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When Will China's Financial System Meet China's Needs?

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Abstract

Over-investment in property development, excess production capacity and a massive inventory buildup are current symptoms of inefficient financial intermediation in China. Although a series of important financial reforms have been undertaken in recent years, the results are compromised by the lack of related institutional reforms and inadequate competition in the financial and capital markets. More importantly, the bank restructuring required to resolve the problems of nonperforming loans poses a serious fiscal challenge. Optimistic assessments of the potential for debt-equity swaps fail to account adequately for the recent fiscal deterioration and the accumulation of contingent government liabilities. This paper constructs three scenarios that make different assumptions about the pace of revenue and expenditure growth, as well as the adoption of commercial discipline in bank operations. Comparing these scenarios suggests that revenue buoyancy and the creation of a credit culture are both indispensable for a successful recapitalization of China's huge state-owned banks.

Introduction

The development of a modern, commercially-oriented financial system in China is an important precondition for sustaining strong economic growth and moving more decisively toward a market economy. This paper reviews evidence showing that financial intermediation in the first two decades of reform, particularly in the 1990s, was relatively inefficient. Excessive real resources were poured into property development, creating by the mid-1990s a major property bubble; into excess production capacity in manufacturing, leading to unusually low levels of capacity utilization; and into a massive buildup of inventories.

As a result of these sources of inefficiency, the rate of return on real assets in the state-owned manufacturing sector fell continuously. By the end of two decades of reform the return on assets was only 5 percent, quite low for a rapidly growing emerging market.[1] Moreover, excess investment led to systematic deflation in the producer goods sector. Deflation began in the first half of 1997, well before the onset of the Asian financial crisis, and three years later showed little sign of abating. Inefficient intermediation is also reflected in a continuous decline, well into negative territory, in the rate of return on assets of China's largest state-owned banks, which dominate the financial system.[2] The paper also analyzes China's financial reform program, including the partial recapitalization of the four largest state-owned banks in the second half of 1998; the reorganization of the central bank and related institutional reforms; and the establishment of asset management companies to deal with the accumulation of nonperforming assets in the banking system.

Finally the paper critiques several aspects of the emerging financial reform program. First, related institutional reforms, such as the development of a modern bankruptcy law, are lagging. Second is the critical need to develop larger and more efficient capital markets to provide additional competition in financial markets, a more stable source of funding of long-term investment projects, and to raise the likely rate of recovery on nonperforming loans that are being taken over by the asset management companies. Third is the emerging fiscal challenge of bank restructuring. It is commonplace to argue that the ratio of domestic treasury debt to gross domestic product in China is low, leaving considerable headroom for additional government bond issuance to finance the write-off of nonperforming loans in the state-owned banking system. The paper argues that the conventional wisdom fails to consider adequately both the limited fiscal capacity of the central government and the rapid growth in recent years of government debt, both treasury debt and other debt obligations of the central government. This analysis suggests that a successful program of financial sector restructuring will depend critically on both further fiscal reform and the rapid development of a commercial credit culture in the financial system.

Efficiency of Intermediation

A growing body of evidence suggests that China's financial system has become an increasingly inefficient intermediator of funds. Because the savings rate has risen and there are few alternative financial assets, the flow of funds into the banking system has been prodigious, masking the insolvency of several of the largest state-owned banks. By year-end 1999 household savings alone reached RMB 6 trillion, more than 280 times the

RMB 21.06 billion of year-end 1978.[3] These deposits are the principal source of funds for bank lending. By year-end 1999 loans outstanding from all financial institutions reached RMB 9.4 trillion, over 110 percent of gross domestic product, well over twice the 50 percent ratio of lending to gross domestic product prevailing in 1978.[4]

A significant portion of the resources financed by this lending has been misallocated. This judgment is based in part on evidence of waste of real resources in real estate and manufacturing and in part on the worsening financial performance of the lending institutions themselves.

Property

Massive investment in real estate and property has created an enormous property bubble. There are tens of millions of square feet of completed but unoccupied first class office space in cities such as Beijing, Shanghai, and Shenzhen. Based on current rates of market absorption of new space, it will be years before most of this space is occupied and the developers begin to earn the cash flow that will allow them to service their debt. Prices have been falling since 1995. In Beijing, for example, the rental price of grade-A office space peaked at US$50-60 per square meter in 1995. By January 1998 the price had fallen to $40 and by October 1999 to US$19. Given a vacancy rate of 32 percent and substantial additional space nearing completion, further price drops appear inevitable.[5]

Overbuilding is even more severe in Pudong, Shanghai, where building began at a feverish pace in 1992. Not only are many finished buildings unoccupied, construction on more than a dozen partially finished office towers came to a halt in 1997-98. Since some of the buildings are joint ventures with Asian partners, in part this reflected the Asian financial crisis. But many of the buildings are financed by Chinese companies that simply ran out of money.

Although prices are falling and most construction work halted on unfinished office towers in Pudong, the air has not yet come out of the property bubble. Lenders have not foreclosed on property loans, either because of the legal difficulties of seizing and liquidating the collateral underlying the loans or the lenders' judgment that they are better off holding the nonperforming loans than selling the collateral and recovering only a very small portion of their original loans.

In addition to real estate development geared toward foreign business, the Ministry of Construction acknowledged that nationally at year-end 1998 there were almost a billion square feet of completed but unsold residential property. Most of this was built for domestic residents, at a cost of about RMB 600 billion. The housing glut was acknowledged to "have tied up large quantities of bank loans and affected the banks' normal operation."[6] In addition there are 850 million square feet of vacant retail space.[7]

Excess capacity

In addition to financing a property bubble, the banks also have financed excess capacity across a broad range of industries. China's 1995 industrial census showed that rates of capacity utilization for dozens of major consumer and producer goods were well under 50 percent.[8] Although China has sustained reasonably strong economic growth since the census, capacity utilization rates appear to have fallen further by the late 1990s.[9]

Inventories

Compared to market economies, where average inventory growth typically is miniscule, a relatively large share of output in China goes unsold. In the period 1990 through 1998 additions to inventories averaged 5.7 percent of gross domestic product.[10] On average annual additions to inventories were the equivalent of 42 percent of incremental output. In the United States the comparable figures were 0.4 percent and 7 percent, respectively.[11] Because most state-owned firms have no working capital other than that borrowed from banks, much of this inventory growth has been financed by increased borrowing.[12] The increase in inventories since 1978, if financed entirely by borrowing, would have absorbed one-third of the increase in credit provided by all types of financial institutions in the reform period. This is clearly a significant contributor to the rapid growth of lending relative to gross domestic product that has occurred over the past twenty years.

Financial Side

Given the developments in the real economy, summarized above, it is not surprising that the performance of the financial sector also has deteriorated. The rate of return on assets of China's four largest state-owned banks fell from 1.4 percent in 1985 to only 0.2 percent in 1997.[13] The situation worsened in 1998. Profits of the Bank of China, the best managed and by far the most profitable of the four large banks, fell 40 percent in 1998 compared with 1997.[14] Financial conditions in the largest state-owned banks appear to have worsened further during 1999. In the late summer the Communist Party newspaper carried an article reporting that the portion of borrowers not paying interest on their bank loans had risen and the share of bank assets that was nonperforming continued to increase.[15]

Moreover, these official numbers overstate the profitability of Chinese banks. Interest income is exaggerated because of accrual of interest on nonperforming loans, inadequate provisioning for nonperforming loans, and possibly the shifting of unprofitable activities to subsidiaries, such as securities firms and trust and investment companies whose results are not always consolidated with those of the parent bank. On a realistic accounting basis several of the largest state-owned banks have been unprofitable in recent years.

In light of sinking profitability, it is not surprising that the ratio of capital relative to assets of the largest banks has shrunk. Unweighted capital adequacy of the largest four state owned banks fell from 13.2 percent of assets in 1985 to only 2.8 percent of assets at year-end 1997. Again the official numbers are somewhat misleading since the Ministry of Finance restricts the amount of bad assets that the banks are allowed to write-off in order to be able to collect more tax revenues. Realistic loan write offs would lower bank operating earnings and thus their tax payments. The Ministry of Finance requires banks, for example, to continue to list as assets on their balance sheets some loans to firms that have gone through bankruptcy and liquidation on which they have had no recovery. In 1997 in the four largest state-owned banks these so-called dead loans were approximately equal to the net worth of these banks. Because the banks held other nonperforming loans on which the ultimate recovery rate will certainly be less than 100 percent, the banks as a group were insolvent. An injection of RMB 270 billion in the second half of 1998 probably raised the capital of the banks into positive territory. But using the internationally agreed upon risk-weighting methodology the capital of the four largest state-owned banks is almost certainly less than the 8 percent Basle standard the central bank adopted in 1994, a standard that was subsequently incorporated into the Commercial Bank Law.[16]

The financial condition both of banks other than the big four and of nonbank financial institutions also is deteriorating. For example, conditions worsened in 1998 at several of the smaller new banks that are generally thought to be less encumbered with policy loans. Nonperforming loans at both the Everbright Bank and the Shenzhen Development Bank, for example, jumped sharply in 1998 compared to 1997.[17] In 1999 the bankruptcies of several nonbank financial institutions, such as the Guangdong International Trust and Investment Company (GITIC), the Guangzhou International Trust and Investment Company (GZITIC), and Guangdong Enterprises attracted substantial international press coverage.

