The Mobilisation and Allocation of Household Savings and China's Bank Reform

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1. Introduction

Nearly three decades have passed since China embarked on a journey to economic reform. Between the years 1993 and 2004, the Chinese economy saw an annual GDP growth rate of 9.4% (Holz, 2007). Research suggests that China's unprecedented economic growth is attributable to the high level of investment made possible by the country's high savings rate (Riedel, Jin, and Gao, 2007). Banks carry out an essential role of directing savings for use in productive investments by the method of extending credit. Profitable investment plays a key role in boosting productivity, utilizing labour, and galvanizing the overall economic growth of any country. Thus, China's economic development depends directly on how well the banking system mobilizes and allocates the country's savings. Since savings determines the feasibility of investment, whose savings are relevant?

The Chinese government is a net saver. Like foreign savings, it has not been a significant source of investment finance in China. During the period of 1992-2001, government savings, as a percentage of GDP, fluctuated between 2-4%. Foreign savings, with the exception of 1993, have been negative every year for that period. Household savings finances the bulk of investment in China and peaked in 1996 at a rate of 21%. Savings from this sector however, has been declining steadily (Riedel et al., 2007). Household savings finance a large part of domestic investment so it is no surprise that it accounts for the majority of deposits in the banking sector. During the period of 1998-2001, nearly 77% of household savings were deposited in state-owned commercial banks (Bhattasali, 2004). Therefore, the mobilisation and allocation of household savings is an important facet when analyzing the effectiveness of the banking reform.

It is important to consider the difference between urban and rural household savings when analyzing the banking reform because these two social groups respond differently to the determinants that affect saving. Rural regions have far greater income uncertainty and have a lower quality of social welfare programs in comparison to the urban sector. Thus, rural regions have a stronger motive to save as a precautionary measure. When income growth accelerates, household savings increase. Rural households, however, tend to save a larger amount of the incremental income than urban households (Qin, 2003). At the end of 2002, urban disposable income was twice that of rural households (Riedel, 2006). Due to the higher income level of urban households and the higher availability of savings instruments in the urban sector, urban households are more responsive to interest rate changes (Qin, 2003).

There is limited occasion to discuss in detail the effects of the banking reform on the many determinates of household savings. This paper will focus on the banking reform, its impact on household income as well its impact on interest rate policies. The analysis will be in relation to household savings. The income effects of the recent bank reform can be applied generally to both urban and rural households. Interest rate effects on household savings can be discussed generally

as well, because current government controls place fundamental restrictions on interest rates that blunt the efficiency of the banking system on a macro level.

While assessing whether China's banking reform (beginning in 1978 with the economic reform) has improved the sector's efficiency in directing savings and ultimately contributing to the nation's economic growth, this paper will focus on reforms in the Big Four state-owned commercial banks (SOCBs) - Industrial and Commercial Bank of China (ICBC), China Construction Bank (CCB), Bank of China (BOC), and Agricultural Bank of China (ABC). At the end of 2004, these four banks accounted for 60% of the banking system assets and, as previously mentioned, 77% of household savings in 2001 (Podpiera, 2006).

It is important to understand how savings and investment act as a specific facilitator of growth. The next section begins with an endogenous analysis of financial development and growth, followed by an overview of the banking sector reform. The remainder of this paper discusses the impact of recent banking reform on the Chinese savings rate and evaluates interest rate policy with respect to savings. This paper purports that poor mobilisation and allocation of savings due to persistent government influences and repression of commercial bank interest rates impedes China's economic development.

2. The Role of Household Saving and Investment

Contemporary theories of financial development suggest that financial development has a causal effect on economic growth. The endogenous theory of financial development suggests that financial development leads to demand for financial services through the mobilisation of savings. The banking system stimulates growth through mobilizing and allocating savings to those investments that embody technological innovations (Berthelemy & Varoudakis, 1996). This increases productivity and in turn stimulates economic growth.

Investment expenditure used to acquire new technologies and management skills can result in increased productivity of both capital and labour (Riedel et al., 2007). Higher productivity entails that a greater amount of output can be produced with the original amount of input. Suppose that the application of new management skills increases labour productivity by providing better incentives for workers. This labour productivity makes it more profitable for the firm to hire more workers, so long as there is market demand to increase production. The result of increased labour demand will raise real wages and per capita income. Under conditions where productivity gains are passed down to consumers in the form of lower prices, in conjunction with the increase in real wages, consumers are better off financially. If all factors remain constant, consumption will rise, in turn driving up demand. Following this, demand for credit expansion will also increase, as firms will demand more credit to finance a higher level of output in order to satisfy consumer needs.

