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The Contradiction in China's Gradualist Banking Reforms

DURING CHINA'S TWO and a half decades of economic reform, it has often been observed that the bank-dominated financial system is the economy's Achilles' heel. Since 2003, China's central government has reformed the largest state-owned commercial banks to improve their competitiveness before opening the banking industry to foreign competitors, as mandated as part of the country's accession to the World Trade Organization (WTO). Reform of these banks has markedly improved their performance, but the process has been gradual, and underlying problems remain.

One can assess these developments in two contrasting ways. The first is optimistic: the Chinese authorities can afford to reform the state-owned banks gradually because of the economy's growth momentum, the small public sector debt-to-GDP ratio, the size of China's foreign exchange reserves, and the large volume of domestic savings.¹ A complementary

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1. Yusuf, Nabeshima, and Perkins (2006) make this argument about reform of state-owned enterprises (which, as we will show, is closely linked to banking sector reform); see a similar argument for the banks in Allen, Qian, and Qian (2006, pp. 21–22).

perspective by Jonathan Anderson notes that the removal of nonperforming loans (NPLs) from bank balance sheets has substantially reduced their financial risk, even if those NPLs have not all been resolved.²

The alternative assessment is more skeptical, highlighting the depth of reforms and bank restructuring that remain. Nicholas Lardy has emphasized, as have others more recently,³ that, in China as elsewhere, an efficient banking system is essential to the efficient allocation of capital and the transmission of monetary policy, and it is closely tied to capital account convertibility and other economic objectives. The gradual pace of reform in China, particularly of the government's involvement in bank ownership and decisionmaking, postpones the day when such a system arrives. This choice of continued public sector involvement reflects a basic trade-off between, on the one hand, greater efficiency in state-owned institutions, of which the banks are an important part, and, on the other, stable employment growth and, more recently, rural-urban and regional equality.

The Chinese authorities seek rapid economic growth and employment creation sufficient to absorb the country's surplus labor force, which consists of new entrants, rural-urban migrants, and those laid off from money-losing state-owned enterprises (SOEs). In the past two decades, the banks have been enlisted to support the SOEs as well as to finance infrastructure investments and export platforms through policy lending (lending based on policy objectives or political criteria and connections rather than creditworthiness). Addressing the growing rural-urban and regional inequality is the centerpiece of China's 11th Five Year Program, approved by the National People's Congress in early 2006. The program seeks more balanced urban and rural development by improving public services in the rural areas and by increasing urbanization.

We are skeptics on the issue of gradual banking reform. It is not uncommon for former command economies to undertake reform gradually in order to prevent widespread unemployment. As this paper will show, however, the dependence of China's government-affiliated firms on the state-owned banks for their working capital means that the banks are forced to satisfy contradictory objectives: financing employment and social stability while transforming themselves into commercially viable corporate enti-

2. Anderson (2006).

3. Lardy (1998). See also, among others, Podpiera (2006), Organization for Economic Cooperation and Development (2005), and Asian Development Bank (2006a).

ties. Further, we argue, the Chinese government is proceeding in a way that ignores this contradiction.

The impact of continued government ownership of the banks is apparent in current institutional arrangements. Just as China's high average growth rates conceal large disparities between the three large coastal urban agglomerations—around Beijing, the Yangtze River Delta (Shanghai), and the Pearl River Delta (Hong Kong, Guangdong, Shenzhen)—and the rest of the country, the banking system remains fragmented and often dominated by still-independent local branches and decisionmakers, whose objectives may differ from those of the Beijing headquarters.⁴ We provide aggregate data and bank-level statistical evidence showing that inefficiencies persist in lending by China's largest banks.

The available evidence persuades us that government influences, intentional and unintentional, will continue to constrain bank reform, with all the performance weaknesses that such influence implies. Eight years ago, Lardy described many of these weaknesses and proposed corrective measures: remove the NPLs (he suggested using a swap of government bonds for bad bank debt); impose hard budget constraints on SOE borrowers; increase competition in the banking sector, including through the creation of privately owned banks; strengthen bank supervision and prudential regulation; liberalize interest rates; reform taxes; make the central bank independent; and move all future policy lending into government-owned policy banks.⁵ Although some of these weaknesses have been corrected, majority government ownership of the banks has not.⁶ We see no signs that this cornerstone of banking policy will change for the large banks that are the focus of this paper. Meanwhile the contradiction between the rhetoric calling for efficient banks and the *de facto* pressures on the banks to misdirect credit persists.

The paper begins with a brief description of China's banking system, focusing on the largest banks and examining several factors that encourage optimism about the current reform strategy. We then reconsider these reforms in light of the history of financing SOEs and infrastructure investment that underlies China's policy lending. We identify a number of reasons to expect a continuation of misdirected credit, and on that basis we predict

4. See Roach (2006) for more details.

5. Lardy (1998, pp. 140–82).

6. See Honohan (2004) for a forceful argument as to why this is the key weakness.

that the transition to a modern efficient banking system is likely to take a long time. Next we explore the risks that lie ahead for China's banks, highlighting the likely problems should economic growth slow. Finally, we examine two alternative approaches to reduce the inherent contradiction between government influence and modern, efficient banks.

An Overview of China's Banking System

China's banking system consists of a number of institutions, most of which are owned by various levels of government (tables 1 and 2).⁷ The Big Four state-owned commercial banks dominate the system, accounting for more than half of bank assets. They include the Bank of China (BOC), the China Construction Bank (CCB), the Industrial and Commercial Bank of China (ICBC), and the Agricultural Bank of China (ABC). A fifth, much smaller but rapidly growing bank, the Bank of Communications (BoCom), is increasingly included in the group, which is then referred to as the Big Five.⁸ ABC's future is uncertain because of the sheer size of its problems (large volume of NPLs, questionable management practices, and the anticipated cost of a bailout). Oxford Analytica estimates that ABC's 2005 NPLs amounted to 739 billion yuan (more than \$90 billion),⁹ which is considered to be an underestimate following auditors' findings of extensive fraudulent loans and underreporting of NPLs.

The dominance of these institutions is a legacy of past government decisions to liberalize the banking system. Between 1949 and the late 1970s, the People's Bank of China (PBOC) functioned as both the central bank and the only deposit-taking and lending institution.¹⁰ In the late 1970s (1984 in the case of ICBC) the Big Four were created as state-owned banks with policy lending mandates, while the PBOC continued as the central bank and supervisor of the financial system. The missions of the Big Four differed according to the sector in which they were directed to specialize,

7. China has at least one privately owned commercial bank, Minsheng Bank, which was set up in 1996 by the All China Federation of Industry and Commerce.

8. Depending on data availability, we include BoCom in some, but not all, of the discussion in this section.

9. Oxford Analytica, "China: Prospects Recede for the ABC," May 5, 2006.

10. See Allen, Qian, and Qian (2006) for a more complete history and an excellent overview of the entire financial system.

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

<i>Type of institution</i>	<i>No. of institutions</i>	<i>Assets</i>		<i>Deposits</i>		<i>Loans^b</i>	
		<i>Billions of yuan</i>	<i>Percent of total</i>	<i>Billions of yuan</i>	<i>Percent of total</i>	<i>Billions of yuan</i>	<i>Percent of total</i>
Big Four commercial banks	4	17,859.5	54.8	15,384.1	59.5	10,667.5	54.6
Joint stock commercial banks	12	4,803.4	14.7	4,143.6	16.0	2,926.1	15.0
Urban commercial banks	112	1,705.6	5.2	1,414.6	5.5	903.1	4.6
Rural commercial banks and credit cooperatives	32,869	3,133.2	9.6	2,784.1	10.8	1,955.1	10.0
Urban credit cooperatives	623	178.7	0.5	158.9	0.6	101.5	0.5
Foreign-invested commercial banks	211	582.3	1.8	149.9	0.6	284.4	1.5
Other ^c	149	4,369.9	13.4	1,889.6	7.0	2,681.3	13.8
Totals	33,980	32,725.9	100.0	25,849.9	100.0	19,528.4	100.0

Source: Bank of China June 2006 offering memorandum, China Banking Regulatory Commission data, and banks' annual reports.

a. Columns may not sum to totals, or percentages to 100 percent, because of rounding.

b. Amounts for loans are before allowances for impairment losses.

c. Policy banks, the postal savings bureau, finance companies, trust and investment companies, and financial leasing companies.

Table 2. Assets, Deposits, and Loans of the Big Five State-Owned Banks, as of December 31, 2005^a

<i>Bank</i>	<i>Assets</i>		<i>Deposits</i>		<i>Loans^b</i>		<i>No. of branches^c</i>
	<i>Billions of yuan</i>	<i>Percent of total</i>	<i>Billions of yuan</i>	<i>Percent of total</i>	<i>Billions of yuan</i>	<i>Percent of total</i>	
Industrial and Commercial Bank of China (ICBC)	6,373.8	29.1	5,660.5	30.4	3,289.6	28.4	18,870
Bank of China (BOC)	4,742.8	21.7	3,703.8	19.9	2,235.0	19.3	11,618
Agricultural Bank of China (ABC)	4,771.0	21.8	4,036.9	21.7	2,829.3	24.4	28,234
China Construction Bank (CCB)	4,585.7	20.9	4,006.0	21.5	2,458.4	21.2	14,250
Bank of Communications (BoCom)	1,423.4	6.5	1,220.8	6.6	771.4	6.7	2,400
Totals	21,896.7	100.0	18,628.0	100.0	11,583.7	100.0	75,372

Sources: CEIC data, Bank of China, and Bank of Communications.

a. Columns may not sum to totals, or percentages to 100 percent, because of rounding.

b. Before allowances for impairment losses.

c. Approximate, based on ICBC's 2006 offering memorandum and BoCom's 2005 annual report.

but all but ABC developed close linkages with the nonfinancial SOEs. Initially, SOE losses were financed from the national treasury, which relied heavily on bond financing. As the fiscal deficit grew, however, the central government forced the SOEs to meet their financial requirements with bank loans.¹¹ The SOEs regarded this bank debt as working capital; businesses losses and defaults were dealt with by additional borrowing.

Since 1995 the government has introduced institutional and regulatory reforms to transform the Big Four into commercial banks.¹² The PBOC introduced prudential norms for lending, and regulatory standards were tightened. Three new policy banks were created to take over the policy lending functions. The PBOC also created regional offices, which in principle have sufficient clout to help reduce the politicization of bank lending practices. Money-losing industrial SOEs were also transformed by restructuring or selling them, and thousands were closed. By 2004 the number of industrial SOEs had fallen below 32,000, and their employment had dropped by 17 million since 1998, to 20.5 million.¹³ The handling of the debts of defunct enterprises has been a contentious issue between the central and local governments, however, because of the local priority to minimize the impact on employees rather than repay the government-owned creditors.

Clearing Up the NPLs

NPLs were removed from bank balance sheets in several steps that were seen as precursors to the banks' modernization.¹⁴ The first step was in 1998, when the government issued 270 billion yuan (\$32.6 billion) in special bonds acquired by the banks themselves and then converted into equity, thereby doubling the capital base of the Big Four. In 1999 NPLs valued at \$168.1 billion were transferred from the banks to four newly created asset management companies (AMCs). The AMCs issued bonds guaranteed by the Ministry of Finance to the banks. The next step was taken in 2004 as the banks prepared for listing on public stock exchanges. Capital injections totaling \$45 billion were made to CCB and BOC from the central

11. Lardy (1998, p. 38).

12. Lardy (2004, pp. 101–02) details these reforms.

13. *China Statistical Yearbook 2005*, tables 14-7 and 14-9.

14. See Ma (2006a) for a detailed analysis.

bank's foreign exchange reserves. A recent article in *China Daily* describes ICBC's rehabilitation, in which it received a \$15 billion transfer through the same type of mechanism in 2005 and transferred \$35 billion in NPLs from its balance sheet to AMCs.¹⁵ The Ministry of Finance took an equity stake equal to \$15 billion.¹⁶ With these capital injections totaling \$60 billion from foreign exchange reserves, bank capital adequacy ratios were restored to 8 percent once the banks had written off their remaining bad loans. Estimates by Guonan Ma include equity write-offs by the finance ministry of 616 billion yuan (\$74.4 billion) and, since 2004, further NPL transfers resulting in 400 billion yuan (\$50 billion) in losses, borne by the PBOC. He also estimates that the equity stakes and shares purchased by foreign strategic investors (see below) involved a premium of 30 billion yuan (\$3.8 billion). Finally, Ma argues that, through 2005 at least, the banks had also received some windfall profits as a result of repressed deposit financing costs.¹⁷

As we explain in the appendix, determining the exact full cost of these bailouts is difficult. We estimate that counting the first and second round of recapitalizations plus the unresolved NPLs of ABC implies that the total cost to taxpayers will exceed \$240 billion.¹⁸ Ma's estimates, accepting his assumptions, could add a further \$189.6 billion. In other words, the cost of cleaning up the Big Four's misdirected loans through 2005 can be conservatively put at roughly 10.4 percent of China's 2005 GDP, and adding Ma's estimates could bring the total to as high as 18.5 percent.¹⁹ Table 3 shows that these transfers

15. Jie Feng, "ICBC Improves Following Restructuring," *China Daily*, January 20, 2006.

16. ICBC 2005 annual report, p. 75.

17. These transfers are estimated at 350 billion yuan (\$43.8 billion) for all banks. Ma (2006a).

18. We arrive at this figure by noting that the direct injections were \$168.1 billion and \$60 billion, respectively. Assuming a maximum recovery rate on these loans of 25 percent gives a total of \$171.1 billion. To this we add \$69.4 billion for the postrecovery total losses associated with the \$92.6 billion in ABC NPLs that have yet to be tackled (see table 3).

