Sequencing Banking Sector Reforms in the People's Republic of China after the WTO: Options and Strategies

By
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Abstract

The decline of the state's fiscal resources in the People's Republic of China (PRC) foresees the inevitability of the state's withdrawal from the production side of the economy. The state would thus have to exchange its ownership and control for financial resources from the non-state sector in order to establish a social safety net for the purpose of social stability. The same predicament also applies to the banking sector. The state would also have to exchange its ownership to fund NPL resolution and re-capitalization of the state-owned banking sector. Fiscal and monetary disciplines combined with well-sequenced domestic financial liberalization are necessary conditions for successful NPL restructuring and domestic financial liberalization. In addition, an appropriate exchange rate regime after the WTO is needed for the purpose of managing capital flows. Financial service liberalization would accelerate the convertibility of the capital account, as capital controls are becoming ineffective as a result of the PRC's deeper integration into the global financial market. Before the opening of the capital account, minimum institutions and comprehensive sequencing framework are needed to be in place. However, whether the PRC can succeed in its banking sector restructuring hinges on the leadership's political will on ownership diversification.

I. INTRODUCTION

The economic performance of the People's Republic of China (PRC) since the start of its reform in 1978 has been truly remarkable (Table 1). Growth rate, averaged at more than 8 percent per annum, is among one of the highest in the world during the time period between 1978 and 2000.[1] Sustained efficiency gains, high rate of

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[1] The official statistics tend to be perceived to overstate the actual growth rate. *Financial Times* reported on February 28 2002 that there have been 60,000 irregularities uncovered by the National Statistical Bureau (NBS) in a recent survey. Thomas Rawski estimates the growth rate in 1999 has a margin of error of –2.5 to 2 percent. Woo (1997) estimates that for the period between 1979 and 1993, an overestimate of industrial output is in a range between .5 and .7 percent of the growth rate. For the period between 1985 and 1993, the overestimate is between 0.9 and 1.2 percent of the growth rate. Others, for example, Lau (1999) and Chow (1993), have argued that there has been no deliberate falsification or change of statistical methods on the part of NBS, although there appear to be

domestic savings and investment, trade, foreign direct investment (FDI), and an abundant supply of semi-skilled labor force have underpinned the PRC's phenomenal growth record. Estimated net TFP growth ranges from 1.1 to 1.3 percent for the period of 1979 to 93 (Woo, 1997). National savings rate has been kept relatively high, at close to 40 percent of GDP in the 1990s. As a result, it has allowed high rate of gross capital formation, which was averaged at more than 35 percent of GDP per year during the same period. Complemented to domestic investment, FDI plays a significant role in domestic capital formation. In the second half of the 1990s, net FDI inflows contributed to an averaged 12 percent of domestic investment. Buoyant international trade has also become an engine of growth since the inception of the reform. Its share to GDP climbed to more than 40 percent in recent years. Large inflows of FDI and favorable current account balances have led to rapid accumulation of foreign exchange reserves. By the end of 2001,t's foreign exchange reserves stood at about US$200 billion, the second largest in the world. Rapid economic growth has also uplifted millions of people from poverty. The population in poverty has dropped sharply from a previous 260 million in 1978 to the current 100 million in 2000 (Weiss, 2001), or 31% to 8% of the population, respectively.

Despite its great achievements, the PRC is also facing increased macroeconomic vulnerabilities and severe structural imbalances. The trend of economic growth has declined since 1995 as the state-owned enterprise (SOE) restructuring and the state-owned banking sector (SOB) reform gathered momentum in the midst of a slower world economy (Figure 1). As a result, the unemployment rate has increased sharply.[2] Rising urban unemployment and severe underemployment in rural sector have greatly heightened social tension. If a nationwide social safety net were not established quickly, it could threaten the very social cohesion and stability that the reform programs intend to seek. Furthermore, sharply increased trend of income disparity among individuals and across provinces and regions has already raised the issue of fairness and whether the fruits of reforms have been equitably shared.

Current economic malaises demonstrate that the gradualist reform strategy has reached its limits. The PRC's dual-track approach to economic transition exploited ambiguities with respect to property rights in existing institutional arrangements, but without fundamental institutional reform (Qian, 1999). Delayed reforms in ownership and property rights have had far-reaching consequences. They have hindered the development of an efficient nationwide financial system, the rational allocation of capital, as well as imposing large dead-weight costs on the economy. Loss-making SOEs and slower economic growth have led to a sharp rise in non-performing bank loans. Indeed, the net worth of the banking system is now negative. Furthermore, asset stripping in SOEs and related corruption have been increasing rapidly in recent years, prompting the authorities to expedite fundamental reforms. Moreover, income

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discrepancies between the NBS data and reports made at the provincial level. Some cross validation methods used to verify the measurement of GDP appear to be more or less consistent with the published data of the NBS.

[2] The official figure for registered urban unemployment rate is 3.6 percent at the end of 2001 according to *The Status of Labor Force and Social Welfare in China* by the State Council published on April 29, 2002. Expected unemployment over the next several years is expected to increase to more than 20 million. If using the criteria of the World Bank, the urban unemployment rate would be much higher than the official figure.

inequality across regions and among individuals has grown to alarming proportions. The urban-rural income ratio was close to 3, while the Gini-coefficient was .45 in 1995 and has further worsened. Regional disparity between the coastal regions and the hinterland was similarly pronounced at 2.8 in 1999. All in all, structural imbalances became pronounced as economic growth slowed from the mid-1990s. In recent years, however, this approach has reached its limits.

Another outcome resulted from the dual-track reform strategy of more than twenty years of economic transition is that the state's financial resources under its management has declined sharply and as a result its ability in sustaining the dual-track economic transition strategy is questionable. Two statistical facts manifest such a decline: at the outset of economic reform in 1978, the state savings accounted for 15 percent of GDP and the SOE contribution to industrial output was close to 80 percent of total industrial outputs. In 1995, the state's savings were only 0.7 percent of GDP[3] and the SOE contribution to GDP, by various estimates, dropped to 28 percent.[4] Constrained financial means would inevitably lead to the eventuality of the decline of the state ownership (Zhang, 2001). Indeed, in its Fourth Plenum of the Central Committee in September 1999, the ruling Communist Party also sanctioned the state withdrawal from most industries except for some strategic ones. The eventual withdrawal of the state dominance from the production sector of the economy would certainly complete the PRC's economic transitions from a planned economy to a market one. At the same time, it also calls for a new set of carefully sequenced reform strategies to assure the success of the final transition.

This paper argues that the PRC's WTO accession would greatly expose the current macroeconomic vulnerabilities and structural imbalances and could increase the probability of an economic crisis if urgently required restructuring in the state-banking sector were not taken. Three factors may contribute to the increased likelihood of such a crisis: First, the last twenty years have seen the PRC very well integrated into the world economy. Since FDI and trade have already accounted for more than 40 percent of the Chinese GDP, a global recession would have an immediate impact on the Chinese economy, and especially on the vibrant coastal region. Indeed, the PRC has been engaging in a series of fiscal stimulus activities since the eruption of the East Asian financial crises (1997-98) and the ensuing global recession.[5] Therefore, economic growth in the PRC is now very much susceptible to a global slowdown of trade and a large reversal of capital flows. Second, the PRC's accession to the WTO means that the previous high tariffs that had shielded foreign competition will have to come down from now on. The WTO accession would greatly expose the uncompetitive industries open to global competition, thus accelerating the speed of some of them to go under. At present, there have been already more than 40 percent of SOEs that are making losses.[6] The PRC's industrial hinterland in Northwestern and Western region, having already suffered badly because of domestic

[3] The recent estimates are not yet available using a consistent methodology of Wu, *et. al*. (1998). The overall trend has not been reversed yet.
[4] This could be calculated from statistics provided by National Bureau of Statistics, as indicated by Zhang (2001).
[5] The deficits have increased year by year from –1.2% in 1998 to –3.4% in 2001, seriously raising the issue of fiscal sustainability.
[6] The share of loss-making SOEs was about 41.4 percent according to China Statistical Abstract 2000, p113.

competition during the reform era, will certainly experience another onslaught from foreign competition, which could then leave millions more jobless. Should the state be unable to care for their needs, unemployed industrial workers could be the driving forces for increased labor unrest and social instability. Third, and the most immediate risk factor that is looming large on the horizon, is the imminent opening up of the domestic banking sector for foreign competition, as committed by T's WTO accession. At present, few are optimistic about the PRC's state-owned banks for reasons that they are heavily burdened by a mountain of bad loans, inadequate capital and loan-loss provisions, constant government interferences, poor risk-management skills, ineffective or non-existent corporate governance, high taxes, and over-staffed labor forces and over-branched networks.

The PRC's state-owned banks have also proven to be too taxing on the domestic economy to be brushed aside. In fact, it has been hindering the PRC's economic potentials. A simple statistics is very revealing: Some 70 percent loans of state banking sector go to state-owned enterprises, but this sector only produces 30 percent of the GDP.[7] On the other hand, the non-state sector only receives about 10 percent of the total lending from the state banking system,[8] but this sector produces more than half of the national income. As the PRC is still a bank-dominated economy and will stay so for some years to come, the banking system would have to be made efficient in order to ensure sustainable growth to occur again. Without swift reforms, the state-owned Chinese banking sector could pose as a serious risk factor to macroeconomic stability. However, the banking sector problem is only a phenomenon of a deeply rooted structural problem in the SOE sector, whose restoration to health requires a comprehensive package including the key component of the ownership diversification.

The paper attempts to draw options and strategies for the PRC's next stage of banking and financial sector reform. First, it argues that the decline of the state's fiscal resources foresees the eventual withdrawal of the state's involvement in the production side of the economy. The state would have to exchange its ownership and control for financial resources from the non-state sector in order to establish a social safety net for the purpose of social stability. The same argument can also be made for the banking sector reform. The state would also have to exchange its ownership to fund NPL resolution and re-capitalization of the state-owned banking sector. It is argued that the ownership withdrawal by the state would greatly facilitate NPL resolution and the ensuing banking sector restructuring. Second, the paper proposes a comprehensive sequencing strategy to ensure the success of the banking sector restructuring. Fiscal and monetary disciplines combined with well-sequenced domestic financial liberalization are necessary conditions for successful NPL restructuring and domestic financial liberalization. In addition, an appropriate exchange rate regime after the WTO is needed for the purpose of managing capital flows. Financial service liberalization would greatly accelerate the convertibility of the capital account, as capital controls are becoming increasingly ineffective with the PRC's deeper integration into the global financial market. However, before opening

[7] According to the China Statistical Yearbook (2001), state-owned industrial enterprises accounted for 28 percent of gross value of industrial output, this is a sharp drop from nearly 80 percent in 1978.
[8] Since PBOC does not publish lending information by precise ownership, this number is an underestimate. Perhaps, the better statistics is to look at SME loans. In the category of working capital loans, the private sector receives only 1 percent of such loans (IFC, 2000).

the capital account, policy makers should be aware that minimum and effective institutions and well thought-out sequencing strategies must be in place. That said, the paper also emphasizes the importance of the ownership diversification in the next stage of the banking sector reform and cautions that whether the PRC can succeed in its banking sector restructuring critically hinges on the leadership's political will on the ownership reform.

The rest of the paper proceeds as follows: Section II of the paper provides the basis for the argument that the decline of the state's fiscal resources would inevitably force the state to relinquish its ownership in SOEs. The same predicament also applies to the banking sector reform. Under such a broad context, what should be the emphasis of policy concerns is discussed. Section III of the paper benchmarks the Chinese banking sector and examines its existing problems. Section IV proposes some concrete policy measures to dispose NPLs using experiences from Chile and other emerging market economies. Section V articulates a package of coherent sequencing strategies for the PRC's domestic and external financial reform after the WTO. Section VI concludes.

II. DECLINE OF THE STATE'S FISCAL RESOURCES AND ITS IMPLICATIONS FOR THE BANKING SECTOR

It is perhaps difficult to comprehend for a normal market economy that a very impressive macroeconomic record has also been associated with a fragile banking system for an extended period of time. To understand the reasons why such phenomenon has actually happened in the PRC, one would have to link with the PRC's dual-track reform strategy. The dual track approach to reform exploited ambiguities with respect to property rights in existing institutional arrangements, but without fundamental institutional reforms.

The PRC's reform can be broadly summarized into two stages, as demarcated by a period of working within the planned system (1978-92) and a period of building the PRC's socialist market economy (1992 to present) (Table 2). The major aim of the first stage is to reform within the planned system and this was a stage where by setting up a right incentive structure within the planned economy so as to allow the state to obtain the previously under-explored economic efficiency (mainly the X efficiency). The second stage of the reform process started from 1992. Its ultimate goal is to build a rule-based "socialist market economy with Chinese characteristics".

Some have jokingly attributed the PRC's reform strategies to the theories of "cats" and "stones"[9] and some have rationalized these strategies using an elaborate theoretical framework[10]. Two competing schools of thoughts have emerged over time attempting to rationalize the PRC's economic achievements so far (Woo, 1998). The Experimentalist School attributes the high growth experience in the PRC to its deliberate experiments of reform policies. It claims that these experiments have unleashed an unintended virtuous cycle. The Convergence School, however, holds that the PRC's successes are the consequences of its institutions being allowed to converge towards the norms of market economy institutions and the PRC's economic

[9] " Regardless white cats or black cats, good cats are the ones who can catch mice" and " Crossing a river by touching stones".
[10] See Lau, Qian, and Roland (2000).

structure at the outset of reforms explains a major part of its growth. In spite of the appeals of these competing theories, one would more or less agree that only by combining elements of both theories, one could then explain the PRC's economic transition fully. Rather than adhering to a particular explanation of the PRC's success in its economic transition, this section intends to explain an important outcome of more than two-decade economic reform: The decline of the state's fiscal resources and its implications for the PRC's future economic reform strategy.

Three related factors have directly contributed to the decline of the state's fiscal resources and they are: 1) fiscal and monetary decentralization and an ill-adapted tax system, 2) price and wage reforms and increased autonomy at the SOE level, and 3) increased losses made by SOEs.

Fiscal and Monetary Decentralization and ill-adapted tax system

Decentralization has been one of the key features of the PRC's economic transition. The devolution of authority from the central to local governments has greatly enhanced the incentives for local governments to get involved in local economic developments. Before 1995, both *de facto* fiscal and monetary decentralization took place. Fiscal decentralization was credibly committed by central government's limited information on fiscal developments at the local government level (Qian and Weingast, 1997). The central government has allowed local governments to maintain various "extra-budget" and "off-budget" accounts. These budgets provided good incentives for local governments to generate revenues for needs of local economic development. However, the drawback of the PRC's fiscal decentralization is that it also gives local governments incentives to preserve wealth at the local level and it has made difficult for the central government to get its deserved shares of tax revenues.

The ill-adapted tax system has further exacerbated revenues of the central government. Under the de-facto fiscal decentralization, the tax system has gone through two major stages with a tax contract arrangement between the central and local governments for the period of 1978 and 1994 and a tax sharing system from 1994 onwards. Greater local autonomy over taxation and a strong element of central-local bargaining in the fiscal process, together with a growth in off-budget activities, have contributed to the decline of central government's fiscal revenues as a share of GDP (Ma, 1997 and Arora and Norregaard, 1997). The 1994 tax reform intended to arrest the center's revenue decline as a share of GDP as well as the central government share of total revenues. The preliminary assessments on the whole have been disappointing and the most disappointing aspect is that it has failed arrest the trend of the re-distributive outcomes of revenue sharing and it has also failed to improve the central-local fiscal relations (World Bank, 1998). As a result, tax revenues collected by the central government continued to shrink over time. The central government revenues as a share of GDP have dropped from previous 35 percent in 1978 to 15.2 percent in 2000. Limited fiscal resources have also limited the central government's role in equalizing the gaps among regions. The state can simply no longer afford to conduct intra-regional transfers or provide subsidies to low-income families. This is perhaps one of the key factors behind the reason why regional income disparity and individual income inequality have widened sharply since the onset of the reform era. Without adequate fiscal transfers, fiscal decentralization has also led local government finances in SOE dominated industrial

regions to virtual bankruptcy. The inability of these local governments to take care of their unemployed workers has driven them into the streets demanding their pensions and unemployment substance benefits be paid. Increased labor unrests have started to threaten the very consensus and stability that the gradualist economic reform strategy intends to seek. For the purpose of social stability, the state is thus being pressed to set up a nationwide social safety net. This has become especially urgent with the PRC's entry into the WTO since more and more SOE workers would be expected to become redundant in the near future. However, limited fiscal resources have prevented the central government from taking drastic responses so far.