Less well understood is that nonbank financial institutions as a group, which include not only trust and investment companies but also credit cooperatives, finance companies, and leasing companies, had nonperforming assets equal to 50 percent of their total assets as early as 1996. In the same year the nonperforming loans of rural credit cooperatives comprised 38 percent of their loan portfolios and were equal to 4.4 times their capital.[18] The financial condition of rural credit cooperatives has dramatically worsened since. The capital of rural credit cooperatives plunged from RMB 63,720 million at mid-year 1996 to a negative RMB 11,760 million at the end of the third quarter of 1999.[19] This is the first time the People's Bank of China has acknowledged that a major component of China's financial system is insolvent. The risks this insolvency poses are substantial since rural households have more than one trillion RMB deposited in savings accounts in these institutions. Finally, the Chinese government has also launched a program to close failing rural credit funds. These funds, also called foundations, initially were established in the 1980s to manage the assets of the disbanded collective agricultural system. But in the 1990s they expanded the scope of their business by taking deposits and offering loans. The financial cost of closing these institutions is difficult to estimate.[20]

The Financial Reform Program

To address the problems summarized above, the authorities have embarked on a far-reaching financial reform program. Its key elements are enhanced central bank regulation and supervision; the adoption of incentives to encourage commercial behavior by large state-owned banks; and the rehabilitation of bank balance sheets.

The key to strengthened central bank regulation and supervision was the reorganization of the regional branch structure of the People's Bank of China along supraprovincial lines in 1998. Historically provincial offices of the People's Bank were unduly influenced by government and party leaders at the provincial level, most of whom were more interested in assuring a generous flow of bank credit to support their favorite projects than in the soundness of the banks that operated in their jurisdictions. Presidents of the regional branches of the People's Bank now outrank provincial governors and first party secretaries and should be more able to rebuff requests for political loans that are directed to banks that they supervise. The People's Bank in 1998 also began to introduce a risk-based system of classifying bank loans. Since it is more forward looking than the payment-based classification system it replaces, when fully implemented it will constitute an important tool of the central bank in supervising banks.

The government also has sought to stimulate commercial behavior on the part of large state-owned banks. In 1994 three policy banks were established, in order to allow the four large state-owned banks to concentrate on commercial lending. The Commercial Bank Law, which was passed by the Standing Committee of the National People's Congress on May 10, 1995 and took effect on July 1, reinforced this by requiring state-owned banks to "assume exclusive responsibility for profits and losses."[21]

Finally, the financial reform program seeks to rehabilitate the balance sheets of the four largest state-owned banks. The first step, noted above, was the injection of RMB 270 million in capital in August 1998. The state in 1999 also created four asset management companies—Cinda, Huarong, Changchong, and Dongfang—to deal with the nonperforming loans that clog the balance sheets of the four large state-owned banks. These companies, which are being financed by issuing government-backed bonds, are purchasing nonperforming loans at face value from the banks in exchange for equity positions in the borrowing firms. The asset management companies will seek to recover as much as possible through a combination of liquidation, auction, securitization, sale of equity, mergers and acquisitions, and private placements of the assets they acquire. Although the asset management companies are said to be loosely modeled on the Resolution Trust Company in the United States, initial indications are that the companies will try to recover more though sale of equity via initial public offerings rather than relying, as did the Resolution Trust Company, primarily on auction and liquidation.

Institutional Constraints

While the planned rehabilitation of its four largest state banks draws on the experience of other countries that have experienced banking crises, there are several features of China's institutional landscape that may lead to outcomes that are less favorable than, for example, the Resolution Trust Corporation in the United States. First, China's bankruptcy procedures are deeply flawed. Several laws give Chinese banks and other creditors the highest priority for the distribution of proceeds from the liquidation of bankruptcy assets. But these laws have been undermined by a State Council regulation assigning priority to meeting pension and social welfare obligations of workers in firms that are liquidated.[22] When firms go through bankruptcy and liquidation, the extent of financial recovery by creditors is low, around 10 to 15 percent.[23] As a result banks rarely initiate bankruptcy proceedings. This pattern suggests that the asset management companies may recover relatively little if they liquidate the collateral securing the nonperforming loans they take over from the banks or if they sell the assets at auction.

Institutional constrains may also lead to relatively low rates of recovery on the assets purchased by Cinda and the other asset management companies. Cinda has acquired large equity stakes in exchange for canceling the bank debt of the borrowing firms.[24] Cinda's expectation is that after restructuring and streamlining these companies in three to five years it will sell its equity stake to investors by listing the firms on the Shanghai or Shenzhen stock markets. However, at least in the first year of its operation Cinda does not appear to have exercised its ownership rights in these firms by installing new managers who are strongly incentivized to improve profitability and by appointing new independent directors to oversee the companies. Indeed, the manager of the first firm to conclude a debt equity agreement stated that despite its 70 percent ownership stake Cinda would be unable to change the firm's management.[25] In the absence of significant restructuring, the market value of these companies may be depressed when they are listed on Chinese stock markets.

A second institutional constraint that could lead to a low rate of recovery is that China lacks the large pension funds, mutual funds, and insurance companies that could provide the diversification and professional management that could facilitate a substantial increase in equity ownership by households, the likely ultimate owners of the stock in the companies that the asset management companies will be selling.[26]

Finally, the underdeveloped domestic government bond market may impede the government's strategy of recapitalization of the financial system. Initially Cinda and the other asset management companies are issuing bonds to the banks in exchange for loans, which they then swap for equity. But since the proceeds from the eventual sale of this equity will inevitably fall far short of the face value of the bonds, ultimately the Ministry of Finance will have to sell bonds to make up the difference. In addition, the Ministry will have to provide funds to rehabilitate the balance sheets of nonbank financial institutions and perhaps banks other than the big four. The magnitude of bonds that must be sold to finance the rehabilitation of China's financial sector is likely to be 30 percent or more of gross domestic product.

Although the stock of government debt has grown rapidly in recent years, it is not clear that markets will easily absorb what will amount to more than a doubling of the stock of treasury debt. Since the mid-1990s the Ministry of Finance has moved away from auction markets for the initial distribution of bonds, preferring to issue bonds at a fixed spread above the interest rate on bank deposits of similar maturity, rather than at market-determined interest rates; the maturity spectrum of bonds has become more compressed; and a large share of treasury bonds sold are nontradeable. In short, China lacks a deep and highly liquid government bond market that would facilitate the dramatic increase in the issuance of bonds that will be necessary to finance the recapitalization of the financial system. [27]

Fiscal Sustainability

Even if the institutional obstacles analyzed above could be overcome and asset management companies work smoothly, bank recapitalization and related reforms will pose a considerable fiscal challenge for China's central government. This judgment differs from that offered by some analysts. For example, the chief economist and director of global economics at Morgan Stanley Dean Witter believes that "China's non-performing loan problem should properly be viewed as a government solvency issue—hardly problematic with total government debt unlikely to exceed 50 percent of GDP at any point in the next five years."[28] This view fails to take into account four factors discussed below—the low level of government revenues relative to gross domestic product; the very substantial growth of treasury debt in recent years; the existence and continued growth of a large stock of non-treasury government debt; and the possibility that even if the large initial recapitalization of banks and other financial institutions can be financed, the emergence of new nonperforming loans will create a burden that ultimately exceeds the state's fiscal capacity.

Revenues

From the beginning of reform in 1978 until the mid-1990s there was a long-term decline in government revenues relative to gross domestic product, from 28.4 percent in 1978 to a low of 10.7 percent in 1995.[29] There has been some recovery in response to a major reform of the fiscal system initiated in 1994, but consolidated fiscal revenues at all levels of government in 1998 were only 12.4 percent of gross domestic product and the budgeted revenue share in 1999 was only 12.9 percent. In most emerging markets the government's revenue share is about twice as large. Even in Russia, which defaulted on its domestic debt in the fall of 1998, the government's consolidated fiscal revenues relative to gross domestic product were twice those in China.[30]

The central government encountered some difficulty in raising additional revenues in 1998 and 1999. There are two cases—the fuel tax and the tax on interest income. The Ministry of Finance proposed amending the Highway Law by replacing ad hoc automobile and road fees collected by provincial and local governments with a uniform national tax of RMB 1 per liter of diesel fuel and RMB 1.2 per liter of gasoline.[31] Based on the levels of consumption of these fuels at the time, the tax revenue generated by this reform would have been about RMB 100 billion, an increase of a little over 10 percent in government budgetary revenues.[32] The amendment was first considered by the Standing Committee of the National People's Congress in late October 1998. Because of insufficient support, a vote on the amendment was postponed until the next session. But at the next legislative session, in December 1998, the vote was postponed again. In the spring of 1999, when a vote finally occurred, 29 of 154 members did not attend the meeting, 42 of those attending abstained, and 6 voted against. Although 77 members voted in favor of the government's proposal, since passage requires a majority of all members rather than just of those present, 77 affirmative votes was one vote shy of the number required to pass the amendment. It was only the second time in the history of the National People's Congress, traditionally regarded as a rubber stamp legislative body, that a government proposal was voted down.[33] Not until October

31, 1999 did the National People's Congress Standing Committee pass the amendment to the Highway Law. Passage was due in part to new provision exempting farmers from the gasoline tax. Further difficulties delayed implementation of the tax beyond the anticipated starting date of early 2000.

The tax on interest income, approved by the Standing Committee of the National People's Congress in the late summer of 1999, was easier. Unlike the amendment to the Highway Law, there was no loss of revenues to provincial and local governments and the bill passed on its first reading. But the revenues that can be anticipated from the tax on interest income are relatively modest.[34]

Government Debt

Given the slow growth of revenues relative to expenditures, the government budget was continually in deficit for most of the first two decades of economic reform. Initially a large part of the deficit was financed by borrowing from the central bank. But beginning in 1994 the government was precluded from such borrowing to finance its budget deficit. Initially this was an administrative decision, but it was codified in the Central Bank Law, which took effect in 1995.[35] As a result, the average annual quantity of treasury bonds sold jumped from under RMB 40 billion in 1991-1993, to RMB 150 billion in 1994-1996, and over RMB 300 billion in 1997-1998.[36] Thus, the stock of outstanding treasury debt attributable to the budget deficit climbed steadily, from RMB 106 billion or 4.9 percent of gross domestic product in 1991 to RMB 726 billion or 9.1 percent of gross domestic product at year-end 1998.[37] In addition, in 1998 the government issued RMB 270 billion in thirty-year "special treasury bonds" to the four major state-owned banks, as part of a recapitalization program. Although these bonds are not included in official compilations of treasury debt, they clearly should be regarded as part of government debt, bringing the total to RMB 996 billion or 12.5 percent of gross domestic product at year-end 1998.

