
China's Response to the Global Crisis

China's policy response to the global financial and economic crisis was early, large, and well designed. Although Chinese financial institutions had little exposure to the toxic financial assets that brought down many large Western investment banks and other financial firms, China's leadership recognized that the country's high dependence on exports meant that it was acutely vulnerable to a global economic recession. The Chinese government did not subscribe to the view sometimes described as "decoupling," the idea that emerging Asian countries, simply by increasing intraregional trade, could by and large weather the global financial storm that originated in the United States and other advanced industrial economies. They understood that China inevitably would suffer from the backwash of a sharp economic slowdown in its largest export markets—the United States and Europe.

In anticipation of a global slowdown, the central bank initiated a policy of monetary easing in September 2008. The State Council, China's cabinet, followed up a few weeks later by rolling out a RMB4 trillion (\$586 billion) stimulus program that immediately ramped up expenditures on affordable housing, rural and other infrastructure (highways, railways, and airports), public health and education, the environment, and technical innovation. The program started immediately with the goal of spending RMB100 billion in the fourth quarter of 2008, with the balance to be spent over the following two calendar years. In contrast, the American Recovery and Reinvestment Act of 2009 was not passed by Congress and signed into law by President Barack Obama until mid-February 2009. Moreover, in addition to its delayed rollout, the US stimulus package compared with China's suffered in two respects. First, relative to the size of the respective economies the US

stimulus was much smaller.¹ Second, while the Chinese program consisted overwhelmingly of increased expenditures, about a third of the US stimulus consisted of tax cuts (Council of Economic Advisors 2010, 53).² But much of the increased income received by US households as a result of these tax cuts was used to pay down debt rather than to finance additional consumption expenditures. While this was rational from the point of view of heavily indebted individual households, paying down debt did nothing to increase aggregate demand. These differences in the timing, size, and design of the two stimulus programs contributed to the markedly different economic outcomes in the two countries in 2009—a sharp absolute decline in real output in the United States but only a modest growth slowdown in China.

China's leadership grew increasingly concerned in the summer and fall of 2008 that slowing exports would adversely affect economic growth, as China's growth had already begun to slow significantly, well before the onset of the global financial crisis. In 2007 the authorities, fearing that domestic economic growth had become unsustainably rapid, took a number of tightening measures. Beginning in January the central bank repeatedly raised the required reserve ratio, the share of deposits that banks must place with the central bank. That reduced the funds that banks had available to lend to customers. To further reduce the flow of credit to the economy the central bank, starting in March, on five occasions in 2007 also raised the benchmark interest rates that guide banks' lending rates. Toward the end of the year these market-oriented steps were reinforced by the reintroduction of quantitative limits on bank lending.³ As a result of these policy initiatives, after the first quarter of 2007 China's economic growth began to gradually slow.

Several of the monetary tightening measures the authorities introduced in the latter part of 2007 focused on the property sector, which had undergone a substantial boom and at the time was frequently characterized by external observers as a bubble. In September the authorities increased the required down payment for purchasers of multiple properties to 40 percent, while leaving the ratio at either 20 or 30 percent for mortgages on owner-occupied property (People's Bank of China and China Banking Regulatory Commission 2007).⁴ The central bank at the same time introduced penalty

1. The US stimulus package was \$787 billion, a third larger than China's, but the size of the US economy is two and a half times that of China's.

2. China's stimulus had no pure tax cuts at all. As explained later in this chapter, it included a tax expenditure component. This took the form of tax cuts on certain durable goods. But to gain the benefit of the reduced tax a Chinese citizen had to purchase the item on which the tax had been reduced. Thus the tax expenditure part of China's stimulus program led directly to increased expenditures.

3. Mao Lijun and Wang Bo, "Lending Caps to Reduce Liquidity," *China Daily*, January 21, 2010, 10.

4. The minimum down payment of 20 percent of the purchase price applied to residential units of 90 square meters or less; the 30 percent requirement applied to units over 90 square meters in size.

interest rates for property investors by raising the interest rate on mortgages for non-owner-occupied property to a 10 percent premium over the central bank benchmark lending rate, while leaving the interest rate on mortgages on owner-occupied property at a 15 percent discount relative to the benchmark lending rate (China Banking Society 2008, 470). On a five-year mortgage, for example, taking into account both the increase in the five-year benchmark lending rate and the new penalty rate applicable to property investors, the interest rate for a mortgage on an owner-occupied property increased in 2007 by a fifth (from 5.50 to 6.58 percent), while for property investors the mortgage interest rate rose by a little more than half (from 5.50 to 8.51 percent). Finally, the authorities lengthened to five years the period of time an owner must hold a property in order to avoid paying a 5.5 percent sales tax on property transactions.⁵ These policy steps were clearly designed to reduce the demand for housing by real estate investors and speculators.

By 2008 the policy of monetary tightening, with a focus on the housing sector, proved quite successful in moderating the property boom. Starting late in the final quarter of 2007 the pace of property sales slowed sharply, and by 2008 monthly sales were consistently below their 2007 levels. With slowing sales the pace of property price appreciation moderated substantially, falling from double-digit year-over-year growth rates in late 2007 and early 2008 to the low single digits by the late summer and early fall of 2008. Beginning in December 2008 property prices began to fall modestly in absolute terms on a year-over-year basis. This trend continued for six months, cumulatively reducing prices by about 5 percent. Growth in new housing starts also slowed sharply in the first half of 2008 and turned negative in the second half of the year, i.e., floor space started in the second half was substantially less in absolute terms than in the same month in 2007.⁶ Correspondingly, the pace of economic growth, which had peaked in the first quarter of 2007 at 17 percent, also moderated, falling to 4.3 percent in the third quarter of the year (People's Bank of China Statistical Investigation Office 2010).⁷

Beijing initially welcomed the slowing of domestic economic growth, especially the moderation of the housing boom (discussed further below). But starting in September 2008, as the global financial crisis intensified, the authorities reversed economic course by launching a policy of monetary easing in order to offset the additional drag on China's growth caused by the sharp slowdown in global trade. There were several components to the policy of monetary easing, summarized in box 1.1. First, the central bank cancelled the lending quotas that had previously restricted the ability of banks to fully meet the demand for loans from their customers.⁸ Second, to ensure that banks

5. Previously the minimum holding period to avoid the tax was two years.

6. Monthly data on property sales, prices, and starts from ISI Emerging Markets, CEIC Database.

7. These are quarter-over-quarter seasonally adjusted growth rates.

8. Mao Lijun and Wang Bo, "Lending Caps to Reduce Liquidity," *China Daily*, January 21, 2010, 10.

Box 1.1 Chronology of major policy changes, 2007–11

Date	Policy change
January 2007	■ People's Bank of China (PBC) increases required reserve ratio due to fears of an overheated economy
March 2007	■ First of five increases in benchmark interest rates in 2007
September 2007	■ Down payment for investment properties increased to 40 percent ■ Interest rate penalty for mortgages on investment properties raised to 10 percent premium over benchmark lending rate ■ Property ownership tax-exemption period lengthened to five years
Late 2007	■ Quantitative limits put on bank lending
September 2008	■ PBC begins monetary easing as part of stimulus effort ■ State Council unveils RMB4 trillion stimulus plan ■ Mortgage loan discount from benchmark interest rate increased ■ Minimum down payment for all mortgages cut to 20 percent
January 2009	■ Property ownership tax-exemption period shortened to two years
Mid-2009	■ PBC strengthens window guidance and other policies to slow bank lending ■ China Banking Regulatory Commission (CBRC) strengthens requirements for bank capital adequacy ratio and disallows the inclusion of subordinated debt
December 2009	■ 40 percent down payment for mortgages on investment properties reinstated
January 2010	■ CBRC announces tightening measures to slow growth of lending, including mandatory loan quotas for some banks ■ First of six increases of the required reserve ratio in 2010