Price and wage reforms

Price and wage reforms are two of other plausible factors that are widely cited as the main contributors to the overall decline of the state finance (Zhang, 2001). Through price and wage reforms in both rural and urban sector, the state could no longer obtain the revenues as it did during the planned economy era. The market determination of agricultural products means that the state can no longer artificially maintain low prices to subsidize industrial development.[11] By granting more management autonomy and allowing SOEs to set their own effective wages has increased wage bills in SOE revenues and therefore has reduced profits submitted to the state (Figure 3). The increase of wage bills in total industrial output naturally reduced the profits submitted to the state's coffer, a major source of tax revenues before the 1994 tax reform.

Non-performing SOEs

Not only did SOEs submit less profit to the state, increasingly they are making large losses that require huge fiscal subsidies to allow them to stay afloat (Column 4, Table 4). There are at least three reasons why SOEs are not performing well. The first one is that they are burdened with social liabilities that are not related to the production process. For example, many SOEs are burdened by unfunded or under-funded pensions and other social welfare functions such as housing, medical care, and education. Indeed, a recent study based on survey results from urban registered resident in 1996 demonstrates that if taking into non-wage benefits, state-sector workers earned significantly more than workers in urban collective and domestic private enterprises (Zhao, 2001). The overall wage package has made SOEs uncompetitive when compared with private firms. This is perhaps one of the reasons why the profit to equity ratio was only .02 for industrial SOEs, but 0.11 for industrial non-SOE firms in 1995 (See Table 3 of Holz and Zhu, 2000). The second reason is that SOEs are heavily burdened by debt (Lin *et al*., 2000, Lau, 1999). This is especially relevant for most firms established in the early 1980s because that founding equities of these firms were mostly from bank loans. Under such circumstances, a firm that would otherwise break even is still in red because of interest rate payments. Such a funding structure has also led a comparably high debt to equity ratio of SOEs. By various estimates, the leverage ratios for SOEs are around 2:1 for state industrial enterprises to 4:1 for state commercial enterprises (p.88, World Bank, 2000). The third and the most fundamental reason that SOEs are making losses can be attributed to the existence of soft budget constraints and increasingly severe agency problems as previous control system under the planned economy framework was dismantled and

[11] For example, Lardy (1983) estimated that such price manipulations allow significant profits to be made via light industry, which was a source of 29 percent of state budgetary revenue.

the newly established corporate governance system is yet effective. The agency problem has two layers: government bureaucrats representing the government or the people and enterprise managers representing the government bureaucrats. However, these control mechanisms are often hijacked by private or departmental rent-seeking behaviors at the level of government bureaucrats and SOE managers. SOE managers often take advantage of their controlling power and engaging in operations and activities that benefit their own accounts (Holz and Zhu, 2000). Indeed, the interests of the real shareholders, that is, the interests of the people the state is supposed to represent, are in no way to be found in the present corporate governance process. Indeed, the state ownership no longer exerts effective control on SOEs and therefore it can no longer function as it was originally designed to do.

Increased loss-making SOEs have direct implication for the state budget. The ratio of pre-tax profits to fixed assets has dropped from 0.25 in 1978 to 0.07 in 2000 (Table 4). For example, the income taxes from SOEs were 42.7 billion RMB, of which 21.4 billion RMB was still not yet paid in 1998 (Table 5). This segment of taxes was only about 5 percent of total tax revenues collected.[12] With increased losses from SOEs, the state would have to increase their subsidies, but the ability of providing fiscal subsidies has also been severely constrained by decreased fiscal revenues over time.

State-owned banks used to support loss-making SOEs

To reflect the reality of limited fiscal resources of the state, the subsidies provided by the state through fiscal channels to SOEs were later switched to policy loans from the state banks (mainly from the big 4 state banks and the development banks after 1994) in 1985. Policy loans were even directed to loss-making SOEs so that they can continue operate without major restructuring. This practice was made even worse because of *de facto* monetary decentralization before 1995. Since the ownership of the big four state banks belongs to the central government, it had played in the local governments' advantage to interfere the 4 major banks to lend to local economies either to local SOEs or to local investment projects. If these investments made turned out profitable, local governments would naturally benefit. However, if these investments turned out sour, they were the liabilities of the central government since these banks are officially owned by the central government. Indeed, the heavy hands of local governments on the lending behaviors of local branches of the state-owned banks had generated investment booms and property bubbles at the local level. The local investment booms were later translated into high inflation nationwide. The ensuing cooling down of the economy because of re-imposed control by the central government on credit expansion prompted bursts of local investment bubbles. Many failed investment projects at the local level have since become NPLs that are now sitting inside the state-owned banks.

For an extended period of time (1985 to 95), the state had been able to use the state-owned banks to support struggling SOEs. This practice, however, could no longer be allowed to continue since it had become evident that the non-performing loans in the banking sector were too big to be ignored. The exiting stock value of NPLs still in the state banking sector amounted to 3 trillion RMB or more than 30

[12] Of course, this was also due to the change of tax system where VAT taxes have replaced product taxes.

percent of the 2001 GDP. The huge amount of NPLs has in fact rendered state-owned banks technically insolvent. However, since there are limited investment instruments and the worse than gambling nature of the PRC's still fledging stock market, Chinese citizens have no choice but hold a large amount of their savings in the state-owned banks. This is the reason why the state-owned banks are still liquid to be able to operate. However, if there were a loss of confidence due to shocks from internal sources, external ones, or a combination of both sources, it would be very likely that a bank run could occur. Should this scenario be materialized, the previous achievements of economic reform could easily be squandered.[13]

Authorities have fully recognized the risks arising from the banking sector. A set of drastic reform measures has been implemented, including putting state-commercial banks under direct control of the State Council and enacting laws governing the activities of the Central Bank and state-owned commercial banks. Since 1995, reforms aimed at reducing the interference of local government in bank lending and reining in bank lending to loss making SOEs have been implemented with relative success. The direct outcome of these measures is that the loan growth dropped sharply from previously averaged more than 20 percent per year to around less than 10 percent per annum (Figure 2). As the bank lending has slowed, so has economic growth. GDP growth declined from a previously 9.5 percent to the current 7 percent. A considerable proportion of the 7 percent has been supported by a series of fiscal stimulus packages since 1998. After all, fiscal stimulus packages are mentioned to be for short-term purposes. Without the banking sector being restored back to health, long-term economic growth potential will not be able to achieve. Thus, how best to resolve NPLs in the banking sector, or how to restore the health of the banking system in general is an urgent policy task.

This task has also proven to be a difficult one. In fact, policy makers are caught in a dilemma: In order to maintain high employment, economic growth would have to be high enough so to absorb the unemployed into growing sectors of the economy. To maintain high growth rates, investment ratio would have to be high, which in turn would require that savings be effectively transformed into investments. In order to fulfill this function, the financial sector and especially the banking sector would have to be made efficient. However, the banking sector is currently burdened with a large amount of NPLs and has recently stopped lending for fears of accumulating more bad loans. Despite the fact that the Chinese people are one of the largest savers in the world, the savings in Chinese banks are not used for productive investment. Instead, the savings are sitting in the banks earning meager returns. To resolve the dilemma, drastic solutions are called for: the PRC should now move away from its gradualist reform agenda and resolutely tackle the SOE and banking problems simultaneously. One rational approach is that the state need recognize that its limited fiscal resources can no longer allow it to be pervasive in every aspect of the economy. Thus, priority must be set as to which sector it should stay and which one it should withdraw. This predicament, which is independent from ideology, is purely driven by the harsh reality that although the state has ownership in large sectors of the economy, it can no longer exert effective controls because of the fundamental problems of soft budget constraint and serious agency problem. As a result, it should concede its ownership in exchange for badly needed financial resources to establish a

[13] Indeed, Indonesia is such an example.

nationwide social safety net for the purpose of social stability and its own survival. Moreover, the fact that the state was forced by its own necessity to relinquish state-control of the industry sector has made the logical conclusion more compelling. In fact, the longer it delayed the process, the less the state will be able to get from its assets sale as the asset stripping has already gathered momentum (Ding, 1999). The irony is that despite there is no overt state policy encouraging massive privatization of small and medium sized SOEs at present, *de facto* privatization has been practiced widely at the local level since 1995. Local governments, often burdened by shortage of fiscal resources to sustain loss-making SOEs under local government control, are often very eager to privatize them. However, since there are no clear-cut and transparent rules guiding property transfers, the present outcome tends to be biased towards vested interest groups such as managers, local government officials, and their relatives, thus generating a similar outcome of the Russian style privatization even without emulating its approach. From the aspects of income inequality, such a privatization practice will only exacerbate social stability further.

The current problems in the PRC can nevertheless be overcome if there is political will on ownership reform. In fact, more than twenty years of economic transition have already created relatively good pre-conditions. There are basically three favorable preconditions: First, the non-state sector has grown rapidly and become an important component of the economy. With the rapid growth of the non-state sector, the PRC has also produced a large contingent of entrepreneurs who have had sizable capital and management skills.[14] In addition, as the Chinese economy is now well integrated into the world economy, it could also tap into the global capital market for both capital and experienced managers. Second, abundant lessons have been learned from the experiences of transition economies as well as other countries about the pitfalls of privatizations and how to avoid them. Although there is still limited knowledge on what is the best practice in corporate governance after privatization, at least the stock of knowledge has been accumulated about the pitfalls of what not to do (Shleifer and Vishny, 1997). In addition, after more than twenty-years of legal reform, the rule of law tradition is still slow to form; but it has been gaining momentum. Accounting and auditing standards have been gradually taking shape and professionals working in these sectors have gained recognition and status.[15] Institutions that are capable of carrying out a large scale of privatization have already been in existence. Third, lessons and best practices have been learned in resolving NPLs and proper sequencing strategy can be designed to reduce potential risks associated with financial liberalization (Liu, 2002).

III: BENCHMARKING THE CHINESE BANKING SECTOR

III.1) Recent Developments

The PRC's banking sector has evolved from one bank since the outset of the reform to today's six-tier banking system.[16] At top of the tier is the People's Bank of

[14] This can be supported by the fact that household savings deposits in the banking system are $972 billion (including $82 billion foreign currency deposits) in 2001. Total household savings amount to 84 percent of GDP.

[15] See Box 3.3 of IFC (2000) for a detailed account of the evolution of the China's accounting and auditing system. International accounting firms have operated in China since 1981.

[16] See Ma (2000) for a detailed account of banking sector reform.

China, the Central Bank. With the enact of the Central Bank Law in 1995, the Central Bank has been granted a modest degree of independence in that its policies are no longer subject to interferences of other government agencies or ministries. It is directly accountable to the state council, which is under the leadership of the Primer. This is in fact a peculiar feature of independence of the PRC's Central Bank. In most of the developed economies, independent Central Banks are accountable directly to the Congress or the Parliament. Given the current Chinese political system, the fact that the Central Bank is accountable to the State Council is perhaps a better comprise since the National People's Congress currently enjoys limited power among the three branches of the central government. The Central Bank has since 1998 been reorganized into 9 regional branches with a purpose of shielding them from the interferences of provincial governments. The other five tiers of the banking system, not necessarily in a hierarchical order, are state policy banks, state-owned commercial banks, regional and city banks, urban and rural credit cooperatives, and foreign banks. There are 3 policy banks (State Development Bank of China, Agriculture Bank of China, and Export and Import Bank of China) with an objective to provide long-term financing for large state development projects. The three policy banks were only established in 1994 with a purpose to allow policy loans and lending to be taken out from the newly commercialized state-owned banks. There are 4 large state-owned commercial banks (Agriculture Bank of China (ABC), Bank of China (BOC), Construction Bank of China (CBC), and Industrial and Commercial Bank of China (ICBC)), which are the major players of the PRC's banking system (Table 6). They currently provide close to 60 percent of finance to enterprises and most of them are to SOEs. The "Big4" is complemented by around 100 small commercial banks. Among them, there are 5 nationwide banks, 7 regional banks and a large number of city banks with their roots in the pre-merged urban credit cooperatives. The rest of the banking system consists urban credit cooperatives and rural credit cooperatives that provide small loans to SMEs (small and medium enterprises), TVEs (township and village enterprises), and agriculture loans to small farmers in their respective urban and rural domains. Foreign banks, about 234 of them by 2000 and mainly represented as branches of foreign banks in the PRC, have a rather limited penetration in the domestic market as for now. Their operations are mainly limited to Shanghai Pudong and Shenzhen Special Economic Zones.

The current structure of the PRC's banking sector has gone through 3 phases of reform (Xie, 2001). During the period of 1980 and 1993, the central banking system was spun off from the specialized banks; four specialized state-owned banks were established; non-bank financial institutions were also emerged. The banking system was operated in a mode of a universal banking system and it was during this period that the PRC's banking system was beginning to take shape. The second stage of reform was between 1993 and 1997, which was distinguished as a period of using rule of law and legal framework to regulate and supervise banking activities. Four landmark laws—the central bank law, the commercial bank law, the negotiable instrument law, and the insurance law—were passed and enacted by the People's Congress. In order to separate policy lending from the four newly formed state commercial banks, policy banks for development purposes were set up. Small and medium banks such as city commercial banks were emerged during this period to take over responsibilities of lending to SMEs. In addition, the banking businesses were narrowly restricted to deposit taking and loan extension. In effect, the PRC has since adopted a Glass-Steagall Act to separate commercial banking from investment

banking business. The third stage of reform started in the midst of the East Asian Financial Crisis (1997-98) with an aim of strengthening the supervision framework so as to reduce risks from the domestic banking sector, as what had happened in the East Asian Crisis countries. The Central Bank system was further re-organized by merging 31 provincial branches into 9 regional ones. Responsibilities of financial regulation and supervision were separated into three mutually independent regulatory agencies with the Central Bank responsible for bank supervision, the China Securities and Regulatory Commission for equities market, and the China Insurance Regulatory Commission for the insurance industry. In addition to strengthening bank supervision and regulation, authorities have also become seriously alarmed by a large amount of NPLs in the banking system. In 1998, 270 billion RMB was injected into the four state-owned commercial banks for the purpose of re-capitalization and four assets management companies were set up in 1999 and about 1.4 trillion RMB NPLs were carved out from the Big Four (Table 7).

Chinese banking sector can be characterized as possessing these distinct features: 1) There is little competition in the banking sector as the market structure is oligopoly in urban areas since it is still dominated by a few large state-owned banks and it is quasi-monopoly in the rural areas since the market is dominated by rural cooperatives. 2) State ownership is very pervasive, which amounts to 90 percent of total capital in the banking sector. However, the state ownership can be further divided into central, provincial, and city government ownership (Xie, 2001). 3) Although there is no explicit deposit insurance system, there are strong implicit government guarantees on deposits.

Since both enterprises and banks are both state owned, lending decisions of banks used to be based on government directives. Therefore, there is little incentive to develop risk management practices in state-owned banks. In addition, state-ownership of banks has led to insufficient profit-making motives. The past excess has caused a large amount of NPLs in the state-owned banks, threatening financial system stability. As a result, state-owned banks have been asked recently to reduce NPLs by 2 to 3 percentage point a year. The lending behavior now, however, has become too risk averse because that new regulations stipulate that loan officers are supposed to be responsible for the lifetime of the loans they made. With no interest rate liberalization and limited risk management skills, loan officers have thus become extremely cautious. This is perhaps one of the reasons why the lending rate has dropped sharply in recent years. Similar to SOEs, the corporate governance and control structure during the reform era has not been effectively established, which has also led to very weak internal controls. These are other factors that have contributed to low efficiency, large losses, and huge stock of NPLs among the state-owned banks.

Different from international standards, the PRC currently still uses 4 category of loan classification system[17]: normal loans, overdue loans, slack loans, and bad loans. The later 3 categories of loans constitute NPLs. The NPL definitions also tend to be different. The overdue loans are ones that are not paid in time. Slack loans are ones that have been overdue up to 180 day but less than 180 days. The specifics of determining the slack loan qualification are subject to six criteria stipulated by Central Bank's temporary loan classification guidelines. The overdue period was shortened to

[17] There is plan to change the current loan classification system soon.

less than 90 days only recently. Bad loans are ones that do not have any chance of calling back. Similar to the classification of the slack loans, their determination is subject to 10 criteria of the temporary loan classification guidelines by the Central Bank.

The most authoritative account of the stock of NPLs in Chinese banks is perhaps due to Xie (2002). The estimated total amount of NPLs in the Chinese banking system is about 3 trillion RMB or 25 percent of total loans or more than 30 percent of the 2001 GDP. In terms of the distribution among banks, the four state-owned commercial banks have about 60 percent of the total. Within the Big-4, the ABC appears to have the highest NPL ratios and the CBC has the lowest NPL ratio at about 20 percent. Rural credit cooperatives took another major share of their portion of the rest of NPLs. However, if we account for the NPLs already carved out and now sitting in AMCs, the PRC's total NPLs are estimated to be close to 40 percent of GDP.

