterprises; second, interest rate policy needed to connect to the market. Low interest rate policy was executed since 1953 in order to stimulate investment and finance economic construction. The lending rate of state-owned industry per month was only 0.45% and the lending rate of state-owned business per month dropped to 0.69%. The interest rate of other industries (both state-owned and private) also decreased dramatically. In 1955, interest rates began to fall.

During the period 1958 - 1976, interest rate policy was ignored because of its potential to mislead political power. From 1958 to 1978, the interest rate was frozen and far below equilibrium levels because interest rates were regarded as a symbol of exploitation by capitalists according to Karl Marx's theory of surplus value (Yi, Gang, *Money, Banking and Financial Markets in China*, 1994, p.78). In the meantime, the interest rate structure had been oversimplified. Under political pressure, various types of interest rate had been eliminated. There were only four rates for bank deposits and seven bank lending rates in 1978 (Zhou, Zhengqing, *research on the monetary policy in China*, 1993, p.224). Government artificially set all different lending rates at 6%. The interest rate structure, which was well established during the period 1949 – 1958, was abandoned entirely after 1958.

Interest Rate Policy between 1978-1985

After 1978, authorities realized the important role that interest rate can play in economic development. During this period interest rate policy was considered to be an effective instrument of monetary policy once again. The government began to reset the

overly low interest rate to a reasonable level in order to absorb funds. From 1979 to 1985, the PBOC adjusted the deposit interest rate five times: China's economy began to recover after the cultural Revolution. In order to develop and stabilize the economy, the PBOC increased the deposit rate in 1979.4, 1980.4, and 1982.4 to finance the economic construction demand. The main purpose of the last two interest rate increases in 1985 (1985.4 and 1985.8) was to protect depositors against severe price level increases. Meanwhile, interest rates were diversified. Banks began to provide three-year, five-year and eight-year deposit rates. The PBOC had the authority to adjust interest rates but any major adjustment had to be reported to the State Council. Changing interest rates by any local branches of state banks or local branches of the PBOC was forbidden. This kind of highly centralized interest rate policy was too strict and sometimes impractical. In order to get a more effective interest rate system, the State Council authorized the PBOC a 20% floating range of interest rate adjustment (The Interest Rate Policy in the Economic Development, Wenping, Wang, p.154). This was an important point of progress in China's monetary policy history. After being granted the 20% margin on interest rate adjustment, the PBOC then permitted banks some interest rate adjustment quota. This decentralization policy gave local banks rights to adjust the interest rate within a specific range based on the different local economic situation.

Interest Rate after 1986

Interest rate policy after 1986 had a distinct feature: the interest rate was highly compatible with economic fluctuation. Interest rates started to increase in 1985 in order to fight against the high price level. The economy kept growing quickly after 1985 and

inflation was out of control. The PBOC then increased the one-year deposit rate from 0.6% to 0.72% (per month) in September 1988. But the overheated economy was not cooled down. Public panic pushed the PBOC to increase the interest rate again in February 1989. The one-year deposit interest rate (per month) reached 0.945 %.

The overheated economy began to cool down in the second half of 1989. Unfortunately, the economy suddenly suffered from severe depression. Government then released tight economic policy. Deposit rates started to drop after April 1990. The interest rate decreased three times during this period: on 1990.4.15, 1990.8.21 and 1991.4.21. The one-year deposit interest rate dropped to 0.63 % (per month) to stimulate economic recovery.

Aside from inflation, the economy has grown in a stable manner since 1992. The PBOC again increased interest rates in May and July, 1993. The one-year deposit interest rate reached its peak at 0.915% (per month). China's interest rate stayed at a very high level from 1993 to 1996. Although the PBOC implemented high interest rate policy, the inflation rate was still very high. The PBOC had to execute the subsidy rate for value-preserved savings to protect depositors. The subsidy rate was only 0.19% in 1994.3, and then increased to 1.324% in 1995.12. Inflation returned to a normal level, according to interest rate policy targets. The speed of economic development slowed down after 1996. Fixed investment decreased. The PBOC adjusted interest rates eight times during the period 1996 - 2002 to stimulate economic growth. High frequency of interest rate decrease did not meliorate the economy. Consumption demand was still insufficient and saving kept increasing even when the interest rate was very low. After June, 2004, the

domestic price level increased more than 5% in the five months following. The PBOC decided to increase the interest rate in order to control inflation. This was the first interest rate increase in nine years.

Major Changes to Interest Rate Policy after 1978

As previously discussed, during 1958 to 1976 the interest rate policy was abandoned entirely. Since the beginning of the economic reform in 1978, the interest rate has been recognized as an important monetary policy instrument. Although interest rates are still heavily administered, its role has become increasingly important. There have been major changes to interest rate policy:

Interest rates have been adjusted more frequently after 1979. In order to take account for changing economic circumstances, the PBOC frequently adjusts the interest rate. As we can see in Table 10, the PBOC adjusted the banking institutions' deposit rates 20 times in the period 1979 - 1998. In the 3-year period from 1995-1998, there were eight interest rate adjustments.