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Box 1.1 Chronology of major policy changes, 2007–11 *(continued)*

Date	Policy change
April 2010	■ State Council raises down payment for investment properties to 50 percent, reintroduces penalty interest rates for mortgages on investment property, limits property purchases by foreign investors, and suspends mortgage lending to nonresidents
Late 2010–early 2011	■ PBC shifts to a tighter monetary policy stance, increases the benchmark rate and reserve requirement
January 2011	■ Down payment for mortgages on investment properties increased to 60 percent ■ Property tax pilot program begins in Shanghai and Chongqing ■ First of six increases of the required reserve ratio in the first half of 2011
February 2011	■ First of four increases in benchmark interest rates in the first half of 2011

would have a sufficient supply of funds to meet this demand, the government repeatedly reduced the share of deposits that banks had to place with the central bank. Banks were not forced to engage in this expanded lending, as has often been asserted. Xiao Gang, chairman of the Bank of China, acknowledged that once annual lending limits were lifted it was in the economic self-interest of banks to expand their lending.⁹ The interest rate that the banks could charge on loans in the waning months of 2008 was several times the interest they earned on funds previously placed either with the central bank or in the interbank market.¹⁰ Thus, the government's first step in monetary easing was to increase the supply of loanable funds.

9. Andrew Peaple, "Reassessing China's Lending Binge," *Wall Street Journal*, August 27, 2010, available at <http://online.wsj.com> (accessed on September 12, 2011).

10. In December 2008, for example, the central bank paid banks an interest rate of 1.62 percent on reserves placed at the central bank, and the interest rate banks could earn by placing funds in the interbank market ranged from 1.0058 percent for one-month maturities to 2.3579 percent for one-year maturities. In contrast, in the same month the average interest rate banks charged on a one-year loan was 6.64 percent (People's Bank of China Monetary Policy Analysis Small Group 2009a, 6, 11, 21). Given the interest rates that the central bank set on deposits made at commercial banks, the banks almost certainly lost money on funds they placed at the central bank or in

The authorities simultaneously took steps to increase the real demand for loans. First, they repeatedly lowered the benchmark interest rates that guide the rates that banks can charge on loans. Between mid-September and year-end 2008 the authorities cut benchmark lending rates on five occasions. Those cuts took the benchmark rate on a five-year loan, for example, from 7.74 to 5.76 percent. Second, they made deeper cuts in the rates for mortgage loans. Prior to the fall of 2008, the rate that applied to mortgage loans that banks made to individuals for the purchase of owner-occupied property was 0.85 times the benchmark rate. Beginning in September the government reduced this multiple to 0.7. The combined effect of a reduction in the benchmark five-year loan rate and the adjustment in the mortgage rate factor meant a two-fifths reduction in the interest rate a potential home buyer would pay on a mortgage with a term of five or more years, from 6.66 to 4.16 percent. This meant that the monthly payment on a 20-year mortgage was reduced by 18.6 percent (People's Bank of China Monetary Policy Analysis Small Group 2009a, 46). The minimum down payment for all mortgages was set at 20 percent, a significant reduction both for larger units and for property investors, and the compulsory penalty interest rates that had applied to property investors starting in September 2007 were eliminated. A few months later, in January 2009, the authorities reduced back to two years the period of time investors must hold a property in order to avoid a sales tax when a property is sold.¹¹

The result of these policy initiatives was a massive increase in bank lending, particularly in the first half of 2009, when domestic currency loans outstanding increased by RMB7.4 trillion, three times greater than the increase in the first half of 2008. Loan growth moderated substantially in the second half, but for the year as a whole bank loans outstanding in domestic currency increased by RMB9.59 trillion, about twice the RMB4.91 trillion increase in bank lending in domestic currency in 2008 (People's Bank of China Monetary Policy Analysis Small Group 2010a, 3). Mortgage lending made up a large component of the expansion of loans in 2009. Individual mortgage loans outstanding increased by RMB1.4 trillion, about six times the increase of 2008 (People's Bank of China Monetary Policy Analysis Small Group 2010a, 48). To put this number in perspective, at the end of 2009 one-third of all mortgage loans outstanding to households had been extended by banks during 2009.

Shortly after the authorities launched their policy of monetary easing in September 2008, they announced a RMB4 trillion stimulus program, largely devoted to investment expenditures. This program began immediately in the

the interbank market during a time when banks potentially could have had significant positive earnings on additional lending. From November 27, 2008, through December 22, 2008, for example, the rate banks paid on one-year deposits was 2.52 percent, substantially more than banks could earn if they either had to deposit these funds with the central bank or were constrained to lend these funds in the interbank market.

11. "China Imposes Tougher Home Sales Tax to Control Bubble," People's Daily Online, December 10, 2010, available at <http://english.people.com.cn> (accessed on September 12, 2011).

fourth quarter of 2008 and extended through 2010. In practice the stimulus program was closely linked to monetary easing, since the plan from the outset was that the vast majority of the funding for the stimulus program would be financed by increased bank lending made possible by monetary easing. The authorities announced that only RMB1.18 trillion of the RMB4 trillion stimulus package would be financed from the central government budget and called both for additional fiscal spending by local governments on the identified investment priorities and for increased outlays by firms. But, given the paucity of fiscal resources available to provincial and subprovincial governments and the declining cash flows in most of the corporate sector as a result of slowing economic growth, it was apparent from the outset that increased bank lending would be the major source of funding for the stimulus program.

The results of China's stimulus program were impressive, making China the first globally significant economy to begin to recover from the global economic recession. Measured on a quarter-over-quarter basis the economy bottomed out in the fourth quarter of 2008, when economic growth slowed to only 4.3 percent. As the stimulus package began to take hold, China's growth accelerated significantly, to 9.5 and 11.4 percent, respectively, in the first and second quarters of 2009 (People's Bank of China Statistical Investigation Office 2010). In January 2010 the statistical authority's preliminary estimate of year-over-year GDP growth in 2009 was 8.7 percent, well above the pace that most external observers had expected a year earlier (National Bureau of Statistics of China 2010a). In July 2010 this preliminary figure was revised upward to 9.1 percent (National Bureau of Statistics of China 2010d). The final figure, announced in early 2011, put economic growth in 2009 at 9.2 percent (National Bureau of Statistics of China 2011a). Growth strengthened to 10.4 percent in 2010 and then, according to the preliminary estimate released in July 2011, moderated to 9.6 percent in the first half of 2011 (National Bureau of Statistics of China 2011d, 2011e).

China's growth in 2009–11 was impressive compared with the absolute downturns in economic output in the United States, Europe, Japan, and many other developed economies in 2009 and with the very modest recoveries these countries experienced in 2010–11. China was the fastest growing emerging-market economy both during and immediately after the global financial and economic crisis.