The stock of NPLs in Chinese banks was obviously accumulated over the period of more than 20 years of economic reform. It appears that the stock of NPLs accumulated could be roughly distributed into 3 periods: The 1980s, the early part of the 1990s, and the second half of the 1990s. The NPLs during the period of the 1980s were mainly caused by the banking sector's support for old SOEs and new ones that were formed during the period but could never seem to be able to repay loans. NPLs formed in the early 1990s were mainly due to investment booms driven by economic overheating and real estate speculations. The rest of NPLs formed in the second half of 1990s was mainly in the form of policy lending to provide funds for failed SOEs for the purposes of social stability.

Such a large amount of NPLs in the banking system has already rendered the PRC's banking system technical insolvent. A set of serious measures has been taken in order to reduce both stock and flow problems of NPLs. On the stock side, the state has injected additional capital of 270 billion into the big four state banks. In addition, 4 asset management companies have been set up and about 1.4 trillion bad loans have been carved out from these 4 banks (Table 7). In 2001, Governor Dai Xianglong of the Central Bank announced that the Big Four would issue additional bonds, amounted to 400 billion RMB for capital adequacy purposes.[18] To reduce the rate of growth of NPLs, concrete target has been imposed on the state-owned banks. For example, in the "Tenth-Five Year Plan" starting from 2001, the Big-4 has been required to reduce the NPL ratio by 2 to 3 percentage points per year so that the total amount of NPLs should be reduced to less than 15 percent by 2005. The reform measures taken since 1995 have significantly reduced the growth rate of NPLs. Indeed, the NPLs growth rate dropped in year 2000 for the first time. The NPL growth rate has finally started to show a downward trend.

III. 2) Benchmarking the Banking Sector

The previous section gives a broad account of institutional aspects of the PRC's state-owned banking sector. In this subsection, it is useful to benchmark the Chinese banking sector using the standard of the C.A.M.E.L.S approach so that the

[18] See " Bad debts dog the 'big four'" by James Kynge, page 11, *Financial Times*, Monday, October 8, 2001.

Chinese banking system can be compared with their counterparts elsewhere in the world.

a) **C**apital: After the 1998 capital inject, the total paid in capital in the Big-4 is about 479 billion RMB. The simple equity to total assets ratio for the Big-4 was 5.23 percent in 1999 (Table 8). The weighted average of the capital adequacy ratio for the overall banking system is about 5.17%. Note that Chinese banks have only Tier I capital and do not have any Tier II capital at all. Presently the state, namely the central, provincial, municipality, and county governments own up to 90 percent of the capital in the banking system.

b) **A**ssets: Total banking assets have been growing rapidly over time. Most of the
assets are in the form of short-term loans. For example, in 1999, the short-term loans as a share of total loans amount to 57 percent. Most of the loans went to industrial, commercial, and construction sector, whereas rural sectors and private companies only receive 20 and 7 percent, respectively, out of total short-term loans (Table 9). In recent years, government bond holdings among banks have increased rapidly for fears of accumulating additional NPLs through lending. The loan loss reserve ratio is very low compared with Western standards. The average ratio for the Big Four was 1.11 percent. For a bank of similar size in developed countries, the ratio was much higher. Using HSBC, Citibank, and Bank of Tokyo-Mitsubishi as a comparison, Chinese banks' loan loss reserves are about 3 times lower (Table 8).

c) **M**anagement: The operation efficiency of the Big-4 by various indicators is rather low compared with Western banks, but they are comparable with that of the Japanese banks in recent years. The pre-tax operation income in 1999 as a share of total assets was only .48, about 4 times lower than that of HSBC and the Citibank. The Big-4s are over staffed and over branched. For example, the per-staff asset managed by ICBC at the end 1996 was only $750,000 and the similar sized HSBC has assets per employee five times of that level (p. 167, Lardy, 1998). The current management style within the banking sector is more like a government department than a commercial bank. Key personals are still appointed by the ruling Communist Party. Risk management practices and skills are still lacking. Directed lending from the central government still exists despite such influence from local governments have been reduced significantly.

d) **E**arnings: Inadequate management naturally led to lower profits in the Big-4. The return on average assets ratio (ROA) was only 0.13 percent in 1999, which was about 8 times lower than that of the average of HSBC and Citibank. The return to average equity ratio was only 3.88 percent, much lower than the average of HSBC and Citibank. Other than factors due to management, limited income sources have also limited their profitability. As Table 10 indicates, more than 95 percent of the income of Chinese banks is from interest earnings. Fee-based income is almost non-existent; whereas non-interest earnings in US banks have become an important source of income.

e) **L**iquidity: Only in this category, Chinese banks are comparable with their counterparts in the West (Table 8). Very large consumer savings deposited in state-owned banks help to explain this advantage. However, should confidence on the

banking sector be shaken or reliable alternative investment options become available, the liquidity of the bank sector could face challenge.

f) **S**upervision: Cross-country comparison on supervision quality was made possible by a recent publication of a large survey based database carried out by the World Bank (Barth, Capiro, and Levine, 2001). Six criteria are used to gauge the quality of bank supervision and they are indices of bank activity regulation, entry requirements, capital requirements, official supervisory power, liquidity and diversification, and private monitoring. We compare how the PRC fares using these indices with a group of selected countries including some East Asian economies such as Indonesia, Republic of Korea, Malaysia, Philippines, Taipei,China and 4 major developed countries namely Germany, Japan, the UK, and the US.

Figure 4a presents the index of bank activity regulation. It is a measure of the degree to which national regulatory authorities allow banks to engage in traditionally non-banking activities such as securities, insurance, and real estate business. A score of 1 means that such activities are unrestricted, that is, a full range of universal banking activities is allowed. The highest score is 4 and it means that a country prohibits banks and their subsidiaries from conducting the non-banking related businesses or activities. In addition, the index also takes into account the ownership restriction—whether banks can own non-financial firms. In fact, this measure also defines what is meant by the word "bank" in different countries. Among our selected countries, the PRC and Indonesia have the highest score (3.5), which means that banks in two of these countries can only engage very restrictive activity, that is, deposit taking and lending business only. On the other hand, banks in Germany and UK have the lowest score of 1.3, which indicate that they are allowed to engage in unrestricted universal banking and get revenue streams from very diversified sources.

Figure 4b shows the index of entry requirements into the banking business. It measures how much information is required by authorities to decide whether or not to issue a bank license to an applicant. Given a total of 8 types of legal submissions, the figure shows how many of them are required in each country. A higher score indicates more restrictive entry into the banking industry and it also indicates that there will be better quality of the new entrants. The PRC scored 6 in this category, which is less than all other countries except Japan and Germany. The score indicates that the entry into banking sector in the PRC is relatively less restrictive. [19] In addition, it could also mean that the quality of the new entrants is relatively low.

Figure 4c captures the degree of capital regulatory stringency in the banking sector. This index is based on whether there are explicit regulatory requirements regarding the amount of capital that a bank must have relative to various guidelines, e.g. the Basel standard, whether or not regulatory capital is solely an accounting concept or at least partially a market-value concept, whether or not the source of funds counted as regulatory capital can also include assets other than cash or government securities and borrowed funds, and whether the sources are verified by the supervisory authorities. Most countries selected in our group have a higher score than the PRC, meaning that their banking system require greater stringency in capital

[19] In fact, for the non-state sector, it is extremely difficult to get a banking license.

regulatory. Only Taipei,China (some information are unreported), Malaysia and Philippines have a less stringent capital regulatory than the PRC.

Official supervisory power index indicates how much power the supervisory body has for authorities to take specific actions to prevent and correct problems. The overall score in Figure 4d for the PRC is lower than all other countries except Taipei,China, indicating that the Chinese supervisory authorities do not have much power to take action against sick banks. Specifically, what seems lacking for the Chinese supervisors is the power to declare insolvency and to take prompt corrective action. Supervisory authorities in the US, Japan, and Indonesia, on the other hand, have the most power within the group of our selected countries.

Liquidity and diversification index is shown in Figure 4e. It measures the degree to which banks are encouraged or restricted with respect to liquidity, asset, and geographical diversifications. Chinese banks, as well as those in the US, Republic of Korea, and Taipei,China appear to have less restriction in terms of liquidity and diversification when compared to other countries in the group. There are no explicit, verifiable, and quantifiable guidelines for asset diversification in these countries. Moreover, there is no minimum liquidity requirement in the PRC. This has also been the case for the US.

Private monitoring index is captured in Figure 4f. It measures the degree to which bank behavior is affected by private market forces. The index is comprised of five different measures that gauge the extent to which markets, or private sector monitoring, play any role in surveyed countries. These measures include whether certified audit is required, the percentage of top ten banks rated by international credit rating agencies, the degree of accounting disclosure, director liability, and whether or not explicit deposit insurance scheme exists. Out of a total score of 7, a higher score indicates more private oversight. Since there is no explicit deposit insurance scheme in the PRC and in most other Asian countries, it was also assumed that depositors must monitor banks closely. Taking into account all other measures, the overall score for our selected countries are surprisingly close because of these assumed assumptions.[20]

In summary, one could attribute the current plight of the PRC's banking problem to severe financial repression by the government over years: bank loans were used as an extension for its fiscal needs as budgetary resources became limited with fiscal decentralization and ill-designed tax system. As a result, it has exerted pervasive interferences in banks' lending decisions. However, such a practice could not be allowed to continue because of increase financial risks in the banking sector and the expected competition after the WTO. The state-owned banking sector used to serve the state sector almost exclusively. With the non-state sector has gradually become dominate, the banking sector would also have to change its lending practice so as to reflect the changed economic reality. In fact, their restructuring and future prospects depend on the fiscal resources and strength of the non-state sector.

[20] The assumption that if without explicit deposit insurance, the public would tend to monitor banks closely does not necessarily apply to China. Implicit guarantee because of state-ownership of banks is more important here.

IV: SEQUENCING STRATEGIES FOR THE STATE-OWNED BANKING SECTOR REFORM IN THE NEAR TERM

The PRC formally entered WTO on December 11, 2001. As part of its entry agreement, it has committed in five-year time to fully open up its domestic banking sector for foreign competition. In fact, the phase-in period for foreign banks to deal with Chinese enterprises is only two years, which means officially in December 2003, foreign banks would be able to lend and take deposits from Chinese enterprises regardless their ownership, size, and sector. Indeed, the sense of urgency has already been felt domestically. The recently held National Conference on Financial Work has called for accelerated resolution of 1.4 trillion RMB NPLs in AMCs. State-owned banks are required to adopt 5-category loan classification system. They have bee given greater leeway to write off bad debts. In addition, business taxes levied on banks will be reduced to 2 percent from the previous 8 percent. If one uses the WTO timetable as the time left for reforms in the Chinese banking sector, the task would be tremendously difficult indeed. But it would not be insurmountable provided there are strong political will in ownership reform and a properly sequenced financial reform and liberalization strategy.

As argued in Section II, the economic reality of the economy would force the state to exchange its ownership for financial resources in order to meet its more urgent obligations such as the establishment of a nationwide social safety net to take care the unemployed workers from uncompetitive SOEs. Similar conclusion also applies to the resolution of NPLs in the banking sector. By a World Bank estimate, the PRC's contingent pension liabilities were very high ranged from 46 to 69 percent of the 1994 GDP.[21] If adding up the expected re-capitalization costs of the banking sector and the existing government debt, which stands at 18 percent of GDP currently, the total level of national debt would be well over one-hundred percent of GDP. Given a relatively small tax revenue stream, it raises the concerns of fiscal sustainability in the medium term.

The alternative would be to require the government to divest its absolute ownership of the banking sector to allow a diversified ownership structure that includes both domestic the non-state sector as well as foreigners. The divesture of the state ownership would not only resolve the funding need for carving out NPLs, but also would enhance corporate governance and controls as private owners tend to be more vigilant about their newly acquired assets. The experiences from transition economies have shown that without changing ownership, management, and control mechanisms, simply re-capitalizing the banking system would bring renewed NPLs and repeated rounds of capitalization[22]. Recent empirical evidence also indicates that higher government ownership of banks in low-income economies is often associated with slower subsequent financial development and lower per capita income and productivity (La Porta, et. al, 2002).

This, however, does not mean that the government would have to go for an immediate and massive privatization program. In fact, the research of the New

[21] World Bank (1998). The calculation depends on many assumptions. Whether such contingent fiscal liabilities materialize or will critically depend on the unemployment rate, and ultimately the economic growth rate.

[22] For example, Hungary was such an example.

Institutional Economics has documented that ownership reform alone is only necessary but not sufficient to change enterprises' behaviors. This is especially true for large firms that require complicated corporate governance and control mechanisms. If the institutional environments, as reflected by the quality and independence of judicial system, the competency of regulatory agencies, and division of power between legislative and executive branches, are not yet ready, privatization alone would not necessarily achieve the intended goals.[23]

Nevertheless, it would be for the government to take deliberate steps toward divest the state ownership in the banking sector. Indeed, the 1999 decision by the ruling Communist Party to withdraw from the SOE sector should also apply to the banking sector.

Even with political will on ownership reform in the state-owned banks, it still requires a carefully designed sequencing strategy. The strategy would require two major components: One deals with the stock issue, i.e., the NPLs and the other deals with the flow issue, i.e., how to limit the scale of new NPLs from piling up again.

IV. a) Dealing with NPLs

Present strategy on resolving NPLs appears to have taken a hybrid approach: Carving out a part of NPLs (1.4 trillion or about 32% of total NPLs) from the Big Four and requiring the banks to grow out of the rest. This hybrid approach makes good sense if one considers limited institutional infrastructure such as unclear ownership of the bad debt, inadequate legal system, and almost non-existence of the segment of the capital market for bad assets disposal and transaction. However, without serious commitment of leaving commercial banks free of state interferences, inadequate accounting classification of NPLs, and lack of restructuring of the existing management within the banking system, simply carving out all NPLs from the system would not guarantee that future NPLs will not occur again. In fact, abundant country experiences would indicate otherwise.

The present strategy appears to have already run into problems. For almost 4 years, only a very small portion of NPLs in 4 AMCs has so far been disposed (Table 7). The AMCs have not truly performed their functions yet. The lethargic disposal was mainly because of the lack of political will, clear policy directives, and unenforceable nature of the current bankruptcy laws. As a result, the state-owned banks as creditors do not possess much power to go after debtors. The other problem with the growing out strategy is that banks will always have excuses to justify poor results because banks are still burdened with bad debts (Dornbusch and Giavazzi, 1999). Furthermore, when forced with specific targets of reducing NPLs, managers became very conservative and tend to only lend to low risk clients and hold a large amount of government bonds. In fact, this is the exact pattern the Chinese banks are behaving and such a behavior has also been one of the factors that led to the reduced bank lending and the declined trend of economic growth. As economic growth slows down, the growing out strategy may also fail because that more firms are likely to make losses.

[23] See Williamson (2000) for an account of the privatization of telecommunications and the privatization experience of Russia.

The impasse of the NPL resolution in the PRC may require a radical approach. After several years of evaluation of the banking system, the approximate size of NPLs in the banking system is more or less known to policy makers, even by applying the BIS loan classification standards.[24] Once a relatively precise amount of NPLs in the banking system is determined, it warrants some resolute actions. Past experiences have shown that it is best to completely carve out NPLs from the banking system so that banks can focus on their business and resume financing on worthy projects. Although the determination of NPLs is technically feasible, whether carving them out is fiscally sustainable is another issue, which calls for serious consideration. Despite the PRC's large contingent fiscal liabilities, its existing and actual debt level is still relatively low by the standard of both developing and developed countries. It stands at 18 percent in 2001. If the amount of bonds of 40 percent of GDP were to be issued at a real interest rate of 6 percent for the purpose of carving out NPLs and if the economy were to continue to grow by 7 percent per year, the PRC would still be able to maintain fiscal sustainability.[25]

There are at least two options the authorities could adopt to deal with the stock of NPLs. One is based on the Chilean example. The Central Bank or the Ministry of Finance could issue inflation-indexed bonds and then use the fund raised to purchase all NPLs from the state-owned banks. The state-owned banks, however, are not let off the hook. They should be forced to buy back non-performing loans at the face value with interest payments in a specific period of time, in the Chilean case, 10 years. Note that this strategy should be guided by two principles (Rojas-Suarez, 2002): 1) Parties that benefited from risk taking should be ensured to pay the cost of restructuring the banking system (i.e., the banks would have buy back their bad debt with interest payments). 2) To ensure that non-inflationary resources should be used to fund the costs of restructuring banks (i.e., the bond issued should be inflation indexed). Once NPLs were carved out, it would be easy to allow banks to issue equity to raise capital. In the process, the diversification of ownership of the state-owned banks can take place more smoothly since the valuation of banks has become easier. The proceeds from equity sales could be used to finance interest and principal payments of bond issued.