The dependence of the central government on debt to finance its expenditures grew significantly between 1993 and 1998. Net issuance of treasury debt as a percent of central government expenditures, the latter inclusive of interest expenditures, increased from 19 percent in 1993 to 46 percent in 1998.[38]

The interest burden of treasury debt, reflected in Table 1, also has grown substantially. Interest payments on treasury debt in 1998 are estimated to have been RMB 57.3 billion, compared to RMB 5.2 billion in 1992, a 10-fold increase in 5 years. The third column shows the interest burden of the treasury debt, expressed as a percent of central government outlays, quadrupled from 3.8 percent in 1993 to 15.5 percent in 1998.[39]

Non-treasury Government Debt

In addition to treasury bonds and the special treasury bonds issued by the Ministry of Finance to provide additional capital to the four largest state-owned banks, the debt of the state-owned policy banks established in the mid 1990s is appropriately considered as a direct government obligation for several reasons. First, the China Development Bank, which is by far the largest of the three policy banks, undertakes only investment projects identified by the State Development and Planning Commission and other central government entities.[40] Second, the China Development Bank operates with virtually no capital.[41] Thus its ability to absorb losses on its portfolio of loans is extremely limited. Third, the bonds of the policy banks, which are the principal source of funding for their

Table 1: Interest Outlays on Domestic Treasury Debt, 1993-1998

(Billions of RMB and percent)

Year	Interest Outlays	Central Expenditures	Interest Burden
1993	5.2	136	3.8
1994	12.5	188	6.6
1995	28.2	228	12.4
1996	38.7	254	15.2
1997	49.1	302	16.2
1998	57.3	370	15.5

Notes: Interest outlays for 1998 are estimated based on an assumed average interest rate of 9 percent on outstanding treasury debt. Nine percent is a rough guess based on the magnitude of maturing older bonds with higher interest rates that were redeemed and the volume of issuance of new bonds, which because of declining inflation rates, pay lower nominal rates of interests. Central government expenditures are actual central government outlays as reported by the Ministry of Finance plus interest outlays on the outstanding domestic debt. The latter have not been included in the Ministry's published data on central expenditures since the mid-1990s. The latter adjustment is consistent with IMF GFS standards.

Sources: *US$1,000,000,000 People's Republic of China 7.3% Bonds due 2008* (Credit Suisse First Boston and Goldman, Sachs & Co.) Prospectus dated December 9, 1998, p. 59. Finance Yearbook of China Editorial Commission, *Finance Yearbook of China 1998* (Beijing, 1998), p. 462. Finance Minister Xiang Huaicheng, “Report on the Execution of the Central and Local Budgets for 1998 and on the Draft Central and Local Budgets for 1999,” delivered to the Second session of the Ninth National People’s Congress, March 6, 1999. Xinhua News Agency, March 18, 1999 in FBIS-CHI-1999-0320.

lending programs, are not sold on the market to willing buyers. Rather the bonds are "placed" with the large state-owned banks and, to a lesser extent, other newer smaller banks. Placement appears to be necessary because the interest rate on the bonds does not include a risk premium commensurate with the purposes for which the funds are relent, particularly in the case of the China Development Bank. An auction market would presumably result in a significant risk premium over treasury debt, given the policy nature of the China Development Bank's lending. There can be little doubt that in the event any of the policy banks defaulted on their debt that the bond holders would expect the state to compensate them for their losses. Alternatively, one could argue that no risk premium is needed to get financial institutions to hold the bonds since they are implicitly guaranteed by the central government. In either case the conclusion is the same—the debt of the China Development Bank and the other policy banks is appropriately regarded as direct central government debt, similar to treasury bonds.

The balance outstanding of the bonds issued by the policy banks at year-end 1998 was RMB 511.7 or 6.4 percent of gross domestic product.[42] Thus, inclusive of treasury bonds, the special treasury bonds issued in 1998 to provide funds for bank recapitalization, and the financial bonds of the China Development Bank and other policy banks, by year-end 1998 government debt was RMB 1,507 billion. That was 18.9 percent of gross domestic product, more than three times the comparable ratio in 1993.[43]

This estimate of government debt excludes corporate bonds issued by state-owned manufacturing firms, as well as other contingent and implicit government liabilities. These include nonperforming loans extended by state-owned banks, pension arrears of the government and government-owned firms, and unfunded pension liabilities of current employees of the government and government-owned firms. It also excludes implicit liabilities of local governments, such as guarantees for construction projects and local borrowings from trust companies, rural credit cooperatives, rural credit funds, and city trust cooperatives. Minister of Finance Xiang Huaicheng in the fall of 1999 warned of the problem of local government debt, stating that "in some regions a debt risk has already started to appear clearly and is becoming a burden on local government."[44]

The magnitude of these excluded items ranges from quite small to substantial. The issuance of new corporate bonds has shrunk substantially in recent years, in part because some state-owned firms have defaulted on maturing bonds.[45] Nonetheless, there were still RMB 56.4 billion of government enterprise bonds outstanding at the end of 1998, an amount equivalent to 0.7 percent of gross domestic product.[46]

The implicit state pension debt is much, much larger, about 50 percent of gross domestic product in 1994 according to an estimate of the World Bank.[47] As the financial performance of state-owned enterprises has weakened since then, a growing number of firms have discontinued or delayed making contributions to local pension pools. As a result China's pension system recorded a deficit in 1997 for the first time since 1984.[48] At the end of March 1999 total social premium arrears of enterprises, including contributions both for pensions and unemployment insurance funds, were RMB 33 billion.[49] In an effort to deal with this and to mitigate the resulting pressure on the state budget, in early 1999 the State Council promulgated two new regulations providing substantial new penalties for firms that fail to make required contributions to pension and other social funds.[50]

According to an estimate of the World Bank, in the mid-1990s the market value of housing owned by state-owned enterprises was roughly equal to the magnitude of their unfunded pension liabilities. That suggested that over a period of time enterprises could sell their housing to meet the pension obligations then outstanding. That would free up the flow of on going contributions, which historically had been used to finance the pay-as-you-go pension scheme. These flows could be allocated to a funded pension program for current workers, in effect paying down the state's massive unfunded pension liabilities.

It now appears, however, that the bulk of the housing stock owned by state-owned enterprises in most cities has been sold at such highly subsidized prices that it has generated only modest revenue and that even these proceeds have not been allocated to meet pension obligations. As early as 1995, 29 percent of all urban households were living in housing units they had purchased from their work units since housing reform began. But more than nine-tenths of these households purchased their units at subsidized prices that averaged less than a fourth of the market price.[51] Anecdotal evidence suggests that in many cities most public housing will have been sold at highly subsidized prices by the end of 1999. Thus it would appear that the value of housing assets of state-owned firms now falls significantly short of the value of these firms' unfunded pension liabilities.

Thus the magnitude of the pension problem has grown substantially since the time of the World Bank's comprehensive study. Because regular government tax revenues are now being used to meet a portion of the pension obligations of state-owned companies,[52] there is a strong case for including China's implicit pension debt as a direct obligation of the central government. This is not done, however, in the scenarios presented below, which look at the question of the fiscal sustainability of China's bank balance sheet rehabilitation in more detail.

Scenarios

Contrary to the assertion that government debt is unlikely to exceed 50 percent of gross domestic product any time in the next five years, the analysis presented below suggests that any serious attempt to recapitalize China's financial system will push the level of government debt to well over 50 percent of output. This is made clear in Table 2, which provides the first of several scenarios to judge the fiscal sustainability of financial sector restructuring over the next decade. In the baseline scenario the key assumptions are as follows:

- the government revenue share is assumed to stay at 12.4 percent of gross domestic product, as in 1998, and the shares of central and local government revenue remain unchanged; [53]
- non-interest government budgetary expenditures for existing programs remain at 12.7 percent of gross domestic product, as in 1998;
- the interest financed through the government budget each year is equal to the sum of 6 percent of the prior year's treasury debt outstanding and the interest due on RMB 270 billion of special treasury bonds issued in 1998;[54]
- the budget deficit each year is financed entirely by an increase in treasury debt;
- the net issuance of bonds by the policy banks relative to gross domestic product continues at a rate equal to the average in 1996-1998 and the interest cost of this debt continues to be borne by the issuer, not directly by the government budget;[55]

- the cost of recapitalizing the financial system is equal to 25 percent of all loans outstanding from all financial institutions at year-end 1998 plus 20 percent of the value of new loans issued beginning in the year 2000;
- the rate of growth of gross domestic product is 6 percent per year;
- loans continue to grow such that the ratio of loans outstanding to gross domestic product expands at the same pace as in 1995-1998.[56]

This set of assumptions is designed to capture key elements of the financial situation prevailing as of late 1998.

As can be seen from the time series values for the budget balance, the ratio of total debt to gross domestic product, and interest as a share of central government revenues, simply recapitalizing the financial system without any other changes in the financial and fiscal systems is doomed to fail. In the baseline scenario the budget deficit as a share of gross domestic product almost quintuples and the debt ratio explodes from an initial level of 19 percent to 109 percent of gross domestic product and still rising sharply in 2008. Interest on the treasury debt plus the special treasury debt as a share of central government revenues increases sharply, from 12 percent in the base year to 76 percent and still rising in 2008. This scenario is clearly not fiscally sustainable.