Critiques of the Stimulus Program

Despite this strong growth performance, critics, both in China and abroad, charged that the stimulus program was badly flawed and that the rate of growth achieved in 2009–10 was not sustainable. One critique was that China's growth during and following the crisis was especially imbalanced, relying on an unsustainable burst of investment financed largely by an unprecedented increase

in bank lending.¹² According to the critics, the massive increase in loans had several adverse consequences. First, it inevitably entailed the risk of rising inflation, a risk that materialized in the closing months of 2010 and in 2011, when inflation for several months exceeded 5 percent on a year-over-year basis, the highest rate since mid-2008. Pessimists argued that to curtail inflation the authorities would be forced to slam on the monetary brakes, leading to a sharp slowdown in economic growth—the hard landing scenario. Second, the credit boom potentially created bubbles in the property and equity markets based on mortgage lending to households and the leakage of funds lent to corporations for construction and other forms of investment. Third, according to critics who took a seemingly opposite view, the massive investment program financed with the expanded supply of credit would inevitably lead to excess industrial capacity and thus, with a slight lag, result in downward pressure on prices and profits of manufacturing firms (European Chamber 2009). That, in turn, would impair the ability of these firms to amortize their bank debt and thus lead to a large increase in nonperforming loans. This potentially would require the state to recapitalize the banks once again, with adverse consequences for the government’s fiscal position (Walter and Howie 2011, 26).

Skeptics also charged that the stimulus program would ultimately exacerbate China’s dependence on exports and investment and hamper the growth of consumption, especially household consumption. McKinsey, for example, judged that “the stimulus package does little to tilt the balance in favor of private consumption. In the short term, it will do just the reverse” (McKinsey & Company 2009, 49). In short, while many critics acknowledged that the stimulus program did prop up economic growth, they argued that this was temporary and that the stimulus program exacerbated China’s underlying structural problems and ultimately would lead to a substantial slowing of economic growth (Pettis 2009, 2010).

Finally, critics argued that the stimulus program substantially enhanced the role of the state at the expense of the private sector, fundamentally setting back China’s long-term reform trajectory.¹³ One analyst characterized 2009–10 as one of the most statist periods in the entire reform era (Huang Yasheng 2011). This line of argument has several strands. One is that the expanded volume of bank loans went disproportionately to state-owned companies, particularly manufacturers (Bremer 2010, 143–44). This left nonstate companies, particularly private firms, starved for credit and resulted in state companies contributing a disproportionate share of China’s economic growth during the crisis. A second strand in the argument is that direct state ownership of productive assets rose when state-owned firms took over nonstate firms or when the state

12. Stephen Roach, “An Unbalanced World Is Again Compounding Its Imbalances,” *Financial Times*, October 7, 2009, 23.

13. David Piling, “The State’s Dead Hand Returns to Haunt China,” *Financial Times*, October 15, 2009, 11.

nationalized formerly private firms.¹⁴ The combination of these two factors, say the critics, meant that state companies expanded their economic footprint at the expense of the private sector. A third strand in the argument that the global financial and economic crisis has diminished the role of the market and expanded the role of the state focuses on the enhanced role of industrial and technology policy (Naughton 2011). These actions go far beyond the widely noted and criticized policies to promote indigenous innovation, notably the identification by the State Council of seven emerging strategic industries that will receive special state support (State Council 2010).

While China's economy is marked by substantial imbalances that will be discussed in detail in chapter 2, many of these criticisms of China's stimulus program seem exaggerated. The 9.2 percent growth that was achieved in 2009 was the slowest since 1992. At a minimum the critics do not recognize that the alternative to China's massive stimulus program was a much more marked slowdown in economic growth. Moreover, much of the criticism directed at China's stimulus ignores or understates the substantial advantages China accrued as a result of coming through the crisis with strong economic growth momentum and fails to appreciate the steps that the authorities have taken in anticipation of the negative side effects of the stimulus policy. The criticism directed toward China also fails to recognize the advantages stemming from China's long-standing very conservative fiscal and financial regulatory policies. Most obviously, since China's financial regulatory agencies had steadfastly refused to permit the creation of complex derivative products in the domestic market and severely limited financial institutions' exposure to foreign sources of these products, Chinese financial institutions had little exposure to toxic financial assets. Thus the government did not have to take on additional debt in order to inject funds into failing financial institutions during the crisis. Outstanding government debt thus remained quite modest, around 20 percent of GDP. The value of China's fiscal and financial conservatism is heightened by the lessons of the global financial and economic crisis.

Excessive Growth of Bank Lending?

The charge of excessive growth of bank lending fails to take adequately into account two important factors—initial conditions in terms of leverage and the steps being taken by monetary authorities in China as early as mid-2009 to slow the growth of bank lending. Total public and private debt in China at year-end 2007, on the eve of the global financial crisis, was about RMB41 trillion, or 160 percent of GDP.¹⁵ In contrast, in the United States at the same time, public

14. "Nationalization Rides Again," *Economist*, November 14, 2009, 68–69.

15. Chinese data on household and corporate bank debt from People's Bank of China (2008). Data on bonds outstanding from the government, corporations, and financial institutions from ISI Emerging Markets, CEIC Database.

and private debt combined totaled \$48 trillion, or 350 percent of GDP.¹⁶ The contrast was most extreme in the financial sector, where Chinese institutions had debt of less than 15 percent of GDP, while financial institutions in the United States had debt equivalent to almost 120 percent of GDP. Thus, when credit markets froze up in advanced industrial economies at the onset of the crisis, US financial institutions were extremely exposed, leading to the failure of several large institutions and a massive curtailment of credit in the US economy. Chinese financial institutions were unaffected by the abrupt credit stop in advanced industrial countries and thus were in a strong position to increase the supply of credit to sustain growth. There was also a marked difference in leverage in the household sector: At year-end 2007 total household debt in China was only 20 percent of GDP, while in the United States it was fully 100 percent of GDP. Similarly, government debt in the United States as a share of GDP was twice the share in China.¹⁷ Only in the nonfinancial corporate sector did leverage in China exceed that in the United States, and the differential was modest. Thus both the households and the government in China were much more able to assume additional debt. In short, China's growth in 2009–10 was to a considerable extent due to the ability of the financial system to provide additional credit and the ability of households and the government—and to a lesser extent corporates—to assume additional debt. As will be analyzed in more detail in chapter 3, as the growth of bank lending exploded in 2009–10, the share of lending flowing to households rose sharply, from 14 percent in 2008 to 36 percent in 2010. In contrast, the shrinkage of the US economy in the first half of 2009 and the subpar recovery since reflects the household deleveraging process that is likely to continue for some time (McKinsey Global Institute 2010).

The second important factor to consider in evaluating the critique that lending grew excessively during the crisis is that the People's Bank of China increased its window guidance to banks and took other initiatives to slow the growth of lending starting in mid-2009. As a result, new loans extended in the second half of the year were less than a third of the new lending volume in the first half. Although lending spiked upward in January 2010, the China Banking Regulatory Commission (CBRC) the same month announced tougher measures to moderate the pace of lending over the balance of 2010. The CBRC reinstated mandatory lending quotas on individual banks and imposed tougher regulations to prevent banks from lending out most of their lending quota in the first quarter or two of the year.¹⁸ They also raised the required reserve ratio

16. Data for the United States are from Flow of Funds of the United States, table D.3, Credit Market Debt Outstanding by Sector, available at www.federalreserve.gov (accessed on September 13, 2011).