Time and Date of Interest Rate Change	One-Year Nominal Deposit Rate (%)	One-Year Nominal Working Capital Lending Rate (%)	Inflation Rate (%)	One-Year Real Deposit Rate (%)	One-Year Real Working Capital Lending Rate (%)
1978	3.24	5.04	0.7	2.54	4.34

4/1/1979	3.96	5.04	2	1.96	3.04
4/1/1980	5.4	5.04	6	-0.6	-0.96
1981	5.4	5.04	2.4	3	2.64
4/1/1982	5.76	7.2	1.9	3.86	5.3
1983	5.76	7.2	1.5	4.26	5.7
1984	5.76	7.2	2.8	2.96	4.4
4/1/1985	6.84	7.92	8.8	-1.96	-0.88
8/1/1985	7.2	7.92	8.8	-1.6	-0.88
1986	7.2	7.92	6	1.2	1.92
1987	7.2	7.92	7.3	-0.1	0.62
9/1/1988	8.64	9	18.5	-9.86	-9.5
2/1/1989	11.34	11.34	17.8	-6.46	-6.46
4/15/1990	10.08	10.08	2.1	7.98	7.98
8/21/1990	8.64	9.36	2.1	6.54	7.26
4/21/1991	7.56	8.64	2.9	4.66	5.74
1992	7.56	8.64	5.4	2.16	3.24
5/15/1993	9.18	9.36	13.2	-4.02	-3.84
7/11/1993	10.98	10.98	13.2	-2.22	-2.22
1994	10.98	10.98	21.7	-10.72	-10.72
1/1/1995	10.98	10.98	14.8	-3.82	-3.82
7/1/1995	10.98	12.06	14.8	-3.82	-2.74
5/1/1996	9.18	10.98	6.1	3.08	4.88

8/23/1996	7.47	10.08	6.1	1.37	3.98
10/23/1997	5.67	8.64	0.8	4.87	7.84
3/25/1998	5.22	7.92	-2.6	7.82	10.52
7/1/1998	4.77	6.93	-2.6	7.37	9.53
12/7/1998	3.78	6.39	-2.6	6.38	8.99

Table 10 Interest Rate Adjustment from 1979 to 1998

Banking institutions have been allowed some flexibility in adjusting their own lending rates. As mentioned earlier, state-owned banks and other commercial banks have been allowed to adjust working capital lending rates within a margin which was set by the PBOC above the administered rate. At the beginning of economic development in China, the major problem was a lack of funds. Government introduced the interest rate mechanism in order to absorb large idle funds by paying a high interest rate. One part of funds was directly assigned by government to specific industrial departments or districted according to government's economic development strategy. Another part of funds was offered by banks to companies in different industries, using the interest rate mechanism. Different industries would have different interest rate policies to cooperate with the government's economic development strategy. The right to change interest rates was strictly controlled by the government. Authorizing margins to banks was also a measure taken to achieve the economic development strategy. Instead of letting banks set their own interest rate, the main purpose for authorizing margins to banks was to balance the distribution of funds which still carried the artificial characteristics of the planned economy. With the rapid economic development, severe imbalances emerged in different districts, especially between the rural area and the urban area. As mentioned earlier, profit

seeking banks transferred large amounts of funds from rural areas to urban areas and then to the eastern coastal areas where the economy was well developed. This imbalanced distribution of funds contradicted the original purpose of the government's economic plan. First, government expected a higher speed of urbanization and modernization in the rural area. Unfortunately, large parts of funds which were intended to speed up urbanization were instead absorbed by cities because of the high profit possibilities. Second, funds from rural area were also largely absorbed by industry which caused a lack of funds for agriculture. In order to better this situation, government set the different margin directly. From 1987 to 1995, this margin was 20% (that is, if the administered rate is 10%, the upper ceiling of the working capital lending rate for banking institutions is 12%) (*The Process of China's Interest Rate Liberalisation*, 1999, Jing, Xuecheng and BingxiShen). The margin set dropped to 10% during the period 1995 - 1998. Compare to state-owned banks and commercial banks, non-banking financial institutions had more flexibility in setting their interest rate. According to the data, the margin set for rural credit cooperatives was 60%, urban credit cooperatives was 30% and trust and investment companies was 20% (Mehran, H., M. Quintyn, T. Nordman and B. Laurens, 1996, *Monetary and Exchange System Reform in China: an Experiment in Gradualism*, IMF). We can see that the margin for financial companies in rural area was much higher than that of banks in urban areas. As the government expected, high interest rates did attract large funds back to rural areas. But this bold policy also induced serious problems: the high interest rate offered by rural financial organizations (rural credit cooperatives, urban credit cooperatives, etc.) impacted the amount of savings of other

urban financial organizations which was the main resource of industrial development in urban areas. Urban industry was badly hit by the abnormal funds transfer. Second, high interest rates became a huge burden for rural financial companies. Operating cost increased and accumulation of funds decreased. Meanwhile, a lot of rural financial organizations could not afford this high interest rate because they did not have channels to make good use of these funds. Finally, rural financial organizations had to offer these funds to companies in the city (not in the rural areas) to get comparatively high profit as the last resort in order to pay the high interest rate.

Interest rates have been diversified. The PBOC set administrative ceilings on the interbank rate before 1996 in the interbank market. According to the operation of the unified interbank money market, the administrative ceilings on interbank rates were phased out. In addition, the PBOC started to conduct its market-based operations through repurchasing short-term securities. The rate of the security repurchase was determined through a bidding process involving market participants (Yanfen Huang, *The Money Supply Process and Monetary Policy in China*, p.108). In the bond market, the interest rates of government bonds were administratively determined before 1995. The first dealer auction of short-term government bonds was introduced in 1995. Then government started to issue bonds in 1996 using a competitive bidding system (except in 1997 and 1998). In the meantime, the PBOC also determined the ceiling for enterprise bonds' interest rate. The ceiling was 140% of the bank deposit rates with the same maturity according to the "Provisional Regulation on Enterprise Bonds". After 1991, this ceiling

was lowered down to 120% of the bank deposit rate with the same maturity (Yanfen Huang, *The Money Supply Process and Monetary Policy in China*, p.108).