Table 2:
Financial Sustainability in China, 1998-2008, Base Scenario

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Government Revenue	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4
Government Expenditure	13.50	13.45	15.21	15.41	15.63	15.87	16.13	16.41	16.71	17.04	17.39
Of which:											
noninterest	12.70	12.70	12.70	12.70	12.70	12.70	12.70	12.70	12.70	12.70	12.70
interest	0.80	0.75	2.51	2.71	2.93	3.17	3.43	3.71	4.01	4.34	4.69
incremental	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Budget Balance	**-1.10**	**-1.05**	**-2.81**	**-3.01**	**-3.23**	**-3.47**	**-3.73**	**-4.01**	**-4.31**	**-4.64**	**-4.99**
total debt/GDP	**0.19**	**0.52**	**0.57**	**0.63**	**0.68**	**0.74**	**0.81**	**0.87**	**0.94**	**1.01**	**1.09**
interest/central govt revenue		**0.12**	**0.41**	**0.44**	**0.48**	**0.52**	**0.56**	**0.60**	**0.65**	**0.71**	**0.76**
Memo items: (billions of RMB)											
Increments to government debt											
Of which: budget deficit	87.51	88.28	250.83	285.40	324.82	369.80	421.15	479.77	546.73	623.25	710.70
new policy bank debt	297.02	177.08	187.70	198.97	210.90	223.56	236.97	251.19	266.26	282.24	299.17
special treasury bonds/loan write (	270.00	2595.60	298.49	343.27	394.76	453.97	522.07	600.38	690.43	794.00	913.10
Total government Debt	1507.36	4368.32	5105.34	5932.97	6863.45	7910.79	9090.97	10422.31	11925.74	13625.22	15548.19
Of which:											
treasury debt	725.69	3409.56	3958.89	4587.55	5307.13	6130.91	7074.12	8154.27	9391.44	10808.69	12432.49
policy bank debt	511.67	688.75	876.45	1075.42	1286.32	1509.88	1746.85	1998.04	2264.30	2546.54	2845.71
special treasury debt	270	270	270	270	270	270	270	270	270	270	270
Interest on treasury debt	57.3	43.54	204.57	237.53	275.25	318.43	367.85	424.45	489.26	563.49	648.52
Interest on special treasury debt	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44
Gross domestic product	7955	8432.3	8938.238	9474.532	10043	10645.58	11284.32	11961.38	12679.06	13439.81	14246.19
Government revenue	985.3	1045.61	1108.34	1174.84	1245.33	1320.05	1399.26	1483.21	1572.20	1666.54	1766.53
Of which central	488.5	518.62	549.74	582.72	617.68	654.75	694.03	735.67	779.81	826.60	876.20
local	496.8	526.99	558.60	592.12	627.65	665.31	705.22	747.54	792.39	839.93	890.33
Government Expenditure	1077.1	1133.88	1359.17	1460.24	1570.15	1689.86	1820.40	1962.98	2118.94	2289.78	2477.23

Table 3 presents the first of two alternative scenarios. In the first alternative the government succeeds in continuing to increase government revenues relative to gross domestic product at the same rate achieved from 1995 through 1998.[57] Under this scenario government revenues relative to gross domestic product increase by almost one-half by 2008. However, increased revenues are not assumed to lead to a one for one reduction in the government budget deficit. Half of the incremental revenue growth is allocated to meet what the World Bank argues are urgently needed additional budgetary outlays for health, education, poverty alleviation, pensions, social insurance, infrastructure, and the environment.[58] Compared to the baseline scenario the rise in the ratio of debt to gross domestic product is more moderate and interest expenditures on the treasury and special treasury debt outstanding rise much more slowly, to 45 percent by the end of the ten-year period. But the overall path is probably not fiscally sustainable. Although the budget deficit declines after 2000, the debt ratio exceeds 90 percent of gross domestic product and is still rising in 2008. The interest burden also is still rising in 2008. Eventually this path also will not be sustainable, either because the growth of revenues relative to output can not be sustained indefinitely or because the government might have to assume some direct responsibility for the debt of the policy banks, which by 2008 is projected to equal to a fifth of gross domestic product.

The second alternative scenario, presented in Table 4, differs from the base scenario by assuming that following the initial recapitalization of financial institutions at year-end 1999, banks operate on increasingly commercial terms going forward. Thus the volume of loans that needs to be written off, either as a result deterioration of the stock of loans banks are left with after the asset management companies purchase their bad loans or new loans that go bad, falls rapidly and by 2007 all loan losses can be absorbed from loan loss reserves without impairing bank capital adequacy.[59]

Table 3:
Fiscal Sustainability in China 1998-2008, Revenue Enhancement

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Government Revenue	12.4	12.96	13.52	14.08	14.64	15.2	15.76	16.32	16.88	17.44	18
Government Expenditure	13.50	13.73	15.75	16.20	16.66	17.12	17.57	18.04	18.51	18.99	19.48
Of which:											
noninterest	12.70	12.70	12.70	12.70	12.70	12.70	12.70	12.70	12.70	12.70	12.70
interest	0.80	0.75	2.49	2.66	2.84	3.02	3.19	3.38	3.57	3.77	3.98
incremental	0.00	0.28	0.56	0.84	1.12	1.40	1.68	1.96	2.24	2.52	2.80
Budget Balance	**-1.10**	**-0.77**	**-2.23**	**-2.12**	**-2.02**	**-1.92**	**-1.81**	**-1.72**	**-1.63**	**-1.55**	**-1.48**
total debt/GDP	**0.19**	**0.52**	**0.56**	**0.61**	**0.66**	**0.70**	**0.75**	**0.79**	**0.84**	**0.89**	**0.94**
interest/central govt revenue		**0.12**	**0.37**	**0.38**	**0.39**	**0.40**	**0.41**	**0.42**	**0.43**	**0.44**	**0.45**
Memo items: (billions of RMB)											
Increments to government debt											
Of which: budget deficit	87.51	64.67	199.36	201.31	202.79	203.89	204.74	205.52	206.46	207.88	210.20
new policy bank debt	297.02	177.08	187.70	198.97	210.90	223.56	236.97	251.19	266.26	282.24	299.17
special treasury bonds/loan write o	270.00	2595.60	298.49	343.27	394.76	453.97	522.07	600.38	690.43	794.00	913.10
Total government Debt	1507.36	4344.70	5030.26	5773.80	6582.25	7463.67	8427.46	9484.54	10647.69	11931.81	13354.28
Of which:											
treasury debt	725.69	3385.95	3883.81	4428.38	5025.93	5683.79	6410.61	7216.50	8113.39	9115.27	10238.57
policy bank debt	511.67	688.75	876.45	1075.42	1286.32	1509.88	1746.85	1998.04	2264.30	2546.54	2845.71
special treasury debt	270	270	270	270	270	270	270	270	270	270	270
Interest on treasury debt	57.3	43.54	203.16	233.03	265.70	301.56	341.03	384.64	432.99	486.80	546.92
Interest on special treasury debt	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44
Gross domestic product	7955	8432.3	8938.238	9474.532	10043	10645.58	11284.32	11961.38	12679.06	13439.81	14246.19
Government revenue	985.3	1092.83	1208.45	1334.01	1470.30	1618.13	1778.41	1952.10	2140.23	2343.90	2564.31
Of which central	488.5	542.04	599.39	661.67	729.27	802.59	882.09	968.24	1061.55	1162.58	1271.90
local	496.8	550.78	609.06	672.34	741.03	815.54	896.32	983.86	1078.67	1181.33	1292.41
Government Expenditure	1077.1	1157.49	1407.81	1535.32	1673.09	1822.02	1983.15	2157.61	2346.68	2551.78	2774.52

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In this second alternative scenario the debt to gross domestic product ratio approaches 80 percent and debt service absorbs over half of central government revenue in 2008. More importantly both the budget imbalance and the debt ratio are still rising slowly in 2008, suggesting that the second alternative scenario also is not fiscally sustainable.

A final scenario, presented in Table 5, combines the first two—the government's revenue share grows by half over the ten year period, government expenditures rise by half this amount, and banks operate on an increasingly commercial basis beginning in 2000. Under this happy combination of circumstances the budget is basically balanced by 2008; the debt to gross domestic product ratio peaks at about two-thirds in 2005-2006 and then declines; and the interest burden of treasury debt peaks at under 40 percent of central government revenues in 2001and then declines slowly. This path is clearly fiscally sustainable.

These scenarios suggest that a successful recapitalization of China's financial system will require both significant revenue buoyancy and a significant change in the behavior of banks going forward after the asset management companies absorb the nonperforming loans of the banking system and arrangements are made to write-off nonperforming assets in other financial institutions. Revenue buoyancy alone is not enough. Neither is commercial bank behavior.