17. This is a comparison of US Treasury debt with government bonds issued by the Chinese Ministry of Finance.

18. The government set the aggregate quota for the increase in bank loans outstanding in 2010 at RMB7.5 trillion. Moreover, the CBRC announced that each bank should advance in each month no more than 12 percent of its annual quota and in each quarter no more than 30 percent of its annual quota. This would limit the expansion of loans outstanding to RMB900 billion per month,

by 50 basis points in January, in February, and again in March 2010. This had the effect of cutting banks' excess reserves and signaled the transition away from the "appropriately loose" (*shidu kuansong*) monetary policy initiated in November 2008 to the appropriately loose monetary policy implemented with "better targeting and more flexibility based on changing conditions" in 2010. The central bank followed up by hiking benchmark lending rates and further increasing the required reserve ratio in late 2010 and the first half of 2011, key steps inaugurating a "tight" (*wenjian*) monetary policy.¹⁹

The CBRC also took a series of other steps to curtail the expansion of bank credit. In 2008 it had put pressure on banks to increase their minimum bank capital adequacy ratio by 2 percentage points (from 8 to 10 percent) and in late summer 2009, when the commission sought to slow the lending growth, it apparently raised this ratio further, to 12 percent, for selected city commercial banks.²⁰ In August 2009 the commission circulated a draft regulation stating that banks would no longer be able to count subordinated debt and hybrid capital as part of their tier-two capital.²¹ During the lending boom of 2009 banks had kept their capital adequacy ratios from falling sharply by selling large amounts of subordinated debt.²² But over half of the subordinated bonds sold by banks were purchased by other banks. The CBRC recognized that these large cross-holdings of subordinated bank debt did not add any capital to the banking system as a whole, revealing that high capital adequacy ratios reported

although the authorities acknowledged that this limit would be exceeded in January since the new regulations were not announced until the second half of January, when new lending had already exceeded RMB1 trillion. Mao Lijun and Wang Bo, "Lending Caps to Reduce Liquidity," *China Daily*, January 21, 2010, 10.

19. The language on implementing monetary policy with better targeting and more flexibility in response to evolving conditions was first used in People's Bank of China Monetary Policy Analysis Small Group (2010b, 8–9). The language "tight monetary policy" was first used in People's Bank of China Monetary Policy Analysis Small Group (2011b, 9).

20. "Beijing Urges China's City Banks to Bolster Capital Reserves," Market Watch, August 5, 2009, available at <http://marketwatch.com> (accessed on September 12, 2011). It does not appear that the CBRC formally raised the legal 8 percent minimum capital adequacy ratio in 2009 for all financial institutions, but the bank regulator may have required individual banks to achieve the higher ratio. The regulator denied that it was imposing the 12 percent capital adequacy requirement for city commercial banks. Most likely it was imposing this requirement selectively, focusing on those banks that had increased their lending most rapidly in 2009.

21. "China Lenders Asked to Rein In Record Loans," People's Daily Online, August 21, 2009, available at <http://english.people.com> (accessed on September 12, 2011). Banks had been able to count their holdings of subordinate bank debt as part of their tier-two capital starting in 2004.

22. Banks issued a growing volume of subordinated debt in 2009, RMB236.7 billion in the first half alone. "China Lenders Asked to Rein In Record Loans," People's Daily Online, August 21, 2009, available at <http://english.people.com.cn> (accessed on September 12, 2011). For the year as a whole, banks issued subordinated debt valued at RMB266.9 billion. "The Financial Market Situation in 2009," People's Bank of China, February 2, 2010, available at www.pbc.gov.cn (accessed on September 12, 2011). Thus once the new CBRC draft regulation was circulated in August, bank issuance of subordinated debt halted.

by individual banks overstated the soundness of the banking system.²³ Thus the draft regulation restricting the use of subordinated debt was adopted in what the CBRC chairman described as a “historic decision” (Liu Mingkang 2010).

Raising the capital adequacy ratio and disallowing subordinated debt as a source of capital meant that banks had to either raise more equity capital or slow down their lending and other activities that require capital backing. In practice they did both. In 2010 the actions of the CBRC compelled China’s commercial banks to raise RMB264.4 billion in new capital via rights issues and the sale of convertible bonds.²⁴ This policy continued in 2011. By mid-year 14 banks had announced plans to raise additional capital.²⁵

As noted above, these measures to moderate the growth of bank lending were not sufficient to prevent the emergence of higher inflation starting in late 2010. Several caveats, however, should be kept in mind before attributing higher inflation uniquely to the credit expansion of the stimulus program. First, while headline inflation in China picked up, core inflation was still quite modest. Most of China’s higher consumer price inflation was caused by rising food prices, which were increasing at an annual rate of more than 10 percent; nonfood price inflation was less than half the headline number.²⁶ Thus China’s inflation in part reflects rising global agricultural prices rather than more generalized price inflation caused by excessive domestic monetary expansion.²⁷ Second, in early 2011 China’s price inflation was quite modest in comparison with other emerging markets.²⁸ Third, in response to the central bank’s additional tightening measures, by mid-year 2011 the growth of broad money had converged back to about 15 percent, a pace that prior to the global financial and economic crisis had been consistent with strong economic growth combined with moderate price inflation.²⁹

23. Fang Huilei, Zhang Man, Chen Huiying, and Feng Zhe, “Regulator to Curb Banks’ Cross-holdings of Subordinated Debt: New Draft Rules on Subordinated Bonds Will Lower Banks’ Capital Adequacy Ratios and Reduce the Systemic Risk of Cross-Holding,” *Caijing*, August 24, available at <http://english.caijing.com.cn> (accessed on September 19, 2011).

24. Feng Zhe, “Bank of China Raises 100 Bln Yuan in 2010,” Caixin Online, December 14, 2010, available at <http://english.caing.com> (accessed on September 12, 2011).

25. Wen Xiu, “Under the Gun for Capital,” Caixin Online, June 28, 2011, available at <http://english.caing.com> (accessed on June 28, 2011).

26. In April 2011, headline consumer price index inflation was 5.3 percent. Food price inflation was 11.5 percent and nonfood inflation was 2.7 percent. National Bureau of Statistics of China, “Report on Important National Economic Statistical Indicators for April,” May 11, 2011, available at www.stats.gov.cn (accessed on May 11, 2011).

27. The IMF food price index reached a new high in early 2011 after rising more than 40 percent since mid-2010 (IMF 2011b, 37).

28. Measured by core inflation momentum China ranked 27th among a group of 38 emerging markets in early 2011 (Anderson 2011b).

29. Year-over-year growth of M2 by May 2011 had slowed to 15.1 percent, down from 21.0 percent in May 2010, and 25.7 percent in May 2009.