19. Ma's (2006a) estimate totals \$505.9 billion or 21.8 percent of GDP for the entire banking system (including the rural credit cooperatives). He does not include any estimate for ABC. To obtain our high-end estimate, we added to our \$240 billion estimate the 1998 bond issue (\$32.6 billion), the Ministry of Finance's equity write-offs (\$74.4 billion minus the ministry's \$15 billion stake in ICBC, in our estimate), the PBOC's carve-out of NPLs in 2004-05 (\$50 billion), foreign investor premiums (\$3.8 billion), and the banks' windfall profits (\$43.8 billion).

Table 3. Reported NPLs of the Big Four Banks, 2000–05Billions of yuan except where stated otherwise^a

Bank	2000			2001			2002		
	Loans	NPLs	% of total	Loans	NPLs	% of total	Loans	NPLs	% of total
ICBC ^b	2,413.6	831.0	34.4	2,659.5	792.0	29.8	2,957.8	760.9	25.7
BOC ^c	1,505.8	409.6	27.2	1,585.3	436.0	27.5	1,816.2	408.5	22.5
ABC	1,484.3	n.a.	n.a.	1,646.2	n.a.	n.a.	1,913.0	472.3	24.7
CCB ^d	1,386.4	281.0	20.3	1,505.9	291.4	19.4	1,766.4	268.0	15.2
Totals ^e	6,790.1	1,521.6	28.7	7,396.9	1,519.5	26.4	8,473.5	1,930.4	22.8
Memoranda:									
GDP		8,934.1			9,859.3			10,789.8	
Loans (% of GDP)		76.0			75.0			78.5	
Bank	2003			2004			2005		
	Loans	NPLs	% of total	Loans	NPLs	% of total	Loans	NPLs	% of total
ICBC ^b	3,346.9	720.8	21.5	3,707.7	784.7	21.2	3,289.6	154.4	4.7
BOC ^c	1,750.1	319.7	18.3	1,735.5	98.5	5.7	1,800.1	98.2	5.5
ABC	2,268.4	695.5	30.7	2,590.1	692.3	26.7	2,829.3	740.4	26.2
CCB ^d	1,996.0	85.3	4.3	2,227.4	87.4	3.9	2,458.4	94.5	3.8
Totals ^e	9,361.4	1,821.3	19.5	10,260.7	1,662.9	16.2	10,377.4	1,087.5	10.5
Memoranda:									
GDP		12,173.0			16,028.0			18,549.6	
Loans (% of GDP)		76.9			64.0			55.9	

Sources: Bank annual reports; BOC June 2006 offering memorandum; CEIC data.

a. Columns may not sum to totals, or percentages to 100 percent, because of rounding. NPLs as percent of total are based on the Bank for International Settlements' five-category loan classification.

b. Data for 2004 are from ICBC's 2005 annual report and differ from those in the 2004 annual report.

c. Data from 2003 on are for domestic loans only.

d. Data for 2003 are from CCB's 2004 annual report and differ from those in the 2003 annual report.

e. In 2000 and 2001, NPLs and percentage shares are for only the three banks reporting.

cleared sufficient NPLs from three of the banks' balance sheets so that, with the exception of ABC, NPL ratios reached single-digit levels by the end of 2005.

Capital Stakes from Strategic Investors

The second part of the strategy to reform the banks is to attract strategic foreign investors who will contribute not only capital but also inde-

pendent foreign directors to bank governance, and bring in foreign management skills and new products, improving efficiency and enhancing potential returns on investment. China limits foreign ownership in a single bank to 20 percent of total equity for a single foreign investor and to 25 percent for all foreign investors.²⁰ Larger stakes would require that the banks be treated by the regulators as foreign banks. Table 4 shows that foreign investments totaling \$13.3 billion were made in the Big Five in 2004–05.

Initial Public Offerings

The third part of the current strategy is for the banks to list on foreign stock exchanges. This is intended to impose market pressures on directors and managers to bring the accuracy and transparency of their reporting up to international standards and to subject bank performance to market appraisals of efficiency and profitability. BoCom was the first to take this route in June 2005, when it raised more than \$2 billion in an initial public offering (IPO) in Hong Kong; CCB followed in October 2005 and raised \$8 billion; BOC raised \$11.2 billion in Hong Kong in June 2006 and followed this with a listing of A shares in Shanghai, which raised \$2.5 billion. (A shares may be held only by mainland Chinese and certain foreign institutional investors.) In October 2006 ICBC's IPO was hugely oversubscribed, eventually raising \$21.9 billion by issuing shares in both markets and exercising an overallotment agreement.

Our interviews with bank managers indicate that these IPOs are having the desired effect: the questions and published reports of analysts are pressuring bank management to shift away from its traditional goal of growing assets and market share toward emphasizing rates of return on assets and increased profitability. Table 5 reports basic information on the three banks with publicly traded shares as of the end of 2005. It is too soon to show annual rates of change for the performance of these banks since their listing. Table 6 shows, however, that as of the end of 2005 their net profit and return on risk-weighted assets were still below Hong Kong averages, although their net interest margin was higher than the Hong Kong average.

20. He and Fan (2004).

Table 4. Strategic Foreign Investments in the Big Five Banks, 2004–06^a

<i>Bank</i>	<i>Acquirer(s)</i>	<i>Share acquired (percent)</i>	<i>Value of deal (billions of dollars)</i>	<i>Date announced</i>
ICBC	Goldman Sachs, Allianz, and American Express	10.0	3.8	January 2006
BOC	Royal Bank of Scotland	5.16	1.6	August 2005
	Merrill Lynch and Li Ka-shing Foundation	4.84	1.5	
	UBS	1.6	0.5	September 2005
CCB	Bank of America	9.0	2.6	June 2005
	Temasek	5.1	1.5	July 2005
BoCom	HSBC	19.9	1.8	August 2004

Source: Ramos, Ma, and Meng (2006).

a. There were no foreign acquisitions of shares in ABC during this period.

Table 5. Selected Market Indicators for Three Chinese Banks as of December 31, 2005

Millions of dollars

<i>Bank</i>	<i>Market capitalization</i>	<i>Assets</i>	<i>Loans</i>	<i>Deposits</i>	<i>Shareholders' equity</i>	<i>Share of deposit market (percent)</i>
BoCom	25,988	170,130	95,204	148,955	9,611	4.0
CCB	86,921	554,679	305,036	482,578	35,926	13.1
China Merchants Bank	9,786	89,519	57,281	78,345	3,180	2.1

Source: Ramos, Ma, and Meng (2006).

Table 6. Indicators of Bank Performance for Three Chinese Banks, 2005

<i>Bank</i>	<i>Net interest margin</i>	<i>Price-earnings ratio</i>	<i>Net profit as percent of average assets</i>	<i>Return on risk-weighted assets</i>	<i>Return on equity</i>
BoCom	2.7	n.a.	0.8	1.7	13.3
CCB	2.9	15.5	1.0	1.9	19.0
China Merchants Bank	3.0	16.8	0.7	1.0	17.2
Average for these three banks	2.9	16.1	0.8	1.5	16.5
Memorandum: average for Hong Kong banks	2.4	15.7	1.4	2.7	13.7

Sources: Ramos, Ma, and Meng (2006) and UBS.

Misdirected Lending Past and Present

This summary of recent developments in the banking system might suggest that the banking system has turned a corner and is moving along the road to modernization. Although we agree that much progress has been made, we are skeptical that the reforms to date will suffice to ensure effective intermediation of Chinese savings. To see why further reform is an imperative, it is necessary to review some additional history regarding enterprise financing and then to focus on distortions that remain in the financial system.

The previous NPL problems arose for two reasons. The first was that the government was committed to keeping financing flowing to provide employment to people at money-losing enterprises. Chinese SOEs not only were the main sources of employment in the economy, but also provided the social safety net. In the absence of institutions such as unemployment insurance, pensions, and bankruptcy laws, reforms to SOEs were executed in ways that minimized unemployment and potential instability. “Big bang” privatization might have increased the efficiency of SOEs that survived in a more competitive environment, but at an unacceptable social cost.

The second critical decision was that these *de facto* unemployment payments were (after the mid-1980s) funneled through the banks. The shift to directing credit through the banking system was made to move losses off the treasury’s balance sheet, not because the banks were better equipped to assess creditworthiness or monitor what was being done with the money. The shift may well have been undertaken with little realization of its possible incentive effects. In fact, it created at least two distortions: a moral hazard problem and a reduction of pressure from the banks on the SOEs to improve their efficiency. The policy loans gutted the banks’ profitability, but the banks ultimately were not accountable for the losses. Thus they had little incentive to develop skills and expertise in credit evaluation and as such were not prepared to be effective intermediaries. We return to this point below when we assess the banks’ current competencies.

The SOEs faced little budget pressure and could operate under the assumption that their losses would be tolerated. As noted by János Kornai, Eric Maskin, and Gerard Roland, this arrangement of having weak-performing state-owned banks lending to money-losing SOEs has often

appeared in command economies that attempted to liberalize.²¹ Edward Steinfeld analyzes the associated problems in the Chinese context.²² He describes the interrelationships among governments, banks, and SOEs as a “nested problem,” noting that a firm might lose money but still report profits, which serve as a source of tax revenue. Exacerbating and perpetuating the problem are the soft loans available from the state-owned banks, which themselves were periodically bailed out when bad loans surfaced. “As long as the subsidization continues,” Steinfeld argues, “local agencies can then engage in predatory taxation and managers can distort performance data, all at no cost to the actors involved. The firm is kept afloat from outside, so it simply cannot go bankrupt.”²³

Numerous cross-country studies have found that, in countries with government ownership of banks, the banks lend largely to SOEs, financial development is impeded, growth is relatively slow, and productivity is depressed.²⁴ China started from such a low level of GDP that these problems have so far been possible to overlook.²⁵ But Gerard Caprio and Maria Martinez Peria demonstrate that banking crises are more likely and their fiscal costs higher when the government is the dominant owner of a country’s banks.²⁶ The critical question regarding the long-run health of the banking system and the success of the current reforms, therefore, is whether it is likely that the burden and responsibility of policy lending will be decisively lifted from the banks.

The fact that the Chinese government has shown no signs of relinquishing majority stakes in the banks is one indication that this remains a risk. Indeed, an international comparison by the Organization for Economic Cooperation and Development shows that China’s banking system

21. Kornai, Maskin, and Roland (2003).

22. Steinfeld (1998).

23. Steinfeld (1998, p. 46). In this respect the Chinese case appears to differ from other transition economies, where the bad loans were often caused by what Akerlof and Romer (1993) call “looting.” In our interviews and in the many articles studying the NPL problems in China that we reviewed, we encountered no suggestion that this mechanism was an important consideration.

24. One such study is La Porta, Lopez-de-Silanes, and Shleifer (2002).

25. See also Allen, Qian, and Qian (2006), who emphasize that part of China’s rapid growth has been possible through the development of many parallel channels of financing that circumvent the state-owned banks.

26. Caprio and Martinez Peria (2000).

still has the highest share of government ownership (almost 100 percent) in the world.²⁷ The pessimistic interpretation, that the government is retaining ownership in order to preserve the option to direct credit, is reinforced by the fact that the government has done little to promote development of a bond market. Instead virtually all debt financing in China is done through the banks; the Asian Development Bank notes that corporate bond financing as of the end of 2005 stood at only 13 percent of GDP, which by this metric makes China's one of the least developed bond markets in Asia (far below Korea, Malaysia, and Thailand, for instance).²⁸

The rest of this section analyzes other evidence suggesting that pressures to preserve stability through misdirected lending remain, that the recent declines in NPLs are likely masking some ongoing credit quality problems, and that the banks lack risk management expertise to guard against a sharp rise in loan losses. We begin with some aggregate trends and then describe microeconomic data on bank lending practices; we conclude with some anecdotal evidence on management and regulatory problems in the banking sector.

Aggregate Indicators of Misdirected Bank Lending

At least three indicators suggest continued government influence on bank operations: ongoing concern about absorbing surplus labor, high rates of government and enterprise investment undertaken in part to create jobs, and ongoing SOE restructuring.

Employment creation to absorb surplus labor is a major priority. Urban job creation has managed to keep up with new entrants, migrants, and layoffs from SOEs through flexible labor market policies, enterprise transformation, remarkable openness to trade and direct investment, and massive investment projects in manufacturing enterprises, infrastructure, and real estate construction projects, particularly in the coastal provinces.

27. Organization for Economic Cooperation and Development (2005, p. 140).

28. Asian Development Bank (2006b, p. 5). The infrastructure to support a bond market in China is a work in progress. Issuers still face numerous administrative restrictions, while investors face a number of institutional and regulatory obstacles ranging from nascent bankruptcy legislation and an underdeveloped credit rating system to inadequate accounting and disclosure standards.

Table 7. Ratios of Urban to Rural Income and Consumption per Capita, Selected Years, 1979–2003

<i>Year</i>	<i>Ratio of urban to rural income</i>	<i>Ratio of urban to rural consumption</i>
1979	2.6	2.9
1990	2.2	3.0
1998	2.9	3.4
2003	3.2	3.6

Source: Blanchard and Giavazzi (2005).