The second approach could be to allow individual banks to issue its convertible bonds for the amount of NPLs they need to carve out. The public could choose either to hold their bonds to maturity or to convert them into equity shares. The bondholders can be domestic and foreign, small and institutional investors. This approach actually completes two tasks with one instrument: carving out the NPLs from the banking system as well as a de facto diversification of ownership. Once the ownership is diversified, the corporate governance and control in management would be easier to implement since the non-state shareholders are generally more eager to

[24] A survey has been completed recently using the BIS 5 category loan classification standard by PBOC.

[25] The standard fiscal sustainability condition is $\Delta d_t = p_t + \{\frac{(r-g)}{(1+g)}\} d_{t-1}$, where d_t is the debt ratio as a share of GDP at time t; p_t is primary deficit; *r* is real interest rate; and *g* is real growth rate. If primary deficit is zero, the stock debt is declining and therefore sustainable only if *(r-g)<0*. That is, the growth rate, *g*, is higher than the real interest rate, *r*.

get their investment worth. After carving out NPLs, the focus should then be put on the flow issue of the problem.

The divesture of state ownership of commercial banks would require a new form of corporate governance structure. If there is a lack of large enough controlling shareholders, the state would have to continue play such a role complemented by other shareholders. However, this should not be used as an excuse for the state to continue exerting influences on bank lending and management even the banks have been *de facto* privatized. Here the lessons of privatization from India should be used as an example of what not to do.[26]

IV.b) Sequencing Domestic Financial Liberalization

Other than suitable corporate governance after the ownership diversification of the state-owned banks, in order to ensure information provided by banks is accurate and timely, an international accepted accounting and auditing standards need to be set up and enforced before the domestic financial liberalization. What is also important is that an effective and appropriate regulatory and supervisory framework based on the best practices of international standards is needed to be set up to insure the safety of the banking system. The adoption, however, should fit to the particular characteristics of the country's financial system. However, realizing prudential regulation takes a long time to build because of limited market infrastructure and institutional capacities, authorities should still use some proven effective individual transaction based monitoring and supervisory practices.[27] In fact the present state of emerging market has argued for applying some robust policy restraints to ease the complexity of supervision due to liberalization (Goldstein and Turner, 1996, Honohan and Stiglitz, 2001): Effective measures can be put on entry, composition of liabilities and assets, speed limit on loan amount, quantity and sector exposure.

- Restriction on entry: It can be in the forms of restriction of new licenses. Rules limiting the size of one shareholder's portion may have a similar effect.
- Restrictions on the composition of liabilities: The most common is the minimum capital requirements, whether in terms of a percentage of assets, weighted or unweighted for risk characteristics, or in terms of an absolute minimum amount. Another form is to require banks to issue subordinated debt, which allows market monitoring.
- Restraint on composition of banking assets: Constraints can be put lending sectors perceived as risky such as real estate.
- Restraints on the overall size of or growth of the loan portfolio, or generally on risk assets have often been imposed on an annual basis.
- Speed limits on loan growth and expansions in specific sectors.[28]

[26] India's partial privatization of state banks does not allow individual shareholders to possess more than 10 percent of voting rights. Thus it has effectively allowed the government to continue dominating the banking sector without meaningfully improving the corporate governance and the efficiency of the banking sector (Shirai, 2002).

[27] See Hellman, Murdock, and Stiglitz (200) for a theoretical arguments and Goldstein and Turn (1996) for arguments based on emerging market experiences.

[28] For example, Keeton (1999) shows that faster loan growth leads to higher loan losses when changes in loan growth were being driven by shifts in supply of loans. The data period for US states during

Diversified ownership of commercial banks does not completely exclude the state from exerting continued influence on commercial banks for concerns of social stability and equal access. Even in some developed countries, this would not be unavoidable. For example, the US has the Community Reinvestment Act to encourage banks to operate in low-income neighborhood to insure low-income groups' access to commercial banking. In Italy, subsidized bank loans were provided to poor region for regional development purposes. However, the subsidized portion of the loans was made via transparent budget process so banks do not have to be burdened by the subsidies.

Even though the aforementioned problems were resolved, Chinese banks would continue to be burdened by a series of impediments that require immediate attention and a new round of domestic financial liberalization. Ordered according to priorities, they are interest rate liberalization, domestic and foreign entry to improve competition, personnel and incentive structure, technology improvement and modern risk management practices.

a) Interest Rate Liberalization: The current interest rate is administrated by the PBOC based on demand for and supply of credits and the overall macroeconomic conditions. Interest rates charged by state commercial banks were allowed to move up or down by at most 20 percent of administratively set rate. However, for city commercial banks, UCCs, and RCCs the band of fluctuation from the official interest rate is 30 percent. In fact, the width of the band is implicitly set according to the presumed risks of their respective customers. SOEs are the major customers of the state-owned banks and collective and township and village enterprises are the main customers of small city commercial banks, UCCs and RCCs. Restrictions have been removed on interests charged to large depositors, for example, insurance companies. Though there are not specific restrictions against lending to the non-state sector, most of loans still went to SOEs and government-sponsored entities. There are several reasons that can justify the current lending pattern: severe information asymmetry between banks and private sector borrowers, lack of guarantees, creditable collaterals, and yet formed reputation and credit culture in the private sector. Presently, the narrowly set band is not enough to be used as a price-screening device to differentiate the potential risks of customers. Similarly, it is also difficult to use standard risk-management devices to contain lending risks. Interest rate control has been one of the major impediments for state-owned banks to lend to the non-state sector.

Despite advantages of interest rate liberalization, there are potential risks associated with it as well. The outcomes of interest rate liberalization are usually associated with the erosion of rents, increased uncertainty, and erosion of franchise value of banks (Capirio, Honohan, and Stiglitz, 2001).

Depending upon the sources of risks, liberalized interest rates are likely to erode existing rents of both borrowers and lenders. From the borrower's side, the loss of quasi-rent for previously subsidy-dependent borrowers may push them into insolvency, which in turn affects the level and growth rate of banks' NPLs and subsequently the banks' profitability. On the lender's side: if they fund long-term

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1982-1996 reinforces the view that unusually rapid loan growth tends to experience unusually large increase in delinquencies several years later.

fixed interest contract and if it is financed with short-term borrowing, they may feel immediate squeeze because of maturity mismatch. This has been typically experienced by housing finance companies around the world. Even if the lending is done on a floating rate, the lender may not be fully insulated from the rise of interest rate since only a part of interest rate risk can be hedged. The remainder may be transferred into credit risk. One extreme case has been the one occurred in Indonesia when high interest rates pushed majority of previously sound firms into default (Azis, 2001).

Liberalized interest rates would also tend to increase uncertainties in financial contracts and macroeconomic stability. Empirical studies (Honohan, 2001) have shown that liberalized interest rates are likely to affect both the level and dynamics of interest rates depending on countries. For most developing countries, the level and dynamics of interest rates have been higher than pre-liberalization period, though they may be not necessarily true for developed economies. The strength of these effects depends on the evolution of competition in the financial system. Thus the liberalization process alone often can often add macro instability as aggregate credit expands when financial institution sought to gain market shares.

Another source of macroeconomic uncertainty may be driven by government deficits. When government deficits were hit by high interest rate payments and were to be monetized, it would lead to expansionary monetary policy and therefore inflationary surge. Lastly, when institutions of enforcing contracts are weak and when hit by interest rate shocks, some borrowers may simply choose to default if they understand the contract will not be enforced easily.

Liberalized interest rate can also erode franchise value of the banking sector. As indicated by theory and empirical evidence, banks may bid up rates to the point where prudent lending practices are no longer profitable (Hellman, Murdock, and Stiglitz, 2000). Excessive risk taking is more likely when banks are already in a dubious position. When risk management skills are lacking in a high-interest and high-risk environment, management failure can also happen (Honohan, 1997). In addition, partially-decontrolled, poorly-designed, and excessively-prolonged sequencing may give rise of possibilities for regulatory arbitrage to take place, which in turn could render the gradualist interest rate liberalization ineffective.[29]

In terms of concrete examples, county experiences could act as a guide. Table 11 summarizes the experiences of countries that have already undertaken interest rate liberalization. The sequencing strategy actually varies from country to country because of different initial conditions and policy objectives. Most of our selected countries took a gradual and cautious approach to interest rate liberalization, with Indonesia being an exception. Indeed, Indonesia liberalized interest rate overnight. With respect to the sequencing order of lending vs. deposit rates, Republic of Korea and India first liberalized lending interest rate and then gradually move onto deposit rates because of concerns of excessive competition for deposits might take place and initial large amount of NPLs in the banking sector. Thailand liberalized deposit rates first because policy makers were more preoccupied with savings mobilization. Indonesia and Malaysia liberalized both deposit and lending rate simultaneously.

[29] As reviewed later, Korea appeared to have overstretched its interest rate liberalization process.

However, Malaysia liberalized interest rate by requiring all rates to be anchored to bank's declared base lending rate, which was then based on each bank's cost of funds after adjusting for the cost of statutory reserves, liquid asset requirements, and overhead costs. The actual costs of credits charged to borrowers were determined by the base lending rate as well as an interest rate margin based on the borrowers' own credit standing.

Interest rate liberalization in these selected countries was prompted by stabilization programs due to concerns on balance of payment crisis (India and Indonesia), credit to private sector (Indonesia and Republic of Korea), and the desire of reducing of directed credit (Indonesia and Republic of Korea).

On lending vs. deposit rate: Based on theoretical implications and empirical evidences, the general sequencing strategy is to liberalize the lending rate first and then the deposit rates so that the franchise value of the banking sector can be maintained. This is a valid approach unless the entry can be restricted. Otherwise, high interest rate margin and therefore high profits are likely to induce other firms to enter the banking sector and therefore drive down profits and eventually reduce the franchise value of the banking sector. The entry can take the form of bank entry as well as non-bank financial institutions such as finance companies and merchant banks. In addition, this gradualist approach should not take too long for reasons that the existing beneficiary may permanently capture the rents and rent-seeking behavior could create further distortions that interest rate liberalization intends to reduce.

Once lending rate was liberalized first, deposit rate could then be liberalized sequentially according to its maturity, size, and types of customers. For example, both India and Republic of Korea allowed the rates of large deposits to be determined between the depositors and the bank. Such concerns are based on country specific examples.

On short vs. long-term interest rates: There is not much guidance from theory as whether to allow short-term to be free first and then long-term rates or vice verse. In fact, theorists would argue that both short- and long-term rates should be liberalized simultaneously. However, rapid liberalization without necessary market, legal, regulatory, and supervisory infrastructures would tend to lead to bank failures and even the likelihood of systemic banking problems. This is perhaps the reason why most countries would like to establish a money market and an inter-bank market first so that monetary authorities are able to use these markets to conduct indirect monetary policy operations (Mehran, Laurens, and Quintyn, 1996) under the environment of liberalized interest rates. The conventional practice, perhaps based on these concerns, is to liberalize the market-driven and short-term rates first and then move on to liberalize the long-term interest rate. However, the risk associated with this sequencing strategy is that it may create a displaced yield curve: the short-term rate becomes higher than the long-term rate, which may in turn induce financial structures of corporations to short-term, causing severe maturity mismatch. An external shock could simply push borrowers into bankruptcy and in turn would cause banks to beset with a large amount of NPLs. The experience of Korean firms during the recent financial crisis (1997-98) illustrates this point well (Cho, 2001).

Given the danger of eroding existing banks' franchise value due to interest liberalization related competition, cautions should be put on bank branching requirements and banking licensing so as to maintain franchise value and prevent excessive branching and entry. Speed of deposit liberalization should be taken into account in light of the banking sector performance. Extended periods may cause existing banks to have excessive profits that may not be conducive to improve bank efficiency. In addition, initial conditions such as large NPLs and weak legal, regulatory, and supervisory frameworks should argue for restriction for excessive entry by maintaining adequate profit margin for existing banking to write off NPLs. However, this policy should not be kept for long to restrict competition.

These general sequencing guidelines on interest rate liberalization should be adapted to the PRC's specific country conditions. The current strategy of growing-out of NPLs in fact argues for allowing lending rate to be liberalized, controlling deposit rates, and in addition to restriction of entry into the domestic banking sector so as to avoid excessive competition. This would allow banks to increase their interest rate spread margin and therefore obtain high profits. The profits made should be used to write off bad-loans, improve information system and computerization, and raise salaries for talented managers. However, the time period should be restricted to 5 years before foreign entry becomes full-fledged. Such a strategy also applies to the case where all NPLs are carved out in one big step since banks are still asked to pay for the bad loans they transferred.

The PRC has already had a limited money market, but it is still segmented by region and a nationwide market is yet to form. The current market size is still relatively small that PBOC is still not able to utilize it for indirect monetary policy purposes. Other technical problems also complicate the implementation of indirect monetary policy operations. Although treasury bills have been issued by the MOF, there is still a lack of calendar because of current budgetary process in the PRC.[30] Regular issuing of bonds as well as allowing trading in the secondary market would allow the market determined yield curve, which would also help with the pricing of other financial assets, including bank loans. It will also facilitate the risk management practices of banks. Thus, this segment of market development should be pushed forward even for the purpose of facilitating interest rate liberalization.

b) Domestic and Foreign Bank Entry: Theory and empirical evidences have persuasively shown that interest rate liberalization combined with relaxing the entry requirement can be a deadly dose for bank failures and possibly systemic crisis. Liberalized interest rates plus relaxed entry requirements would have a negative impact on existing banks' profits, induce banks to gamble, and therefore endanger banks' franchise value. The PRC already has a sizable number of banks and financial institutions. The key is how to re-organize the current banking system so that the 4 mammoth-like state-owned commercial banks can be transformed into lean, nimble, and competitive ones. If ownership were to be diversified, the bank sector organization issue would become relatively easy as market itself can determine

[30] The present budgetary outcome could only be found out at the end of a fiscal year. The MOF has limited information on its monthly need for cash so it is difficult to set calendar to regularly issue treasury bills. However, such technical problems could be overcome even without the change of budgetary procedure. Some kind of estimation of total cash needed can be first estimated, then a calendar based on such estimation can still be determined.

whether they should be torn apart, whether some of their operations can be acquired or even merged either with domestic or foreign partners. If there is no ownership diversification, it could still be re-organized. However it must be done according to some sound principles of industrial organization and well-contemplated rationales based on concerns of efficiency and competition. Otherwise, simply using administratively driven mandate could make existing banking structure even worse.

In serving the SMEs and the rural sector, small and medium sized banks or financial institutions play an important function. This has been the success story in Taipei,China (Lin, et. al, 1999). However, the current operation mode of UCCs and RCCs in the PRC has been out of date and they have not served SMEs and rural sector well. Due to very weak internal control, they are currently ridden with a large amount of bad debt. By various estimates, NPLs have been extremely high in RCCs (Xie, 2002). RCC reform is thus urgently needed. There have been many successes and failures can be learned from the international experiences. Perhaps Taipei,China's experiences in this segment of financial institution development serves as an example for the Mainland.

The entry of non-bank financial institutions raises the risks of regulatory arbitrage. Leveling the playing field for banks and NBFI and limiting arbitrage in regulation, business scopes are essential to reduce such risk. For example, the Republic of Korea's experiences of financial sequencing by allowing non-bank financial institution to enter into lucrative short-term commercial papers market under lax supervision may have caused corporations to borrow short and invest in long term projects, thus exacerbating maturity mismatches of firms and posing danger to the financial sector (Cho, 2002).

Financial sector liberalization may also leave banks with high-risk borrowers and thus reduce bank profitability. This is the often-cited case for Japan. After the financial sector liberalization, reputable firms can easily access the bond market, and therefore leave banks with high-risk customers (Kanaya and Woo, 2000). While encouraging bond market to develop, proper sequencing should be taken into account so that banks would not have to suffer the loss of valuable customers.

The imminent entry of foreign banks has been viewed as both threats and opportunities to Chinese banks. It is viewed as a threat to domestic banks because that the present strength of domestic banks is simply too weak to be able to compete with foreign banks. It is thought that foreign banks would "cherry-pick" customers and therefore leave Chinese banks with high risk ones. It is viewed as an opportunity in that it could act as impetus for domestic banks to change as competition increases. The role of foreign banks in emerging market economies has always been a controversial issue.[31] Arguments for foreign bank entry into domestic banking market are mainly based on increased funding sources[32], improved quality of financial services (Levine, 1999), bank efficiency spillovers (Claussens, Demirguc-Kunt, and Huizinga, 1998, Bonin and Abel, 2000), and greater stability of credit in time of financial stress (Goldberg, Dages, and Kinney, 2000). The presence of foreign banks

[31] See Goldberg, Dages, and Kinney and Graham (2001) for detailed surveys.
[32] This actually depends on the form of foreign entry. In general, branch offices tend to lend less to domestic customers than subsidiaries. This has been the experiences of the Czech Republic (Racocha, 2002).

also helps improve host country's financial market infrastructure by encouraging entry of a range of supporting industries such as credit rating agencies, accounting and auditing firms, and legal service (Glaessner and Oks, 1994). These supporting financial industries will allow host countries to build up the monitoring capacity of private markets so as to improve much needed transparency and to reduce information asymmetry. For example, Cho (2001) shows that the local credit rating agencies before the Republic of Korea's financial crisis had awarded very generous ratings to local firms, thus rendering their ratings with no information content to investors. The participation of international rating agencies, in spite of their imperfect rating behaviors in emerging markets,[33] tends to bring much needed reputation capital, expertise, and market experiences to local markets. In fact, credit ratings in matured markets have been proven to be effective means for average investors to gauge investment risks.