Some Issues with the Current Interest Rate System

One of the interest rate setting principles in China is that the PBOC needs to take the profitability of firms and the state banks into account. According to Karl Marx's theory, average profit can be divided into two parts: interest profit and enterprise profit. Thus, on the one hand, the lending rate should be lower than the average profit rate. On the other hand, the lending rates still need to guarantee the profitability of state-owned enterprises and state banks. In practice, the "average profit rate" is very abstract. It is almost impossible for the PBOC to know the level of the average profit rate accurately. The PBOC then sets the lending rates based on the banks' average cost of funds plus an intermediation margin considered to be adequate (Yanfen Huang, *The Money Supply Process and Monetary Policy in China*, p.110). This interest rate setting process is very subjective. Also, interest rates are used as a tool for industrial and regional policy. Instead of setting a market-oriented interest rate, interest rates may be set at levels that reflect political objectives. Thus, interest rates may be incompatible with market conditions. Also, the interest rate decision-making process is complex and time consuming (Ping Xie, "Toward a Market-Oriented Interest Rate Policy in the Transformation of China's Economy", in: *Interest Rate Liberalization and Money Market Development*, 145-154). It is very difficult for the PBOC to manage the large number of different interest rates. The PBOC cannot adjust the corresponding process between the PBOC and the relevant ministries in time, and all the decisions must be approved by the State Council. As we

can see in Table 10 and Figure 8, interest rate adjustment often lagged behind the changes in inflation rate.

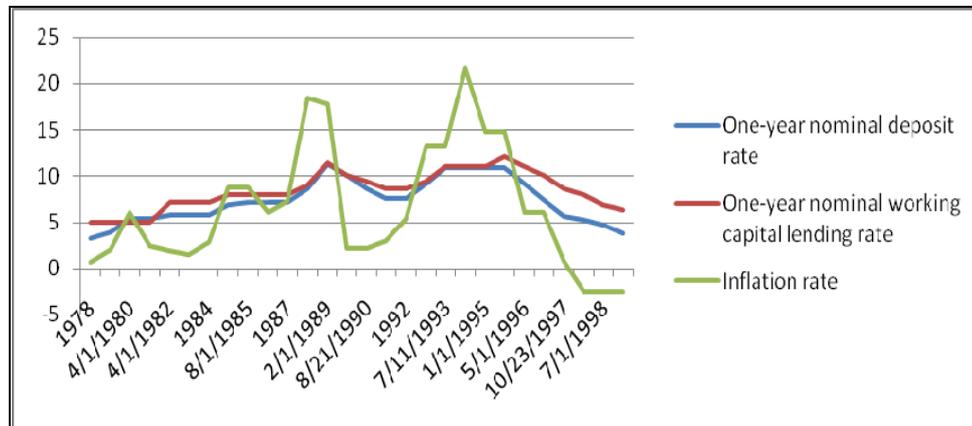


Figure 8 Interest Rate Adjustment from 1979 to 1998

There is no transmission mechanism in the interest rate system. Usually, in a market economy system, the central bank can change its base rate, like the rediscount rate, to implement monetary policy. The changes of the interest rate may affect banks' liquidity and then change the money market interest rates. In response to the changes in the rediscount rates and interbank rates, banking institutions may change their own lending rate which affects investment decisions. Banking institutions will also change the deposit rates which will further affect the choice between consuming now and later. The greater and more rapid the response of lending and deposit rates to changes in rediscount rates and money market rates, the more rapid and effective the transmission of monetary policy measures to the real economy (Yanfen Huang, *The Money Supply Process and Monetary Policy in China*, p.115). Instead of letting banking institutions determine their own interest rate, in China the PBOC determines both central bank rates and bank rates. The PBOC adjusts these interest rates almost at the same time. There is no transmission

mechanism from the central bank rates to the bank rates. Banking institutions have no autonomy in setting their own interest rates unless the PBOC adjusts bank lending rates. This results in a barrier between the money market rate and the bank rates. Although the PBOC may also adjust bank rates, such adjustment often has a lag and cannot reflect the behavior or response of banking institutions. Lack of interest rate setting autonomy by banks will have some negative implications. Although banks can have a floating margin to adjust the interest rate based on a benchmark loan and deposit rate which is often determined by the PBOC in some situations, cases which can meet the changing interest rate requirements are rare. Most of the time, banks use the benchmark loan and deposit rate during business. The central banks controls bank interest including interest type, level, floating margin, even the interest bearing manner. Too many things that needed to be taken of forced the PBOC to bite off more than it can chew (e.g., loan interest rates). The benchmark loan rate is mostly determined by maturity; risk is less considered. All working capital loans and fixed asset loans have the same interest rate, no matter the difference of industry and profit rate. This induces a situation in which high-profit enterprises are eager to borrow. On the other hand, the loan interest rate will become a serious burden for enterprises with low-profit margins. Different industries have different profit margins and payback periods. This kind of inelastic interest rate policy cannot optimize the utilization of funds. The original function of the interest rate is now less effective without the guidance of market force. Government could loosen the control of this strict interest rate and give banks more freedom to adjust the interest rate. The interest rate would come to be adjusted by the market, high-profit enterprises would be

able to find lower interest rates, and low profit enterprises would likely face higher rates. Through this market-orientated interest rate system, the economy could become more efficient.