The critique charged that the stimulus was inherently inflationary. But to head off excessive price inflation, the authorities, in a manner reminiscent of 2007, began in late 2009 to focus special attention on moderating price inflation in the property market. Property prices had resumed their upward climb in June 2009, and by December 2009 the pace of price increase rose to about 8 percent on a year-over-year basis. In that month the government reinstated the 40 percent minimum down payment requirement for mortgages made to property investors and lengthened to five years the period that investors would have to hold a property in order to avoid sales tax when a property is sold.³⁰ Both of these measures cut the potential profits of property investors and speculators. Regulatory pressure to control lending and reduce financial risk led at least one major bank, the Bank of China, to announce in early February 2010 that it would no longer make any mortgage loans at an interest rate reflecting a 30 percent discount to the relevant benchmark lending rate but would reinstate the 15 percent discount that had prevailed before the authorities had widened the discount in September 2008. These moves cut the pace of property sales in late 2009 and early 2010.

Property prices, however, continued to rise and broke into double-digit territory in February and March 2010. The increase in March was the highest monthly increase recorded since the 70-city property price index was introduced in 1998. Thus in April 2010 the State Council promulgated further tightening measures. It raised the down payment required to qualify for a mortgage on a non-owner-occupied property to a record 50 percent, reintroduced a penalty interest rate of 1.1 times the benchmark for mortgages on non-owner-occupied property, and restored the minimum 30 percent down payment for first-time buyers for properties 90 square meters or more in size.³¹ In addition, in 2010 the State Council gave banks the authority to refuse to extend mortgages on any terms to individuals who already own two properties, limited purchases of housing by foreign residents, and suspended all mortgage lending to individuals who are not resident in the city where the property is located.³² The last restriction appears designed to curb property speculation by nonresidents in the most desirable cities, such as Shanghai and Beijing, as well as resort-type locations such as Sanya City on Hainan Island.

The combination of the measures announced in December 2009 and in April 2010 led to a moderation in housing prices beginning in May 2010. December 2010 marked the eighth consecutive month of price moderation,

30. "China Imposes Tougher Home Sales Tax to Control Bubble," People's Daily Online, December 10, 2009, available at <http://english.people.com.cn> (accessed on September 12, 2011).

31. "China Vows to Curb Property Bubble," People's Daily Online, April 20, available at <http://english.people.com.cn> (accessed on September 12, 2011).

32. Foreign residents have been subject to two new restrictions since November 2010. First, they are not allowed to purchase more than one residence under any circumstances. Second, they are required to prove that they have worked in the country for at least one year before purchasing a residence.

with a year-over-year increase in the price of residential property of 7.6 percent, half of the 15.4 percent peak rate in April 2010.³³

Unsatisfied with the pace of price moderation, the government took two additional steps in early 2011 to take additional froth out of the housing market. In late January the down payment required for a mortgage for a non-owner-occupied house was boosted to an unprecedented 60 percent. The following day the State Council approved a pilot program to tax residential property. While this initiative was begun in only two cities, Shanghai and Chongqing, in China regional pilot programs are often expanded to the whole country within a year or two. Thus the government, in effect, put property investors on notice that their carrying costs on speculative real estate transactions would likely increase. The details of the property tax varied between the two cities, but in both cases the target was clearly investors, who typically invest in high-end property, rather than first-time property buyers. The property tax systems of the two cities share several characteristics.³⁴ First, the annual property tax applies to all purchasers of second homes. Second, tax policy discriminates against nonresidents.³⁵ Third, in both cities the rates are higher for more expensive property.³⁶

Cumulatively these measures led to further moderation in the growth of property prices in the first half of 2011.³⁷ However, the absolute level of prices of residential property, particularly in tier-one cities, remains quite high, and a major property price correction is still possible. But it is important to recognize that even a major property price correction in China probably would not have the same systemic implications for the financial system that it had for the United States and several other major industrial countries where housing prices fell sharply. The reason is simple—there is much less leverage in China's residential property market than there is, for example, in markets in the United States and the United Kingdom. This difference is clearly reflected in two metrics: the ratio of household debt to disposable income and the loan-to-value ratio of mortgages used to purchase residential property.

33. ISI Emerging Markets, CEIC Database.

34. "A Tale of 2 Cities for Property Tax Reform," *China Daily*, January 18, 2011, available at <http://english.people.com.cn> (accessed on January 28, 2011).

35. In Shanghai property taxes will be levied even on first-time purchases if they are by nonresidents.

36. For example, in Shanghai the tax is 0.6 percent, but if the value of the property is less than two times that of the average housing price, the rate is reduced to 0.4 percent. Chongqing has rates of 0.5, 1.0, and 1.2 percent, depending on the value of the property.

37. The National Bureau of Statistics discontinued publishing its 70-city index of residential property prices after December 2010. But it continued to publish the data for the 70 cities separately. The unweighted monthly average of the prices in the 70 cities shows a continuous moderation of prices, from 3.6 percent in January 2011 to 2.2 percent by June 2011. This unweighted average appears to substantially understate the rate of price increase compared with the index that the National Bureau of Statistics previously published, but it is probably directionally accurate.

The boom years in the United States and some other advanced industrial economies in the mid-2000s were fueled by a decline in the household saving rate and an increase in personal indebtedness that allowed consumption to rise substantially more rapidly than household income, thus supercharging economic growth. By the onset of the crisis, household indebtedness relative to household disposable income (after-tax income) had risen to about 130 percent in the United States and 150 percent in the United Kingdom, with much of this debt taking the form of mortgages on residential property. In the United States in 2005 and 2006, an increasing share of these mortgages was underwritten on very lax terms known as subprime. As long as housing prices continued to rise the increase in household leverage was manageable. However, when housing prices began to decline in many local markets, investors, who had paid little or nothing down, simply walked away from their properties and defaulted on their mortgages. As a result the value of securities backed by subprime loans plummeted in value, leaving major financial institutions in the United States and Europe with gaping holes in their balance sheets that ultimately had to be plugged by a combination of write-downs in equity and massive infusions of government capital.

In contrast, as already noted, Chinese households were substantially less leveraged in the run-up to the global financial crisis. At year-end 2007, loans of all types outstanding to households—including mortgages, auto loans, credit card debt, loans to family businesses, and seasonal working capital loans to farmers for the purchase of seeds and fertilizer—stood at RMB5.1 trillion, just 32 percent of household disposable income (People's Bank of China 2008; National Bureau of Statistics of China 2010f, 80–81).

Not only were Chinese households in the aggregate much less leveraged than their counterparts in several major advanced industrial countries, their exposure to debt for the purchase of property was relatively small. In part this reflects the relatively high down payment ratios that the CBRC requires as a precondition to qualify for a mortgage on a residential property. Moreover, the Chinese regulator has never approved the introduction of home equity lines of credit, which inevitably result in increased leverage as the lines are drawn upon. In part low leverage of Chinese households reflects the not uncommon practice in China of buying property entirely with cash. Of households' total borrowing at year-end 2007, mortgage debt accounted for RMB2.8 trillion, barely over half of all household debt. In contrast, in the United States in the same year mortgage debt and home equity lines of credit in use combined accounted for about three-quarters of total household debt. Thus mortgage debt at year-end 2007 was the equivalent of 18 percent of household disposable income in China, while it was 100 percent in the United States.