Berthelemy and Varoudakis argue that there is a cyclical relationship between economic growth and financial development. Economic growth creates demand for bank services which makes the banking sector more profitable. This in turn "helps speed up growth in the real sector and the structural transformation of the economy" (Berthelemy & Varoudakis, 1996). Not only will this stimulate more economic growth, household savings may also increase due to the rise in income.

Due to the income and substitution effects, the influence of higher income on the savings rate can be ambiguous. Using data from 1978-2002, Riedel et al. have found however, that the "average elasticity of the saving rate with respect to per capita income is about 1.7, implying that a 10% increase in per capita income led to a 17% increase in the saving rate" (Riedel et al., 2007). Lastly, if market clearing conditions take place, increased demand for credit expansion would push up depositors' interest rates, which would encourage further savings. The key here is that savings must be allocated to investments that embody technological innovation; otherwise, no productivity gain can be captured.

3. Evolution of China's Banking System

China's financial system has historically been dominated by inefficient, tightly controlled SOCBs. Before the economic reform in 1978, the People's Bank of China (PBC) operated as both the nation's central bank and commercial bank. The financial system was characterized by the mono-bank system and was designed to serve as a central planning tool. As household earnings were low, only a small share of income was saved and was typically kept safe within the household rather than in the bank. Government and state owned enterprise (SOE) savings were the primary resource available for investment, and investments were determined solely by the government (Tong, 2002). In 1978, the government and SOE savings accounted for 83.8% of total savings (Wei, 2000).

The economic reform in 1978 saw a structural change in the mono-bank system. The PBC was officially established as China's Central Bank and the Big Four were established to handle transactions for specific sectors of the economy. The ABC was mandated to provide financial services to the agricultural and rural sector, the ICBC handled business for the industrial and commercial sector, the CCB financed construction and infrastructure projects, and the BOC handled international transactions. Each of the Big Four had provincial branches and operated exclusively in their own local market, free from competition (Yao, Jiang, Feng, & Willenbockel, 2006).

The banks essentially served as a policy tool, extending credit to SOEs whose production was geared to meet national development goals. SOEs automatically received credit regardless of their profitability, and at a rate considerably less than the cost of capital. This resulted in large volumes of non-performing loans (NPLs) for the banks. Unprofitable loans were of little concern to SOCBs, however, as the PBS guaranteed and honoured all loans extended by the SOCBs. It was not until 1983 that banks were given some independence in determining which firms were credit-worthy. Constraints on loan extensions were relaxed and SOCBs were allowed to extend more credit if they attracted more deposits. In addition, the banks were allowed to charge a lending rate higher than the official rate set by the PBC. Both of these facets of early banking reform offered strict incentives for credit expansion by the SOCBs. Unfortunately, this did not improve the quality of credit expansion and even encouraged excessive expansion of poor quality loans (Yao et al., 2006).

In 1995, the Commercial Bank Law was enacted to modernize the Big Four into commercial banks by taking measures to detach the banking system from administrative constraints. To ease

the pressure of SOE loan provisions off of the commercial banks, three policy banks were created. Their "servicing and lending capacity [however]...are unable to meet the need of policy lending previously provided by the Big Four" as they currently have insufficient branch network and capital (Yao et al., 2006). As such, Big Four banking decisions are still heavily subject to central government influence, directed in supporting SOEs for the purpose of carrying out economic development goals. In addition to reforming the Big Four and the development of the policy banks, the state permitted the establishment of regional banks and non-state banks to compete directly with the Big Four. Deposits and loans of regional and non state banks however, are miniscule in comparison to those of the Big Four. Table 1 shows the relative dominance of the Big Four compared to other banking institutions in China.

Table 1. Assets, Deposits, and Loans of Chinese Banking Institutions, as of December 31, 2004

Source: Dobson & Kashyap, 2006

The Commercial Bank Law, in theory, also states that SOCBs are responsible for their own profitability and therefore are accountable for examining the credit quality of their loans. Although the banking sector has benefited a great deal from deepened reform, banking behaviour is still far removed from the theoretical provisions set out in the Commercial Bank Law.