Exchange Rate Policy

The Evolution of China's Exchange Rate Policy

Exchange Rate Policy Before 1979

From 1949 to the late 1970s, China fixed the exchange rate at a highly overvalued level because of the import substitution industrialization strategy. Through this economic planning, the industrial development accelerated and the dependence on imported manufactured goods was reduced. During this period, China's main exchange rate policy included: an overvalued exchange rate, direct controls on imports and exports and tight controls over foreign exchange. The overvalued exchange rate allowed the government to import machinery and equipment to some priority industries at a relatively lower cost but overvalued exchange rate also led to an excess demand for foreign currency. As early as 1950, Chinese authority introduced extensive exchange controls that, among other things, required the deposit of all sources of foreign exchange, including export earnings, in the Bank of China (Morris Goldstein and Nicholas R. Lardy, "The Future of China's Exchange Rate Policy", p.3). The overvaluation of the currency depressed the domestic prices of some traditional export goods, inducing the drop of production of export goods. In order to solve this problem, government required producers to achieve a specific level of output. These products would be sold to state trading companies and then to the international market.

Exchange Rate Policy in the 1990s

Since the mid-1990s, China's exchange rate system began to move to a system in which the value of its currency was determined by supply and demand in the foreign exchange market. The Chinese government eased controls on trade and other current account transactions. The State Council approved a system which allowed exporters and their local government to retain a share of their foreign exchange earnings. In the meantime, local government was allowed to regain a part of the foreign exchange earnings from nontrade sources, such as overseas remittances and tourism. This policy stimulated the development of exports and other sources of foreign exchange. In the mid-1980s, the government sanctioned foreign exchange markets (swap centers) in several cities. The initial target for sanctioning foreign exchange markets was controlling the price of foreign currency. But the volume of transactions expanded tremendously and the initial restrictions on participation in these markets gradually eroded. Foreign exchange transactions reached 13 billion dollars in 1990. On the open foreign exchange market, the price invariably displayed a premium to the official exchange rate. This situation clearly showed the overvaluation of the renmibi by the official exchange rate.

Another policy instrument the government used to move the currency toward a market-determined rate was devaluation. The State Council introduced an "internal settlement rate" of RMB2.8 to the US dollar in January 1981 (Morris Goldstein and Nicholas R. Lardy, "The Future of China's Exchange Rate Policy", p.5). Compare to the official exchange rate – RMB1.5, the new rate was nearly 100 percent higher. This measure introduced a dual exchange rate system. The official exchange rate was applied

to nontrade transactions. In 1985, the internal settlement rate was abolished and all transactions were settled at the official exchange rate. The official exchange rate continued to devalue over the next few years. The exchange rate dropped to RMB5.8 at year-end 1993. On January 1, 1994, the government unified official exchange rate decreased to RMB8.7. In the next 18 months, the government revalued the currency several times. In October 1997, the exchange rate was set to RMB8.28. Then through October 1997 to July 2005, the exchange rate fluctuated in a very narrow range around RMB8.28. Renminbi was undervalued for a long time. One main reason for this undervaluation is related to China's export policy. Developing exports was a major target of the Chinese government in its plan to increase economic growth. In order to accelerate economic development, the Chinese government has implemented policies which encourage exports since the 1990s. During the 1990s a large part of economic development was stimulated by exports. In the 1980s, the average contribution of exports to economic growth was only 0.5%. The contribution increased to 7.5% during the 1990s. In 1990s, the insufficient demand and the Asian financial crisis led the Chinese government to make an effort to expand exports in order to stimulate economic growth. A focus on exports shows high exchange rate dependence. Implementing the renminbi undervaluation policy would drive the exports.

Development of Exchange Policy since mid-2005

On July 21, 2005 China had a new currency regime. The government not only revalued the official bilateral rate by 2.1 percent, appreciated from RMB8.28 to RMB8.11 to the dollar but also announced that the exchange rate policy of renminbi would change from

being pegged to the dollar to being managed “with reference to a basket of currencies”. The PBOC also announced that the exchange rate would become more flexible and its value would be determined by “market supply and demand”. The nominal renmibi-dollar rate was RMB6.83 by the end of 2008. Compare to the exchange rate in July 2005, renminbi was appreciated by 21 percent. As we can see in Table 11, the exchange rate of renminbi relative to the dollar fluctuated in a small range during this period. Although Chinese government launched the “basket” exchange rate policy, empirical studies (Eichengreen 2004b; Frankel and Wei 2007, 2008) have found that the renminbi continued to track the US dollar instead of managing the renminbi with reference to a basket of currencies.

Year	Date	Rate	Appreciation (percent)	
			Month (over previous month)	Annualized (month*12)
2005	June 30	8.277		
	July 29	8.108	2.1	24.9
	August 31	8.097	0.1	1.6
	September 30	8.093	0.1	0.6
	October 31	8.084	0.1	1.3
	November 30	8.080	0.1	0.7
	December 31	8.070	0.1	1.4
2006	January 27	8.061	0.1	1.4

	February 28	8.042	0.2	2.9
	March 31	8.017	0.3	3.7
	April 28	8.017	0.0	0.1
	May 31	8.019	0.0	-0.3
	June 30	7.996	0.3	3.5
	July 31	7.973	0.3	3.4
	August 31	7.959	0.2	2.2
	September 29	7.909	0.6	7.6
	October 31	7.879	0.4	4.5
	November 30	7.844	0.5	5.4
	December 29	7.809	0.4	5.4
2007	January 31	7.778	0.4	4.8
	February 28	7.741	0.5	5.7
	March 30	7.734	0.1	1.0
	April 30	7.706	0.4	4.5
	May 31	7.651	0.7	8.6
	June 29	7.616	0.5	5.5
	July 31	7.574	0.6	6.6
	August 31	7.561	0.2	2.1
	September 28	7.511	0.7	8.0
	October 31	7.469	0.6	6.7
	November 30	7.400	0.9	11.3