Table 4:
Fiscal Sustainability in China, 1998-2008, Commercial Bank Behavior

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Government Revenue	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4
Government Expenditure	13.50	13.45	15.21	15.37	15.51	15.64	15.75	15.84	15.91	15.95	15.97
Of which:											
noninterest	12.70	12.70	12.70	12.70	12.70	12.70	12.70	12.70	12.70	12.70	12.70
interest	0.80	0.75	2.51	2.67	2.81	2.94	3.05	3.14	3.21	3.25	3.27
incremental	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Budget Balance	**-1.10**	**-1.05**	**-2.81**	**-2.97**	**-3.11**	**-3.24**	**-3.35**	**-3.44**	**-3.51**	**-3.55**	**-3.57**
total debt/GDP	**0.19**	**0.52**	**0.56**	**0.60**	**0.64**	**0.67**	**0.70**	**0.73**	**0.75**	**0.76**	**0.78**
interest/central govt revenue		**0.12**	**0.41**	**0.43**	**0.46**	**0.48**	**0.50**	**0.51**	**0.52**	**0.53**	**0.53**
Memo items: (billions of RMB)											
Increments to government debt											
Of which: budget deficit	87.51	88.28	250.83	281.64	312.37	344.48	377.62	411.31	444.89	477.52	508.59
new policy bank debt	297.02	177.08	187.70	198.97	210.90	223.56	236.97	251.19	266.26	282.24	299.17
special treasury bonds/loan write (	270.00	2595.60	235.81	202.20	192.70	175.92	149.94	112.48	60.87	0.00	0.00
Total government Debt	1507.36	4368.32	5042.66	5725.46	6441.43	7185.38	7949.92	8724.90	9496.92	10256.67	11064.43
Of which:											
treasury debt	725.69	3409.56	3896.20	4380.04	4885.10	5405.50	5933.07	6456.86	6962.62	7440.13	7948.72
policy bank debt	511.67	688.75	876.45	1075.42	1286.32	1509.88	1746.85	1998.04	2264.30	2546.54	2845.71
special treasury debt	270	270	270	270	270	270	270	270	270	270	270
Interest on treasury debt	57.3	43.54	204.57	233.77	262.80	293.11	324.33	355.98	387.41	417.76	446.41
Interest on special treasury debt	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44
Gross domestic product	7955	8432.3	8938.238	9474.532	10043	10645.58	11284.32	11961.38	12679.06	13439.81	14246.19
Government revenue	985.3	1045.61	1108.34	1174.84	1245.33	1320.05	1399.26	1483.21	1572.20	1666.54	1766.53
Of which central	488.5	518.62	549.74	582.72	617.68	654.75	694.03	735.67	779.81	826.60	876.20
local	496.8	526.99	558.60	592.12	627.65	665.31	705.22	747.54	792.39	839.93	890.33
Government Expenditure	1077.1	1133.88	1359.17	1456.48	1557.70	1664.54	1776.88	1894.52	2017.09	2144.05	2275.11

Table 5:
Fiscal Sustainability in China, 1998-2008,
Revenue Enhancement and Commercial Bank Behavior

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Government Revenue	12.4	12.96	13.52	14.08	14.64	15.2	15.76	16.32	16.88	17.44	18
Government Expenditure	13.50	13.73	15.75	16.17	16.54	16.88	17.19	17.47	17.71	17.90	18.06
Of which:											
noninterest	12.70	12.70	12.70	12.70	12.70	12.70	12.70	12.70	12.70	12.70	12.70
interest	0.80	0.75	2.49	2.63	2.72	2.78	2.81	2.81	2.77	2.68	2.56
incremental	0.00	0.28	0.56	0.84	1.12	1.40	1.68	1.96	2.24	2.52	2.80
Budget Balance	**-1.10**	**-0.77**	**-2.23**	**-2.09**	**-1.90**	**-1.68**	**-1.43**	**-1.15**	**-0.83**	**-0.46**	**-0.06**
total debt/GDP	**0.19**	**0.52**	**0.56**	**0.59**	**0.61**	**0.63**	**0.65**	**0.65**	**0.65**	**0.64**	**0.62**
interest/central govt revenue		**0.12**	**0.37**	**0.38**	**0.37**	**0.37**	**0.36**	**0.35**	**0.33**	**0.31**	**0.29**
Memo items: (billions of RMB)											
Increments to government debt											
Of which: budget deficit	87.51	64.67	199.36	197.54	190.34	178.57	161.22	137.05	104.61	62.15	8.09
new policy bank debt	297.02	177.08	187.70	198.97	210.90	223.56	236.97	251.19	266.26	282.24	299.17
special treasury bonds/loan write (	270.00	2595.60	235.81	202.20	192.70	175.92	149.94	112.48	60.87	0.00	0.00
Total government Debt	1507.36	4344.70	4967.58	5566.28	6160.22	6738.27	7286.40	7787.12	8218.87	8563.25	8870.51
Of which:											
treasury debt	725.69	3385.95	3821.12	4220.86	4603.90	4958.39	5269.55	5519.08	5684.57	5746.72	5754.81
policy bank debt	511.67	688.75	876.45	1075.42	1286.32	1509.88	1746.85	1998.04	2264.30	2546.54	2845.71
special treasury debt	270	270	270	270	270	270	270	270	270	270	270
Interest on treasury debt	57.3	43.54	203.16	229.27	253.25	276.23	297.50	316.17	331.15	341.07	344.80
Interest on special treasury debt	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44	19.44
Gross domestic product	7955	8432.3	8938.238	9474.532	10043	10645.58	11284.32	11961.38	12679.06	13439.81	14246.19
Government revenue	985.3	1092.83	1208.45	1334.01	1470.30	1618.13	1778.41	1952.10	2140.23	2343.90	2564.31
Of which central	488.5	542.04	599.39	661.67	729.27	802.59	882.09	968.24	1061.55	1162.58	1271.90
local	496.8	550.78	609.06	672.34	741.03	815.54	896.32	983.86	1078.67	1181.33	1292.41
Government Expenditure	1077.1	1157.49	1407.81	1531.56	1660.64	1796.70	1939.63	2089.15	2244.84	2406.05	2572.40

Of course, these results are only suggestive. They show the effects of changing only two variables, the government revenues relative to gross domestic product and the efficiency of intermediation by the banking system. All other parameters and assumptions remain fixed. Different results can be generated by alternative assumptions about the amount of bad loans that must be written off; the ability of the policy banks to continue to finance the interest on their rapidly growing stock of debt; the need of the government to finance pension obligations of state-owned companies, and so forth. Among the most important of these are the assumed rates of economic growth and the interest rate the government must pay to sell its bonds. In the scenarios these are assumed to be equal at 6 percent in order to focus the analysis on the effects of alternative paths of revenue growth and efficiency of intermediation of funds. If the government were able to sustain a growth rate above the real rate of interest all of the outcomes are more favorable to fiscal sustainability.

However, a sensitivity analysis of the base scenario shows that the gains to the government from an ability to finance its treasury debt at a lower real rate of interest are modest. For example, changing the base scenario so that the real interest rate is only 3 percent, in the year 2008 the budget deficit at 2.4 percent, the debt ratio at 95 percent, and the interest burden at 34 percent are all lower.[60] But they are all still rising suggesting that even this favorable scenario is not sustainable in the long run.[61]

The scenarios do not examine alternative policies to support the recapitalization of state-owned banks. For example, if fiscal reforms are not capable of generating rising revenues relative to gross domestic product, perhaps the sale of state assets could generate funds to pay for the expected cost of bank recapitalization. The state raised funds averaging the equivalent of 1.5 percent of gross domestic product in 1997 and 1998 through the sale of shares in state-owned companies on stock markets in China and Hong Kong, amounts more than twice the assumed annual rise in fiscal revenues in the revenue enhancement scenario.[62]

Creating a Credit Culture

Reform pressures presumably have forced banks to become more selective in their lending, stimulating the development of commercially-oriented lending practices. The World Bank reflects this view, opining that "by 1997 . . . bank managers became more reluctant to lend to loss-making enterprises."[63] Media reports of toughened credit-approval procedures are commonplace.[64]

It is difficult to evaluate the extent to which a commercial culture is already emerging in the financial system. Evidence already summarized of a continuing erosion in both the quality of bank assets and the rate of return on bank capital is not definitive, since it may simply reflect a deterioration in the stock of previously existing loans, rather than poor recent lending decisions.

Other evidence, both institutional and empirical, suggests that the development of a commercial credit culture is at an early stage. On the institutional side it is notable that although the state for several years has promoted the goal of banks assuming responsibility for their profit and losses, that the banks themselves do not yet appear to have adopted this as their primary objective. The annual reports of the largest state-owned banks, with the exception of the Bank of China, rarely even mention selectivity in their lending or any indicator of improvements in their financial performance that might follow from increasing selectivity. Rather these reports continue to emphasize the growth of lending and deposit taking rather than the rate of return on equity, the rate of return on capital, the share of nonperforming loans in loan portfolios, or any other measure of the efficiency of their operations.

Similarly the annual reports of most large state-owned banks fail to provide any information on their efforts to come into compliance with the basic prudential ratios set forth in the Commercial Bank Law in 1995.[65] Interested readers of the annual reports of these banks, of course, can calculate each bank's compliance with some of the prudential ratios using data that appears in each bank's profit and loss statement and balance sheet. But the absence of any information on capital adequacy or on loan concentration, which cannot be calculated from disclosed information, is disturbing.