Arguments against foreign bank participation are mainly based on fears that 1) domestic financial industry is a strategic industry that is best controlled by domestic interests; 2) foreign entry increases competition and foreign banks "cherry-pick" customers and markets; and 3) foreign banks are likely to facilitate capital flights when capital account is open. Indeed, on the competition ground, empirical evidence does indicate that an increase of foreign bank shares leads to a lower profitability of domestic banks.[34]

The presence of foreign bank in the PRC is still relatively small. Among them, there are 32 foreign banks with RMB licenses; but they could only operate in restrictive areas. Total assets of foreign banks only account for 2 percent of the PRC's banking assets. Their businesses are restricted geographically and they can only serve foreign funded enterprises and individuals using foreign exchange transactions. Based on the current status of foreign banks in the PRC and their expected roles in the future, there are two views on the possible impact of foreign entry on the PRC's banking sector (Dages, 2002). One view is that there would still be a limited impact of the entry of foreign banks. The rationales are that foreign banks are not likely to expand significantly because they are likely to be constrained by limited acquisition opportunities, growth restrictions by regulatory impediments, and their own concerns on accounting and legal environment. In addition, the further reform would extend Chinese banks' home court advantage with their extensive customer relations, implicit government guarantee of deposits, and their formidable size of assets. Another view is that foreign banks are likely to have significant impact on the PRC's banking sector. Domestic banks presently are facing competitive disadvantages as they are burdened by a large amount of NPLs, an uncompetitive salary system, lack of risk management skills, and still subject to residual policy lending. The PRC's strong growth may continue attract a large amount of non-financial FDI. As a result FDI in the financial service would follow. With increased presence of foreign banks, they could "cherry-pick" the best credits, growth areas, and best talents. Therefore, they could pose as strong competitors to existing Chinese banks.

Neither of the speculations on the possible impact of foreign banks may be materialized if there is political will in ownership reform of the state-owned banks.

[33] See Liu and Ferri (2001) for a review of the track records of credit ratings by global credit rating agencies such as Moody's and S&P's on emerging market economies.
[34] Classens, Demirguc-Kunt, and Huizinga (1998).

Should this be the case, foreign bank entry can in fact be a blessing in disguise. Foreign banks can bring in much needed financial resources, expertise, and technology. As argued elsewhere of the paper, foreign capital and expertise can be used to carve out NPLs as well as their disposal. Foreign banks can also bring in modern risk management technology and best practices to the PRC so that the overall efficiency and services can be improved.

Further studies that can examine the best mechanism the presumed benefits of foreign entry can be achieved are still needed. For example, there have been known that foreign subsidiaries tend to provide all ranges of banking services to host countries compared with branch offices. Therefore, the optimal entry requirement could be designed with an orientation to encourage subsidiaries of foreign banks to enter domestic market. In addition, how best to design and set entry requirements for foreign banks so as to bring about enhancement of domestic regulatory framework and the diversification of risks is still a remaining issue. If done properly, the PRC perhaps can be in a best position to capture the full benefits of foreign bank entry.

Nonetheless, increased foreign bank presence will also raise technical and policy concerns. In the area of foreign supervision, increased presence will challenge bank examination resources further; greater complexity of operation in foreign banks requires enhanced technical expertise and supervisory skills; increased involvement of retail activities raises issues of subsidization and deposit insurance implement; and increasing scale may require increased coordination of home country supervisors (Dages, 2002). In the areas of policy concerns, the increased presence of foreign entry would also raise the urgency of the issues in dealing with NPLs, ownership of state banks, and whether financial service liberalization would tend to speed up the convertibility of capital account.

c) Incentive Structure and Personnel System: Experiences of developing countries have shown that talents in either the central bank or other state-owned financial sector tend to be poached by private domestic and foreign companies that could offer competitive salaries. Personnel system at the Central Bank and state banks need to be changed to keep existing talents as well as to attract new ones. The Central Bank should be allowed to have its own budget so as to compensate its professional staff with a market-based salary. The personnel and incentive system at the state-owned banks should not be an issue if the ownership changes have taken place. Otherwise, the state banks are simply not able to compete with private sector if its salary, personnel, and incentive systems remain the same.

d) Technology Improvement and Modern Risk Management Practices: One of the best assets, which is still under-utilized in the PRC's state-own commercial banks, is perhaps its extensive networks and information about its depositors and borrowers. This is in fact an important part of banks' franchise value. Such value could be fully realized if modern information technology can be implemented and applied. The implementation can be used to determine customers' credit-worth, default probability, fund-using pattern, as well as all other idiosyncratic information that is not available in other segments of the financial market. This information, if properly processed and well analyzed, can be very valuable for management decision-making, financial products design, and risk management.

V: BASIC INSTITUTIONS REQUIRED FOR SUCCESSFUL FINANCIAL REFORM

The PRC's WTO accession would greatly facilitate its institutional convergence to the norms of international standard. Studies have shown that the convergence has in fact explained much of its past success and will continue to do so (Woo, 2002, Sachs and Woo, 1997). Further institutional experiments are little desired or needed if the PRC's long-run goals of institutional change are clear (Woo, 1998). The PRC can no longer afford to operate outside of the mode of market economy if its eventual goal is to build a market economy. This self-evident truth will also apply to the PRC's banking sector and sequencing strategy. The minimum institutions required in the near term are the ones that can deal with NPL resolution, strengthen bank supervision, allow a flexible but relatively stable exchange rate after WTO, and allow successful capital account liberalization.

Chile's successful second try in resolving its NPLs in the banking problem and its subsequent success in creating a resilient banking system indicates the importance of using non-inflationary policy to fund the restructuring costs of the banking system. This is perhaps the reason why Chile succeeded, whereas Argentina failed, in establishing a sound banking system despite the fact that both countries suffered from a similar size of fiscal losses as a share of GDP (Rojas-Suarez, 2002). Because of high inflation, Argentina suffered severe disintermediation in the banking system that is evidenced by the sharp decline of deposits to GDP ratio. The fiscal and monetary discipline in Chile required that resolution of NPLs be non-inflationary. As a result, Chile's deposit to GDP ratio has gone up steadily to more than 50 percent of GDP. Non-inflationary policy also facilitated private pension funds with incentives to acquire the recapitalization bonds because of secured returns. The participation of pension funds in the process allowed the long-term funding for the resolution of NPLs. In fact, it was also good for pension funds as they can match long-term savings with long-term and safe investment. As a result, it could even have a positive impact on Chile's capital market development.

Domestic financial liberalization would certainly increase macroeconomic volatility through aggregated credit expansion induced by increased competition and interest rate liberalization. Fiscal and monetary disciplines are important to alleviate macroeconomic volatility. Prudent budget institutions, combined with independent central banks are proven to deal with shocks better. Prudent fiscal policies, however, do not require countries to have a balance budget. In fact, balanced budget laws at the national level are neither necessary nor sufficient conditions to insure fiscal discipline. In an empirical study on the Latin American countries' fiscal making institutions, Alesina et al. (1996) find that more hierarchical[35] and transparent procedures are associated with lower primary deficits in sample countries spanning from 1980 to 1993. Similarly results are also found for OECD countries (Von Hagen, 1992).

As Figure 5 indicates, the past stable macroeconomic environment has greatly contributed to the PRC's financial deepening, as indicated by M2 as a share of GDP which stands at 156 percent of GDP in 2001. If the Chilean example can be

[35] A fiscal institution labeled as hierarchical has a property that it limits the democratic accountability of the budget process. The opposite type of fiscal institution is labeled as collegial which expands democratic accountability (Alesina and Perotti, 1996).

replicated, the funding need for the resolution of NPLs in the PRC does not have to be inflationary. In fact, the PRC could link its on-going pension reform with the funding need of the NPL resolution. The lack of long-term, low-risk investment alternatives that can match long-term savings with long-term investments has limited the options available to Chinese pension managers. Should NPL resolution bonds be inflation indexed, they could also be good investment alternatives for the PRC's pension funds. Furthermore, the contractual savings institutions such as insurance companies may also want to acquire such bonds since they suffer limited options in investing their premiums as well. Indeed, if well executed, the NPL resolution bonds could be used a catalyst for speeding up the bond market development in the PRC.

As mentioned elsewhere, if account for contingent fiscal liability, the PRC's fiscal debt would be well over 100 percent of GDP, which indeed calls for a careful consideration and design on a public debt management scheme. Such scheme should be first consistent with fiscal discipline and sustainability. Then the design should also be a part of a program intended for the bond market developments. The public debt management scheme should take into consideration of maturity and yield structure so that the debt service structure of government debts can be smoothed intertemporally.

Politically controlled central banks are found to be more likely to purse policies that tend to lead to high and variable inflation, even though there is little evidence that political control of central bank policy has any impact on measures of the level or variability of growth, unemployment, or the ex ante real interest rate (Alesina and Summers, 1993). Similarly results are also found in Cukierman (1995. However, central bank independence can only work if is backed by prudent fiscal institution. The recent collapse of Argentina's currency board system illustrates that without fiscal prudence, there is no credible way a country can have stable and sustainable macroeconomic conditions. A more independent Central Bank for the PRC would safeguard price stability in spite of the large funding need for NPL resolution.

Since banking supervision is the responsibility of the PBOC, an independent PBOC will also tend to entrust more powers and authorities to bank supervisors. Less political interference will allow supervisors to use Prompt Corrective Actions to restrict expansion of undercapitalized banks, intervene, and close failing banks.

Experiences in other emerging economies have shown that the central banks are increasingly competing for talents with private sector when financial service liberalization takes place. If an independent central bank were allowed to set its own salary system, the outflow of talents from the central bank would be less likely to occur. This would help maintain and even increase professional competency during the financial liberalization.

If interest rates were liberalized, a Central Bank would have to conduct monetary policy using indirect and market based instruments. A range of market infrastructure is needed for such purposes. As discussed before, a well-functioning money market would help the central bank to use indirect instruments to manage liquidity of the banking system.

Although empirical evidence has indicated macroeconomic performance is not guaranteed for successful financial liberalization,[36] prudent fiscal and monetary policy making institutions can nevertheless help reduce excessive volatility induced by increased risks due to both domestic and external financial liberalization. Thus, it is always desirable to have institutions that can safeguard fiscal and monetary policy-making processes.

The PRC survived the financial contagion during the 1997-98 East Asian financial crises relatively unscathed in spite of its relatively weak banking sector (Table 12, 13, 14). Many have attributed to its inconvertible currency and its closed capital account (Fernald and Babson, 1999). However, capital control has become increasingly ineffective as indicated by large illegal outflows (Figure 6). The euphoria associated with the PRC's accession to WTO, which may be mainly driven the expected and deepened trade sector reform as well as the expected opening of the financial service sector, would probably induce surges of capital inflows. Surges of capital inflows are typically associated with widening current account deficits, higher consumption growth financed by inflows, weaker monetary control and rising or sustained high inflation, and as a result, some real appreciation of the host country's exchange rate. Surges of capital inflows are also vulnerable to sudden reversal, causing severe disruption to the host country economy, particularly to the banking sector when the ability of the banking system to intermediate a large increase of credit is weak.[37]

The causes of the surges of capital flows are both domestic and external. From a host country perspective, domestic structural reforms, including the domestic and external financial liberalization, may remove existing distortions and improve the potential productivity, thus making the return of external capital inflows profitable. In addition, tightened credit policies at the host country that make domestic interest higher than the external can also induce capital inflows. The external effect could also be induced by the changed economic expectation of the host economy because of its domestic liberalization and structural reform. Similarly, the lowering of foreign interest rates and recession in developed economies make portfolio managers to look for external sources for high investment returns.

Policy responses in dealing with the surges of private capital flows can be categorized into short-term and long-term ones. The short-term policies include sterilization and putting administrative control such as using tax policies to slow capital inflows. Though sterilization is quick to implement, it is costly and tends to induce more foreign capital to flow in further.[38] It is costly because that the central bank has to pay the interest rate difference between domestic and foreign assets. It also induces further capital inflows because by increasing the supply of bonds, it puts upward pressure on domestic interest rates and thereby sustain the attractiveness of

[36] See IMF (1999).
[37] The discussion in this section is drawn from Schadler, Carkovic, Bennett, and Kahn (1993).
[38] Open-market operations are just one of many ways to reduce increased capital inflows on monetary aggregates. Some other forms, for example, increases in reserve requirements on all or selected bank deposits, various types of central bank borrowing from commercial banks, and shiting of government deposits from commercial bankd to the central bank, raising interest rates on central bank assets and liabilities, curtainiling access to rediscount facilities, direct credit controls, and sale of government liabilities (Schadler et al., 1993).

domestic assets for foreign investors. Exchange rate policy should be flexible to reflect the surges of capital inflow. Fiscal policy should be contrarian to slow consumption growth and narrow the current account deficits. In addition, some microeconomic policies such as trade reform, liberalizing capital outflows, financial liberalization, and a Chilean style of non-interest-bearing reserve requirement of 20 percent on external credits are also useful policies in dealing with surges of capital inflows.[39]

Perhaps among these policy options, the most effective one that can manage capital flows well is an appropriate exchange rate regime. At present, the PRC officially has a managed-float exchange rate policy. Since the unification of the dual exchange rate system in 1994, the exchange rate has not yet been adjusted and the PRC has operated a *de-facto* US dollar pegged system. Daily RMB/US dollar exchange rate movements are limited within a tight band of 0.3 percent of the base rate. Though the capital account has been tightly controlled, the current account convertibility has been established since 1996. The PRC did not succumb to the temptation of devaluing its currency during the 1997-98 East Asian financial crisis and its exchange rate stability served the PRC and other economies in the region well. However, the de facto US dollar peg system may create an illusion among investors that the PRC may fix its exchange rate permanently, which may in turn induce an under-estimated exchange rate risk.

In fact, there are good reasons that the current exchange regime may be subject to changes after the PRC's accession to WTO. First, trade reform in areas of tariff reduction and import restriction may lead to a surge of imports. The empirical evidence has been that for most developing countries, the reduction of tariffs has led to increased imports and therefore a current account deficit. If the current account deficits were to be worsened, it would certainly have negative implications for the current stability of the exchange rate. WTO accession will also accelerate liberalization of trade in goods and services and FDI inflows, including the entry of foreign financial institutions in RMB business. The liberalization in these areas would certainly speed up the ongoing restructuring in SOEs and SOCBs and these structural changes would tend to exacerbate the current unemployment problem in the state sector. In addition, the increased integration of the Chinese economy with the world economy would reduce the effectiveness of capital controls and produce large leakages. Second, the yen-dollar exchange rate has been rather volatile in the past. The continued weakness of the Japanese economy is expected to increase the volatility. Japan is a major market for Chinese exports and although the PRC and Japan are rather complementary in trade,[40] the weakness of yen could lead to a negative implication for Japanese FDI to the PRC. The current US dollar peg system simply does not take this into account. Third, major emerging economies in the region have already shifted to greater exchange rate flexibility since the 1997-98 currency crisis (Figure 7). The PRC's trade pattern, to a varying degree, tends to compete with these economies in a third market. These factors may force authorities to re-think about the exchange rate flexibility and the current US dollar peg regime is too rigid to

[39] It was imposed in 1991 on new credits from abroad and then extended to all outstanding external credits. In 1992, reserve requirements were extended to cover foreign loans to foreign currency deposits held by commercial bans. The unremunerated reserve requirements intend to encourage borrowing with longer maturity.

[40] See Kwan (2002) forevidence of this issue.

cope with these expected changes in the domestic economy and the recent developments in the region.

Thus, an exit from the current de-facto US dollar peg would be desirable to increase capacity to absorb various external shocks. A recent IMF study (1998) on the exit strategy points out that exit must be made at a time of good macroeconomic fundamentals, not at a time of turbulence or crisis. Kawai (2001, 2002) has suggested the PRC should exit gradually from the US dollar pegged region by gradually widening the band in which the exchange rate is allowed to fluctuate. Then, the central exchange rate should then be linked with a basket of major currencies such as the US dollar, yen, and the euro. A currency basket system can preserve both flexibility and stability of the exchange rate, which could serve well the needs of the PRC's economic transition and development. With capital controls still in place, a currency basket system would allow authorities to enjoy a certain degree of monetary independence. The PBOC may adopt inflation targeting where the targeted inflation is a weighted average of the inflation rates of major currency countries. The weights are the same as those in the currency basket. A currency basket system could ensure long-term stability of both prices and exchange rates, while reducing short-run exchange rate volatility.