	December 31	7.305	1.3	15.6
2008	January 31	7.185	1.7	19.9
	February 29	7.106	1.1	13.4
	March 31	7.019	1.2	14.8
	April 31	7.000	0.3	3.2
	May 30	6.947	0.8	9.2
	June 30	6.859	1.3	15.4
	July 31	6.839	0.3	3.6
	August 29	6.835	0.1	0.8
	September 26	6.818	0.2	2.9
	October 31	6.826	-0.1	-1.3
	November 28	6.835	-0.1	-1.6
	December 31	6.835	0.0	0.1

Table 11 The Exchange Rate of RMB from 2005 to 2008

Through mid-2008, the Chinese government took two steps to reinforce appreciation of the renminbi. First, the value-added tax (VAT) rebates for producers of exported goods were canceled in September 2006. This policy increased the final cost of producing exports. In June 2007, Chinese authorities adjusted the rate of rebate of 37 percent of all export products, including eliminating rebates of 553 products and reducing the rebate rate of 2268 products. This measure would noticeably affect export production. In the meantime, the government introduced changes to the export processing regime that increased the costs of assembling exports from imported parts and components, thus

reducing the competitiveness of these goods on international markets (Morris Goldstein and Nicholas R. Lardy, “The Future of China’s Exchange Rate Policy”, p.20). The authorities added 1950 products to the restricted list for import processing.

Due to the policy, China’s current account surplus expanded dramatically. The current account surplus reached \$68.7 billion (3.6 percent of GDP) in 2004, and then rose to \$160.8 billion (7.2 percent of GDP) in 2005, \$250 billion (9.4 percent of GDP) in 2006 and \$372 billion (11 percent of GDP) in 2007. In 2008, China’s current account surplus was \$426 billion, 9.8 percent of GDP. The official holdings of foreign exchange reserves are also accelerated. Government intervention in the market increased sharply. China’s currency became increasingly undervalued. The estimated degree of undervaluation was 23 percent in July 2005. Although the 2.1 percent appreciation at the end of 2005 slightly reduced the degree of undervaluation, the speed of real appreciation was slowed down in 2006 and 2007.

Challenges under the Existing Currency Regime

Although Chinese authority declared that the exchange rate was flexible, the renminbi was still floating within a small range. An increasing undervalued exchange rate, a rapid expanding current account surplus and the accelerating buildup of foreign exchange reserves pose several challenges for the Chinese government.

A fixed exchange rate regime will impose constraints on a country’s monetary policy because the divergence between domestic interest rates and foreign rates will result in destabilizing capital flows. Theoretically, capital control can prevent large inflows or outflows. But it is difficult to maintain effective controls in practice. Even if

capital control can be implemented effectively, significant foreign exchange purchase will lead to an increase in the domestic money supply. If the government cannot sterilize the increase in money supply, inflation will become severe and the real exchange rate will appreciate. Meanwhile, the Chinese government needs to sell these huge quantities of sterilization bonds which will induce an interest rate increase (the central bank must pay on these bonds). Finally, that interest may exceed the earnings from the bank's holdings of interest-bearing foreign currency-denominated financial assets, imposing a substantial financial constraint on sterilization operations (Morris Goldstein and Nicholas R. Lardy, "The Future of China's Exchange Rate Policy", p.28). Goldstein and Lardy argued that China's fixed exchange rate already diminished the effectiveness of monetary policy and that this erosion is likely to continue. Thus increased currency flexibility is needed to reduce the risks of macroeconomic instability, whether of domestic or external origin (Goldstein and Lardy 2006b). When the central bank controlled the growth of monetary aggregates by imposing quotas on loans it led to an inefficient process. Banks could only follow the "window guidance" on bank lending. This process was not led by the interest rate. Without the guidance of market signal, the allocation of credit may be less efficient. This school believed that the resultant policy mix left China with an interest rate structure that was far from optimum (Morris Goldstein and Nicholas R. Lardy, "The Future of China's Exchange Rate Policy", p.29). On the lending side, real interest rates were low to fulfill a rapid development of the economy. Deposit rates were also very low on the saving side as well. For example, the ceiling that banks could pay on demand deposits in 2008 was 0.72 percent and on one-year deposits rate was 3.33 percent. Taking

into account the 7.9 percent inflation rate and a 5 percent tax on interest income, the real interest rate after tax was negative. Negative real returns on bank savings was the main factor which caused the boom in the residential property market. This periodic real estate booms heighten huge financial risks

For a while after 1994, the exchange rate of renminbi fluctuated around RMB 8.3 to the dollar. This undervalued exchange rate caused China's trade and current account surplus began to soar. The increase of foreign exchange reserves pushed government invest large amount of funds in developed countries. Unfortunately, the state investment in China was still immature. Huge foreign funds were lost due to improper investments.

Another view on current renminbi exchange rate is that going much beyond the existing gradualist approach to currency reform would be too dangerous for the fragile banking system. Large appreciation of renminbi could induce serious currency mismatches for banks and their customers. Also, sharp appreciation of renminbi might reduce growth, making it harder to maintain the declining trend in banks' nonperforming loans. China's financial market has not been well developed. Financial infrastructure cannot offer market participants hedging instruments adequately to protect them against an increase in exchange rate volatility. Thus, the bolder currency reform should have a precondition: a more developed financial system.