4. Recent Bank Reform and Savings

Type of Institution	No. Of Institutions	Assets		Deposits		Loans	
		Billions of Yuan	Percentage of total	Billions of Yuan	Percentage of total	Billions of Yuan	Percentage of total
Big Four commercial banks	4	17,859.5	54.8	15,384.1	59.5	10,667.5	54.6
Joint stock commercial banks	12	4,803.4	14.7	4,143.6	16.0	2,926.1	15.0
Urban commercial banks	112	1,705.6	5.2	1,414.6	5.5	903.1	4.6
Rural commercial banks and credit cooperatives	32,869	3,133.2	9.6	2,784.1	10.8	1,955.1	10.0
Urban credit cooperatives	623	178.7	0.5	158.9	0.6	101.5	0.5
Foreign-invested commercial banks	211	582.3	1.8	149.9	0.6	284.4	1.5
Other	149	4, 369.9	13.4	1,889.6	7.0	2, 681.3	13.8

The latest banking reform strategy composes of three parts. The first part, which commenced in 1998, involves clearing up NPLs on the bank balance sheets. In China, NPLs include overdue loans with low or no probability of being repaid (Wei, 2000). In 2000, roughly 47% of the Big Four's outstanding loans were NPLs (Bhattasali, 2004). According to Fung and Liu, the Big Four's NPL as a percentage of GDP was approximately 50% in 2003. The problem of non-

performing loans is closely related to the excessive level of debt in the state owned sector, which reflects poor investment decisions and performance of SOEs. In order for the SOCBs to stay viable under complete competition, it is important for the Big Four to be profitable. The large amount of current NPLs of SOCBs suggests that they will have less of a profit base to use as a buffer for investments that turn out to be unprofitable, rendering them more risk averse and pass over potentially productive investments.

In 1998, the government sold special bonds to the SOCBs that doubled the capital base of the Big Four. The following year, "NPLs valued at $168.1 billion were transferred from the banks to four newly created asset management companies (AMCs)... [whose] bonds [sold to the banks] were guaranteed by the Ministry of Finance" (Dobson & Kashyap, 2006). In 2004, the central bank injected $45 billion to the CCB and BOC from the bank's foreign exchange reserves. This was necessary to prepare these two banks for listing on the public stock exchange. According to Dobson and Kashyap, the Ministry of Finance had written off a large amount equity valued at 616 billion Yuan ($74.4 billion) and the PBC had borne a loss of 400 billion Yuan ($50 billion) due to further NPL transfers since 2004. They estimate that this "first round of recapitalization...implies that the total cost to taxpayers will exceed $240 billion [and] the cost of cleaning up the Big Four's misdirected loans through 2005 can be conservatively put at roughly 10.4 percent of China's 2005 GDP" (Dobson & Kashyap, 2006). It must be mentioned that there exists speculation of under-reporting of NPLs. Research suggest that the cost of removing NPLs from the Big Four's balance sheet as a percentage of GDP could be as high as 18.5%. In late 2005, the ICBC was approved for restructuring, following the same process of recapitalization as the CCB and BOC in the previous year. Table 2 shows the value of NPLs for each of the Big Four between 2000 and 2005.

Table 2. Reported NPLs of the Big Four Banks, 2000-05

Bank	2000	2001	2002	2003	2004	2005
ICBC	831	792	760.9	720.8	784.7	154.4
BOC	409.6	436	408.5	319.7	98.5	98.2
ABC	n.a.	n.a.	472.3	695.5	692.3	740.4
CCB	281	291.4	268	85.3	87.4	94.5

Source: Dobson and Kashyap, 2006

The removal of NPLs from the Big Four's balance sheet comes at the cost of a higher level of savings for both urban and rural households. Other projects that can potentially yield an increase in real wealth could have been pursued had the $240 billion in tax revenue not been directed at recapitalizing the Big Four. For example, the tax revenue could have been invested in infrastructure, which would have provided more employment opportunities and ultimately more income. The tax revenue could have been directed to the health care industry, providing better access to health care and decreasing household expenditure on healthcare services. It also could have gone to benefit households in the form of a tax reduction. The opportunity cost of using this tax revenue in recapitalizing the Big Four necessarily entails an indirect cost to savings, as this

fund could have been invested in other projects that would have had positive effects on mobilizing savings.