The second metric reflecting the extent of leverage in the property market is the loan-to-value ratio, which is simply the ratio of the size of the mortgage relative to the purchase price of the property. For example, with a 20 percent down payment and the balance of a property purchase financed by a mortgage, the loan-to-value ratio is 80 percent. We can estimate the annual loan-to-value

ratio for the entire residential property sector in China by comparing the annual increase in the amount of individual home mortgage loans with the value of housing purchased in the same year. In 2007, when the residential housing market boomed, the value of housing sales reached RMB2.55 trillion, while mortgages outstanding rose by RMB515 billion. Thus in net terms one-fifth of the value of house purchases was financed, while almost four-fifths was paid in cash, so the loan-to-value ratio was 20 percent. In 2008, as analyzed earlier, the authorities took steps to cool the housing market so total housing sales fell by about a fifth, to only RMB2.1 trillion, and mortgages outstanding rose by a much more modest RMB215 billion. Thus the loan-to-value ratio fell from one-fifth in 2007 to only one-tenth in 2008. In 2009, when the housing market boomed again, total purchases rose 80 percent, to RMB3.8 trillion, while the increase in individual mortgage debt jumped to a record RMB1.4 trillion (People's Bank of China Monetary Policy Analysis Small Group 2010a, 48). Thus on a net basis, compared with 2008, the loan-to-value ratio in 2009 almost quadrupled, to a little over one-third. The implication of these numbers and comparable data for earlier years is clear. At a minimum a homeowner in China has an equity stake equal to 20 percent of the purchase price, and the average equity stake at year-end 2009 was almost 70 percent.³⁸ Thus the average loan-to-value ratio on mortgage borrowing in China at year-end 2009 was less than 40 percent, very low compared with some advanced industrial economies, where in the years leading up to the financial and economic crisis a large share of new mortgage loans was made with loan-to-value ratios of 100 percent.

The point is simple; a housing price correction in a market with a relatively small amount of leverage has financial implications that are likely to be different from a price correction in a much more highly leveraged market. In the former case defaults are likely to be few in number, since price declines would have to exceed 20 percent before any owners reached negative equity. In the latter case, as in the United States, subprime loans frequently required no money down, making the loan-to-value ratio on these transactions 100 percent. Thus even an initially modest price correction put many owners with subprime mortgages into negative equity positions on their properties. As these subprime borrowers defaulted on their mortgages and went through foreclosure, the banks put these properties back into the market, further increasing the supply of houses and reinforcing the initial downward property price correction. This pushed even more borrowers into a negative equity position. As a result, defaults on subprime loans rose sharply, negatively affecting the value of securities backed by subprime loans and eventually even impacting somewhat higher-quality tranches of mortgages, such as Alt-A. This brought down several major US financial institutions that either held these securities or had issued guarantees on the value of these securities.

38. The weighted average of one minus the ratio of the increase in mortgages outstanding relative to the value of housing purchased in the same year for the years 1999 through 2009 is 0.68.

Creation of Excess Industrial Capacity?

What about the assertion that the investment boom in 2009 and 2010 created excess industrial capacity that will lead to downward pressure on prices and thus on profits of manufacturing firms, perhaps resulting in defaults on the loans that financed the expansion of capacity? This argument too seems not well founded. In a high-growth, high-investment economy such as China's, there are inevitably some products for which there is at least some temporary excess capacity. The issue, however, is whether this excess capacity is so large, widespread, and enduring that it could contribute to price deflation, putting downward pressure on profits of a large number of manufacturing firms operating across many product lines. That would not only impair the ability of individual firms to repay their loans but also potentially lead to large-scale losses across the banking system.

Any evaluation of excess capacity in China must take into account several factors. First, Chinese firms have historically tended to hold on to outdated equipment, perhaps with a view that if demand for their product surged the firm could bring this old, higher-cost production capacity back on line. Therefore Chinese data on capacity utilization may overstate the extent of excess capacity compared with that of other countries. Second, there is a substantial difference in excess capacity—of, say, 20 percent—in different contexts, such as a mature economy growing at 2 to 3 percent per year versus China, where growth has averaged about 10 percent for three decades. In the mature economy the cost of financing excess capacity for the seven or eight years it might take for demand to catch up with potential supply would be substantial and would probably put enormous financial pressure on the firms with excess capacity. However, in high-growth China, 20 percent excess capacity might be absorbed in only a year or two.

Steel is commonly identified as an industry that has tended toward excess capacity in China. A European Chamber of Commerce report estimated that China's excess production capacity in steel at year-end 2008 was between 100 million and 200 million metric tons, which translates into excess capacity of 15 to 30 percent (European Chamber 2009, 20). This estimated overcapacity alone is more than the steel output of the two next largest global steel producers after China—Korea and Japan.

But this analysis fails to adequately consider the pace of growth of apparent steel consumption in China, which has been over 15 percent annually between 2000 and 2008.³⁹ China's apparent steel consumption in 2009 and 2010 soared by 157 million metric tons and 85 million metric tons, respectively (National

39. Apparent steel consumption is steel production minus net exports. This long-term series is compiled by World Steel Dynamics. True steel consumption would also take into account changes in steel inventories. But such data are not available. In any case, while changes in inventories could potentially have a large effect on year-to-year rates of growth of true steel consumption, changes in inventories are much less likely to affect growth rates of steel consumption over longer periods of time.

Bureau of Statistics of China 2010c, 2011c). In short, what appeared to outside observers to be massive excess capacity at year-end 2008 was more than fully absorbed by 2010.

Finally, it is important to note that the investment boom of 2009–10 that was fueled by China’s stimulus program was not focused on expanding production capacity in China’s traditional industries, such as steel. One important indicator of this is the sectoral allocation of medium- and long-term bank loans. These are loans of more than one year that are used to finance fixed investment, as opposed to loans of a year or less, which typically are used to finance working capital. In 2009 medium- and long-term bank loans outstanding expanded by RMB4.9 trillion and accounted for almost half of the total increase in renminbi lending by the banking system that year. Of these loans financing fixed investment, only 10.2 percent, or RMB502.5 billion, were extended to manufacturing firms. Fifty percent went to infrastructure projects, 13.1 percent to leasing and business services, and 10.2 percent to property development (People’s Bank of China Monetary Policy Analysis Small Group 2010a, 3). A similar pattern emerged in the first three quarters of 2010. The share of medium- and long-term loans going to manufacturing was only 12.7 percent, to infrastructure projects 43.7 percent, and to property 18.8 percent (People’s Bank of China Monetary Policy Analysis Small Group 2010b, 2; 2010c, 3).

It is also revealing to examine the overall investment in the steel industry, whether financed by medium- and long-term loans, by issuance of debt, or by cash flow of the firms in the sector. Investment in the steel industry in both 2009 and 2010 was substantial, RMB400 billion and RMB450 billion, respectively. But the growth of investment in the industry was minimal in 2009, only 3 percent, and a modest 10 percent in 2010, compared with an increase of investment for the economy as a whole of 30 and 25 percent, respectively, in 2009 and 2010 (National Bureau of Statistics 2010b, 2011b). Again, this reflects the priorities of the stimulus program—more for infrastructure and less for traditional industries such as steel. Thus at a time of minimal growth in investment in steel, investment in the rail network, for example, rose by a stunning 67.5 percent in 2009 and a further 13 percent the next year to reach RMB750 billion in 2010 (National Bureau of Statistics of China 2010b, 2011b).⁴⁰

Neglect of Consumption?