Even some of the newer banks, which are generally thought to be more commercially-oriented, exhibit some of the same problems. For example, in the 1998 annual report of the Bank of Shanghai the president's message mentions profitability in passing, choosing to focus on the magnitude and growth of the bank's deposit taking and lending businesses and the bank's share of these activities among the seven biggest banks in the city.[66]

On the quantitative side there are also several indicators worth examining that bear on the depth of commitment to commercially-oriented lending. First, the continued rapid growth of lending relative to gross domestic output, suggests that a commercial credit culture has yet emerge. In 1999 the quantity of loans outstanding rose by RMB 1,084.6 billion. The rate of growth of lending, 12.5 percent, was well above the officially reported 7.1 percent expansion of the economy. As argued elsewhere, much of this rapid growth of lending appears to have been used to finance the losses of enterprises that cannot cover their costs from the sale of their product. Loans are used to pay for inputs, workers' wages, pensions of retirees, and additions to inventories.[67]

A second quantitative indicator that points to slow progress of the large state-owned banks in developing a commercial credit culture is the continued allocation of a disproportionately large share of loans to state and collectively-owned companies. The failure of China's largest bank, the Industrial and Commercial Bank of China, to provide significant credit to private and individual firms is indicative of the problem. This is particularly striking given the large role these firms have played in generating output and especially employment since the early 1990s. At the end of June 1998 working capital loans to private and individual firms by the bank totaled only RMB 7,598 million, an astoundingly small 0.49 percent of the bank's working capital loans outstanding to industrial and commercial firms.[68]

The same pattern is true at the other banks as well as nonbank financial institutions. As shown in Table 6, working capital lending to the private sector has grown dramatically in absolute terms over the last decade but at the end of 1999 remained under one percent of working capital loans outstanding from the financial system.[69] In short, access to credit by individual and privately run companies remains quite limited, particularly in light of the rapid development of the sector. The share of industrial output produced by these firms in 1997 was 18 percent, three times their share in 1991.[70] Equally important, these firms have also become the principal sources of employment growth. Indeed since 1994 these firms have created more jobs than state, collective, and foreign invested firms combined.[71] The further development of a commercial credit culture presumably would lead to significantly more lending to the

Table 6: Working Capital Lending, 1991-1999

Billions of RMB and (percent)

Year	Loans outstanding from all financial institutions	Of which loans to private sector
1991	1,829.3	4.9 (0.27)
1992	2,239.8	6.8 (0.30)
1993	2,774.6	10.9 (0.39)
1994	3.276.9	15.6 (0.47)
1995	4,039.7	19.6 (0.49)
1996	4,899.9	28.0 (0.57)
1997	5,541.8	38.7 (0.70)
1998	6,061.3	47.2 (0.78)
1999	6,388.8	57.9 (0.91)

Note: The private sector includes what the Chinese authorities classify as geti, translated as "individual" or "self-employed" workers and siying qiye translated as "privately managed firms".

Sources: *Almanac of China's Finance and Banking 1998*, p. 508. *China Financial Outlook '98*, p. 92. "China's Financial Industry Is Developing Steadily Under Reform," *Jinrong shibao (Financial News)*, January 25, 1999, p. 1. "Sources and Uses of Credit Funds of Financial Institutions, Fourth Quarter 1999,"*Jinrong shibao (Financial News)* January 13, 2000, p. 2

private sector, thus easing the financial constraint that appears to currently inhibit its growth. This will require training in credit skills and risk management in the banks. And it will also require a fundamental change in the state policy of implicitly guaranteeing most lending to state-owned companies while requiring the banks to absorb from their own profits any losses from bad loans to private borrowers.

Perhaps the most interesting evidence suggesting that financial reforms to date have not succeeded in creating a credit culture is the policy response to the deflation that emerged in China in the mid-1990s. The relevant data are summarized in Table 7. At the retail level prices began declining in the fall of 1997. The fall in producer goods prices started earlier, in January 1997.[72] In 1998 the broadest measure of price trends, the implicit gross domestic product deflator, also turned downward for the first time since the early 1960s.[73]

In response the state cut interest rates on both deposits and loans to encourage consumption and investment, organized cartels to reduce production, and introduced price floors for many products in excess supply. None of these measures appears to have had its intended effect. Consumption and investment appear to have responded only sluggishly to interest rate cuts and the government has been unable to enforce price floors for most commodities.

Another administrative approach to the problem of deflation was initiated by the State Economic and Trade Commission in the summer of 1999. It issued a new regulation prohibiting any new fixed asset investment that would increase productive capacity for 201 goods for which existing capacity was already seriously underutilized.[74] The scope of the list was broad, covering 16 sectors including steel, petrochemicals,

Table 7: Price Changes, 1994-1998

Year	Retail Prices	Industrial Products	Of which Producer goods	Of which Steel products
1994	21.7	19.5	16.7	-0.4
1995	14.8	14.9	13.6	-9.3
1996	6.1	2.9	3.5	-1.8
1997	0.8	-0.3	-0.3	-1.7
1998	-2.6	-4.1	-4.6	-5.0

Sources: State Statistical Bureau, *China Statistical Yearbook 1998* (Beijing: Statistical Publishing House, 1998), pp. 302 and 317; *Statistical Survey of China 1996* (Beijing: Statistical Publishing House, 1996), p. 50; *Statistical Survey of China 1998* (Beijing: Statistical Publishing House, 1998), p. 74; *Statistical Survey of China 1999* (Beijing: Statistical Publishing House, 1999), pp. 73 and 76.

pharmaceuticals, construction materials, machinery, electronics, light industry, textiles, and shipbuilding. In each sector there is a list of specific products for which no new fixed asset investment is authorized.

One good example of over investment and excess capacity is the steel industry. China became the world's number one producer in 1996, when output hit 101 million metric tons. Production in 1998 grew to 116 million metric. But the annual production capacity of the industry was a staggering 190 million metric tons, 60 percent more than output.[75] China's unutilized capacity exceeds the output of almost all of the world's other large producers. The State Economic and Trade Commission's order prohibits new investment in productive capacity of 16 different types of steel products.

Significant new capacity was added in the second half of the 1990s, even though capacity utilization in the industry was already low in 1995.[76] While the industry added aggressively to basic steel making capacity, demand continued to exceed supply for a number of specialized steel products, leading to large imports of specialized steel products throughout the second half of the decade.

If Chinese banks and other financial institutions were operating on a commercial basis, the State Economic and Trade Commission's order prohibiting these institutions from making loans for such projects would be redundant. Lending officers making loan decisions on a commercial basis would be very unlikely to extend credit to firms seeking to build additional productive capacity in product lines in which capacity utilization rates of existing firms were frequently below 50 percent and sometimes below 25 percent and in which prices had already been falling for three or more years. The order implies that state banks either have yet to develop commercial credit skills or, perhaps more likely, that they are still pressured by government and party officials to make loans that do not meet commercial standards.

Other policies also may tend to inhibit the development of a commercial credit culture. For example, the state has notified state-owned banks they must assume responsibility for their own profits and losses and that the take off of nonperforming loans by the asset management companies is a one-time event, never to be repeated. The state at the same time, however, still requires banks to make additional loans to heavily indebted, money-losing companies. One example of this type of lending is “closed-end loans” (fengbi daikuan). In principle these loans are to be limited to financing specific profitable activities of heavily indebted money-losing firms.[77] For example, unprofitable firms with signed contracts to produce goods for the export market are eligible for closed-end loans if the exports are expected to be profitable.

The potential shortcomings of this program are obvious. First, it presumes a degree of accounting skill at the enterprise level and a degree of bank control of enterprise expenditure that may not exist. The former is critical for determining the profitability of a subset of any firm’s activities. The later is also critical since funds lent under this program are not supposed to be diverted to other purposes, such as paying back taxes or wage arrears. Second, because firms tend to regard labor as a fixed cost, lending for activities in which firms can more than cover what they define to be their variable costs could still be value subtracting, thus reducing the net worth of the firm and thus the bank’s likely ultimate rate of recovery on previously outstanding loans to the firm. Third, the program may well be abused. Some, for example, have suggested that closed-end loans be used to finance the noncore activities that are stripped out of a firm’s profitable core manufacturing, frequently in preparation for a public listing.[78] Since current regulations require firms to be profitable prior to listing, noncore activities, which are rarely profitable, are excluded to boost the profitability of the to-be-listed company. This proposed use of closed-end loans would further reduce the quality of bank loan portfolios.

A second example of a central government policy that could tend to undermine the development of a commercial credit culture in the banks is the credit guarantee system that the State Economic and Trade Commission launched in early 1999 to encourage banks to lend to medium and small size firms. The loan guarantee program is one of several steps the government has taken to encourage the development of these firms. But guaranteeing bank lending to small and medium size firms may well undermine any incentive the banks have to lend on the basis of credit worthiness. Why invest scarce resources in credit analysis if the loan is guaranteed? Finally, the guarantees are being provided by provincial and municipal governments, suggesting the program is an open invitation to abuse of banks, undermining efforts of recent years to insulate banks from interference in lending decisions by local political and government authorities.

Conclusion

China's financial system is unlikely to allocate resources more efficiently and contribute to sustained economic growth unless the balance sheets of the existing financial institutions are rehabilitated and a commercial credit culture takes hold. This paper seeks to shed light on the magnitude of the fiscal challenge of the former and to identify government policies that appear to have the potential for undermining the achievement of the latter. Further research, and in some cases better data, are needed before more definitive conclusions can be drawn. At the most basic level the information to judge the magnitude of nonperforming loans in banks and in nonbank financial institutions and the likely rate of recovery on these loans is inadequate. The People's Bank began to introduce a more realistic loan classification system based more closely on international standards in 1998, but no systematic information on nonperforming loans as measured by this new system has been made available. Similarly, systematic and timely information on government interest outlays on its domestic debt is not available.[79] Substantial additional research is needed to evaluate the magnitude of China's property bubble; the authority of the asset management companies to restructure firms in which they acquire a majority or dominant ownership share; the prospects for an accelerated sale of state assets through stock listings, particularly sales that involve a divestiture of state ownership and real improvements in corporate governance, rather than simply sale of minority shares to private owners; the sources of growth of the private sector in recent years and the likelihood that this growth can be sustained over time;[80] the likely magnitude of the additional fiscal resources the state will need to meet unfunded pension obligations of state-owned enterprises, particularly those that will be forced to shrink dramatically or to go out of business as banks are allowed and are able to develop commercial lending practices; and the prospects for achieving revenue buoyancy through improvements in tax administration, expansion of the coverage of the value added tax, or other means. Each of these will have a substantial bearing either on the ultimate cost of restructuring the banking system and state-owned enterprises or the ability of the government to raise the funds to finance these costs.