The government is crowding out household savings by allocating tax revenue to recapitalizing the Big Four. The fact that the state continues to pressure the Big Four to make policy loans, which was the root of the problem to begin with, suggests that household savings will continue to be crowded out. Thus, it is of pressing concern that the source of these NPLs be removed. The second and third part of the strategy to bank reform attempts to change banking behaviour by providing incentives for banks to build expertise and skills in credit evaluation, thus minimizing the potential of further NPLs. This move in not likely to help reduce the state's involvement in bank lending decisions. Nonetheless, improving the bank's expertise in evaluating credit quality of non-state consumers is a healthy step as new areas of lending growth, such as mortgage lending, can be very profitable for the SOCBs. In order to benefit from their newly recapitalized structure and build profits in expanding loans to the non-state sector (which have historically had limited access to bank loans), SOCBs must gain experience in assessing risk and avoid bad lending decisions to the non-state sector (Podpiera, 2006).

All of the Big Four, with the exception of the ABC, are participating in the most recent part of the bank reform. The second part of the strategy to reform SOCBs is to attract strategic foreign investors. This is expected to strengthen bank governance by bringing in best-in-class management skills. Although shares of strategic investors is limited to only 20% of ownership, investors can act as a catalyst in improving efficiency, introducing new products, and enhancing potential returns on investment (Dobson & Kashyap, 2006). Investors' limited share in the SOBCs, however, may weaken their incentives to take an active role in improving the overall performance of the banks and "make them [investors] focus on creating value only in narrow areas of cooperation, e.g., issuing credit cards" (Podpiera, 2006). The third part of the current strategy is to issue an initial public offering (IPO) of the CCB, BOC, and ICBC. The CCB and ICBC had successful initial public offerings in 2005, and the BOC was on the same track at the end of 2006. The IPOs and capital stake from strategic investors are having desired effects on the banking system. The presence of shareholder and strategic investors are putting pressure on the banks to enhance efficiency and profitability.

According to Podpiera, "[t]here is a striking difference between the reported credit quality of old and new loans, suggesting...a dramatic improvement of the underlying credit quality since 2000" (Podpiera, 2006). This is likely due to slower credit expansion and enhanced effectiveness of banks in evaluating credit quality. The full effect of the recent reform, however, will not be felt for many years. From the endogenous growth model previously discussed, the expected efficiency gains of the recent reform imply that the SOCBs will be doing a better job of mobilising and allocating savings. These gains are expected to generate real growth in the economy as the bank's improved expertise in credit risk analysis, will likely yield better results in their allocation of savings.

Although the banking system is becoming more commercialized, the success of the current banking reform and the bank's effectiveness in mobilising and allocating savings depends heavily on whether the Big Four will be relieved of their responsibility in policy lending. Government

influence remains strong as the state still holds 80% of ownership of the SOCBs. The fact that the government has strong desires to maintain stable employment growth and to restructure SOEs means that investment expenditure will continue to be directed to unproductive government affiliated firms.

Research has indicated that the Big Four "are still lending to many of the same clients whose loans were written off in the earlier bank recapitalizations" (Dobson & Kashyap, 2006). As such, the cyclical effect of poor investments, previously discussed, will ripple through the economy. Indeed, China is now faced with declining capital productivity and "[w]ithout better allocation and efficiency of capital, even higher investment ratios will be needed to ensure the capital accumulation required to create new jobs" (Dobson & Kashyap, 2006). Labour growth in unproductive and unprofitable sectors implies that wages and income will remain stagnant or even decline if these enterprises are unable to sell what they produce. In 2000, inventory accumulation was 6% of GDP, which translates to 18% of domestic savings that had to be devoted to financing these inventories. Although inventory accumulation has declined since 2000, continual investments in the state sector inevitably crowds out more productive investments. Increases in real wage and savings are the ultimate opportunity costs.

5. Interest Rate Repression and Savings

Financial repression in China continues to restrict instruments that provide incentive for household savings. Financial repression can be understood as government-imposed controls that keep interest rates below their market clearing levels. Restricting banks' investment options by imposing policy loans to priority sectors and limiting public access to bank credits are also characteristics of financial repression (Wei, 2000). The state has a strong incentive to repress the banking sector as it "maximizes flows of financial resources to [the] government that it needs to implement its industrialization strategy" (Riedel et al., 2007).