CHAPTER FIVE: INFLATION AND MONETARY POLICY

Inflation in China after Economic Reform

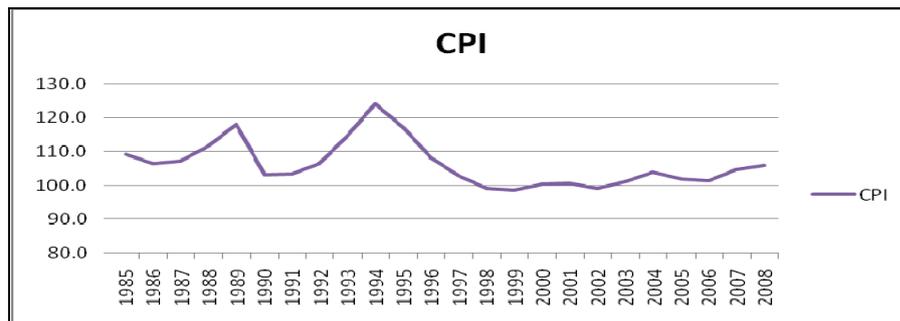


Figure 9 CPI from 1985 to 2008

Year	CPI
1985	109.3
1986	106.5
1987	107.3
1988	111.8
1989	118.0
1990	103.1
1991	103.4
1992	106.4
1993	114.7
1994	124.1
1995	117.1
1996	108.3

1997	102.8
1998	99.2
1999	98.6
2000	100.4
2001	100.7
2002	99.2
2003	101.2
2004	103.9
2005	101.8
2006	101.5
2007	104.8
2008	105.9

Table 12 CPI from 1985 to 2008

As we can see in the Figure 9, the fluctuation of CPI was volatile before late 1990. Since 1990, China's inflation has been low and stable.

This dynamic variation in Chinese CPI inflation over the past three decades reflects changes in the mechanism of Chinese price formation and policy regimes. Before 1978, China had a fixed price system. In other words, prices of commodities were strictly administered by the government and changed infrequently. During the economic reform, the fixed price system was gradually liberalized. In 1979, the central government initialized a so-called "adjustment and reform" policy officially with the official goal of promoting fast development in both the industrial and agriculture sectors. Then the fixed price system was increasingly liberalized. The prices of industrial and agricultural products increased dramatically in the early 1980s. This rise in the price level inevitably

passed through the production chain and induced high inflation. The growth rate of real output in the early 1980s was also at a high level in with the rapidly rising prices. However, countercyclical economic policies were not implemented efficiently and timely. Both growth rates of M2 and domestic credit still went up in late 1982. The growth rate reached 40% in 1985 and nearly 50% in 1986. The tightening credit policy in 1986 dampened the inflation but just for a short period. Prices soared as high as 25% in 1988 due to further liberalization and deregulation of prices. Then the central government immediately tightened money and credit supply and reduced fixed investment. The tightening policy lasted until the end of the 1980s. Although tightening policy cooled down the inflation and economic growth, it seemed to overcompensate. During 1988 to 1989, the industrial sector suffered a serious reduction in activity, causing a relatively low level of both economic growth and inflation (below 5%) over the period 1990-1992. Deng Xiaoping's "South China Tour Speech" in 1992 triggered a new round of fast Chinese economic growth. The central government again loosened credit control which led to a sharp increase in the economic growth rate and money supply. Inevitably, inflation started to increase in 1992 and peaked in 1994. Then the inflation rate decreased through 1995 and further decreased in the late 1990s because of the implementation of a number of tightening policy measures in 1994. Since the 1990s, China has experienced mild deflation twice, one in 1998-2000 and again in 2001-2003. The CPI started to grow in 2007 due to the increase in the price of raw materials, agriculture products, labor costs and real estate.

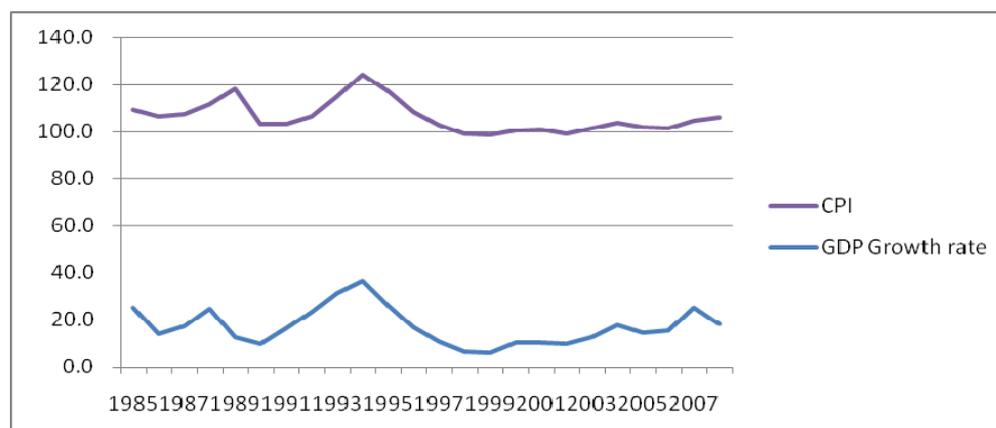


Figure 10 Fluctuation of CPI and GDP Growth Rate from 1985 to 2008

As we can see in the Figure 10, the CPI was highly correlated with GDP growth rate. In years of high inflation, the Chinese economy also had a high economic growth rate. Yin Zongcheng also confirmed the viewpoint of the correlation between inflation rate and economic growth rate in *The Study of Correlation between Inflation and Macroeconomic Fluctuation*. He observed that:

1. CPI would affect macroeconomic fluctuation and macroeconomic fluctuation could also affect CPI.
2. Once CPI changed, it would affect the economy causing economic fluctuation immediately. But on the contrary, the response of CPI to economic fluctuation had a lag.