China’s stimulus program did rely heavily on expanding investment demand in order to offset the drag on growth caused by a moderating trade surplus. Evaluating whether or not this policy has set back China’s efforts to achieve

40. These are increases in what the Chinese statistical authorities call “fixed asset investment,” a measure that overstates the growth of capital formation. While the data on fixed asset investment are biased upward, the relative rate of expansion of fixed asset investment in steel compared with the economy as a whole is likely to be a good indicator of the modest growth of capital formation in the steel industry in 2009.

more balanced growth by encouraging private consumption is complex. Consumption growth in 2009 was actually quite robust; indeed, 2009 was the first year in a decade that consumption growth almost matched GDP growth. Thus the long-term decline in the consumption share of GDP, discussed further in chapter 2, slowed substantially in 2009.

In a year in which GDP expansion was the slowest in almost a decade, how could consumption growth in 2009 have been so strong in relative terms? How could this happen at a time when employment in export-oriented industries was collapsing, with a survey conducted by the Ministry of Agriculture reporting the loss of 20 million jobs in export manufacturing centers along the southeast coast, notably in Guangdong Province?⁴¹

The relatively strong growth of consumption in 2009 is explained by several factors. First, the boom in investment, particularly in construction activities, appears to have generated additional employment sufficient to offset a very large portion of the job losses in the export sector. For the year as a whole the Chinese economy created 11.02 million jobs in urban areas, very nearly matching the 11.13 million urban jobs created in 2008 (Wen Jiabao 2009, 2010). Second, while the growth of employment slowed slightly, wages continued to rise. In nominal terms wages in the formal sector rose 12 percent, a few percentage points below the average of the previous five years (National Bureau of Statistics of China 2010f, 131).⁴² In real terms the increase was almost 13 percent. Third, the government continued its programs of increasing payments to those drawing pensions and raising transfer payments to China's lowest-income residents. Monthly pension payments for enterprise retirees increased by RMB120, or 10 percent, in January 2009, substantially more than the 5.9 percent increase in consumer prices in 2008.⁴³ This raised the total payments to retirees by about RMB75 billion.⁴⁴ The Ministry of Civil Affairs raised transfer payments to about 70 million of China's lowest-income citizens by a third, for an increase of RMB20 billion in 2009 (Ministry of Civil Affairs 2010).⁴⁵

The combined effect of increasing employment, wages, pension income, and transfer payments contributed to a 9.8 percent increase in the disposable

41. "20 Million Migrants Lost Jobs: Survey," *China Daily*, February 2, 2010, available at www.chinadaily.com.cn (accessed on September 12, 2011); "20 Million Migrant Workers in China Can't Find Jobs," *New York Times*, February 2, 2009, available at www.nytimes.com (accessed on September 12, 2011).

42. See chapter 3 for a discussion of wages of migrant workers, private-sector workers, and the self-employed, the segments of the labor force that are outside what I am calling the formal sector.

43. This was the fifth consecutive year in which retirees from enterprises received increases in their monthly pensions. "China to Raise Pensions from 2010," *People's Daily Online*, December 23, 2009, available at <http://english.people.com.cn> (accessed on September 12, 2011).

44. There were an average of 51 million enterprise retirees in 2009.

45. For further discussion of the income transfer program for low-income residents see chapter 3.

income of urban residents and an increase of 8.5 percent in the net income of rural residents in 2009 (National Bureau of Statistics of China 2010c).⁴⁶ Given that urban incomes are about three times those in rural areas, the average household disposable income increased about 9.5 percent. This was slightly ahead of the growth of GDP and provided a potentially strong foundation for increasing consumption as a share of GDP.

Fourth, the government, recognizing it could not rely entirely on increased investment to offset the drag on growth from shrinking exports, adopted as part of its stimulus program several specific incentive measures to encourage consumption. Three of the incentives were designed to stimulate car sales. One of these incentives, implemented in 2009, cut by half the 10 percent tax on vehicles with small-displacement engines, purchased mainly in rural areas.⁴⁷ The program was extended in 2010, but the tax rate was moved up to 7.5 percent. Another incentive, implemented in March 2009, introduced a 10 percent discount on new cars, minivans, and light trucks purchased by rural residents.⁴⁸ A third incentive, begun in June 2009, initiated a program of special trade-in allowances for older rural and farm vehicles that did not meet China's emissions standards.⁴⁹ This program was budgeted at RMB5 billion, providing individuals with subsidies of between RMB3,000 and RMB6,000 for their trade-ins. This program was extended in June 2010 and the subsidies were boosted to between RMB5,000 and RMB20,000.

In addition to these programs to stimulate vehicle sales, in 2009 the government also initiated a home appliance subsidy program in four cities and five provinces. This scheme provided a 10 percent discount to buyers of new televisions, refrigerators, washing machines, air conditioners, and computers, conditional only on recycling the appliances they were replacing. In June 2010 the government expanded the program to 28 cities and provinces and extended the program to the end of the year. In total, central government subsidies benefiting rural areas under these programs in 2009 were RMB45 billion (Wen Jiabao 2010).⁵⁰

Given the relatively high price elasticity of demand for consumer durables in rural China, these subsidies probably boosted 2009 rural consumption by a few percentage points over the level of 2008.⁵¹ A few percentage points may

46. The National Bureau of Statistics does not regularly release data on the disposable income of rural residents. Net income is a close approximation.

47. Eligible vehicles had engines with a displacement of 1.6 liters or less.

48. The program also included a 13 percent discount on motorcycles.

49. The eligible trade-in vehicles were old three-wheeled and four-wheeled farming vehicles with engines displacing 1.3 liters or less.

50. The bulk of this subsidy number appears to come from the tax expenditures associated with the reduction in the tax rate on vehicles with engines with a displacement of 1.6 liters or less.

51. RMB45 billion is equal to 1.6 percent of the RMB2,883.4 billion making up rural household consumption in 2009 (National Bureau of Statistics of China 2010f, 56). But given the high price

sound small; it is not. As will be laid out in detail in chapter 2, between 2002 and 2008 the gap between the average annual growth of GDP and the average annual growth of private consumption expenditure was only 4 percentage points. Therefore if government programs similar to the ones just analyzed had been in place for a number of years, the consumption share of GDP might not have fallen so dramatically after 2002.

Fifth, substantial increases in household borrowing, induced by government lending policies, almost certainly bolstered consumption in 2009–10. Households increased their borrowing by RMB2.5 trillion and RMB2.9 trillion in 2009 and 2010, respectively, an average annual increase of almost four times the RMB700 billion increase in 2008.⁵² Household borrowing of RMB2.8 trillion in 2009–10 was used to finance the purchase of housing (People's Bank of China Monetary Policy Analysis Small Group 2010a, 48; People's Bank of China 2011b). The remainder, RMB2.6 trillion, might be considered an upward bound estimate of the amount of increased household borrowing that potentially was available to finance increased consumption expenditures.⁵³ This is a substantial amount, 3.5 percent of total GDP in the two-year period.