Lardy argues that the lending and investment booms of 2003 were triggered in part because “the new leadership that assumed political power . . . in 2002 appears determined to sustain China’s rapid economic growth, and, if possible, to increase the pace of job creation compared to their predecessors. They were strongly supported by local government and [Communist] party officials who shared these goals.”²⁹

But past efforts to preserve less productive jobs outside the urban areas were so inadequate that the 11th Five Year Program now aims to redress the imbalance in incomes and public services through enhanced public services in rural areas and faster urbanization; the stated aim is to create 45 million urban jobs and transfer 45 million people from the rural areas.³⁰ Table 7 shows the divergent trends in incomes and consumption between urban and rural areas.

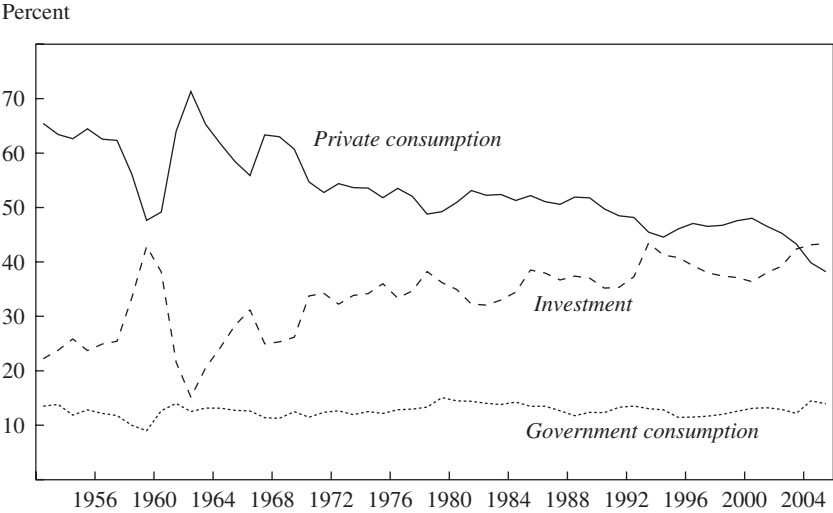
The investment boom also stands out in the composition of economy-wide spending (figure 1).³¹ Investment grew at clearly unsustainable rates of 34 percent in 2004 and 16 percent in 2005. This surge was accompanied by a period of robust bank lending, with loan growth in excess of 15 percent between mid-2005 and mid-2006. By the end of the second quarter of 2006, banks had already extended 87.2 percent of the loans called for under the administrative guideline for the year. When the PBOC raised reserve requirements in July 2006, the central bank stated that “China’s economy still faces challenges from escalating fixed asset investment and

29. Lardy (2004, p. 105).

30. Government of the People’s Republic of China (2006).

31. See Blanchard and Giavazzi (2005) for a comprehensive look at the imbalances in China’s recent growth.

Figure 1. Expenditure Composition of GDP in China, 1952–2005



Source: CEIC.

excessive lending. The reserve ratio increase is meant to help curb growth while still maintaining rapid but healthy economic expansion.”³² Thus in many respects we see the dynamic highlighted by Lardy playing out again in 2006.

The aggregate implications are important: as the Asian Development Bank points out, after the protracted rapid growth in investment the economy is now faced with declining capital productivity.³³ Without better allocation and efficiency of capital, even higher investment ratios will be needed to ensure the capital accumulation required to create new jobs. Evidence provided by Chang-Tai Hsieh and Peter Klenow suggests that the SOEs are particularly unproductive.³⁴ They compare SOE and non-SOE productivity (controlling for industry differences) and find that, throughout the current decade, SOE productivity has been roughly 30 percent lower than that of their privately owned competitors.

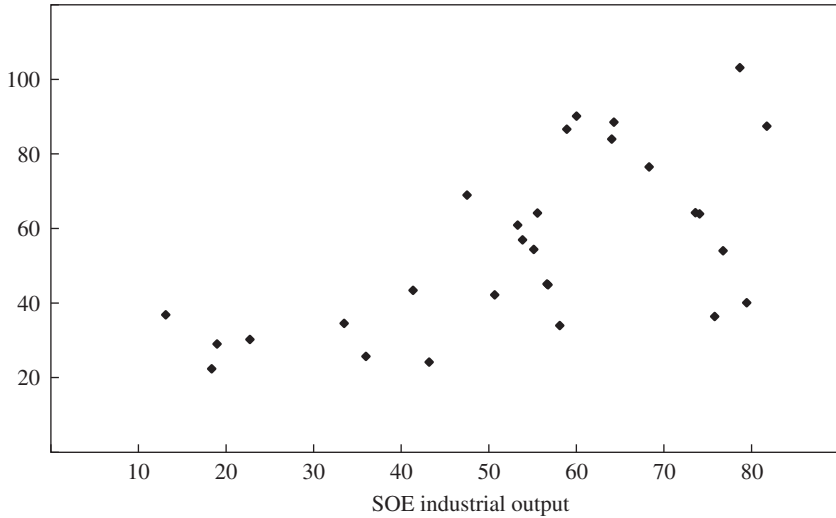
32. Quoted in “Central Bank Lifts Reserve Ratio,” *Shanghai Daily Online*, July 22, 2006.

33. Asian Development Bank (2006a, p. 123).

34. Hsieh and Klenow (2006).

Figure 2. Fixed Investment and SOE Industrial Output as Percent of Total Industrial Output by Province, 2003

Fixed investment



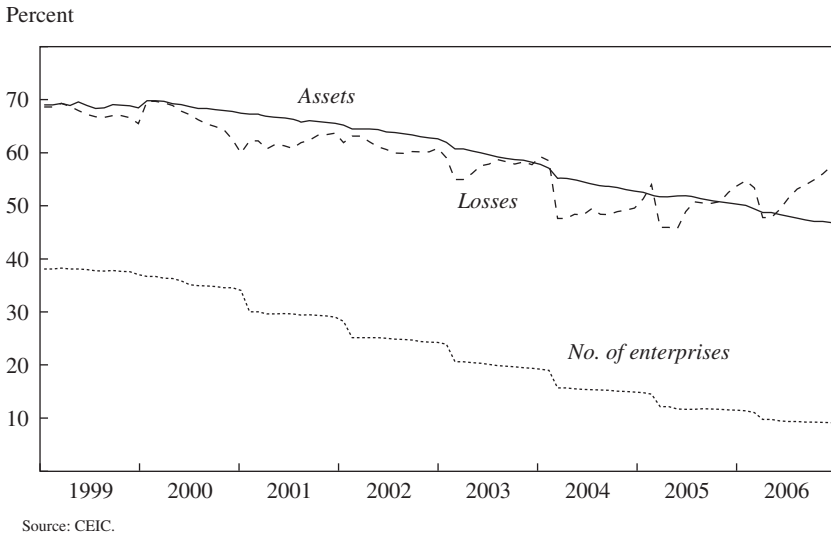
Source: CEIC.

Their data end in 2004, but there was no evidence of any catching up by the SOEs before that point.

Figure 2 provides additional evidence on the role of the public enterprises in the investment boom. The horizontal axis shows, for each of China's provinces, the output of the state-controlled enterprises (SOEs plus other firms in which the government is a part owner with a controlling stake), and the vertical axis plots each province's investment in fixed assets (both measures expressed as shares of total provincial industrial output). It is clear that the provinces where the government-affiliated firms dominate production are also the ones that show the highest investment relative to output.³⁵

The other relevant aggregate phenomenon is the ongoing restructuring of industrial SOEs. Figure 3 measures the importance of the industrial SOEs

35. This finding by itself is open to a variety of interpretations that may or may not be related to policy lending. In the next section we tie the SOE presence directly to bank lending.

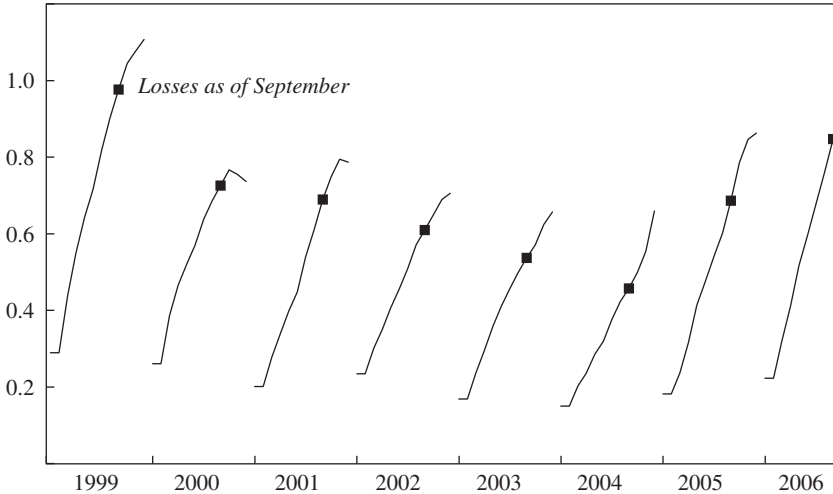
Figure 3. Shares of Industrial SOEs in Assets, Losses, and Number of Industrial Enterprises, 1999–2006

within Chinese industry as a whole on three dimensions since 1999. The results are striking in that they show that the number of industrial SOEs has been pruned sharply, so that by mid-2006 they accounted for fewer than 10 percent of all industrial enterprises. This pruning has been tilted, however, toward smaller firms. The share of total industrial enterprise assets residing in the industrial SOEs stands at 48 percent. This means that the remaining industrial SOEs are, on average, much larger than in the past: assets per industrial SOE more than tripled between 1999 and mid-2006. An earlier OECD study summarizes this shift up to 2003, showing that enterprises then owned directly and indirectly by the state accounted for 60 percent of industrial fixed assets and 40 percent of industrial employees, but fewer than 20 percent of total firms, and contributed 40 percent of value added.³⁶

36. Organization for Economic Cooperation and Development (2005, p. 95). Note, however, that the average contribution to value added masks large differences by sector. Publicly owned firms in the utility and resource-based industries account for 75 percent of value added in that sector, whereas in the rest of the industrial sector their contribution is only 25 percent (p. 97).

Figure 4. Industrial SOE Losses as a Share of Assets, 1999–2006

Percent (cumulative, year to date)



Source: CEIC.

Data on industrial enterprise losses are limited. Figure 3 also shows SOE losses relative to losses for all industrial enterprises. For most of the time since the data have been collected, the restructuring of the SOEs was working, in the sense that their share of losses was less than their share of assets. But starting in 2005 that pattern has shifted. This is more clearly evident in figure 4, which plots cumulative SOE losses relative to SOE assets in each year. The industrial SOEs were steadily cutting their losses from 2000 through 2004, but that trend was broken in 2005 and 2006; the latter year is on track to be the worst for the SOEs since the start of the decade. Anecdotal evidence indicates some of the reasons and sectoral impacts. For instance, on November 23, 2005, *Xinhua Online* reported marked drops in 2005 profits for transportation equipment makers, building materials makers, and oil processors due to higher energy costs. Steelmakers also faced cost increases due to rising iron ore prices. Overall, according to government figures,³⁷ roughly 40 percent of the industrial SOEs were losing money.

One potential contradiction of our reading of the evidence that losses at government-controlled firms are mounting comes from data on aggregate

37. *China Statistical Yearbook 2005*, table 14-7.

profits reported by SOEs. These data have shown steady improvement since the start of the decade and have risen sharply since 2005. However, it appears that the surging profits are highly concentrated within a relatively few enterprises. For instance, *Caijing* magazine reports that, in 2005, the ten largest SOEs (among the more than 120,000 SOEs recognized by the National Bureau of Statistics) accounted for over 53 percent of total revenue.³⁸ A February 2006 statement by the Chinese embassy in Washington reported that, in 2005, SOEs owned by the central government accounted for more than 70 percent of total SOE profits.³⁹ Although comprehensive data on firm-level borrowing are difficult to come by, it seems likely that the most profitable SOEs are financing themselves primarily from retained earnings rather than borrowing from banks. This would imply that the banks' exposure is concentrated on the less profitable SOEs and other partially government controlled firms. One indication of this comes from work in progress by David Dollar and Shang-Jin Wei.⁴⁰ They draw on a World Bank survey of over 500 Chinese firms that includes information on firms' ownership and financing patterns for 2005. In this sample SOEs are more reliant on bank financing than non-SOEs, and SOEs that have lower profit rates are more bank dependent than SOEs with higher profit rates.

Direct Evidence on Bank Lending Behavior Since 2000

Other than noting that aggregate bank lending has soared since 2004, we have sidestepped the role of banks in our discussion of macroeconomic trends because, in the light of China's robust economic growth, it would be hard to use aggregate lending data to demonstrate convincingly that bank lending has been misguided. We think, instead, that the efficiency of the loans is better gauged using bank-level information. Three different types of bank-level data point to impending problems with recent loans.

The first, and least definitive, piece of evidence relates to the customer mix of banks. As we established in the last section, China's industrial SOEs seem poised for another round of losses. The indirect evidence that we have found suggests that the Big Five are still lending to many of the same clients whose loans were written off in the earlier bank recapitaliza-

38. Yuanyuan Hu, "Rule May See SOEs Add to Public Cooffers," *China Daily*, September 20, 2006 (www.chinadaily.com.cn/bizchina/2006-09/20/content_692703.htm).

39. Embassy of the People's Republic of China in the United States (2006).

40. Dollar and Wei (2006).

tions. We focus on the data for CCB, BOC, and BoCom since, by virtue of their IPOs, they have had publicly available audited accounting information for some time. Data for these three banks show that corporate customers still account for 73, 77, and 78 percent of their total lending, respectively, while retail customers' loan shares are 19, 23, and 13 percent, respectively.⁴¹ Loren Brandt and Xiaodong Zhu note the similarity in sectoral composition of the state-owned banks' loan portfolios.⁴² They also show that although they and the joint stock banks are increasingly turning to retail customers, their corporate customer shares are becoming increasingly concentrated in sectors such as housing, energy, and telecommunications—all areas targeted by government policies—increasing the banks' vulnerability to sectoral shocks.