There are some changes in the interaction between the price level and the economy worth mention. (1) At the beginning of economic reform, government implemented a very strict planning management. Both materials of production and living were deficient. Supply was severely insufficient. Consumption was inhibited for a long time. With the development of the economy, investment increased. The limit on consumption began to be released. As prices were deregulated, both investment needs and consumption needs affected the CPI tremendously. This situation has changed since 1997. Rapid

development in both quality and quantity of agricultural products and consumer goods helped the Chinese economy move to a comparatively surplus status. Then the influence of the insufficiency of supply on the CPI began to decrease. In the meantime, the impact of price deregulation on the CPI diminished. China started to loosen price control in 1978. This implementation caused an increase in the CPI. The deregulation of pricing for agricultural products and consumer goods had finished in 1997; the effect of price control on the CPI had been eliminated. (2) Since 1978, the Chinese economy has gradually transferred from being driven by consumption and investment economic development to being driven by consumption, investment and export economic development drive. As foreign-trade dependence increases, the overseas market demand plays an important role in GDP growth. However, as Shedeng Huang and Yanqiu He show, this increased foreign-trade dependence did not affect the CPI significantly. (3) Consumption structure changed since economic reform. At the early stage of economic reform, consumption was composed of primarily, agricultural and consumer goods. The share of other consumption like real estate, medical and education increased after 1997. But the formula for the Chinese CPI cannot reflect all these consumptions, especially that of real estate, which is now experiencing a price boom.

Inflation and Changes to Monetary Policy

As we can see in Figure 10, China's inflation was low and stable after 1997. Chengsi Zhang and Joel Clovis mentioned in "China Inflation Dynamics: Persistence and Policy Regimes", this low inflation was very likely to be associated with policy regime shifts in China. First, the role of the PBOC as the central bank of China had been

strengthened since the mid-1990s. Although the PBOC assumed its responsibility as a central bank in 1983, its role as a central bank was not legally confirmed until 1995. Since the PBOC began to have the ability to implement monetary policy, monetary policy implementation has gradually improved. The PBOC abolished the quota management of credit and implemented the assets-to-liabilities ratio management in 1998. In 1999, the PBOC set up nine regional branches to promote policy efficiency instead of branches at provincial and municipal levels.

“ Since the end of the 1990s, the PBOC has adopted a composite measure of quantity-based (e.g. money supply) and price-based (e.g. interest rate) tools for implementing its policies, with the quantity-based tool being a predominant policy instrument. As such, the reforms over the last decade have been turning the PBOC into a more “traditional” central bank that relies on comprehensive tools to accomplish its ends in a more sufficient manner.” (Chengsi Zhang, Joel Clovis, “China Inflation Dynamics: Persistence and Policy Regimes”, p.379).

There are two viewpoints: one is that China’s low inflation rate is a result of changes to monetary policy. People believe the PBOC has begun to stabilize inflation around a potential long-run target and has gained credibility with the public and it will continue to do so. Another viewpoint, like the interpretation found in the analysis of Stock and Watson (2007), is that the decline of inflation persistence may only reflect the fact that the nature of “shocks” has changed. If the first viewpoint is right, a better monetary policy has resulted in a better anchoring of inflation expectations. Mishkin (2007) argued that better monetary policy reduced inflation persistence by anchoring inflation expectations. Unlike the simple intervention during 1980s and 1990s, the PBOC has increased its commitment to price stability in both words and actions since the late 1990s. Compared with the sharp upswings and downswings during the 1980s and 1990s, the

preemptive strikes against the volatile movement of the inflation rate by the PBOC resulted in a low and stable inflation since the late 1990s.

Policy Implication

Response of Inflation to Structural Shock

A very interesting finding is that the response of inflation in China to demand shock, supply shock, and monetary policy shock diminished more quickly over the post-1997 period. Also, the responses of inflation to supply shock and monetary policy shocks seemed more striking than that of inflation to aggregate demand shock. In the pre-1997 period, it took about two years for inflation to revert to an equilibrium level when it has been perturbed by a supply or monetary policy shock. The “rebound” time span reduced from two years to one year after 1997. Also, the time span for inflation to return to a steady level following a disturbance in aggregate demand was reduced from four years to less than three years. This research suggests that, compared to a decade ago, the underlying shocks are less likely to induce serious economic instability today in China. However, this conclusion does not mean that the central bank should pay less attention to shocks and be confident that inflation rate will stay at a low level. As mentioned before, the comparatively low inflation after 1997 was mainly due to the improvement of monetary policy. Other factors can also spark inflation. As international trade become more and more important to the Chinese economy, the central government needs to keep an eye on both internal and external shocks.

Inflation Expectations and Inflation Control

Recent studies conducted by Mishkin(2007) have pointed out that better monetary policy produced better anchors of inflation expectations which could lead to less persistent inflation. Before the late 1990s, as mentioned, monetary policy in China was inefficient and unsuccessful in controlling inflation. Poor inflation control resulted in poorly anchored inflation expectations. In the late 1980s, high inflation expectations in the future were strong because of the aggressive price liberalization. The inflation expectations have been much better anchored since the late 1990s due to better monetary policy.