Though important steps have been taken to resolve the Big Four's NPL problem, to improve their corporate governance and strengthen their competitiveness through commercialization, little development has been made in liberalizing interest rates. Commercial bank lending rates paid by borrowers and deposit rates paid to depositors are directly determined by the central bank. Since the October of 2004 however, commercial banks are allowed some flexibility in setting loan rates (Riedel et al.). Deposit rates, however, remain binding. Currently loan rates set by the government reflect "the multiple objectives of china's interest rate policy and the governments' policy preferences with respect to development priorities, subsidies distribution, and resource transfer from depositors to state enterprises" (Wei, 2000). Pressure on the SOCBs to lend at preferential rates to all state owned sectors persists. These rates do not reflect the cost of capital or the cost of alternative investments forgone (Wei, 2000).

Lending rates must be higher than deposit rates in order for the Big Four to cover their operating costs. Ceilings on lending rates to the state sector reduce the profits of SOCBs which results in lower deposit rates because banks cannot afford to offer savers higher compensation for their deposits. Interest rate ceilings transfer the losses of SOEs to the Big Four, "which in turn passes the cost of financing the losses of state-owned enterprises on to depositors (in the form of lower

deposit interest rates) and non-preferred borrowers (in the form of higher lending rates)" (Riedel et al., 2007). Ultimately, interest rates that are supposed to have positive effects in mobilising savings constitute an implicit tax to savers, who reduce savings and favour consumption. There has been literature in support of the role of consumption as a source of growth. Riedel et al. purports, however, that consumption as a source of demand cannot be sustainable as there can be no long term growth without investment, of which saving is crucial (Riedel et al., 2007).

Another aspect of the banking system that has seen little improvement, involves reserve requirements. Reserve requirements are a source of finance for the government and serve as a precautionary measure for SOCBs in face of substantial withdrawals from depositors. The Big Four receive interest on their reserves which have been substantially less than what they can earn on their commercial loans. While the bank's reserve requirement has been decreasing, the interest rate paid to the Big Four by the central bank on this reserve, has been falling as well. Table 3 indicates that the interest rate earned on required reserves is even lower than the deposits rates that the Big Four have to pay to depositors.

Table 3. Selected Interest Rates on Long Term Deposits, Loans, and Required Reserves

	Rate on Long-Term Deposits	Rate on Long-Term Loans	Rate on Required Reserves
Feb 2002	2.79	5.58	1.89
Dec 2003	2.79	5.58	1.89
Oct 2004	3.60	5.85	1.89
Mar 2005	3.60	5.85	0.99

Source: Riedel et al., 2006

The fact that the Big Four can earn a higher return for their assets by extending loans to the public in conjunction with the low compensation it receives on their reserves places a significant financial burden on the banking system. This burden again is passed on to depositors in the form of lower deposit interest rates and constitutes another implicit tax on saving (Riedel et al., 2007).

Finally, centrally planned interest rates do not indicate the scarcity of capital. The SOCBs effectiveness in mobilising and allocating savings is highly dependent on the ability of economic agents to react optimally to interest rate changes. The Big Four's interest rate policies do not allow economic agents to react optimally and is fundamental flaw in the banking system.

6. Conclusion

China's economy has changed fundamentally since the economic reform of 1978. Despite the SOCB's low interest rates on deposits, China's household savings rate remains extraordinarily high. This is due to the lack of availability of consumer credit and lack of social safety net. The concern isn't so much about the level of savings, because as already mentioned, it is one of the highest in the world. Rather, the problem lies in the fact that the economy can be more efficient. Impediments in potentially higher savings rate is a direct effect of the SOCBs persistent loans to unproductive sectors. Although "available savings have not been allocated to their most productive uses, the huge increase in capital, combined with the gains in productivity from

moving labour out of low-productivity, subsistence agriculture, has been enough to produce high growth" (Mishkin, 2006). China's declining capital productivity, however implies that this growth cannot be sustainable. Investment, as discussed in the endogenous theory of financial development, is a driving force of productivity. Since household savings constitute a significant source of investment financing, its decline coupled with the decline in country's declining capital productivity, is a cause of concern for the Chinese economy.

The banking reform has made much progress in improving the corporate governance of the SOCBs, tightening their credit expansion and opening the sector up to competition. Although these improvements are impressive, substantial inefficiencies remain. There is a strong case for interest rate liberalization and deepening of bank reform. There is no evidence however, of the Chinese government retracting their influence over the Big Four which implies that bad debts arising from SOE defaults will continue to be of concern for the banking sector.

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