There are several hints that the banks' current corporate customers include many of the same companies that previously received policy loans from the banks. The clearest hint is that, for each of these banks, the percentage of loans that were more than ninety days past due increased from 2004 to 2005.⁴³ Unless misdirected lending has continued, this is a surprising result given that the economy has been booming over this period and that each of the banks purports to have improved the quality of its borrowers. Among these banks, only CCB breaks out its loans by the legal form of the borrower: in the six months between December 2005 and June 2006, its loans to SOEs grew by 8.8 percent, while total lending was up 14.5 percent. BoCom provides information on its ten largest borrowers in its annual reports. Even as of December 31, 2005, five of the top ten were identified as state owned, and four of these five SOEs in 2005 had an internal credit rating of 5 (on a 10-point scale), the lowest grade for a performing loan. Brandt and Zhu examine the structure of bank lending over the 1998–2003 period and find that the state sector, defined to include shareholding companies (in which governments have significant ownership shares), continued to absorb between half and two-thirds of new bank lending.⁴⁴ Finally, the World Bank's most recent quarterly

41. CCB and BoCom 2005 annual reports, pp. 178 and 112, respectively; BOC June 2006 offering memorandum, p. 221.

42. Brandt and Zhu (forthcoming, pp. 35–36).

43. As we explain in the appendix, NPL data are not particularly helpful in judging the contemporaneous quality of a bank's loan portfolio, because judgment is involved in a bank's decision when to acknowledge a bad credit, and because the ultimate losses that the bank will bear are often difficult to determine.

44. Brandt and Zhu (forthcoming, p. 29).

update on the Chinese economy reports on the rise and fall of banks' "packaged loans" to companies owned by local governments, often for infrastructure projects.⁴⁵ These loans increase the indebtedness of local governments, which banks assume to be low risk and likely to be bailed out by the central government if things go wrong. The popularity of these loans forced the central government to issue a decree in April 2006 invalidating local government guarantees on such loans and calling on the banks to cease granting them. We read all of this evidence as suggesting that a great deal of business as usual has continued at the state-owned banks.

Several recent studies raise questions about the efficiency of the major banks' lending. Richard Podpiera analyzes the determinants of the growth rate of loans for different types of banks by province and municipality for the 1997–2004 period.⁴⁶ Two of his findings are relevant: first, the profitability of the state-owned banks' corporate customers has no effect on the growth of their loans; and second, the state-owned banks are losing market share to other financial institutions more quickly in those provinces with the more profitable corporate customers. Not only are the state-owned banks underservicing non-state-owned corporate borrowers, such as small and medium-size enterprises, which account for a majority of China's industrial production, but their existing customer base is being eroded by more efficient, smaller banks that are closer to those customers.

Provincial data confirming the bias of bank lending toward SOEs are presented in figure 5, which is inspired by a figure from Patrick Honohan.⁴⁷ As in figure 2, the horizontal axis plots provinces by the share of total industrial output produced by the state-controlled firms. The variable on the vertical axis is the ratio of Big Four bank lending in each province to total provincial industrial output. Clearly, Big Four lending is higher relative to industrial output in the provinces where the SOEs are dominant.⁴⁸ These data are from 2003; more recent data are lacking because of lags in the availability of the breakdown of output by province. However, both the loan shares and the government shares of industrial production are extremely persistent; the correlation of each of these variables from year to year is above

45. World Bank Beijing Office (2006, p. 4).

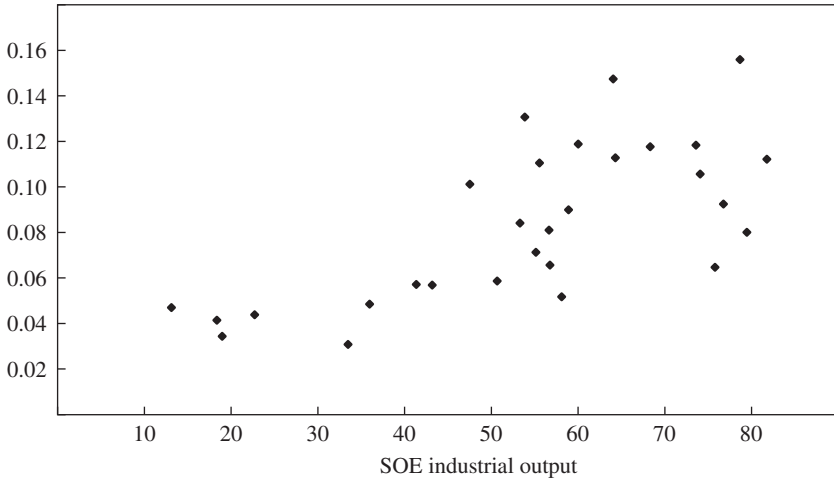
46. Podpiera (2006).

47. Honohan (2004).

48. In figure 2 we showed that these provinces were also the ones that had the most investment in fixed assets. No doubt some of that investment is being financed with retained earnings, but figure 5 suggests that preferential lending is also likely to be important.

Figure 5. Total Loans and SOE Industrial Output as Percent of Total Industrial Output by Province, 2003

Total outstanding loans



Source: CEIC.

0.99, and the cross-sectional pattern of loans through 2004 (the last year for which full provincial lending data are available) looks similar to those of previous years. So there is a strong presumption that the Big Four are still directing their loans to those provinces inhabited largely by government-controlled enterprises.

The suggestion that state-owned bank lending is governed by factors other than the profitability of the potential borrower is reinforced by the results of two surveys using stratified national samples. Hongbin Li and coauthors study the impact of Communist Party membership on a variety of outcomes for a sample of over 3,200 private Chinese businesses in 2002.⁴⁹ They find that businesses owned by Party members are significantly more likely to get loans from government financial institutions. Chong-En Bai, Jiangyong Lu, and Zhigang Tao study entrepreneurs' attitudes regarding the perceived difficulty of obtaining bank loans.⁵⁰ They find that, among more than 2,800 private entrepreneurs surveyed in 2000, those

49. Li and others (2005).

50. Bai, Lu, and Tao (2006).

whose businesses were run by members of the Chinese People's Congress believed that access to bank credit was significantly easier than did other entrepreneurs.

Allen Berger, Iftekhhar Hasan, and Mingming Zhou look at efficiency taking a more structural approach.⁵¹ They estimate a (translog) profit function that aims to gauge how close a given bank comes to maximizing profit given input prices (costs) and output prices. They find a clear ranking among different types of banks, with the Big Four far less efficient than all the others. For instance, the Big Four earn about one quarter of the profits that the most efficient bank in their sample would earn given the Big Four's cost and output mix. Unfortunately, these authors' data end in 2003 and so do not help us gauge the effects of the most recent reforms.

Our final indicator of bank inefficiency comes from a study of banks' loan pricing patterns. Up until October 2004, loan pricing was tightly regulated, and banks' loans were priced according to the government benchmark rates for the various maturities. Since then the banks have been permitted to use their own judgment in setting lending rates, although smaller banks still face some upper limits.⁵² Table 8 compares the rates offered by the state-owned banks with the government's benchmark rate since the deregulation. As expected, a break is evident at 2004:3, after which many more loans are made above the benchmark, but subsequently there has been little further change in the distribution of loans. Since the benchmark rates themselves are rarely adjusted, this means that the range of interest rates paid by borrowers is very compressed as well. From October 2004 until April 2006, the indicative annual rate for loans of less than six months was 5.22 percent; the rate on loans with maturities of over five years was 6.12 percent. Thus, in the first quarter of 2006, 96 percent of all state-owned bank loans would have been priced at between 4.7 percent and 8.0 percent. In contrast, data from the Federal Reserve's Survey of Terms of Business Lending for May 2006 indicate that interest rates on U.S. banks' loans with maturities of between two and thirty days ranged from 4.54 to 6.88 percent. Given the shorter maturity of the U.S. loans (and the presumably much higher credit quality of U.S. borrowers), this comparison suggests that risk adjustment of their interest rates by Chinese banks is still inadequate. Podpiera suggests that the reasons for the lack of

51. Berger, Hasan, and Zhou (2006).

52. Podpiera (2006, p. 12).

Table 8. Distribution of Interest Rates Charged by Chinese State-Owned Banks, 2004:1–2006:1
Percent of all loans^a

<i>Period</i>	<i>Above benchmark</i>						
	<i>Below benchmark^b</i>	<i>At benchmark</i>	<i>All</i>	<i>Percent of benchmark rate charged</i>			
				<i>100–130</i>	<i>130–150</i>	<i>150–200</i>	<i>200 and above</i>
2004:1–2004:3	24.3	40.0	35.7	31.7	3.4	0.6	0.0
2005:1	27.1	28.5	44.3	38.8	4.8	0.7	0.0
2005:2	30.6	29.5	40.0	35.6	3.7	0.6	0.1
2005:4	30.6	28.3	41.1	34.6	5.3	1.1	0.1
2006:1	28.3	31.8	39.9	36.8	2.6	0.5	0.0

Source: PBOC data.

a. Rows may not sum to 100 percent because of rounding.

b. Rates range from 90 percent of benchmark to, but not including, 100 percent of benchmark; PBOC policy prohibits lending at less than 90 percent of the benchmark rate.

differentiation by risk include the state-owned banks' size and slowness to change, a low priority for differentiation when liquidity is so abundant, and a reluctance to price for risk if it means imposing higher charges on their weakest customers.⁵³

Table 9 shows the dispersion of lending rates for other types of financial institutions in China in 2005:4 and 2006:1. Compression in lending is evident for all types, but the regional commercial banks and the credit cooperatives are much more likely to charge rates above the benchmark.

In summary, the evidence on bank lending behavior patterns reinforces the message of the aggregate statistics. Massive investment supported by healthy retained earnings and rapid loan growth are likely leading, as they do elsewhere, to declining marginal productivity of capital. Rapid loan growth is not necessarily an indication of healthy lending practices by the banks. Rather it appears that distortions produced by policy lending persist. Specifically, the Big Five banks show few signs of properly accounting for credit risk in the pricing of their loans, and they continue to show a substantial bias toward lending to state-owned and politically connected borrowers.

Anecdotal Evidence on Bank Management and Regulation

In addition to the data on recent bank lending patterns, we have found much anecdotal evidence suggesting that bank credit is still being misdirected. Again, these examples should be viewed against the backdrop of marked improvements in overall bank performance over the past half decade. Most of these anecdotes involve distortions brought on by government interference. But we find it useful to separate the fallout into its effects on the qualifications of senior personnel, the impact on regulation, and the implications for risk management.

Reports of government meddling are widespread. As noted earlier, continued government involvement in the Big Four's governance (through government directors on their boards and Party appointees among senior managers) undermines their independence. By itself this contributes to moral hazard, as depositors believe they have blanket protection of their deposits; investors are among the optimists who believe the government will use its resources to cover losses. Some reports indicate that the government

53. Podpiera (2006).

Table 9. Distribution of Interest Rates Charged by Banking Institutions on New Loans, 2005:4–2006:1
Percent of all loans^a

Type of bank	Above benchmark													
	Below benchmark			Percent of benchmark rate charged										
	2005:4	2006:1	All	100–130	130–150	150–200	200 and above	2005:4	2006:1	2005:4	2006:1			
All financial institutions	24.3	23.0	49.3	26.9	29.8	29.8	29.8	29.8	8.3	6.4	11.4	10.2	2.7	2.4
State-owned commercial banks	30.6	28.3	41.1	34.6	36.8	36.8	36.8	36.8	5.3	2.6	1.1	0.5	0.1	0.0
Joint stock commercial banks	33.4	30.6	35.1	34.4	35.1	35.1	35.1	35.1	1.1	0.9	0.1	0.1	0.3	0.0
Regional commercial banks	27.0	22.8	51.9	36.4	38.8	38.8	38.8	38.8	8.7	10.6	5.4	6.3	1.4	1.3
Urban and rural credit cooperatives	3.1	1.4	91.6	14.6	15.4	15.4	15.4	15.4	22.4	20.9	44.1	46.6	10.6	11.2

Source: PBOC.

a. Rows may not sum to 100 percent because of rounding.

intends to introduce deposit insurance, but no date has been set. Moreover, even if the formal rules change, it remains to be seen whether depositors would actually be forced to bear losses should a bank fail.

Beyond any conceptual problems arising from the government's domination of the banks are the follow-on effects that such domination has on the quality of bank management. Well-functioning banking systems are predicated on a governance framework that creates accountability at the very top of the organization: a board of directors made up largely of experienced people from the private sector who are not associated with the bank as customers or suppliers, and whose primary responsibility is to ensure that management's interests and the strategy for which management is responsible are aligned with shareholders' interests. The Big Five (except for ABC) have changed their ownership structures to include strategic and public investors, but although the impact on performance is beginning to be felt, the impact on governance is small for at least two reasons. First, the boards of directors are new, and it takes time for them to function as a cohesive team. Second, and more important, these investors are outnumbered by the government appointees, who, like the board chairs and CEOs, are members of the Party. As Barry Naughton notes,⁵⁴ the CEOs of all the Big Four are members or alternates of the Central Committee. Pure technocrats are not running the banks. Instead bank managers are also Party loyalists, who may have little commercial banking expertise and have their own agenda that is likely to conflict with the principles of sound banking.