[1] The rate of return on assets is calculated as the ratio of pretax profits to the sum of the depreciated value of fixed assets plus working capital for state-owned industrial enterprises with independent financial accounting. National Bureau of Statistics, *China Statistical Yearbook 1999* (Beijing: China Statistics Press, 1999), pp. 432-435. A decade earlier the return on assets was 17 percent, by 1996 it had fallen to 6.5 percent. Nicholas R. Lardy, *China's Unfinished Economic Revolution* (Washington, D.C. : Brookings Institution Press, 1998), p. 48.

[2] The banks are the Industrial and Commercial Bank of China, the Bank of China, China Construction Bank, and the Agricultural Bank of China.

[3] Yang Shuang, "The Striking Results of Monetary Policy," *Jinrong shibao (Financial News)*, January 13, 2000, p. 1. Nicholas R. Lardy, *China's Unfinished Economic Revolution*, p. 132.

[4] The increase from 50 to more than 110 percent understates the growth of lending because in 1999 asset management companies purchased loans from the largest state-owned banks as part of the state's program to rehabilitate the banks. In addition the China Development Bank on its own also swapped loans for equity in some of its borrowers. These types of transactions both reduce the value of loans on the books of the banks. The implied value of such transactions in 1999 was RMB 320 billion. Yang Shuang, "The Striking Results of Monetary Policy," *Jinrong shibao (Financial News), January 13, 2000*, p. 1. Yang Shuang, "The Stable Development of China's Financial Industry under Reform," *Jinrong shibao (Financial News)*, January 25, 1999, p. 1. If these loans had remained on the balance sheets of the banks, the loan to GDP ratio at year-end 1999 would have been 117 percent.

[5] Economist Intelligence Unit, "The One Good Thing About Beijing," *Business China*, October 25, 1999, pp. 1-2.

[6] "Vacant housing glut can't find buyers," *China Daily*, October 18, 1999.

[7] "No more blind investment," *China Daily*, February 19, 2000, p. 4.

[8] For a summary of the industrial census see State Statistical Bureau, *China Statistical Yearbook 1997* (Beijing: Statistical Publishing House, 1997), pp. 454-455.

[9] Thomas G. Rawski, "China's Move to Market: How Far? What Next?" paper prepared for the conference The PRC at Fifty, Cato Institute, September 9, 1999.

[10] National Bureau of Statistics, *China Statistical Yearbook 1999* (Beijing: China Statistics Press, 1999), pp. 67-68.

[11] US Census Bureau, *Statistical Abstract of the United States 1998*, o, 451

[12] In 1995, for example, 97 percent of the working capital of state-owned enterprises was borrowed. Nicholas R. Lardy, *China's Unfinished Economic Revolution* p. 42.

[13] Nicholas R. Lardy, *China's Unfinished Economic Revolution*, p. 100.

[14] Bank of China, *Annual Report 1998*, p. 35.

[15] Shi Mingshen, "Expansive Monetary Supply Is the Way," *People's Daily*, August 16, 1999 at www.peopledaily.com.cn. However, in early 2000 these banks reported substantially higher profits for 1999 than 1998. Some of the increase may be due to interest paid on the banks' holdings of special

treasury bonds. These bonds were issued in the fall of 1998, making 1999 the first year in which the banks would receive interest payments on the bonds for a full year. At the announced interest rate of 7.5 percent the payments in 1999 would have been RMB 20.25 billion.

[16] China's risk weighting system diverges substantially from international standards resulting in a substantial overstatement of capital adequacy in Chinese banks. For example, loans extended to central government public utility enterprises such as post and telegram, telecommunication, roads, transportation, water, and power and gas carry a risk weighting of 20 percent rather than the 100 percent required by the Basel Agreement.

[17] At Everbright Bank the increase was from 11 percent of outstanding loans in 1997 to 16 percent in 1998. At Shenzhen Development Bank the numbers were 18 percent and 22 percent. Moody's Investors Service, *Banking System Outlook China: The Start of a Long March* (New York, August 1999), p. 18.

[18] Nicholas R. Lardy, "The Challenge of Bank Restructuring in China," in *Strengthening the Banking System in China: Issues and Experience*, Bank for International Settlements Policy Paper No. 7, (Basel, 1999), p. 31.

[19] People's Bank of China, *The People's Bank of China Quarterly Statistical Bulletin*, No. 4, 1999, p. 25.

[20] Because rural credit funds are not part of the formal financial system, they are not supervised by the central bank. Thus there is no reporting on these funds in the annual *Almanac of China's Finance and Banking* and other publications originating with the People's Bank of China. For reporting on the inability of farmers in Baimashi village in Liaoning Province to withdraw their funds from a local failed rural credit fund see Feng Yuxing, "Foundation fails farmers' investment," *China Daily*, November 27, 1999, p. 2.

[21] Commercial Bank Law, article 4.

[22] Donald Clarke, "State Council Nullifies Statutory Rights of Creditors," *East Asian Executive Reports*, April 15, 1997, pp. 9 - 15.

[23] Nicholas R. Lardy, *China's Unfinished Economic Revolution*, pp. 142-143 and 274.

[24] These include the acquisition of large equity stakes in the Beijing Cement Company, the Shanghai Jiaohua Company (a natural gas supplier), the Meishan Iron and Steel Company (a subsidiary of Baoshan Iron and Steel Company), and the Jiangxi Guixi Fertilizer Plant.

[25] Mure Dickie, "Asset transfers offer lifeline to China's ailing state ventures," *Financial Times*, October 28, 1999, p. 6.

[26] In 1999 China had only 10 asset management companies. They managed closed-end funds with a market capitalization in late 1999 of only RMB 2 billion, about 0.1 percent of domestic stock market capitalization. Chooi Tow Kwan, "China Opens New Funding Channels for Brokerages," Dow Jones Newswire, September 22, 1999 at interactive.wsj.com. Assets of insurance companies are also modest. Nicholas R. Lardy, *China's Unfinished Economic Revolution*, pp. 224-225. Moreover, until 1999 insurance companies were precluded from holding any of their assets in stocks of listed companies. They were only allowed to hold government bonds or savings deposits in state-owned banks in their portfolios. Beginning in April 1999 they were allowed to place a portion of their funds in selected corporate bonds issued by state-owned companies and in October 1999 the China Securities Regulatory Commission and the China Insurance Regulatory Commission announced that they would be able to own shares. However, they are not allowed to purchase shares directly but only to purchase shares in listed mutual funds. Dow Jones Newswires, "China Insurers To Enter Stk Mkt Via Mutual Funds," October 26, 1999 at interactive.wsj.com.

[27] Daily transaction volume in the spot market for government bonds in September 1999 was only RMB 100 million.

[28] Stephen Roach, "Land of the rising dragon," *Financial Times*, March 4, 1998, p. 12.

[29] Finance Yearbook of China Editorial Commission, *Finance Yearbook of China 1998* (Beijing, 1998), p. 444.

[30] The revenue share in Russia was 27.8 percent of gross domestic product in 1997 and 24.5 percent in 1998. Interfax Statistical Report, March 13-19, 1999, Vol. III, Issue 12 (339), Table 2. I am indebted to Cliff Gaddy for providing this information.

[31] James Harding, "Beijing to introduce fuel tax," *Financial Times*, April 7, 1999, p. 8.

[32] The estimated tax revenue if the fuel tax had existed in 1997, the most recent year for which the data on consumption of gasoline and diesel is available, is RMB 106 billion. National Bureau of Statistics, *China Statistical Yearbook 1999*, pp. 252-253. The conversion factor for both diesel and gasoline is 1,149 liters per metric ton. Total energy consumption in 1998 was 98.43 percent of the level in 1997. State Statistical Bureau, *A Statistical Survey of China 1999* (Beijing: Statistical Publishing House, 1999), pp. 112. If the share of total energy consumption derived from consumption of diesel and gasoline did not change compared to 1997, the fuel tax would have generated RMB 104 billion in 1998.

[33] Yang Xu, "Road bill negation written in history," *China Daily*, April 30, 1999, p. 1.

[34] The tax is 20 percent of interest earnings, although interest income on certain types of savings is exempt. Based on mid-year savings account balances of RMB 4.99 trillion, of which roughly 20 percent was in demand deposits earning 0.99 percent per annum and 80 percent was in time deposits earning 2.25 per cent per annum, if the tax had been in place for all of 1999 it would have raised about RMB 25 billion. This estimate does not take into account exemptions since the details for these have not yet been announced.

[35] National People's Congress, "People's Republic of China People's Bank of China Law," *China Law and Practice*, June 27, 1995, article 28.

[36] Treasury bonds include treasury bills, financial bonds, state construction bonds, key construction bonds, special bonds, special purchase bonds, and price index bonds. These bonds share three characteristics. All are issued by the Ministry of Finance. Funds raised through these bonds are disbursed through the government budget. Interest payments and repayment of principal also are financed through the government budget. China Securities Regulatory Commission, *China Securities and Futures Statistical Yearbook 1999* (Beijing: China Financial and Economic Publishing Housing, 1999), pp. 8-9.

[37] China Securities Regulatory Commission, *China Securities and Futures Statistical Yearbook 1999*, pp. 8-9. State Statistical Bureau, *A Statistical Survey of China 1999* (Beijing: Chinese Statistical Publishing House, 1999), p. 11.

[38] Net issuance of treasury debt was RMB 25.802 billion and RMB 174.793 billion in 1993 and 1998, respectively. Chinese Securities Regulatory Commission, *China Securities and Futures Statistical Yearbook 1999*, pp. 8-9. The percentage figures in the text are calculated based on the central expenditure data in Table 1.