The drawback of the currency basket system, however, is that it may be difficult to implement given that the exchange rate has to be adjusted almost daily. The adjustment mechanism may not be transparent in that it could confuse the market expectation. This could in fact increase short-term volatility of the exchange rate, rather than reduce it. Since the PRC's trade with other countries is still invoiced using US dollars, the basket currency system may also give rise of difficulties in contracting trade transactions.

A shift of the PRC's exchange rate system would increasingly have to take Hong Kong exchange rate system into consideration because of already close integration of the economy of Hong Kong with that of the Mainland. A change of the PRC's exchange rate system would certainly affect the Hong Kong dollar peg. Although Hong Kong is well positioned to withstand uncertainty and turbulence in the currency markets created by the PRC's move, its currency board system may need some modifications to take into account of the changed economic reality which is quite different from the time when the currency board was established. The Hong Kong exchange rate system would be made easier if the PRC achieves capital account convertibility in the future. A currency union would be a logical step.

The short-term potential exchange rate movement in the PRC is unlikely to create unfavorable impacts on other emerging economies in the region as they have already reduced vulnerabilities through running current account surpluses, accumulating foreign exchange reserves, and reducing short-term external debt, and shifting to greater exchange rate flexibility. However, the PRC's exchange rate movements would certainly have implications for the competitiveness of these countries. If the PRC shifts to a currency basket system, other regional economies may be encouraged to do the same. Should this be the case, closer regional financial cooperation would be needed. This would be indeed a first step towards a long road of an East Asian currency union.

Increased economic integration of the Chinese economy with the world economy would make capital controls more and more ineffective and financial service liberalization in banking, securities, and insurance markets may shorten the expected transition to capital account convertibility. As foreign banks are able to do RMB businesses with Chinese firms and individuals in 2 to 5 years, monitoring of individual capital account related transactions would become a tremendous task. This is especially made difficult with increased sophistication of financial innovations and engineering such as derivatives. Derivatives have made standard balance of payments statistics misleading, thus complicating effective monitoring of short-term capital flows from the official sector. Garber (2001), using the case of Mexico during its 1994-95 crisis as an example, demonstrates that derivative products have made on-balance sheet information on the overall national balance sheet unreliable. It is thus crucial to look at off-balance sheet of position taking in order to make a good sense of capital account data. Unfortunately, this still remains as a blind spot in both national and international surveillance of capital flows.

Rather than simply using capital controls, steps need to be taken to eliminate restrictions on capital outflows and long-term capital inflows. This is because FDI would be restricted if there were restrictions on outflows. Perhaps what is more important is to set up adequate legal and judicial systems for treatment of debtor and creditor rights. If rules on collateral and bankruptcy procedures are clear and property rights can be enforced, uncertainty and panic would be less likely to occur and an orderly exit would cause less disruption to the banking and other financial system. Even so, sentiments on emerging markets may be independent from the economic fundamentals of the host country. For example, theoretical models, based on empirical evidences, have indicated that financial crisis can be triggered by self-fulfilling expectation (Obstfeld, 1996), herd behavior by portfolio managers (Calvo and Mendoza, 2000), and the impossibility of smoothing out local liquidity shocks owning to the incompleteness of the structure of inter-regional claims (Allen and Gale, 2000). Therefore, mechanisms to deal with sudden reversals of inflows should be in place. This would require accumulation of foreign liquidity in governments and banks, stabilization funds to offset sudden changes in commodity prices, and prudent fiscal stance of the government (Rojas-Suarez, 2000).

Capital account liberalization requires a carefully designed sequencing strategy. Degree of liberalization depends on country's circumstances and what the banking sector can do in terms of managing different types of risks and in particular the currency and maturity risks (Table 15). If the banking sector is not ready to handle currency risks, authorities should avoid premature liberalization, as re-imposition of controls would make it very difficult to regain access to international capital market when later needed. Indeed, before allow banks to access international capital market, information disclosure, capacity of monitoring capital flows, and mechanisms of discourage excessive capital inflows and outflows also need to be in place before external financial liberalization. Country experiences have amply indicated that without considering these basic institutions it is often too easy for countries to fall into prey of the adverse effect of surges of capital flows and their later reversal. Latin American experiences in the early 1980s and recent crisis in East Asian countries are such examples.

Supervision of domestic financial institutions' external exposure should be further strengthened. Some practical measures that have proven effective in dealing with currency mismatches should be adopted in accordance with initial conditions of the host country. For example, Japanese banks before April 1998 had been bound by restrictions on net foreign exchange position under the Foreign Exchange and Trade Control Law. The net foreign exchange position restrictions were prudential rules and intend to safeguard Japanese banks from suffering from excessive foreign exchange losses by requiring international active banks in Japan to fund their foreign currency denominated assets with foreign currency liabilities (Koo, 1998).[41]

To reduce currency and maturity mismatches, perhaps the PRC should start to think about the need to build broader and deeper longer-term credit markets so as to avoid double mismatches: pension reform, bond and capital market development, and strengthening legal infrastructure are the steps in the right direction. These market infrastructures help alleviate financial structure and diversify risks, which in turn would also help the interest rate deregulation.

Currency mismatches cannot be resolved by the domestic lender of last resorts alone simply because domestic central banks are not able to print hard currency if foreign exchange reserves are running out. International lender of last resort facility should be strengthened. This has become an overarching issue after the recent crisis in East Asia, Russia, and Latin America. Perhaps to complement the global arrangement, regional central bank credit arrangement and regional monetary arrangements should also be considered as possible alternative to prevent a capital account type of crisis as happened in East Asia (Bergsten and Park, 2001).

VI: CONCLUDING REMARKS

The decline of the PRC's state fiscal resources, an outcome of more than 20 years of economic transition, foresees the inevitability of the state's withdrawal from the production side of the economy. The state would have to exchange ownership and control for badly needed fiscal resources in order to meet the most pressing need of establishing a nationwide social safety net. The social safety net would insure social stability and the regime's legitimacy to finish the last step of transition to a market economy. As the economy slows, the unemployment pressure has made the transition increasingly more difficult. State-owned banks had in the past been used to fund the fiscal shortage to ensure social stability. However, it has become apparent that such a funding strategy was not sustainable as huge amount bad loans are threatening macroeconomic stability. Urgent solution thus must come up to dissolve the potential banking crisis, which then requires a decisive resolution of NPLs and ownership reform in the banking sector. Limited state fiscal resources also prevented a decisive resolution of NPLs and recapitalization of the insolvent state-owned banking sector. As the PRC is still a bank-dominated economy and will tend to stay so for many years to come, a dilapidated banking sector would be a serious impediment for maintaining a sustainable high growth rate in order to keep unemployment low and the transition less painful. In fact, the recent economic slowdown has been a direct outcome of

[41] For example, at the end of 1997, Japanese banks' foreign-currency denominated assets were 165.9 trillion yen and the foreign-currency denominated funds raised were 164.2 trillion yen (Koo, 1998).

sharp decline of the loan growth of state banks. The NPLs resolution and the banking sector reform must be pushed forward.

This is particularly urgent as the PRC's WTO accession would accelerate structural changes and thus exert more pressures on the non-performing SOEs. Unemployment pressure is expected to increase. In addition, the imminent entry of foreign banks would put competitive pressures on Chinese state-owned banking sector as well, threatening its survival.

The same harsh reality would also force the state to relinquish its ownership and control of the state-owned banking sector in exchange for precious financial sources to carve out NPLs and recapitalize state-owned commercial banks. If there is political will on the ownership reform, it is not difficult for the PRC to quickly carve out NPLs from the state-owned banks and re-capitalize them. If combined with domestic financial liberalization, the PRC's banking sector can in fact be a powerful engine again for sustained economic growth.

Some basic institutions are required to insure the success of the domestic financial liberalization. The PRC needs a prudent fiscal institution that would impose fiscal discipline on government spending. It also needs a public debt management scheme that would insure debt payments are smoothed intertemporally. Such a program should take into the consideration of fostering the bond market development.

The PRC will also need an independent Central Bank to safeguard price stability, provide effective banking supervision, and maintain a competent professional staff to steer a successful domestic financial liberalization.

Euphoria associated with domestic reform may induce large capital inflows. Other than prudential regulations and risk management skills, the PRC needs an appropriate exchange rate regime in order to manage surges of capital flows effectively. The optimal design of an appropriate exchange rate regime is further complicated by the monetary system in Hong Kong as it is operated on a currency board system. Perhaps a currency basket system would be appropriate for the PRC. However, its implementation and actual operation may suffer from transparency and expectation issues in the currency market.

Capital controls are ineffective in the long run. The PRC may be forced to liberalize its capital account as its economy is well integrated into the world economy and foreign financial institutions will be able to conduct RMB business for Chinese enterprises and individuals. Financial derivatives have made monitoring of individual capital account related transaction difficult and on-balance sheet balance of payment statistics unreliable. In addition to an appropriate exchange rate regime, the PRC would have to use other ways to manage capital flows. This would include a better risk management ability in the financial sector and strengthened legal and judicial system to oversee bankruptcies and protect property rights. In addition, since large capital flows in a globalized financial market can induce financial crisis in emerging market economies regardless their economic fundamentals, thereby there is a need for the PRC to engage in and play an active role in regional monetary arrangement in addition to the already existing global monetary arrangement.

The past reform in the PRC has brought about unprecedented economic growth and prosperity to the Chinese people. The PRC no longer lacks institutions, capital, entrepreneurs, and bureaucrats needed to carry out the unfinished final stage of the economic evolution towards a market economy. The success of the PRC's next stage of economic transition to a large extent hinges on political will of the leadership towards ownership reform. There maybe still exist the scope, pace, and sequencing strategies of proceeding the inevitable ownership reform. But the leadership must have political will to cross the Rubicon.

REFERENCES

Alesina, A., R. Hommes, R. Hausmann, and E. Stein (1996) "Budget Deficits and Budget Procedures in Latin America," Inter-American Development Bank, *Unpublished Manuscript*.

Alesina, and L. Summers (1993), "Central Bank Independence and Macroeconomic Performance: Some Comparative Evidence," *Journal of Money, Credit, and Banking*; 25(2), May, pp151-62.

Alesina, A. and Peroti, R., (1996) "*Budget Deficits and Budget Institutions," NBER Working Paper*, 5556

Allen, F., and D. Gale (2000), "Financial Contagion," *Journal of Political Economy*, Vol. 108, pp1-33.

Arora, V. B. and J. Norregaard, (1997), "Intergovernmental Fiscal Relations: The Chinese System in Perspective," *IMF Working Paper*, WP/97/129.

Azis, I., (2001), "Modeling Crisis Evolution and Counterfactual Policy Simulations," ADB Institute Working Paper, No. 23 (August).

Barth, J., G. Capiro, and R. Levine, (2001), "The Regulation and Supervision of Banks
Around the World: A New Database," World Bank (February).

Bergsten, C. F. and Y. C. Park, (2001), "Rationale and Need for a Regional Monetary Arrangement in East Asia," *Unpublished Manuscript*, ADB Institute.

Borensztein, E., J. Zettelmeyer, and T. Philippon, (2001), "Monetary Independence in Emerging Markets: Does the Exchange Rate Regime Make a Difference?" IMF Work Paper 01/1.

Calvo, G. A., (2000), "Capital Market and the Exchange Rate with Special Reference to
Dollarization Debate in Latin America," Dept. of Economics, University of Maryland, *unpublished manuscript*. (http//www.bsos.umd/ed/econ/ciecalvo.htm)

Calvo, G. A. and E. G. Mendoza, (2000), "Rational Contagion and the Globalization Of Securities Markets," *Journal of International Economics*, Vol. 51, pp.79-113.

Calvo G. A. and C. Reinhart (1999), "Capital Flow Reversals, the Exchange Rate Debate,
And Dollarization," *Finance and Development*, pp.13-15, (September).

Calvo G. A. and C. Reinhart (2000), "Fear of Floating," Dept. of Economics, University
Of Maryland, manuscript. (http//www.bsos.umd/ed/econ/ciecalvo.htm)

Caprio, G. Jr. and J. Hanson (1999), "The Case for Liberalization and Some Drawbacks,"
World Bank, unpublished manuscript, (June)

Caprio, G. Jr., P. Honohan, and J. E. Stiglitz (1999), "Financial Liberalization: How Far
And How Fast? Introduction and Overview," World Bank Manuscript. (July)

Caprio, G. Jr. and D. Kingebiel, (1997) "Bank Insolvency: Bad Luck, Bad Policy, or Bad
Banking?" in *Annual World Bank Conference on Development Economics*, M. Bruno and B. Pleskovic (eds.) The World Bank, Washington, DC.

Cho, Y-J., (2001), "Financial Crisis in Korea: A Consequence of Unbalanced Liberalization?" *World Bank, Unpublished manuscript*.

Chow, G. C., (1993), "Capital Formation and Economic Growth in China," *Quarterly Journal of Economics*, Vol. 108 (3), pp.809-42 (August).

Claessens, S., A. Demirguc-Kunt, and H. Huizinga, (1998), "How Does Foreign Entry Affect the Domestic Banking Market?" World Bank Working Paper.

Cukierman, A. (1994) *Central Bank Strategy, Credibility, and Independence: Theory and Evidence* (Cambrige and London) The MIT Press.

Dages, G., (2002), "Foreign Bank Entry into Emerging Markets," *Asian Policy Forum*, ADB Institute, Tokyo (February).

Demirguc-Kunt, A. and E. Detragiache, (1998), "Financial Liberalization and Financial Fragility," *IMF Working Paper* 98/83.

Djwondono, J. S., (2001), "Indonesia's Experience of Sequencing Financial Liberalization," *Unpublished manuscript*, ADB Institute.

Dornbusch, R. and F. Giavazzi (1999), "Head Off China's Financial Crisis," in *Strengthening the Banking System in China: Issues and Experience* BIS Working Policy Paper No. 7.

Garber, P. (2001), "What You See Versus What You Get: Derivatives in International Capital Flows," in

Gobi, G., (1996), "Government Credit Facilities and Inter-bank Market Development in Italy," in H. Mehran, B. Laurens, M. Quityn edited *Interest Rate Liberalization and Money Market Development*, International Monetary Fund. Washington DC.

Goldstein, M., and P. Turner, (1996), "Banking Crises in Emerging Economies: Origins And Policy Options," *BIS Economic Papers*, No. 46 (October).

Goldberg, L., G. Dages, D. Kinney, (2000), "Foreign and Domestic Bank Participation In Emerging Markets: Lessons from Mexico and Argentina," *NBER WP* 7714.

Graham, E. M., (2001), "Opening up the Banking Sector to Competition from Foreign-Owned Banks: Issues and Strategies," Institute for International Economics. *Manuscript*.

Hanson, J. (1974), "Optimal International Borrowing and Lending," *American Economic Review*, 63, pp. 616-30.

Hanson, J. (1994), "An Open Capital Account: A Brief Survey of the Issues and the Results," in *Financial Reform: Theory and Experience*, edited by G. Capirio, Jr. I. Atiyas, and J. A. Hanson, (New York), Cambridge University Press.

Hanson, J. (2001), "Indonesia and India: Contrasting Approaches to Repression and Liberalization," World Bank, *Manuscript*.

Hausmann, R., M. Gavin, C. Pages, and E. Stein, (1999) "Financial Turmoils and the Choice of Exchange Rate Regime," Inter-American Development Bank, Research Department Working Paper #400.

Hawkins, J. and M. Klau, (2000), "Measuring Potential Vulnerability in Emerging Market Economies," *BIS Working Paper, NO. 91* (October).

Hellman, Murdock, and J. E. Stiglitz (2000), "Liberalization, Moral Hazard in Banking,

And Prudential Regulation: Are Capital Requirements Enough?" *American Economic Review*, Vol. 90, No. 1. pp.147-165 (March).

Holz, C., and T. Zhu, (2000), "Banking and Enterprise Reform in the People's Republic of China after the Asian Finance Crisis: An Appraisal," *Asian Development Review*, Vol. 18, No. 1, pp73-93.

Honohan, P., (1996) "Financial System Failures in Developing Countries: Diagnosis and Prediction," Washington, DC: International Monetary Fund.

Honohan, P. and J. Stiglitz (2001), "Robust Financial Restraint," *World Bank Unpublished Manuscript.*

International Finance Corporation, (2000), *China's Emerging Private Enterprises: Prospects for the New Century*, Washington DC.