These problems can be seen at the boards of BOC and CCB. These boards include seven directors appointed by the China State Administration of Foreign Exchange Investments, as the major shareholder, three from management (the bank governor and two deputy governors), three to five independent directors, and possibly two directors from strategic investors. Xie Ping reports that "among the directors only 4 of them will also be member of the Communist Party Committee . . . which include the chairman, governor and two deputy governors—i.e., they will be minority [sic]."⁵⁵ Yet the CEO is often also the bank's Party secretary, and bank strategy and performance are discussed at Party meetings. Our interviews with independent

54. Naughton (2003).

55. Xie Ping, "China's Banking Reform," *Asian Daily* (Credit Suisse First Boston), April 25, 2005.

foreign directors and senior managers installed by strategic investors suggest that these outside experts find themselves hampered by the parallel political structures. One manager, for example, pointed out the anomaly of performance and strategic issues being discussed separately at Party meetings and by the board. In another example, a senior manager recruited from abroad arrived at work one day to find the ranks of employees in his department seriously depleted; he was only then informed that they had been sent to Party School for the day. An independent director also summarized the revealed role of that position as one of adviser to management, but without management being accountable to the board in the increasingly formalized way that characterizes international best practice. Given these reported problems, it is striking that the memoranda accompanying the IPOs of both CCB and BOC, despite their extensive discussion of the risks facing the banks, include no discussion whatsoever of the potential problems stemming from Party interference.

Politicization also influences the regulatory process. Victor Shih notes, "Because these institutions are either wholly or partially state-owned, they have Communist Party committees with propaganda, organization, and discipline and inspection subcommittees. In addition to reporting to the party secretary of the institution, who often serves concurrently as the chairman of the board, the discipline and inspection committee reports to the Party DIC [Disciplinary and Inspection Committee] at a higher level. . . . Because of the existence of a wide array of monitoring institutions, the CBRC [China Banking Regulatory Commission] merely controls the most technical and in some ways least important aspects of financial supervision."⁵⁶ Shih also reports that the CBRC has threatened that top jobs will be jeopardized if NPL ratios begin to rise again. If true, such admonitions suggest the replacement of directed lending by directed management, which is likely to lead to distortions and misreporting to avoid the consequences of bad news.

Finally, the banks' political origins continue to affect their ability to modernize their reporting and risk management systems. In interviews, bank officials describe the banks as "holding companies" with separate legacy organizations for each province, each with its own information and human resource systems and power base. Consolidated information with

56. Victor Shih, "China's Uphill Battle for Stronger Banks," *Far Eastern Economic Review*, November 2005, p. 40.

which to assess a customer's creditworthiness often does not exist. Recent loan scandals at ABC indicate both fraudulent loans and underreporting of NPLs. Oxford Analytica summarizes ABC's management response as substituting investment in government treasury bonds and the interbank market in order to reduce credit risk.⁵⁷ Matthias Bekier, Richard Hwang, and Gregory Wilson report that "When [one] major bank reviewed 60 percent of its lending in one region, for example, it couldn't determine which industry had received a given loan, what type of collateral was provided for it, or even who had made the lending decision."⁵⁸

Indeed, in the present environment it is easier for the state-owned banks not to make new loans, as demonstrated most recently by the shift in ABC's investment strategy. One of our interviewees put it well when describing the mentality of branch managers that contributes to a preference for corporate loans to industrial SOEs: "If I lend money to a SOE and it defaults, I will not be blamed. But if I make a loan to a privately-owned shoe factory and it defaults, I will be blamed." Directed management contributes to the problem: the regulator's priority is to reduce NPL ratios; little is said about how profitability targets might be achieved. In addition, although employment by the banks has declined as far-flung branches have been closed, our interviews with senior bank officials and analysts revealed that the Big Four face strong pressures to retain employees even though they lack the experience and skills required now that the banks are expected to operate as modern banks rather than as government departments handing out working capital.⁵⁹ The banks, with the assistance of the CBRC and their strategic partners, have organized a major retraining effort, but unless the retrained employees return to a different incentive structure at the branch level, such training will have little impact on their behavior.

Remarks attributed to CCB Chairman Shuqing Guo in June 2006 reinforce this point. He was reported to have told an academic forum "that the banks were still prone to being invited in by authorities for a 'cup of coffee' to discuss lending policy."⁶⁰ Managers we interviewed stated that

57. Oxford Analytica, "China: IPO Prospects Recede for the ABC," May 5, 2006.

58. Bekier, Hwang, and Wilson (2005, pp. 117–18).

59. ABC, for example, is reported by Oxford Analytica ("China: IPO Prospects Recede for the ABC," May 5, 2006) to have eliminated 20,000 branches but still has a network of 31,000.

60. "Chinese Government Interference Remains a Problem for the Nation's Banks, China Construction Bank (CCB) Chairman Guo Shuqing Said," Xinhua Financial Network, June 29, 2006.

they are centralizing credit decisions to reduce such pressures. The data in figure 5 suggest that such centralization will be extremely difficult, but, to the extent it is occurring, the survey evidence cited earlier suggests that it may come at the expense of higher-risk, little-known entrepreneurial enterprises, which are emerging throughout the country but whose growth is being constrained by lack of access to funding.⁶¹

Overall, anecdotal evidence confirms the impressions left by the micro-economic and macroeconomic data that, despite the progress that has accompanied the recent reforms, the long-term profitability of the state-owned banks is far from secure. Therefore we next briefly review the risks associated with the continuation of the current policies that derive from the official preference for gradual and controlled change.

The Risks Ahead

The logic of the preceding analysis suggests that many of the loans granted after the 2004–05 capital injections are poised to go bad. This conclusion raises two further questions. First, can we make any informed guesses about what might trigger the recognition of such losses? Second, can we say anything about the size of those losses? We tackle these questions in turn.

Both the 1999 and the 2004–05 bailouts were motivated at least in part by liberalization commitments made in the context of negotiating China's entry into the WTO. But macroeconomic factors also played a role, in that denying problems became less tenable once China's growth slowed in the wake of the Asian financial crisis. This leads us to consider separately the role of foreign entry and a possible macroeconomic downturn as potential triggers.

Foreign Competition

When the domestic banking market opens to foreigners in 2007, how significant will the resulting competitive pressures be? It seems unlikely that this competition will force the large state-owned banks to recognize any hidden NPLs, for two reasons.

61. This point was emphasized in Organization for Economic Cooperation and Development (2005, pp. 149–53).

One is that we doubt that foreign banks will directly compete with the Big Five for much lending business. When the world's megabanks enter new markets, they tend to focus on high-margin activities rather than commodity products and activities. Foreign banks generally view China as attractive because they see customers being underserved and many standard products absent. Brian Metcalfe surveyed thirty-five major foreign banks operating in China and found that the majority of their lending was to non-Chinese customers; only two of the thirty-five had issued more than 40 percent of their loans to Chinese firms.⁶² Moreover, when asked about how they saw the market developing, the banks ranked credit cards, mortgages, and investment products as the product areas they see "as becoming increasingly important in the Chinese retail banking industry in the next three years." On the wholesale banking side, they identified debt capital markets, credit derivatives, and structured products and risk management as the three growth areas. These findings, echoed in our interviews, suggest that the foreign banks seem to have little interest in battling the Big Five for lending share. If this is true, then almost by definition the extra competition is unlikely to have implications for the state-owned banks' NPLs.

A possible indirect mechanism for increased competition would be foreign entry leading to large deposit outflows from the domestic banks, in turn forcing the domestic banks to adjust their lending practices. We doubt this is likely. One reason is that, in other countries where foreign bank entry has played out (such as Japan), there is little evidence that domestic savers quickly move their deposits to new entrants. Indeed, most residents are slow to change their behavior and switch banks. Chinese savers have long lacked both choice and financial experience; hence we expect the same pattern to prevail in China as in other countries. Another reason is that there is little evidence of foreign entrants planning to build (or acquire) the branch infrastructure necessary to pursue a strategy of aggressive deposit seeking.

If foreign banks do focus on other products and services, the result will be that the Big Five will lag the foreigners in providing these services and products. Is this even a cost to the Big Five? We think not. The reason they do not currently offer the products and services highlighted in the Metcalfe survey is that they lack the expertise to do so. The foreign banks

62. Metcalfe (2005).

might indeed do the Big Five a favor by helping familiarize customers with some of these products and by creating standards; in other words, the Big Five could be better off letting foreigners set up the credit derivatives market before they themselves enter, rather than trying to trail blaze.

Together these reasons suggest that opening up to foreign competition is unlikely to be a trigger for the surfacing of more NPLs.

Macroeconomic Slowdown

In contrast to the likely benign effect of additional competition, we expect the condition of the macroeconomy to be a major risk for the state-owned banks. We, along with many others who are worried about a slowdown over the next few years, point to two critical factors.

The first is the unbalanced nature of recent economic growth. As mentioned earlier, the current expansion has been fueled by an unprecedented surge in fixed investment, funded in part by bank loans. Weak governance is also a factor. State-dominated companies have faced little pressure to pay dividends to the government and thus can recycle retained earnings to finance more investment.⁶³ Importantly, this additional investment does not have to earn a rate of return that exceeds the cost of capital that a private sector firm might use to assess project risk.⁶⁴

This confluence of factors encouraging overinvestment is creating many pockets of excess capacity. As the Asian Development Bank notes, “steel capacity, for example, is already 120 million tons greater than demand, but capacity of an additional 70 million tons is being built. In addition, more than a quarter of the nation’s 10.3 million tons of aluminum capacity was idle in early 2006.”⁶⁵ Therefore it is hardly surprising that the Bank for International Settlements, in its discussion of the risks of a Chinese slowdown to global stability, writes, “In China, the principal concern must be that misallocated capital will eventually manifest itself in falling profits, and that this will feed back on the banking system, the fiscal authorities

63. In September 2006 various press reports said the Chinese government was reviewing legislation to require SOEs to begin paying dividends, perhaps as early as 2007. But the details, which would be critically important, were not yet available (Yuanyuan Hu, “Rule May See SOEs Add to Public Coffers,” *China Daily*, September 20).

64. Low bank deposit rates provide little incentive to save, and, as a result, managers perceive the opportunity cost of accumulating real assets to be low. This means that slowing investment momentum will be difficult.

65. Asian Development Bank (2006a).

and the prospects for growth more generally. After a long period of credit-fuelled expansion, this would be the classic denouement.”⁶⁶ Even the highest levels of the Chinese government seem to be aware of these risks. In late July China’s top leaders took the unusual step of warning publicly that the economy was at risk of overheating.⁶⁷

The second factor that concerns us is the policy response to these risks. The orthodox macroeconomic policy response would be to cut any government-sponsored investment spending and raise interest rates. Rob Subbaraman and Paul Sheard concisely describe the actual policy mix: “China’s policymakers are implementing another round of tightening measures, but we question the approach. Most measures rely on administrative fiat: 100 bp [basis points] of hikes in the bank reserve requirement ratio, tighter controls in the property market and moral suasion on local governments and banks to restrict land development and curb credit. There has been only a token 27bp interest rate hike. The government tried such administrative measures in 2004–5. They worked for a while, but ultimately failed. We see little reason why they should work this time, given that the economy has become more market-oriented.”⁶⁸ We agree with this assessment, and one early confirmation is PBOC’s further increase in reserve requirements in November 2006.

The government is hesitant to raise interest rates because it fears that doing so would trigger an inflow of funds from abroad and leave credit conditions no tighter. Currency appreciation would partly offset this effect, but that option would slow export growth and, in those sectors with overcapacity, further reduce profits. For these sectors, engineering a soft landing looks difficult.

In a market-based economy, the goal of profit maximization would naturally deter bank borrowing to support continued investment in the sectors with excess capacity. Specifically, the capacity overhang would deter firms from further investing. Moreover, those firms that did seek bank financing would face increased borrowing rates in light of the risks. As shown earlier, however, loan pricing in China remains quite uniform, and so credit costs are not a stabilizing factor.

66. Bank for International Settlements, *Annual Report 2005*.

67. Richard McGregor, “Chinese PM Vows to Cool Economy,” *Financial Times*, July 26, 2006.

68. Rob Subbaraman and Paul Sheard, “Global Letter: China’s Policy Conundrum,” *Lehman Brothers Global Weekly Economic Monitor*, July 28, 2006, p. 5.

Firms' incentives are also dulled by lack of adequate corporate governance and by the perverse incentives provided by many local governments. The Asian Development Bank summarizes the situation as follows: "Local governments, which control 70 percent of fiscal spending, also contribute to the investment drive by spending on new factories and 'trophy' projects in their areas, often regardless of whether expansion is warranted on economic grounds. Incentives and rewards at [the] local government level are still often linked to physical growth targets rather than to more meaningful economic and social objectives."⁶⁹ Through mid-2006, investment spending by local governments was up 31 percent—a growth rate 2.5 percentage points higher than that of a year earlier.⁷⁰ Ongoing pressures to absorb surplus labor suggest that this may be difficult to cut back.

In light of all these factors, we see a substantial risk of a sharp economy-wide slowdown at some point in the next several years. Subbaraman and Sheard estimate that there is "a 1-in-3 chance of China's GDP growth slowing to 5% or lower in the next three years."⁷¹ What would such a slowdown mean for the state-owned banks? There are several ways to estimate the impact. We sketch two of these, both of which suggest that the losses could be on the same order of magnitude as the 1999 bailout.