[39] Since the stock of nominal treasury debt in 1998 grew at a several fold multiple of the nominal rate of expansion of gross domestic product, the reduction in the interest rate burden in 1998 compared to 1997 is entirely a function of an average lower interest rate on the stock of outstanding government debt. Note that the estimated interest outlays in 1998 do not include the interest on the RMB 270 billion "special treasury bond" issued in August 1998 to finance a partial bank recapitalization. The interest rate on these bonds is

7.2 percent. It is not clear if the Ministry of Finance is actually making interest payments on these bonds, which are held by the four largest state-owned banks, and if so what the source of the funds is.

[40] This institution was initially called the State Development Bank.

[41] For further discussion see Nicholas R. Lardy, *China's Unfinished Economic Revolution*, pp. 178-179.

[42] China Securities Regulatory Commission, *China Securities and Futures Statistical Yearbook 1998*, pp. 8-11.

[43] Treasury debt outstanding in 1993 was RMB 154.074 billion or 4.45 percent of gross domestic product. In the comparison in the text the value of other government bonds, in addition to those discussed in the text, are included in the measure of government debt outstanding in 1993. These are State Investment Bonds, issued in 1991 and 1992 by the Construction Bank of China and guaranteed by the Ministry of Finance; State Investment Company Bonds issued in 1987-1992 by six investment companies that were under the State Planning Commission (these companies were incorporated into the China Development Bank when it was established in 1995); and General Financial Bonds issued by state-owned commercial banks from 1986 through 1992. The yearbook of the China Securities Regulatory Commission no longer reports on the amounts of these bonds redeemed and outstanding. The sum of the bonds of these types outstanding in the last year for which information was published (either 1996 or 1997) was RMB 40.75 billion. It is possible that some of these bonds were still outstanding at year-end 1998.

[44] *Xinxi Ribao*, July 16, 1999.

[45] Dong Furen, "Meticulously Develop the Stock Market," *People's Daily*, Overseas Edition, July 3, 1999, p. 8 in FBIS-CHI-1999-0727.

[46] Chinese Securities Regulatory Commission, *Chinese Securities and Futures Statistical Yearbook 1998*, pp. 8-11.

[47] World Bank, *China: Pension System Reform* (Washington, 1996), p. 26.

[48] Huang Ying, "Firms to pay for insurance funds," *China Daily*, February 27, 1999. Since there are still regions that have a surplus of pension funds presumably this means that the amount of losses in regions with deficits exceeded the amount of surpluses in other regions.

[49] Huang Ying, "Premium collection to be better regulated," *China Daily*, May 25, 1999, p. 3.

[50] State Council, "The Regulations Governing Unemployment Insurance" and "The Regulations Governing the Collection of Unemployment, Pension, and Medicare Funds," cited in Huang Ying, "Firms to pay for insurance funds," *China Daily*, February 27, 1999.

[51] Jeffrey S. Zax, "The Evolution of Housing Stock and Housing Markets in Urban China, 1988-1995," paper presented at the conference on Policy Reform in China, Stanford University, November 18-20, 1999.

[52] In 1998 the government allocated RMB 16.8 billion from the budget to ensure that living expenses of laid-off workers and pensions for retirees were paid. Xiang Huaicheng, "Report on the Execution of the Central and Local Budgets for 1998 and on the Draft Central and Local Budgets for 1999," made March 6, 1999 at the Second Session of the Ninth National People's Congress, Xinhua March 18, 1999 in FBIS-CHI-1999-0320.

[53] Xiang Huaicheng, "Report on the Execution of the Central and Local Budgets for 1998 and on the Draft Central and Local Budgets for 1999." Note that the government's fiscal revenues already reflect seignorage gains. For further discussion see Nicholas R. Lardy, *China's Unfinished Economic Revolution*, pp. 11-15 and 237.

[54] Six percent is approximately the real rate of interest on the longest term government bonds, ten years, issued in the fall of 1999. On December 21 the yield on the bonds was 3.6 percent and deflation was running at 2.0 to 2.5 percent annually. Ramoncito dela Cruz, "China Govt Bonds End higher; Stock Money Shifts to Bonds," The Wall Street Journal Interactive Edition, December 22, 1999 at interactive.wsj.com.

[55] Net debt issuance by the policy banks was RMB79 billion (= 1.2 percent of GDP), RMB 109 billion (= 1.5 percent of GDP), and RMB297 billion (= 3.7 percent of GDP), in 1996, 1997, and 1998, respectively. *Chinese Securities and Futures Statistical Yearbook 1999*, pp. 8-9.

[56] The ratio of loans to GDP expanded from 86 percent at year-end 1995 to 109 percent at year-end 1998 or 8.2 percent points per year. Nicholas R. Lardy, *China's Unfinished Economic Revolution*, p. 78. "The Stable Development of China's Financial Industry under Reform," *Jinrong shibao (Financial Times)*, January 25, 1999, p. 1. If GDP expands at 6 percent per annum, loans must grow at 15 percent per annum to continue the same upward trend in the loan to GDP ratio observed in 1995-1998.

[57] The revenue share rose from 10.7 percent in 1995 to 12.4 percent in 1998, an average increase of 0.57 percentage points per annum.

[58] World Bank, *China 2020: Development Challenges in the New Century* (Washington, D.C.: World Bank, 1997), pp. 25-26.

[59] Compared to the base scenario additional lending is reduced over time as banks become increasingly commercialized and the quantity of loans that is assumed to require write-off declines.

[60] The reason the debt to GDP ratio shows the least improvement is that it is driven in part by the assumption that the policy banks' net bond issuance continues at a rate of 2.1 percent of gross domestic product per year, the average rate of bond issuance in 1996-1998.

[61] Specifically interest payments as a share of central government revenues trace the following path starting in 2000: 0.22, 0.23, 0.24, 0.25, 0.27, 0.28, 0.30, 0.32, and 0.34.

[62] Chinese Securities Regulatory Commission, *Chinese Securities and Futures Statistical Yearbook 1999,* p. 17. It is worth noting, however, that the proceeds from the sale of these shares was invested in the underlying businesses. If the proceeds from share sales become government revenue, the price investors would be willing to pay for shares presumably would be lower.

[63] World Bank, *China: Weathering the Storm and Learning the Lessons*, (Washington, 1999), p. 29.

[64] Kathy Wilhelm and Trish Saywell, "Mission Critical," *Far Eastern Economic Review*, September 9, 1999, pp. 75-77.

[65] The law set forth four specific prudential ratios: minimum capital adequacy of 8 percent; the ratio of loans to deposits is not to exceed 75 percent; the ratio of current assets to current liabilities is not to be less than 25 percent; and the total loans to a single borrower can not exceed 10 percent of a bank's total capital. Few, if any, banks met these standards when the law was promulgated. The time period within which these banks would have to comply with the provisions was not specified in the law. Commercial Bank Law, Article 39.

[66] Bank of Shanghai, *Annual Report 1998,* p. 4.

[67] Nicholas R. Lardy, *China's Unfinished Economic Revolution,* p. 43.

[68] Chen Zhiqiang, "An Investigation of the Situation of the State-Owned Commercial Banks Service of the Development of China's Small and Medium Enterprises," *Gaige (Reform)* No. 1, 1999, p. 53. I am grateful for Thomas G. Rawski drawing this article to my attention.

[69] At year-end 1999 working capital lending comprised 68 percent of all loans from the financial system. There is no systematic information available on the allocation of the balance, fixed asset loans, by ownership.

[70] State Statistical Bureau, *China Statistical Yearbook 1998* (Beijing: Statistical Publishing House, 1998), pp. 433 and 435.

[71] Thomas G. Rawski, "China's Move to Market: How Far? What Next?"

[72] Sun Shangwu, "Price falls bring challenges," *China Daily,* July 5, 1999, p. 1.

[73] In 1998 nominal gross domestic product grew from RMB 7,477 billion to RMB 7, 955 billion or 6.4 percent. Growth in constant prices was 7.8 percent, implying an implicit gross domestic product deflator of 0.978, i.e. prices fell 2.2 percent. State Statistical Bureau, *Statistical Survey of China 1999* (Beijing: State Statistical Publishing House, 1999), pp. 11 and 16.

[74] State Economic and Trade Commission, "A Catalogue of Domestic Industrial and Commercial Investment to Stop Duplicate Construction (First Installment)," Order No. 14, August 9, 1999 at www.setc.gov.cn (requires Chinese viewer). The list of products was also published in *Jinrong shibao (Financial News),* August 17, 1999, p. 2.

[75] "Steel output cut to boost development," *China Daily*, June 23, 1999, p. 4.

[76] Thomas G. Rawski, "China's Move to Market: How Far? What Next?"

[77] People's Bank of China, State Economic and Trade Commission, State Planning Commission, Ministry of Finance, and State General Bureau of Taxation, "Interim Procedures on Closed-End Loan Management," July 26, 1999 at www.setc.gov.cn.

[78] Wang Zhuo, "Unburden State-Owned Enterprises of 'Historical Loads,'" *Dagongbao,* August 30, 1999, p. D8 in FBIS-CHI-1999-0916.

[79] The data on interest outlays in Table 1 for the years 1993 through 1997 comes from a prospectus for a Chinese sovereign bond issue, the only available openly published source of this information. But sovereign bond issues are at irregular intervals. At this writing, early 2000, there has been no sovereign bond issue since the fall of 1998 so the last year for which information is available on interest outlays on treasury debt is 1997. The Ministry of Finance publishes a yearbook of almost 900 pages but it contains no information on interest expenditure on domestic debt.

[80] Much of the dramatic growth of private enterprise in the 1990s results from the sale of collective enterprises, particularly township and village enterprises, to their workers and managers. Thus judging the underlying rate of growth of output and employment this sector, as opposed to growth resulting from reclassification of output and workers that statisticians previously included in the collective sector is difficult.