Eichengreen, B., *et. al*., (1998), "Exit Strategies: Policy Options for Countries Seeking Greater Exchange Rate Flexibility," *IMF Occasional Paper, 168.*

Kanaya, A. and D. Woo, (2000), "The Japanese Banking Crisis of the 1990s: Sources And Lessons," *IMF Working Paper*, 00/7.

Kawai, M., (2001), "Recommending A Currency Basket System for Emerging East Asia," *Working Paper*, Ministry of Finance, Japan.

Kawai, M., (2002), "Thoughts on China's Exchange Rate Regime After the WTO," *Mimeo, Asian Policy Forum*, ADB Institute, Tokyo (February).

Keeton, W. R., (1999), "Does Faster Loan Growth Lead to Higher Loan Losses," *Economic Review*, Federal Reserve Bank of Kansas City, pp. 57-75. (Second Quarter)

Koo, R., (1998), "The Weakening Yen and Japan's Credit Crunch Problem: Implication For Economic Policies," *Unpublished Manuscript*, Nomura Research Institute, Tokyo.

Kupiec, P. H. and J. M. O'Brien, (1998), "Deposit Insurance, Bank Incentives, and the Design of Regulatory Policy," Federal Reserve Board, *FEDS Working Papers* 98-10.

Kwan, C.H., (2002), "Complementarity and Competition between China and Japan—An Empirical Analysis Based on US Import Statistics," *Unpublished Working Paper*, Research Institute of Economy, Trade and Industry, Japan.

Lardy, N., (1983), *Agriculture in China's Modern Economic Development*, (New York) Cambridge University Press.

Lardy, N., (1998), *China Unfinished Revolution*, (Washington DC) Brookings Institution Press.

Lardy, N., (1999), "The Challenge of Bank Restructuring in China," in *Strengthening the Banking System in China: Issues and Experiences* BIS Policy Papers, No. 7.

La Porta, R., Lopez-de-Silanes, and A. Shleifer, (2002) "Government Ownership of the Banks," *Journal of Finance*, Vol. LVII, NO.1 pp. 265-301 (February).

Lau, L., (1999), "The Macroeconomy and Reform of the Banking Sector in China," in *Strengthening the Banking System in China: Issues and Experiences* BIS Policy Papers, No. 7.

Lau, L., Y. Qian, and G. Roland "Reform with Losers: An Interpretation of China's Dual-Track Approach to Transition," *Journal of Political Economy,* (February).
Levin, R., (1999), "Foreign Bank Entry and Capital Control Liberalization: Effects on Growth and Stability," *Mimeo,* University of Minnesota.
Lin, J., *et. al*., (2000), "Review and Outlook of China's State Owned Enterprise Reform," *Working Paper Series No*. *C200006*, China Center for Economic Research.
Liu, L., (2001), "How Do Global Credit Rating Agencies Rate Firms from Developing Countries," *ADB Institute Research Paper*, 26 (September).
Liu, L., (2000) "Beyond Sequencing: A Risk Management Approach to Financial Liberalization" *Unpublished Manuscript*, ADB Institute, Tokyo.
Ma, J., (2000), *The Chinese Economy in the 1990s*, (London), Macmillan Press.
Milne, A. and A. E. Whalley, (1998), "Bank Capital and Risk-Taking," *Bank of England Working Paper.*
Monfort B., and C. Mulder, (2000), "The Impact of Using Sovereign Rating by Credit Rating Agencies on the Capital Requirements for Banks: A Study of Emerging Market Economies," *IMF Working Paper*, WP/00/69 (March).
Obstfeld, M., (1996), "Models of Currency Crises with Self-Fulfilling Features," *European Economic Review*, Vol. 40, pp1037-47.
Obstfeld, M. and A. Taylor, (2001), "Globalization and Capital Markets," *Manuscripts*, Dept. of Economics, Uninversity of California, Berkeley (October).
Qian, Y., (1999), "The Institutional Foundations of Market Transition in the People's Republic Of China," *ADBI Working Paper NO. 9* (May).
Qian, Y., and B. R. Weingast, (1997), "Federalism as a Commitment to Preserving Market Incentives," Journal of Economic Perspectives, 11(4) pp.83-92 (Fall).
Rojas-Suarez, L., (2002), "Proper Sequencing of Financial Market Liberalization: Learning from the Chilean Experience," *Mimeo, Asian Policy Forum,* ADB Institute, Tokyo (February).
Roubini, N. and X. Sala-i-Martin, (1992), "Financial Repression and Economic Growth," *Journal of Development Economics*, 39(1), pp.5-30.
Sachs, J. and W. T. Woo, (1997), "Understanding China's Economic Performance," *NBER Working Paper*, No. 5935.
Schadler, S., M. Carkovic, A. Bennett, and R. Kahn, (1993), "Recent Experiences with Surges in Capital Inflows," Occasional Paper, No. 108, International Monetary Fund, Washington DC. (December).
Sheng, A., (1996), *Bank Restructuring: Lessons from the 1980s*, (Washington DC) World Bank.
Sheng, A., (1999), "The Framework for Financial Supervision: Macro and Micro Issues," in *Strengthening the Banking System in China: Issues and Experiences*, BIS Policy Papers No. 7 (October).
Shirai, S., (2002), "Road from State to Market—Assessing the Gradual Approach to Banking Sector Reforms in India," *ADB Institute Research Paper* 32 (February).
Stiglitz, J. (2000), "Capital Market Liberalization, Economic Growth and Instability,"

World Development 28(6): 1075-86.
Stiglitz, J. and A. Weiss (1981), "*Credit Rationing in Markets with Imperfect Information*," American Economic Review, Vol. 71, No. 3 pp.393-410. (June)
Von Hagen (1992), "Budgeting Procedures and Fiscal Performance in the European Community," *Unpublished Manuscript*.
Weiss, J., (2001), "Poverty in Western China: Exploring the Policy Options," *Unpublished Manuscript*, ADB Institute, Tokyo.
Williamson, O. L. (2000), "The New Institutional Economics: Taking Stock; Looking Ahead," *Journal of Economic Literature*. Vol. XXXVIII, pp. 595-613, (September).
Woo, W. T., (1998), "Chinese Economic Growth: Sources and Prospects," in M. Fouquin
And F. Lemoine (ed.), *The Chinese Economy,* Economica, London.
Woo, W. T., (1999), "The Real Reasons for China's Growth," *The China Journal*, Vol. 41, (January), pp.115-37.
Woo, W. T., (2001), "Recent Claims of China's Economic Exceptionalism: Reflections
Inspired by WTO Accession," Department of Economics, UC, Davis.
Woo, W. T., (2002), "Issues of Speed, Sequencing, Coherence, and Direction in the Transition from Central Planning to Market Allocation: Suggestions from China's
Experience," *Mimeo, Asian Policy Forum,* ADB Institute (February).
World Bank, (1998), "A Note on the Outcomes of the 1994 Fiscal Reform," *Note #4*, the
World Bank Resident Mission in the People's Republic of China.
World Bank, (2000) *East Asia: Recovery and Beyond*, Washington DC (May).
Wu, X., *et. al*., (1998), *China's Finance in the New Round of Reform,* (Tianjin): Tianjin
People's Publishing House (*in Chinese*).
Xie, P., (2001), "China's Banking System Reform: Issues, Problems, and Prospects,"
Mimeo, Asian Policy Forum, ADB Institute, Tokyo (November).
Xie, P., (2002), "Disposing NPLs of State-Owned Banks in China," *Mimeo, Asian Policy Forum*, ADB Institute, Tokyo.
Zhang, C. (2001), "From Public Savings to Private Savings: Understanding the Decline
Of State Ownership in the Chinese Corporate Sector," *Unpublished Manuscript*, The World Bank Resident Mission in the People's Republic of China, Beijing.
Zhao, Y. (2001), "Earnings Differentials Between State and Non-State Enterprises in Urban China," China Center for Economic Research, Working Paper Series 2001-01, Beijing University.

Figure 1: Contribution to GDP by Components

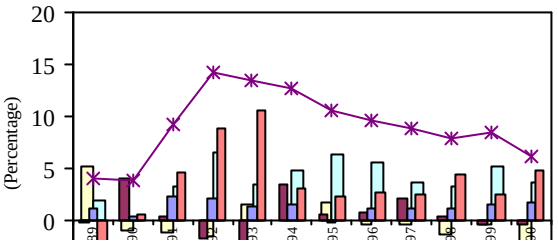
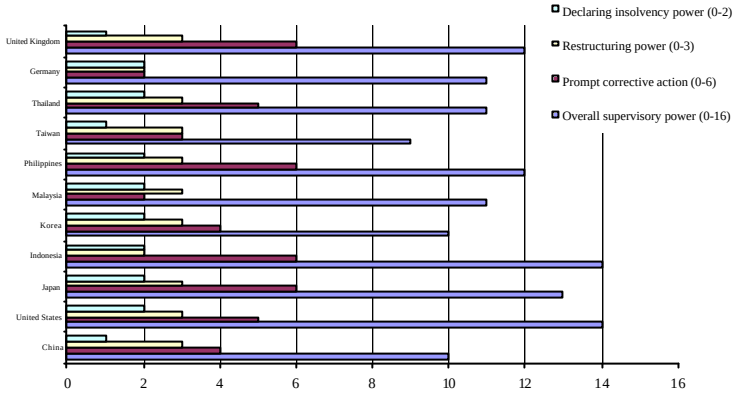


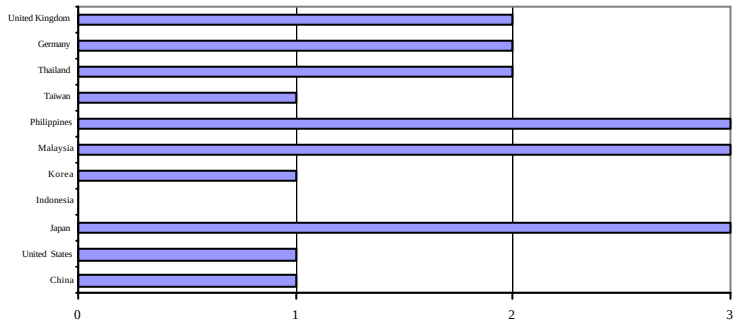
Figure 4d: Official Supervisory Power



Source: Barth, Capirio and Levine (2001)

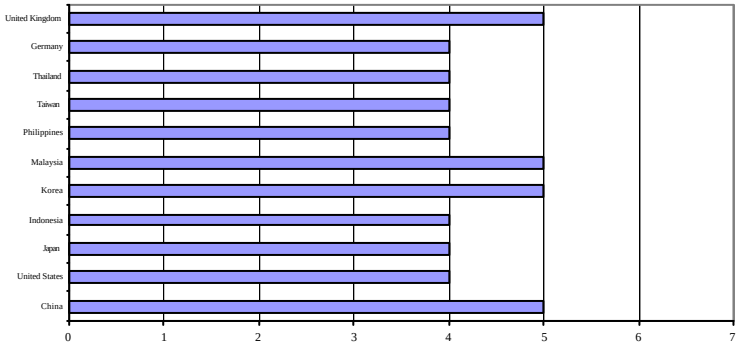
Source: Barth, Capirio and Levine (2001)

Figure 4e: Liquidity/Diversification Index
(score of 0-3, higher score indicating greater liquidity and diversification)



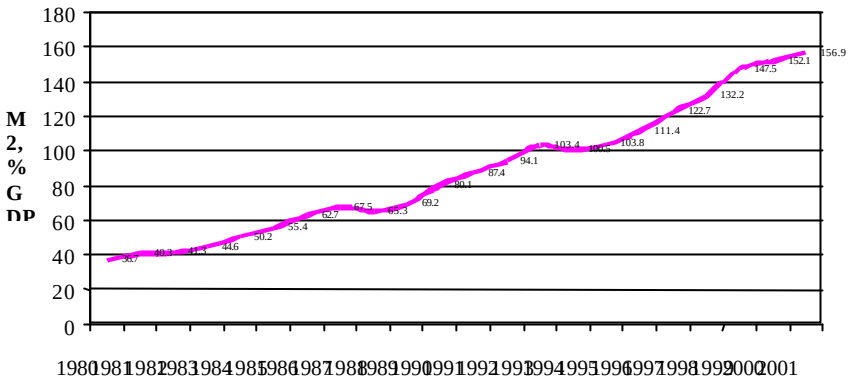
Source: Barth, Capirio and Levine (2001)

Figure 4f: Private Monitoring Index
(score of 0-7, higher value indicating more private oversight)



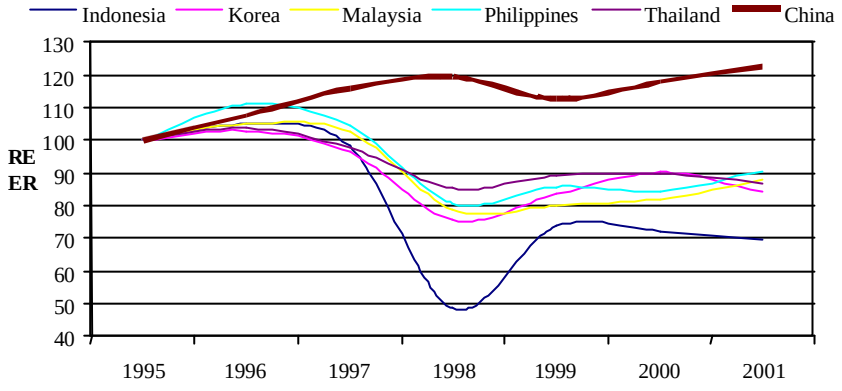
Source: Barth, Capirio and Levine (2001)

Figure 5: People's Republic of China: Evolution of M2



Source: CEIC

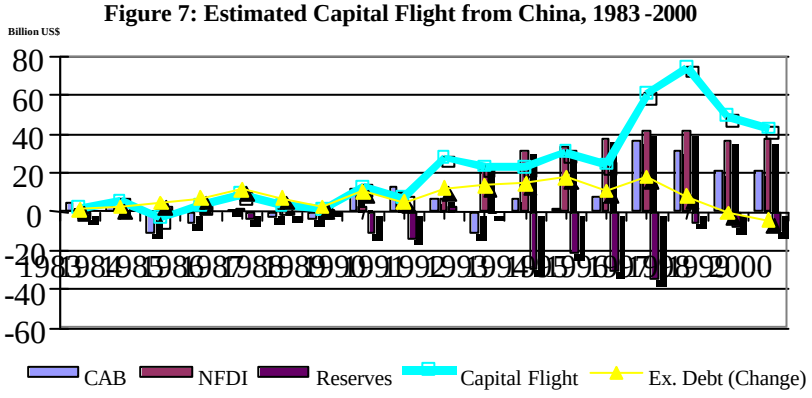
Figure 6: Real Effective Exchange Rate, 1995-2001 (1995=100)