One estimation method focuses on inferring bank losses by forecasting the effects of a macroeconomic slowdown on borrowers' performance. Standard & Poor's has done a static calculation of how abrupt changes in interest rates or the exchange rate would alter Chinese firms' ability to service their debt.⁷² In these calculations, rising interest rates raise required interest payments, and an appreciation of the yuan lowers sales and earnings before interest, taxes, depreciation, and amortization (EBITDA). For illustrative purposes Standard & Poor's assumes that if EBITDA falls below the required interest payments, the borrower will default. Among the various scenarios considered, one presumes a 200-basis-point increase in interest rates and a 25 percent nominal appreciation against the dollar. In this case, net profits decline by 34 percent and new NPLs of 1.7 trillion yuan result. The profit drop, if anything, seems modest in the event of a hard landing,

69. Asian Development Bank (2006a, p. 122).

70. "Is China's 10.9% Growth Rate Overheating?" *People's Daily Online*, July 22, 2006 (english.peopledaily.com.cn/200607/21/eng20060721_285376.html).

71. Subbaraman and Sheard, "Global Letter: China's Policy Conundrum," p. 5.

72. Standard & Poor's (2006).

Table 10. Quality Distribution of Loans of the Big Five Banks, December 2005

Percent of total

<i>Loan category</i>	<i>ABC</i>	<i>ICBC</i>	<i>CCB</i>	<i>BOC^a</i>	<i>BoCom</i>	<i>Average^b</i>
Healthy	n.a.	86.1	84.4	79.5	85.5	83.9
Special mention	n.a.	9.2	11.8	15.1	12.1	12.1
Substandard	n.a.	2.8	1.7	2.4	1.3	2.0
Doubtful	n.a.	1.7	1.8	2.4	1.0	1.7
Unrecoverable	n.a.	0.1	0.3	0.6	0.05	0.3
Total NPL (substandard, doubtful, and unrecoverable) ^c	26.2	4.7	3.8	5.5	2.4	4.1
Memorandum:						
Total value of loans (billions of yuan)	2,829.3	3,289.6	2,458.4	1,800.1	763.2	11,140.6 ^d

Sources: tables 2 and 3 and BoCom, BOC, ICBC, and CCB 2005 annual reports.

a. Domestic loans only.

b. Simple (not loan-weighted) averages, excluding ABC except where noted.

c. Rows may not sum to totals because of rounding.

d. Includes ABC.

since this calculation ignores the dynamic effects of the interest rate spike.⁷³ Even so, the resulting NPLs would be similar in magnitude to the 1.4 trillion yuan of NPLs that were moved to the AMCs in 1999. However, since China's GDP more than doubled between 1999 and 2005, this would be a smaller bailout relative to the size of the economy.

An alternative approach is to estimate losses directly, using the loan rating classifications of the banks. Table 10 shows the distribution of loans according to the Bank for International Settlements' five-category classification scheme for the Big Five. For BOC, BoCom, ICBC, and CCB, roughly 12.1 percent of loans are in the special mention category. In principle, these loans are still performing, but they have been separated out because they are at risk of becoming nonperforming. It has been reported that a senior risk advisor at CCB alleges that many loans that were in fact not performing were being hidden by classifying them in the special mention category.⁷⁴ The report also quotes a ratings analyst at Fitch as saying that "A lot of

73. Of course, as they and we recognize, forecasting the dynamics is very difficult; depending on the size of the shock, there might be substantial recoveries on the loans that go into default.

74. David Barboza, "Rare Look at China's Burdened Banks," *The New York Times*, November 15, 2006, p. C1.

analysts have been skeptical” of the bad loan figures. If so, then a sharp slowdown in activity would almost certainly push these loans over the edge; indeed, for this very reason Standard & Poor’s routinely counts the special mention loans as impaired assets. At the end of 2005, loans outstanding in the Big Five totaled 11.14 trillion yuan, which implies NPLs of 1.35 trillion yuan.

Given the rough nature of these calculations, we take some comfort in the fact that they turn up fairly similar estimates. To put them in perspective, suppose that the slowdown happens in the latter half of 2007. By that time the economy will have grown so that an NPL write-off of 1.52 trillion yuan (the average of the two estimates) would be about 7.1 percent of GDP.⁷⁵ Measured against cumulative growth between 2004 and the time of the slowdown, this seems to be a manageable liability; essentially it would mean that about 1.8 percent ($= 7.2 \div 4$) of each year’s growth was “paid for” with loans that wind up going bad. Our sense is that although these losses would be substantial in absolute terms, they would be affordable and perhaps even an acceptable price to the government if viewed as the cost of maintaining economic stability.⁷⁶

Two Alternatives

The preceding discussion illustrates the costs of continuing to ignore the inherent tension between freeing the banks to make commercial decisions and continuing to steer policy loans through the banks to maintain social stability. Our estimates of the costs suggest that China can afford to continue the current policies. We find it difficult, however, to stop there. There may not be a systemic risk, but there will be an opportunity cost to the public funds inevitably allocated to the bailout. With better policies, these funds could be productively used to fund the goals of the 11th Five Year Program for more balanced growth.

75. This assumes that GDP at the time the NPLs are recognized is 16 percent higher than in 2005. The cost to the taxpayer would be lower to the extent that there would be some recovery against the loans, although the loans will have grown, too, and it is likely that some of the new loans would go bad as well.

76. Lardy (2004) uses a third methodology that views the interest costs on AMC obligations, as well as any increase in banks’ NPLs from the large increase in credit in the 2002–04 period, as public sector liabilities that could reduce fiscal sustainability in the event of a future growth downturn. Under alternative assumptions that 20 and 40 percent of the new loans become nonperforming, the debt-GDP ratio rises and then declines through the period to 2013; that is, fiscal sustainability is maintained over this period.

In considering alternatives, we start with a general principle widely embraced by economists: if the government is going to subsidize or tax an activity, then the tax or subsidy should be applied as directly as possible to that activity; indirect taxes and subsidies lead to unintended distortions. In this case, moral hazard is an obvious problem. But we have also explained how leaving the banks with a dual mandate is impairing bank regulation, the quality of bank management, and the modernization of risk management and other management information systems. These distortions degrade the efficiency of intermediation in China.

Accordingly, the first, and most important, component of our alternative vision for banking reform is to move ongoing policy lending to the policy banks. Doing so may or may not reduce the moral hazard, because the policy banks may or may not face a hard budget constraint. *So, under our proposal, the level of continued policy lending would be a choice left up to the Communist Party.*

The main benefit from definitively transferring the burden of policy lending to the policy banks would instead be to eliminate the other distortions involving management, regulation, and reporting systems. Moreover, consolidating the policy lending would make it easier for the central government to monitor the level of lending; the policy banks are specialized and, by virtue of not having profits from other activities, could not divert those profits to extend additional loans. Therefore, if a decision were made to rein in policy lending, it would be more likely to succeed if policy lending were limited to the policy banks.

The two alternatives that we explore therefore differ mainly in two respects. One regards the transition by which the policy loans would be migrated away from the Big Five to the policy banks. The other pertains to the implicit judgment about the general quality of the existing personnel, and specifically about their ability to evaluate loan requests.

Good Banks and Bad Banks

The current strategy of offloading NPLs to AMC's is a variant of the "good bank, bad bank" model used in Japan after World War II and in a variety of Western banks to clean up NPL portfolios following banking crises.⁷⁷ In this model, bad loans are isolated into a business *within* the

77. See Hoshi and Kashyap (2001) for a summary of the Japanese experience.

bank according to clear principles. First, the loans are assigned to a “bad bank” that is separated from the rest of the organization, and particularly from those bank officials who made the loans and formed the customer relationships. The borrowers of these loans become ineligible for new loans or special treatment from the other, “good” side of the bank. Second, an excellent business manager is given authority to make all decisions, from initial appraisal of each asset’s breakeven point to decisions about whether to write off the credit, merge it with other assets, or work it out. The manager’s authority should include direct access to and the support of the CEO and the board of directors. Third, the bad bank is given stature within the organization: not only does it receive its share of senior management time, but every person in the organization is given a clear career path beyond the time when the bad loans have been disposed of (thus encouraging them to focus on the job at hand without worrying about their own future advancement). Fourth, the managers are given leeway to undertake hands-on management, traveling if necessary to monitor progress and effectively manage the assets. Finally, the assets in the bad bank are subject to transparent reporting and monitoring by stakeholders with respect to the magnitude of the original problem, followed by regular public reports on progress in recovering or otherwise disposing of the portfolio.

The AMC route probably made sense in China in 1999 when the remarkable magnitude of the state-owned banks’ bad loans became apparent. The AMCs are notionally obliged to offload all NPLs by December 2006, when the banking sector is scheduled to open to foreign competition under the WTO accession agreement. But, as discussed in the appendix, their performance is fraught with problems and it looks highly unlikely that they will have done so. Their targets contain an inherent contradiction in incentives: their staff are expected to work themselves out of a job. When there are no apparent rewards for success and there is no strategy for re-deploying staff at the end of the process, the focus on the business at hand becomes blurred by questions about “what will happen to me?” Thus progress in clearing the bad loans has been slow, and new ones have appeared in both the AMCs and the banks. Indeed, the AMCs are considered to be close to insolvency themselves.⁷⁸

Another problem for the Chinese AMCs is that they are reluctant to use public auction bids as indicators of fair market value for fear of being

78. Rodman (2005a).

accused of selling state assets too cheaply; in this respect they are very similar to the various AMC's that have operated with limited success in Japan since the mid-1990s.⁷⁹ Through 2005, China had conducted no more than five open auctions.⁸⁰ In Taiwan, the number of privately negotiated dispositions has been significant, but the largest share of total sales has taken place by public auction.

South Korea, in contrast to both Taiwan and China, has been much more aggressive: it has written off, or resolved through bank merger or closure, more than 60 percent of the NPLs that appeared during its 1998 banking crisis. Its banking system is now considered to have successfully made the transition to restored health. Daniela Klingebiel studied seven other country episodes and concluded that the contrast between the Korean and Chinese experiences with AMC's reflects outcomes commonly observed elsewhere.⁸¹ In a majority of the cases she studied, these vehicles did not succeed in meeting their objectives. Moreover, in the two most clearly successful examples (the Resolution Trust Corporation in the United States and the Swedish restructuring organizations), both actively disposed of their assets.⁸²

In sum, we think the Chinese state-owned banks should be restructured to segregate *within* the banks the new NPLs that have emerged since 1999, giving stature to the "bad bank" and staffing it with excellent management dedicated to resolving the NPL problems, and ensuring that these customers do not receive new loans or special consideration from the other, "good" side of the original bank. The shareholders in the existing entity could receive pro rata shares in both entities. The government would then have to decide whether the policy banks would step in to provide additional financing.

Under this model, the performing nonpolicy loans would be transferred to the good bank. This bank would have the objectives that are currently mandated for the Big Five (but that we believe are unattainable given the mixed mandate that they are being asked to fulfill). For this model to succeed, it is imperative that the Big Five have enough competent personnel to operate their good banks successfully. The remaining staff would be

79. Hoshi and Kashyap (2005).

80. Rodman (2005a).

81. Klingebiel (2000).

82. The Swedish asset management organization Securum sold 98 percent of the loans it acquired within five years (Klingebiel, 2000).

expected to build management information systems that permit modern credit evaluation and risk management. Freed from the burden of the policy loans, the remaining bank operations would find their transparency greatly enhanced. The unambiguous mandate for the good bank would also alleviate many of the problems mentioned in our interviews and reported by analysts and journalists; particularly for the current foreign partners and other potential partners, the clarification of the mandate should make the implementation of modern management practices much easier.

We recognize that the good bank would face many hurdles, not the least of which is that its personnel would be drawn from the existing bank staff. Another problem, which Honohan briefly notes in discussing a close variant of this proposal, is that this type of reorganization has “not attracted a champion in the Chinese administration.”⁸³ These challenges are sufficiently formidable that we are not confident that they can be overcome. But we do believe that a more focused good bank would have a much greater chance of achieving the objectives than the existing banks under their current structure.

Narrow Banks

Because of our concerns about the difficulty of ever overcoming the legacy problems at the state-owned banks, we consider an alternative that would separate the deposit taking and lending functions of the Big Five and turn the latter over to other entities, thus transforming the Big Five into “narrow banks.”⁸⁴ This alternative would then squarely shift the burden of the continuation of the policy loans to the policy banks. Given that roughly half of all Big Five loans have a maturity of under one year, once a decision to proceed was made, it would be possible to migrate the non-policy loans to other institutions. Smaller domestic banks and foreign institutions would take over the lending functions. Other institutions would have a strong incentive to partner with the Big Five, to gather additional information on these nonpolicy loans in order to decide which ones to try to take over.

From the perspective of their depositors, the Big Five would look largely unchanged. Their extensive branch networks would be preserved, and the staff working on the deposit-taking side of the business would be

83. Honohan (2004, p. 20).

84. See Hanson (2004) for a broader discussion of this alternative.

retained. These deposits would be intermediated in a very narrow range of low-risk, low-yielding assets, including mutual funds that might include securitized pools of loans.⁸⁵ The limits on the range of investment options would further increase the banks' attractiveness as organizations for other banks and financial services companies to partner with. The experience of Japan Post (the soon-to-be-privatized post office in Japan that also offers savings accounts) in finding partners suggests that partnerships are possible.