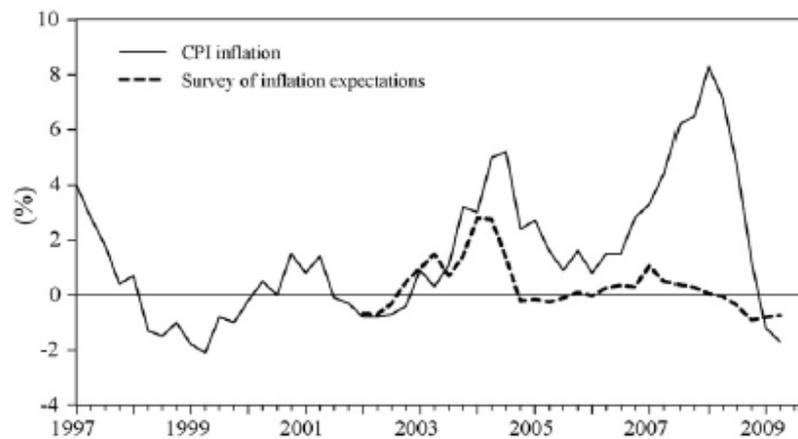


Figure 11 Chinese CPI Inflation and Survey of Inflation Expectations

As we can see in Figure 11, most of the time, inflation expectations were lower than actual inflation. This also reaffirms the fact that the structural change in Chinese inflation is mainly attributed to better monetary policy and better anchoring of inflation expectations. But, as I mentioned, this does not mean that the central bank should pay less attention to shocks and be confident that the inflation rate will stay at a low level.

Other factors will still impact inflation. Since the recession of 2008, the Chinese government has launched expansionary monetary policy in conjunction with a proactive fiscal policy. At the time of my writing, China's CPI has already reached 6.2% and doesn't show signs of slowing. China still needs to make efforts to adjust its economic policy in order to improve its efficiency during the reaction to economic shocks. Aside from the monetary steps against internal and external shocks, China still needs to improve the flexibility of its exchange rate regime in order to have a better international economic environment. A comparatively flexible exchange rate system can reduce economic shocks to some extent. First, exchange rate flexibility can help the government prevent large foreign exchange reserve loss or surplus because it no longer has the duty to maintain a specific exchange rate. When the renminbi appreciates, the central bank does not need to sell yuan and buy dollars to stabilize the renminbi value. Exchange rate flexibility can balance the payment. The exchange rate is affected by market conditions. If a country is experiencing a serious balance of payments deficit, its currency will depreciate and vice versa. Through such mechanisms, exchange flexibility can decrease government's dependence on direct intervention and increase the efficiency of resource allocation. Third, exchange rate flexibility can cushion the blow of hot money. In the fixed exchange rate system, the nominal exchange rate likely deviates from the equilibrium exchange rate. If the currency is undervalued and facing appreciation pressure, hot money will largely be transferred to the country for speculative purpose. For example, the RMB has been devaluated in the last few years, and an enormous amount of international floating capital has flooded the Chinese market which increased the pressure

of RMB's appreciation. Exchange rate flexibility can prevent serious deviation between the actual exchange rate and the equilibrium exchange rate. These mechanisms decrease the possibility of international capital attack. Fourth, flexibility of the exchange rate can minimize the transmission of economic fluctuation and inflation. Countries which have a high degree of trade dependence are easily affected by inflation and economic fluctuations of their trading partners under a fixed exchange rate system. On the contrary, under a floating exchange rate system, if a country suffers serious inflation, the currency will depreciate. The increased domestic currency price of export goods will be largely offset by the depreciation of currency. As a result, the price of export goods in foreign currencies will not change too much. So, the trading partners incur less price pressure.

CHAPTER SIX: CONCLUSION

There has been more than 30 years since economic reform. Impressive economic development has taken place over these 30 years. The Chinese economy has gradually transferred from a planned economy to a market economy. In Chapter Two, I illustrated all five business cycles which have occurred over the past 30 years. Chapter Three mainly focuses on China's financial background, including institutional condition, banking system, economic reform and existing problems. This background introduction gives a clearer picture of China's financial situation and implementation of monetary policy. I also analyzed some aspects of China's monetary policy such as the credit plan, interest rate, and exchange rate and discussed China's inflation situation and some relevant monetary policy decisions. Compare to business cycles before economic reform, we find that the business cycles after 1978 were much more stable and lasted longer and the period became longer. Although the Chinese economy is developing quickly, it still faces many issues. Compared with developed countries like the United States, government intervention is much more frequent in China. Business cycles in China are more like "policy-induced growth cycles". The Chinese government wants to stimulate economic growth so it artificially expands the credit. Investment then increases as well. But significant investment leads to an overheated economy. In order to control the overheated economy and inflation, government tightens the fiscal and monetary policy to drag the economy back to a normal status. When the economy depresses, this process

starts again. Also, in China, the PBOC determines both central bank rates and bank rates instead of letting banking institutions determine their own interest rate. Banks must use the benchmark loan and deposit rate while conducting business. All working capital loans and fixed assets loans have the same interest rate, despite difference in industry and profit rate. High- profit borrowers and low- profit borrowers have the same interest rate which induces concerning imbalances. Since the decentralization of the government, local governments always expand credit because they are eager to see high-speed economic development. As a result, the PBOC has more has more difficulty controlling the availability of credit without over-stimulating the whole economy because the objective of monetary policy is subordinate to government's economic development target. The PBOC has the responsibility to cooperate with government to achieve the economic target. Then the policy induced growth cycle starts and inflation rises. Once inflation reaches a high level, government must use monetary policy to constrain credit and lower the inflation rate which causes the economy to decline.

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