China refers to People's Republic of China
Korea refers to Republic of Korea

Source: JP Morgan Chase

Figure 7: Estimated Capital Flight from China, 1983-2000



Source: Author's calculation using data from GDF(2001) and CEIC

China refers to the People's Republic of China

Table 1: China: Summary Indicators, 1995-2001

	1995	1996	1997	1998	1999	2000	2001
Basic Indicators[a]				*(Change in percent)*			
Real GDP	10.5	9.6	8.8	7.8	7.1	8	7.3
Consumer Prices	17.1	8.3	2.8	-0.8	-1.4	0.4	1.0
National Accounts[b]				*(In percent of GDP)*			
Consumption	57.5	58.5	58.2	58.7	60.1	61.3	*n.a*
Private	46.1	47.1	46.5	46.7	47.7	48.2	*n.a*
Public	11.4	11.5	11.6	12.0	12.4	13.1	*n.a*
Gross Capital Formation	40.8	39.3	38.0	37.4	37.1	36.2	*n.a*
of which: Gross Fixed Capital Formation	34.7	34.2	33.6	35.0	35.7	36.6	36.2[e]
Increase/Decrease in Stocks	6.1	5.2	4.4	2.4	1.5	-0.4	*n.a*
Net Exports	1.7	2.1	3.8	3.9	2.7	2.5	*n.a*
Government Finance[b]				*(In percent of GDP)*			
Fiscal Balance	-1.0	-0.8	-0.7	-1.2	-2.1	-2.8	-2.6
Revenue (and Grants)	10.7	10.8	11.6	12.4	13.9	15.0	16.9
Expenditure (incl. Net lending)	11.7	11.6	12.3	13.5	16.1	17.8	19.4
Domestic Debts	5.6	6.8	8.7	11.8	16.3	20.0	*n.a.*
Banking				*(Change in percent)*			
Net Foreign Assets	26.1	44.1	48.4	10.1	13.2	18.2	19.3[c]
Domestic Credit	23.7	24.6	19.7	20.0	12.1	10.9	3.3[c]
Money	17.3	19.4	26.3	11.2	21.4	16.1	8.2[c]
Quasi-Money	38.2	28.9	17.6	17.2	10.8	9.9	12.2[c]
Reserve Money	20.6	29.5	13.9	2.3	7.3	7.6	4.9[c]
Interest Rates				*(Percent per annum)*			
Deposit Rate	10.98	7.47	5.67	3.78	2.25	2.25	2.25
Lending Rate	12.06	10.08	8.64	6.39	5.85	5.85	5.85
Balance of Payments				*(In percentage of GDP)*			
Current Account Balance	0.2	0.9	4.1	3.3	2.1	1.9	1.0[e]
Goods: Exports	18.2	18.3	20.2	19.0	19.6	23.1	*n.a.*
Goods: Imports	-15.6	-16.0	-15.1	-14.2	-16.0	-19.9	*n.a.*
Trade Balance	2.6	2.4	5.1	4.8	3.6	3.2	*n.a.*
Financial Account Balance	5.5	4.9	2.3	-0.7	0.5	0.2	*n.a.*
Net Direct Investment Inflow	4.8	4.6	4.6	4.3	3.7	3.5	3.9[e]
as a percentage of Gross Fixed Capital Formation	13.9	13.5	13.7	12.1	10.3	9.5	*n.a.*
Net Errors and Omissions	-2.5	-1.9	-2.4	-2.0	-1.8	-1.1	*n.a.*
Reserve	-3.2	-3.9	-4.0	-0.6	-0.9	-1.0	*n.a.*
Exchange Rates							
Exchange Rate at end-period (Y per US$)	8.3	8.3	8.3	8.3	8.3	8.3	8.3
				(1995=100)			
Nominal Effective Exchange Rate	100.0	104.2	111.1	116.1	113.6	116.8	122[c]
Real Effective Exchange Rate	100.0	107.4	112.2	112.4	106.9	107.6	110.02[c]
International Liquidity				*(In billions of U.S. dollars unless specified)*			
Total Reserves (excl. gold)	75.4	107.0	142.8	149.2	157.7	168.3	199.3[c]
External Debt (Total)	106.6	116.3	131.0	146.0	151.8	145.7	163.0[e]
as a percentage of GDP	15.2	14.2	14.5	15.3	15.2	13.5	*n.a.*
of which: Short-term debt	11.9	14.1	18.1	17.3	15.2	13.1	19.0[e]
as a percentage of total debt	11.2	12.1	13.9	11.9	10.0	9.0	11.7[e]
as a percentage of total reserves	15.8	13.2	12.7	11.6	9.6	7.8	9.0[e]
Memorandum Items							
Nominal GDP (U.S$ bn.)	700.2	817.9	898.2	946.2	991.2	1079.8	1170.3
Population (million)[d]	1204.9	1217.6	1230.1	1242.2	1253.6	1262.5	*n.a.*
GDP per capita (U.S.$)	580.1	671	730	761.9	791.1	854.9	919.3

Source: IMF, International Financial Statistics (Feb. 2002), complemented by World Economic Outlook and CEIC, unless specified.

[a] *World Economic Outlook (2001)*

[b] *CEIC database*

[c] *As of the third quarter.*

[d] *Asian Development Bank*

[e] *Deutche Bank Research, or computed based on their data. Not comparable with other figures.*

Table 2: China: The Evolution of Reform Objectives

Period	*Desired Endpoint Upon Completion of Reform*
1978	A planned economy under the law of exchange value.
1979 to Oct. 1984	A planned economy supplemented by market regulations.
Oct. 1984 to Oct. 1987	A planned commodity economy.
Oct. 1987 to Jun. 1989	An economy where the state regulates the market and the market regulates the enterprises.
Jun. 1989 to 1991	An economy with organic integration of planned economy and market regulations.
1992 to present	A socialist market economy with Chinese characteristics.

Source: Woo (2002)

Table 3: China: Budgetary Developments, 1980-2000

	(In percent of GDP)		
Year	**Total Revenue**	**Total Expenditure**	**Balance**
1980	25.7	27.2	-1.5
1981	24.2	23.4	0.8
1982	22.9	23.2	-0.3
1983	22.9	23.7	-0.7
1984	22.8	23.6	-0.8
1985	22.3	22.3	0.0
1986	20.8	21.6	-0.8
1987	18.4	18.9	-0.5
1988	15.8	16.7	-0.9
1989	15.8	16.7	-0.9
1990	15.8	16.6	-0.8
1991	14.5	15.6	-1.1
1992	13.1	14.0	-1.0
1993	12.6	13.4	-0.8
1994	11.2	12.4	-1.2
1995	10.9	11.9	-1.0
1996	11.1	11.9	-0.8
1997	11.8	12.6	-0.8
1998	12.8	14.0	-1.2
1999	14.2	16.4	-2.2
2000	15.2	18.0	-2.8

Source: CEIC

Table 4: China: Financial Performance of State-owned Industrial Enterprises

Year	Fixed Assets	Profits	Losses	Taxes Paid	Ratio of Pretax Profits to Fixed Assets
			In 100 million yuan		
1978	3913	508.8	42.1	281.9	0.25
1980	3730	585.4	34.3	321.7	0.24
1985	5956	738.2	32.4	595.9	0.22
1990	11610	388.1	348.8	1115.0	0.13
1995	30936	665.6	639.6	2208.6	0.09
1996	34765	412.6	790.7	2324.5	0.08
1997	38351	427.8	831.0	2479.4	0.08
1998	38734	525.1	1023.3	2845.9	0.09
1999	33939	997.9	851.4	3081.2	0.03
2000	36887	2408.3		3470.6	0.07

Sources: China Statistical Yearbook, various issues; China Statistical Abstract, various years.

Table 5: China: Government Tax Revenue, 1998

	100 million yuan	Share (%)
Total	8781.92	100.0
Total Business Tax	8551.91	97.4
Domestic Consumption	827.82	9.4
Domestic VAT	3727.93	42.5
Operational Taxes	1608.26	18.3
of which: from Banking/Insurance Sector	577.8	6.6
of which: from all other sectors	1030.46	11.7
Private and Collective Business Income Tax	330.47	3.8
Personal Income Tax	338.59	3.9
Others	1733.86	19.7
SOE Income Tax	427.42	4.9
All Other Taxes	-197.39	-2.2

Source: Ministry of Finance, China.

Table 6: China: Financial Structures, 2001

	Number of Banks	Assets		Deposits		Loans	
		Balance(RMB100 million)	Share (%)	Balance (RMB100 million)	Share (%)	Balance (RMB100 million)	Share (%)
Total	42,875[a]	187896.7	100.0	134421.5	100.0	104433.1	100.0
Policy Banks	3	16732.3	8.9	532.2	0.4	14190.5	13.6
State-owned Commercial Banks (SOCBs)	4	111569.2	59.4	85460.7	63.6	61971.7	59.3
Joint Equity Commercial Banks	100	18641.7	9.9	13828.4	10.3	9157.6	8.8
City Commercial Banks		6998.2	3.7	5325.6	4.0	3480.9	3.3
Urban Credit Cooperatives	836	1823.4	1.0	1529.2	1.1	1056.7	1.0
Rural Credit Cooperatives	41,755	16206.1	8.6	15129.4	11.3	10489.3	10.0
Trust and Investment Corporations	*n.a.*	5708.1	3.0	2410.5	1.8	2332.3	2.2
Finance Companies	*n.a.*	2584	1.4	2080.7	1.5	1531.1	1.5
Leasing Companies	*n.a.*	195.3	0.1	70.6	0.1	151.9	0.1
Postal Savings Institution	*n.a.*	4578	2.4	4578	3.4	0	0.0
Foreign Banks	177	2860	1.5	483	0.4	1494.8	1.4

Source: the People's Bank of China database, 2001.

[a] *Excluding items for which numbers are not avairable.*

Table 7: China: Asset Management Companies and NPLs (RMB billion)

Bank	AMC	NPL Absorbed	NPL Disposed
Bank of China	Dongfang	267.4	18.8
Construction Bank of China	Cinda	373.0	38.0
Industrial and Commercial Bank of China	Huarong	407.7	7.9
Agricultural Bank of China	Great Wall	345.8	-

Source: Li and Ma, 2000.

Table 8: China: Comparisons of Financial Indicators, 1999.

	Capital	Assets		Operational Efficiency			Profitability		Liquidity	
	Equity / Total Assets	Total Assets (bil USD)	Loan Loss Reserve / Gross Loans	Net Int Rev / Avg Assets	Net Interest Margin	Non Int Exp / Avg Assets	Pre-Tax Op Inc / Avg Assets	Return on Average Assets (ROAA)	Return on Average Equity (ROAE)	Liquid Assets / Cust & ST Funding	Net Loans / Customer & ST Funding
BIG4	5.23	1319.00	1.29	1.89	2.10	1.29	0.42	0.13	2.45	25.60	100.28
Development Banks	4.59	185.99	0.80	0.76	0.80	0.23	0.46	0.06	0.88	20.31	103.31
Commercial Banks	6.66	250.23	2.55	2.11	2.29	1.52	0.86	0.51	8.54	47.07	73.81
Non-bank Financial Institutions	15.39	37.51	0.57	1.06	1.36	1.83	1.07	1.01	6.62	47.62	79.37
HSBC	5.83	211.07	4.23	2.26	2.59	1.75	1.46	1.35	21.81	52.43	55.92
Citibank	6.58	327.90	2.22	3.25	3.61	4.77	1.51	0.98	14.91	24.15	87.66
Bank of Tokyo - Mitsubishi	4.27	657.11	2.9	1.25	1.39	2.06	0.78	0.18	4.33	20.45	79.3

Source: Bankscope (1999)

Table 9: China: Lending Breakdown of Chinese Banks

(in billion RMB, percent)	2002[a] Amount	%	1999 Amount	%	1998 Amount	%	1997 Amount	%
Short-term Loans	6,850	59%	5,384	57%	5,218	60%	4,712	63%
Industrial	1,828	16%	1,795	19%	1,782	21%	1,653	22%
Commercial	1,849	16%	1,989	21%	1,975	23%	1,836	25%
Construction	196	2%	148	2%	163	2%	159	2%
Rural	633	5%	479	5%	444	5%	332	4%
Township and Village Enterprises (TVEs)	660	6%	616	7%	558	6%	504	7%
Foreign Invested Enterprised (FIEs)	297	3%	299	3%	249	3%	189	3%
Private Companies	77	1%	58	1%	47	1%	39	1%
Medium & Long-term Loans	4,142	36%	2,397	26%	2,072	24%	1,547	21%
Trust Loans	223	2%	250	3%	252	3%	232	3%
Others	409	4%	1,343	14%	1,110	13%	1,002	13%
Total	11,626	100%	9,374	100%	8,652	100%	7,493	100%

Source: China Banking System Outlook August 2000, Moody's Investors Service.

[a] *As of the first quarter.*

Table 10: Comparison of Income Statements of Chinese and US Banks

	Big 4 Banks (Dec. 2000)	Top 50 US BHCs (9/30 '01)	Comment
	(As a % of assets)		
Net Interest Income	1.7	3.03	Asset returns must increase
Noninterest Income	0.09	3.02	Improvement only over time
Overhead Expense	1.02	3.82	Compararive strength
Preprovision Profit	0.78	2.23	
Provisions	0.42	0.58	Will need to rise significantly to address bad loan burden
Pretax Profit	0.43	1.52	
Taxes	0.28	0.57	65% tax rate vs. 35%
Net Income	0.15	1.05	

Source: Dages (2002)

Table 11: China: Interest Liberalization in Selected Countries

Country Name	Segencing Order/Duration	Rationales
India	Lending rates first and then deposit rates by maturity. Long term first and then short term. Duration is 6 years from 1992-98	Stabilization program in reponse BOP crisis. Resource mobilization and credit to non-state.
Indonesia	Lending and Deposits rates simultaneously, Overnight liberalization	Prompted by distortions of excessive direct credit and resources moblization and credit to private sector
Korea	Lending rate first and then Deposit rates by maturity. Long term first and short term. Duration is 15 years	Concerns of excessive competition for deposits on large NPLs in the banking sector and macroeconomic concerns.
Malaysia	Lending and deposit rates simultaneously, but base lending as guide. Gradual liberalization starting from 1978	Resource allocation
Thailand	Deposit rates first and then lending over 4 years.	Incentives for savings mobilization

Source: Mehran et al, 1996; Hanson, 1999, Ghani, 1996, and Cho (2002)

Table 12: Banking System Vulnerability Indicators

	"Before Crisis" **1996** Q4	"During Crisis" **1998** Q4	"After Crisis" **2000** Q4	Change in score
China	**4**	**3**	**3**	**-1**
India	3	4	3	0
Hong Kong	-1	2	1	+2
Taiwan	1	2	2	+1
Indonesia	6	5	7	+1
Korea	8	6	3	-5
Malaysia	5	4	3	-2
Philippines	8	6	6	-2
Singapore	2	2	1	-1
Thailand	8	6	4	-4
Argentina	4	5	5	+1
Brazil	5	7	8	+3
Chile	3	3	2	-1
Colombia	6	7	6	0
Mexico	7	7	6	-1
Peru	7	7	3	-4
Venezuela	6	5	5	-1
Russia	6	7	7	+1
Czech Repblic	7	6	3	-4
Hungary	6	8	8	+2
Poland	6	7	5	-1
Turkey	8	6	9	+1
Saudi Arabia	1	3	2	+1
South Africa	4	5	4	0

Source: Data from John Hawkins and Marc Klau of BIS.

Table 13: Exchange market pressure indicators

	"Before Crisis" **1996** Q4	"During Crisis" **1998** Q4	"After Crisis" **2000** Q4	Change in score
China	**0**	**2**	**0**	**0**
India	0	2	1	+1
Hong Kong	-1	5	4	+5
Taiwan	2	1	3	+1
Indonesia	5	-2	6	+1
Korea	6	2	3	-3
Malaysia	3	0	1	-2
Philippines	4	3	6	+2
Singapore	1	0	0	-1
Thailand	3	1	4	+1
Argentina	2	5	7	+5
Brazil	6	7	6	0
Chile	4	5	5	+1
Colombia	4	7	5	+1
Mexico	4	6	5	+1
Peru	3	8	4	+1
Venezuela	0	4	1	+1
Russia	6	5	-1	-7
Czech Repblic	2	3	1	-1
Hungary	5	7	1	-4
Poland	4	6	4	0
Turkey	7	9	7	0
Saudi Arabia	3	5	3	0
South Africa	6	2	6	0

Source: Data from John Hawkins and Marc Klau of BIS.

Table 14: External Vulnerability Indicators

	"Before Crisis" **1996** Q4	"During Crisis" **1998** Q4	"After Crisis" **2000** Q4	Change in score
China	**-2**	**-1**	**-3**	**-1**
India	0	3	-4	-4
Hong Kong	3	3	-1	-4
Taiwan	-3	0	-3	0
Indonesia	5	3	-6	-11
Korea	7	1	-3	-10
Malaysia	6	0	-3	-9
Philippines	6	4	-2	-8
Singapore	1	0	-3	-4
Thailand	8	-1	-6	-14
Argentina	3	6	6	+3
Brazil	1	4	3	+2
Chile	3	7	0	-3
Colombia	5	6	0	-5
Mexico	3	2	0	-3
Peru	4	1	0	-4
Venezuela	-6	3	-3	+3
Russia	2	5	-3	-5
Czech Repblic	5	6	2	-3
Hungary	1	4	6	+5
Poland	-1	4	2	+3
Turkey	0	3	8	+8
Saudi Arabia	-4	4	-6	-2
South Africa	0	4	-3	-3

Source: Data from John Hawkins and Marc Klau of BIS.

Table 15: Financial Market Risks

Type of risk	Definition
Credit risk	The risk that the counterparty will fail to fulfill the (credit) contract. The size of the loss is the replacement of the contract in the market.
Liquidity (maturity) risk	Risk of *losses resulting from forced sales when there is insufficient liquidity to meet contractual obligations.*
Inerest rate risk	*Risk of interest rate changes on value of assets or liabilities.*
Foreign exchange risk	*Risk of exchange rate changes on value of foreign currency assets or obligations.*
Settlement risk	*The risk that one party (or agent bank) will not settle or deliver final value when settling a contractual obligation.*
Operational risk	Risk of *losses due to failure of adequate internal controls, procedures and operating equipment, software and systems.*
Legal risk	Risk of *losses caused by inadequate laws or processes, including uncertainties in the legal definition of obligation or court reversals of commonly understood obligations, such as the legal obligations of multilateral netting.*
Reputational risk	Risk of *loss of reputation of a market participant that leads to the market cutting off credit and transactions with that party.*
Poiltical risk	Risk of *losses due to political changes that affect public confidence.*
Systemic risk	*Failure of one party triggers failure elsewhere in system (for example, contagion).*

Source: Sheng (1996)