Conclusions

We have presented a skeptical appraisal of China's gradualist banking reforms. Substantial progress has been made in the past few years, but the tensions between banking efficiency and social stability persist and contribute to the distortions we have discussed. We are not arguing for a "big bang" or for privatization. Rather we support gradualism with more realism. The world's best commercial banks use market principles to evaluate and manage the multitude of risks they face; their credit decisions are independent of political considerations and personal connections. If the Chinese government wishes to retain majority ownership at this stage of the financial system's development, its expectation that the Big Five banks will behave like commercial banks is likely to be disappointed. These banks are likely to be inefficient, low-margin, slow-growth businesses that will lose market share to the smaller banks, whose ownership and employment contributions are of less interest to the authorities.⁸⁶ When economic growth inevitably slows, the ensuing bailout, while affordable, will divert public funds from other priorities such as those under the 11th Five Year Program to enhance public services in rural areas and accelerate urbanization. Our proposals for a "good bank, bad bank" approach or a narrow banking approach (the latter has been raised in discussions of the new Postal Savings Bank) are alternatives that would reconcile the government's contradictory goals of efficiency and stability.

85. Indeed, the policy discussions around the incorporation of the new China Postal Savings Bank have included reference to limiting the use of capital to such low-risk uses (Yuanyuan Hu, "Cabinet Gives Go-ahead to Postal Bank," *China Daily*, May 24, 2006; www.chinadaily.com.cn/bizchina/2006-05/24/content_598788.htm). No decision was made at the time, however.

86. A point made by Anderson (2006).

APPENDIX

Interpreting China's Nonperforming Loans

THE STATISTICS ON bad loans in the Big Four are subject to various interpretations; hence a range of figures are quoted for any particular statistic. One overarching problem is that some loans may be neither fully repaid nor fully defaulted upon; rather, some fraction of the loan will be collected. For almost all purposes, therefore, the relevant figure is not simply total loans scheduled to be repaid, but instead the difference between this figure and what will be ultimately collected. This difference represents both the taxpayer exposure and the size of the capital injection that will be needed to make the banks solvent (although even more money would be required to comply with international minimum capital requirements). As a rule, the highest estimates for bad loans presume that nothing will be collected and thus systematically overstate the ultimate losses.

This problem is compounded by the subtleties of systems used to classify loans that are at risk of not being repaid. In January 2002 the CBRC's predecessor organization adopted the Bank for International Settlements' five-category loan rating system. Under this system, banks identify, in the first two categories, healthy loans and loans that are performing but are at risk and hence potentially require special mention. The official guidelines suggest that, for these "special mention" loans, borrowers are expected to be able to service the loans currently, but repayment may be adversely affected by specific factors. In practice, however, these loans can be past due for up to ninety days.⁸⁷ The remaining three categories of loans are nonperforming: they include those that are merely substandard in quality, those whose collection is acknowledged to be doubtful, and those that are deemed unrecoverable. In principle, these distinctions are supposed to reflect expected recovery rates, but banks have considerable discretion in the extent to which they recognize the problems and put loans into the two worst categories.

This discretion makes it difficult to compare these three categories across banks and leads most analysts to aggregate all three categories into a catchall NPL category. This aggregation in turn further compli-

87. CCB indicates in its IPO prospectus (p. 180) that special mention loans that are much more than ninety days overdue might still be classified as special mention rather than nonperforming if they are fully secured by collateral or pledges.

cates comparisons of estimates. On the one hand, even if two experts agree on a specific estimate for a bank's NPLs, the implied ultimate losses could differ if the mix of substandard, doubtful, and unrecoverable loans differs. Conversely, two different estimates for total NPLs could imply the same ultimate losses.

As mentioned in the text, the NPLs that were removed from the books of the state-owned banks in 1999 were transferred to AMCs, which were then charged with disposing of the loans. The bookkeeping regarding these transactions is complicated and can easily lead to confusion about ultimate recovery levels. Four AMCs (Cinda, Huarong, Great Wall, and Orient) took loans worth \$168 billion off the books of the Big Four.⁸⁸ The AMCs acquired these loans at book value and then either sold them, recovered the assets through workouts, or arranged debt-equity swaps. Unfortunately, there is no unified public record offering details of the different transactions, and therefore the ultimate recovery rate cannot be precisely estimated. Available estimates suggest recovery rates of between 10 and 30 percent, centering around 20 percent.⁸⁹ John Caparusso suggests that “‘rules of thumb’ on bad debt recoveries based on AMC experience are: expect 5% recovery rate on Category 5 (loss), 35% on Category 4 (doubtful) and 60% on Category 3 (sub-standard).”⁹⁰

What is known is that the efficiency of these AMCs in dealing with legacy loans has been low. A June 2005 report by the National Audit Office gave “details of \$8.6 billion misused by the debt-clearing agencies at the forefront of China’s banking reforms.”⁹¹ The Ministry of Finance was criticized for opacity in how its funds are used. The audit office found, among other irregularities, thousands of fictional employees on the AMCs’ payrolls.

The second round of recapitalizations, which started in 2004, was done slightly differently. Initially, the PBOC used foreign exchange reserves (in the form of U.S. Treasury bonds) to establish a new subsidiary, the

88. Bing Wang, Richard Peiser, and Jack Rodman (“China’s Non-Performing Loans,” *Urban Land Asia*, December 2004, pp. 26–29) report that the transferred loans were implicitly guaranteed by the government and were funded as follows: Ministry of Finance equity, 3 percent; PBOC credit, 40 percent; and AMC bond financing, 57 percent.

89. For example, Credit Suisse First Boston (2002, p. 9) estimates a 30 percent recovery rate; it quotes Standard & Poor’s as assuming 20 percent (2002, p. 17); Rodman (2005a) estimates 20 percent in 2004.

90. Caparusso (2004, p. 6).

91. “Uncooking the Books,” *The Economist*, July 9, 2005, pp. 34–35.

Central Huijin Investment Company.⁹² Huijin then used the bonds to acquire the loans from the two banks in return for an equity stake. According to Caparusso, the loans this time were transferred at prices below book value and then auctioned to the AMCs at a further discount; the transfer prices and discounts varied depending on the ratings of the loans, but a conservative estimate for total losses on these loans would be 70 percent, with an upper bound of as much as 90 percent.⁹³

We draw two main conclusions from the experience to date. First, even under the new Bank for International Settlements standards for classifying loans, the banks retain considerable discretion in how loans are identified. Second, because of this discretion, one has to be careful in comparing different estimates for NPLs, since some estimates need not correspond to the ultimate losses associated with the loans. As we explain in the text, we can nonetheless say that through 2005 it looks like the cleanup of policy lending since 1998 has cost at least \$240 billion. Others have estimated the losses at more than \$505 billion for the entire banking system.

92. The company, also known as China State Administration of Foreign Exchange (SAFE) Investments, was formed in late 2003 as a holding company for the state's stakes in the state-owned banks. After its purchase of major shareholdings in these two institutions, Huijin assigned six directors to BOC and four to CCB. Its mission is described as that of a "visible hand" promoting bank reform and ensuring that stockholders obtain "competitive investment return and dividend proceeds . . . and . . . establish a sound corporate governance structure" ("Economy: With Xie Ping's Steering, the Central Huijin Company Turns to Be Solid," *Economic Observer*, September 27, 2004; en.eeo.com.cn/readnews.asp?ID=249).

93. Caparusso (2004).

Comments and Discussion

Nicholas Lardy: My comments on this paper by Wendy Dobson and Anil Kashyap fall into three broad areas: the political economy of bank lending, the measurement of policy lending, and the cost of bank recapitalization.

The political economy of bank lending decisions is not very well spelled out in the paper. Dobson and Kashyap believe that banks in China are still under pressure to make policy loans to support state-owned enterprises. And they imply that the requirement placed upon banks to support these enterprises has been fairly persistent over the past two decades.

But this approach is not satisfactory in two dimensions. First, the share of bank lending going to state-owned companies has fallen by half over the past decade, in part because the state-owned sector has shrunk relative to the economy as a whole, and in part because banks have become more selective lenders. At year-end 1995, borrowing by state-owned enterprises accounted for 83 percent of all loans from the banking system.¹ By the end of November 2004 this share had fallen to 43.5 percent.² A large part of this decline is explained by the rising importance of lending to the household sector; such lending was nonexistent before 1997. By the end of 2005, 11.2 percent of all bank loans outstanding were to retail customers. At the margin the share of households in annual credit expansion was much larger: 18 percent in 2003 and 19 percent in 2004, but falling to 8.5 percent in 2005, according to data from the People's Bank of China.

Second, the authors' undifferentiated approach does not take us far in explaining the volatile pace of bank lending over recent years. Bank lending began to accelerate at the end of 2002 and hit an all-time-high expansionary

1. Lardy (1998, p. 83).

2. Zhao (2005; this is an interview with the deputy director of the Investigation and Statistics Office of the People's Bank of China).

pace in 2003, when the stock of yuan-denominated loans outstanding increased by 2.77 trillion yuan, an amount equal to 20.3 percent of China's 2003 GDP. Lending growth moderated significantly in 2004 and 2005: loans outstanding grew by 14.1 percent and 12.8 percent of GDP in those years, respectively. Then, however, lending surged to a near-record pace in the first half of 2006, when the stock outstanding increased by 2.18 trillion, equivalent to 23.8 percent of first-half GDP as reported by the NBS. New loans extended by Chinese banks in the first half of 2006 were a stunning 50 percent more than in the same period in 2005.³ What is it about the "pressure to make policy loans" that leads to this particular temporal pattern?

My second point concerns how the authors define and measure policy lending. Can one still assume, as the authors have implicitly done, that all lending to state-owned enterprises should be regarded as policy lending? Should we regard the two-fifths of loans outstanding to state-owned enterprises at year-end 2004 as a proxy for policy lending? Or is a growing share of this lending, at least in the industrial sector, driven by commercially oriented banking practices? Reported before-tax profits of state-owned industrial companies have soared in the wake of the industrial restructuring that accelerated in the mid-1990s. By the first half of 2006, before-tax profits of state-owned industrial firms were 4 percent of GDP, compared with 1 percent in 1999.⁴ Much of this quadrupling of profits is due to shrinkage in the financial losses suffered by the subset of state-owned industrial firms that are unprofitable. These losses fell from 115 billion yuan, the equivalent of 1.4 percent of GDP, in 1998 to 66.9 billion yuan, or 0.4 percent of GDP, in 2004.⁵ In part the growing profitability of state-owned manufacturing firms stems from a substantial reduction in employment in firms that remain state owned. The sharp fall over time in additions to inventory as a share of GDP also contributed. In the mid-1990s average annual additions to inventories exceeded 5 percent of GDP. In 2003–05 these additions averaged 1.4 percent of GDP.⁶ Although the Chinese

3. People's Bank of China (2006).

4. Data on state-owned companies in this comment include traditional state-owned companies, which are typically 100 percent state-owned, as well as state-owned companies that have been reorganized as share-issuing corporations but in which the state remains the dominant shareholder. The official statistics refer to the latter as "state-controlled shareholding companies."

5. *China Statistical Yearbook 2005*, p. 500.

6. *China Statistical Yearbook 2006*, p. 36.

authorities have not released data on inventory accumulation by ownership type, it seems a fair assumption that, historically, inventory accumulation has been concentrated in the state-owned sector and made possible by the preferred access these firms had to credit lines from state banks. It also seems likely that a disproportionate share of the reduction in the rate of inventory accumulation over the past ten years has occurred in state-owned firms.

In short, the stylized facts are roughly that, through the mid-1990s, state-owned firms were required to maintain excess employment, tended to operate as output maximizers, and financed the buildup of inventories through an ever-growing volume of working capital loans from state-owned banks. But under the political leadership of Jiang Zemin and Zhu Rongji, these firms were authorized to shed excess workers, and banks were put on notice that they would be judged by measures of performance, such as return on assets and reductions in the share of nonperforming loans. Increased profitability of state-owned firms and dramatic reductions in inventory accumulation suggest that these policies have borne some fruit.

Finally, Dobson and Kashyap's estimate of the cost of bank recapitalization is \$250 billion, substantially below an estimate I published two years ago.⁷ There are two major reasons for the difference. First, they almost certainly misinterpret the data on the rates of recovery achieved by the asset management companies that were created to take over 1.4 trillion yuan in nonperforming loans from the four largest state-owned banks and the China Development Bank. The paper quotes various secondary sources suggesting recovery rates of around 20 percent. These sources, in turn, reflect Chinese press reports of the four asset management companies of recovery rates in that neighborhood. What is less well understood is that these recovery rates are gross and do not appear to take into account either the operating costs of the asset management companies or their interest costs. The asset management companies must pay interest at 2.25 percent a year on the bonds they issued to the banks in exchange for about 820 billion yuan in nonperforming loans (an exchange that valued the loans at their face value). They also must pay interest on about 600 billion yuan in loans from the People's Bank of China, which they took over from the

7. Lardy (2004, p. 112).

banks as part of the bad debt swap process.⁸ Since the net recovery rate of the asset management companies almost certainly is negative, they will be unable on their own to redeem the ten-year bonds they issued in 1999 or to repay the central bank loans.⁹

Second, Dobson and Kashyap do not attempt to estimate the cost of recapitalizing the Agricultural Bank of China (a large state-owned bank with acknowledged nonperforming loans of more than 25 percent), the dozen or so national shareholding banks, the more than 100 city commercial banks, or the system of rural credit cooperatives. Guonan Ma estimates that as of early 2006 the total cost of recapitalization of all banks and rural credit cooperatives stood at almost 4 trillion yuan (equivalent to \$500 billion, or 22 percent of revised 2005 GDP), and that by the time the job is completed (including fixing the massively insolvent Agricultural Bank of China and finishing the recapitalization of the rural credit cooperatives and city commercial banks), the tab will likely exceed 5 trillion yuan (\$620 billion).¹⁰ Moreover, Ma's estimate includes no forward-looking component (that is, the possibility of new nonperforming loans emerging with a future economic slowdown), and he, too, assumes that the reported recovery rates of the asset management companies are net rather than gross.

Lawrence H. Summers: I learned an enormous amount from this paper by Wendy Dobson and Anil Kashyap. I am not in a position to evaluate, still less to challenge, its major factual claims, and so I will focus instead on three broad conceptual issues that I hope the authors will explore in future work.

First, I was struck by the authors' relatively optimistic attitude toward China's banking problems—even the most negative of the outcomes that they consider are not actually all that bad in a long-term perspective. The authors suggest that the costs of the mishandled Chinese banking problems they address are on the order of 7 percent of GDP. Yet at least some other observers would argue that the black holes in the Chinese financial system today are comparable to those in the Japanese system at the beginning of

8. Lardy (2004, p. 107).

9. From published information it is impossible to tell whether the asset management companies are paying interest on the central bank loans.

10. Ma (2006b).

the 1990s. And it is commonly believed that Japan's banking problems in the aftermath of the bubble economy were a key cause of that country's stagnation, which has now lasted more than a decade. From this one would suppose that if everything that could go wrong in China's banking system did go wrong, the cost would surely be close to an order of magnitude greater than 7 percent of GDP.

The point can be made in another way. Banking policy may be an area where James Tobin's famous dictum about how "it takes a heap of Harberger triangles to fill an Okun gap" (that is, losses due to inefficient resource allocation are far smaller than those due to aggregate demand reductions) applies in spades. This has been illustrated again and again around the world. Think, for example, of the problems in the U.S. thrift industry in the 1980s and early 1990s. The resources misallocated into empty office buildings and other such ventures were the least of the real losses to the U.S. economy. Much greater were the burdens placed on taxpayers for the bailout of the savings and loans and the drastic contraction of bank credit that ultimately led to recession.

This brings to mind a crucial set of issues that I never got clear in my own mind regarding Japan's financial system in the 1990s. The Japanese faced two largely opposing imperatives. One was to have a microeconomically rational banking system: to write off bad loans in the right way, have banks apply proper credit standards, refrain from engaging in nontransparent defensive lending, and so forth. The other was to provide aggregate demand stimulus to a deflating economy. I always worried that the policy advice that the international community seemed to be urging on Japan was based on the notion that cutting off defensive or policy lending and addressing nonperforming loans would somehow stimulate aggregate demand. It was never entirely clear to me why that was supposed to be so. The issue is not unlike those that often arise in discussions of European economic policy, where not all good microeconomic policy is as good as neutral in aggregate demand terms. Think, for example, of the short-run impact of measures that encourage layoffs as a way of increasing the productive efficiency of large enterprises.

How does all of this apply to China's challenges? I am not altogether confident in the authors' implicit assumption that the principal objective of Chinese banking policy should be to improve the functioning of the banking system by curtailing loans to money-losing enterprises. Perhaps an equally important objective is to avoid the kind of bubble and subsequent

deflation that Japan suffered. I am not sure that reallocating lending from troubled state enterprises to hot real estate projects would necessarily help the Chinese economy in the long run.

I hope, therefore, that in future work the authors will integrate their views on Chinese banking with a view on Chinese macroeconomic policy. For I see distressing signs of similarity between China recently and Japan in the late 1980s. Both countries enjoyed remarkable growth, and both were admired and feared by global customers and competitors. Both faced political exigencies that placed constraints on any substantial appreciation of their currencies, and both intervened heavily in the currency markets. Both experienced little product price inflation but relatively easy money and sharply rising asset values. And both had problematic, bank-centered financial systems that lent heavily to preserve social stability as well as to make profits. As various studies by the International Monetary Fund and the World Bank have demonstrated, major banking crises with large spillovers to the real economy are the rule, not the exception. It seems to me that the most important question for the Chinese authorities is how to avoid a full-blown crisis.

Second, I worry that, in their forecasting and in their policy recommendations, the authors do not engage adequately with the liability side of the banks' balance sheets. I would have thought that a crucial aspect of China's problem over the next decade was increasing competition for the funds now held in the form of bank deposits. As foreign banks come in seeking to intermeditate between households and quality businesses, and as the capital market opens, either through explicit legal change or non-explicitly through the growing leakiness of capital controls, households will discover more attractive places to put their money than institutions whose returns are constrained by the fact that they are making mostly bad loans and getting periodically bailed out. Thus, as the sophistication of the Chinese financial system increases, one would expect more pressure on Chinese banks to raise their deposit interest rates.

So a crucial question becomes, How are these institutions going to maintain the inflow of deposits that has to date been supported by financial repression? If the banks are unable to attract funds as households find alternative vehicles for their savings, or as reforms directed at increasing social insurance or at promoting the consumption-led growth encouraged by the world's macroeconomists take hold, the result will one way or another be greatly increased pressure on their state enterprise clients. The

period when the controls that support financial repression are dismantled is traditionally a dangerous time for reforming economies.

My third issue goes to the very nature and purpose of an analysis like the one the authors present. What, in the end, are the objectives of the policymakers to whom the recommendations are addressed? Perhaps there is a policymaker somewhere in China whose desire is to maximize a social welfare function that gives some appropriate weight to the general good of all the citizens of China. But this is probably not a good way of thinking about the incentives motivating the current senior leadership in China or, I suspect, their underlings. Their objective is probably better conceptualized as maintaining political stability by perpetuating the role of the Communist Party, with some additional weight given to benefiting the group that in Russia would be called the *nomenklatura*.

It is an interesting question, and not one that I am competent to address, as to whether policymakers best advance social welfare by giving primary weight to political stability achieved through the continued dominance of their party. Is Russia's evolution over the last seventeen years a positive or a negative example for China? This is a profoundly important historical question. But there is no question that, for the Chinese leadership and many others in China, it is an example of what to avoid.

In a context like this, the lessons of public choice theory become quite relevant in understanding economic outcomes and in providing policy advice. Early in my life as a young academic, I stumbled upon the observation that huge quantities of water were being channeled to central California, for agricultural use, at a price equal to 2 percent of that charged in Los Angeles. I had the bright idea that this should not happen, that the controls should be eliminated and the water allowed to flow to wherever it would command the highest price. More worldly figures than I explained to me that this was completely unrealistic, because of the political power of the growers and their representatives. They further pointed out to me that the value of the water subsidy had been capitalized into the price of agricultural land, so that there were some real issues of fairness.

I reflected on the matter for a few moments and came up with a better idea. Why not allow water to flow efficiently but compensate the growers with an appropriate stream of revenue, thereby producing a Pareto improvement that made everyone better off? My new idea was better than my first one, but it, too, involved real political problems. The last thing that the growers or their representatives wanted was for the magnitude of the subsidy

they were receiving to be made transparent, or for it to be converted into a dollar figure that could be haggled over each year in the budget process. The very opaqueness of the subsidy that I condemned as an economist was its essential virtue from the viewpoint of those who had created it and those who defended it.

I recount this tale because I suspect the same kind of forces may be at work in Chinese banking. Perhaps the very objective of Chinese banking policy is to make it possible for nontransparent, capital market-based subsidies to go to state enterprises favored by the Communist Party. If so, policymakers may be already achieving their objectives and therefore will not be interested in advice of the kind the authors provide. To make progress in this case, one would have to persuade the policymakers to change their objectives or find ways of placing pressure on them to do so.

The point can be made more concretely. Suppose some version of the authors' plan were adopted and the policy lending function of the large banks were hived off. How large would the resulting gains be? Presumably they would not be large for the economy as a whole if all the policy lending continued at some other set of institutions. If some of it stopped, this would surely be good in terms of economic efficiency narrowly defined, but what about social stability? It is not easy to know.

Like experts in many fields who give policy advice, the authors show a preference for first-best, textbook approaches to the problems in their field, while leaving other messy objectives acknowledged but assigned to others. In this way, they are much like those public finance economists who oppose tax expenditures on principle, because they prefer direct expenditure programs, but do not really analyze the various difficulties with such programs; or like trade economists who know that the losers from trade surges need to be protected but regard this as not a problem for trade policy. Perhaps the authors are right, and the separation they suggest would represent an improvement from all points of view. But I am not sure that transparency with regard to who is being bailed out and who is being invested in would be seen as a good thing by many of the actors in China.

I also suspect that the current lending practices of Chinese banks include a considerable element of what George Akerlof and Paul Romer, in another *Brookings Paper*, describe as "looting."¹ Loans are made to parties in some

1. Akerlof and Romer (1993).

way related to the managers of bank branches or to persons close to local Party leaders. This is probably an important tool for the government in maintaining loyalty and stability, which would become much more difficult if all this lending were gathered together in a single policy lending institution.

More generally, it would be valuable for the authors in future work to trace the potential winners and losers from the suggestions that they are making and to analyze the likely sources of support and opposition. Without a clearer understanding of the political roots of current practices, outsiders will likely find it difficult to contribute to their improvement. Indeed, those seeking to improve Chinese banking need to confront at the outset a profound question of strategy. Should their effort be directed at persuading policymakers that they can better achieve through reform the objectives they have already chosen, or should it be directed at encouraging or shaming policymakers into changing their objectives?

I dwell on this social choice-theoretic perspective because it seems to me of profound importance as the rest of the world comes to terms with a rapidly growing Chinese economy in the years ahead. For a generation now, China has had perhaps the best-performing large economy in the history of the world. It has maintained political stability through a period of radical change much better than most observers would have expected twenty years ago. Although China faces huge challenges, it would be a great mistake to presume that its leaders have not properly gauged their own interest in setting policy.

General discussion: Several panelists focused their comments on the role of the Chinese Communist Party and of political economy in the process of bank reform. Richard Cooper believed the Party was traumatized by the collapse of the Soviet Union and the disintegration of the Soviet party. Hence, while pursuing modernization, the Party places a high priority on maintaining the loyalty of the 60 million cadres who are its members and have mid-level to senior operating positions, not just in the state-owned enterprises but throughout the economy. He argued that most bank loans are not policy loans dictated by a strategy from the top; rather they reflect decisions made at the local level, based on local judgment about the balance of pressures necessary to maintain both political stability and Party loyalty. The banking system as it currently operates is intimately related to Party control and is not going to be reformed easily. In this situation the

solution is not closing down state-owned enterprises or banks, but rather letting their relative importance gradually diminish with growth of the economy, as Nicholas Lardy suggested is already happening. In the meantime these so-called loans can be considered quasi-fiscal expenditures that should not cause significant problems. Yingyi Qian reminded the panel that although many of the loans are to money-losing state-owned enterprises, some are to extremely profitable state monopolies such as oil companies.

Gustav Ranis agreed with Cooper's remarks and noted that stability is the first priority of the Chinese decisionmakers. The history of the Chinese economy shows that, at least at the factory level, stability was achieved by underground and indirect arrangements designed to keep the cadres happy, but it was also realized that these activities are subject to a loss of efficiency. Within factories, Party members set the rules initially, but gradually technicians were allowed to take over because the losses were too great to simply keep following the Party line. This seems to be happening today at both the macro and the micro level: there is always a trade-off between the stability achieved by welfare payments through indirect routes, and loss of efficiency. This seems to argue for a gradual movement in the direction of a more efficient system, with trade-offs becoming more and more weighted in favor of economists' solutions.

Ranis also commented on the authors' view that policy lending should be done explicitly by the policy banks. The political reality is that such lending cannot be too transparent, but rather has to be done in an opaque system that hides it from the general public and other observers, both domestic and international.

Qian agreed that a primary goal of the Party leadership is political stability. He believed the Party recognizes that political stability is closely linked to financial stability, as the experience of Indonesia and Russia has shown. On the other hand, in the minds of the current leadership, financial stability is also linked to ownership and control of the big banks, and that is why the government still aims to control at least two thirds of the shares of the Big Four banks. However, with better financial regulation, Qian did not consider this link any longer valid. He predicted that Party leaders will eventually realize that ownership and control are no longer necessary to maintain financial stability, and then they will revise their position.

Ranis speculated that the creation of a bond market will significantly alter the banking situation. Debt financing now runs mostly through the banks because there is no bond market, but with the entry of foreign banks

it might be possible to develop a bond market that could help solve today's banking problems.

Qian predicted that when the restrictions are lifted so that foreign banks can market their services to Chinese households in all regions, foreign competition will have a much bigger impact than the paper assumes.

David Backus noted that the truly striking feature of China's financial system is that 90 percent of financial assets flow through the banking system, making banks far more important there than in the United States or even India. He suggested that pension and capital market reform might have a larger impact on banks than bank reform. Countries that have privatized at least part of their pension systems have typically found that it provides political support for the kinds of institutions that support well-functioning capital markets. Capital markets provide alternative investment opportunities to households and alternative sources of funds to businesses. Something of this sort would automatically draw funds out of the banks, forcing them to improve their operations in order to compete. In China, pension reform is almost inevitable in some form, given the rapidly aging population and patchwork retirement system.

Robert Gordon thought that the similarities between the nonperforming loan problems in the Chinese and Japanese banking systems gave a misleading impression of the overall similarity of the two countries' financial problems. He saw three important differences: Japan has had slow growth in monetary aggregates, whereas China has had rapid growth in monetary aggregates; Japan has experienced asset deflation, which has no analogy in China; and many of the bad loans in China are directed at state-owned enterprises, a practice that has no analogy in Japan. Therefore comparisons between the two countries are not always helpful. As an aside, Gordon commented that one of the Chinese miracles is the extent to which infrastructure has been built ahead of economic growth. One often hears about Indian cities that run out of electricity, and even the United States has major transmission bottlenecks, but one does not hear about such problems in Chinese cities.

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