In sum, the strong growth of personal income, price incentives, and a marked increase in leverage on the part of China's households in 2009 made it possible for private consumption expenditure to register a decline of only one-tenth of 1 percent of GDP, the smallest decline in nine years. And, including government consumption expenditure, total final consumption expenditure played a larger role in generating economic growth in 2009 than in any year in the previous decade.

However, preliminary data for 2010 are not nearly as positive. Household consumption as a share of GDP declined by a relatively large 1.2 percentage points of GDP to fall to a new all-time low of only 33.8 percent, and final consumption demand (private and government combined) accounted for the smallest share of GDP growth since 2003.⁵⁴ Thus the evidence does suggest that the critique discussed above—that the stimulus program generated growth largely through increased investment and left little or no role for consumption—is exaggerated for 2009 but valid for 2010. Chapter 3 will

elasticity for consumer durables in rural areas, the stimulus to consumption significantly exceeded the value of the subsidies.

52. The increase in lending to households is a comprehensive measure that includes mortgages, credit card debt, auto loans, seasonal working capital loans to farmers to finance seed and fertilizer purchases, and loans to proprietorships and other unincorporated businesses. When farmers and proprietors have better access to working capital from banks, they can devote more of the income from their farms and small businesses to personal consumption.

53. It is an upward bound because lending to households includes lending to unincorporated household businesses. Some of this lending presumably was used to finance fixed investment or inventories rather than consumption.

54. ISI Emerging Markets, CEIC Database.

explore a variety of policy reforms that might be undertaken to reverse the long-term decline in the consumption share of GDP.

Fiscal Sustainability?

An additional critique of China's stimulus worth examining here is that it led to a massive increase in implicit government debt that ultimately could lead to a banking crisis that would threaten the health of government finances. Fitch, a prominent ratings agency, predicts that there is a 60 percent probability that China will experience a banking crisis by 2013 as a consequence of the deterioration in credit quality associated with the excessive credit creation of the stimulus program.⁵⁵ China's explicitly acknowledged government debt remains relatively low, only about one-fifth of GDP. Since the stimulus was financed primarily by bank credit, rather than deficit spending financed by the sale of government bonds, explicit government debt (i.e., bonds outstanding issued by the Ministry of Finance) as a share of GDP actually declined slightly in 2009–10. But much of the medium- and long-term bank lending for infrastructure investment went to local government-linked agencies, called local investment companies.⁵⁶ Although local governments legally are not allowed to borrow or run budget deficits, lending to these local investment companies is legal and has been a successful mechanism for financing local infrastructure for more than a decade (Kroeber 2010).⁵⁷

Critics, however, argue that starting in 2009 the scale of borrowing by these platform companies increased so rapidly that they are unlikely to be able to repay these loans and that the obligation to repay could ultimately fall on the central government. This view is not unreasonable. While in many instances local governments have provided guarantees for loans to their local investment companies, local governments are not likely to be able to repay all of this debt, particularly if local fiscal revenue from the leasing and sale of property were to decline. If this occurs, ultimately the central government might have to assume the burden of repaying much of the borrowing by local platform companies. Thus total government debt, including not only outstanding Ministry of Finance bonds but also this implicit local government debt, is much higher than the one-fifth of GDP figure commonly cited for government debt.

55. "Fitch's Bold Call on China Banking-System Risk," China Real Time Report, March 9, 2011, available at blogs.wsj.com/Chinarealtime (accessed on March 14, 2011).

56. These are usually referred to as *difang zhengfu rongzi pingtai* (local government financing platforms) or *chengtou gongsi* (municipal investment companies) in Chinese-language sources and in secondary English-language sources as local government investment companies (commonly abbreviated as LICs), local government financing platforms, or conduit companies.

57. Legally local governments are not allowed to issue debt, except under special circumstances. For example, as part of the economic stimulus package in 2009 China's Ministry of Finance issued RMB200 billion in debt on behalf of local governments.

How large might this debt potentially be? A broad range of estimates has been made. Perhaps the most widely cited estimate was made by Victor Shih, a Northwestern University political science professor. He placed this debt at year-end 2009 at RMB11.4 trillion, almost twice the official figure of RMB6.5 trillion for outstanding Ministry of Finance bonds.⁵⁸

However, this estimate is likely to be on the high side. To start with, consider medium- and long-term bank lending that the central bank specifically identifies as going to infrastructure projects. These loans amounted to RMB1.1 trillion and RMB2.5 trillion in 2008 and 2009, respectively (People's Bank of China Monetary Policy Analysis Small Group 2009a, 4; 2010a, 3). If we assume that all of these infrastructure loans went to local investment companies and that none of the principal on loans of this type made in the five years 2005–09 was repaid, the bank debt of these infrastructure companies at year-end 2009 would have been RMB5.666 trillion.⁵⁹ These firms also issue bonds, a reported RMB121.2 billion in 2009, an amount slightly more than the cumulative debt issued by these firms in the prior four years.⁶⁰ Adding bank borrowing and bond issuance brings the total debt of local investment companies to approximately RMB5.9 trillion at year-end 2009.

Chinese press reports quoting Ba Shusong, the deputy director of the Institute of Finance of the Development Research Center, a leading government think tank, placed the debt of local government investment companies at mid-year 2009 at more than RMB5 trillion, up from about RMB1 trillion at the beginning of 2008.⁶¹ Adding medium- and long-term infrastructure lending by banks in the second half of 2009 and bond issuance by these firms in the second half to the mid-year figure of more than RMB5 trillion would bring the total debt to RMB6 trillion, very close to the bottom-up estimate just laid out.⁶²

A fourth approach is to accept the official data. Liu Mingkang, the head of the CBRC, in a March 2010 speech placed outstanding local investment

58. Victor Shih, "China's 8,000 Credit Risks," *Wall Street Journal Asia*, February 9, 2010, available at <http://online.wsj.com> (accessed on February 12, 2010).

59. Medium- and long-term infrastructure lending in 2005, 2006, and 2007 was RMB617.50 billion, RMB650.48 billion, and RMB 798.36 billion, respectively.

60. Andrew Batson, "China's Localities Feel Pinch of Tighter Credit," *Wall Street Journal*, February 25, 2010, available at <http://online.wsj.com> (accessed on February 25, 2010). The issuance of bonds in the first 11 months of 2009 almost equaled bond issuance by these companies in the previous four years (Xu Lin 2010, 28).

61. Wang Bo, "'Systematic Risks' Warning," *China Daily*, November 9, 2009, 7.

62. In the second half of 2009 banks extended RMB900 billion of medium- and long-term loans for infrastructure and local investment companies issued RMB55.2 billion in bonds (Xu Lin 2010).

company bank borrowing at year-end 2009 at RMB7.38 trillion.⁶³ Adding in the value of the bonds issued by these companies would bring their total debt to about RMB7.8 trillion.⁶⁴ A more comprehensive survey undertaken by the National Audit Office in 2011 placed total debt of local governments, including borrowing by their local investment companies, at RMB10.75 trillion at year-end 2010. About 70 percent of these funds were allocated to local infrastructure projects (National Audit Office of the People's Republic of China 2011).

Local government debt at year-end 2010 as measured by the National Audit Office was equal to about 25 percent of China's GDP and was about a third larger than the outstanding government debt issued by the Ministry of Finance. The RMB7.38 trillion of bank borrowing by local investment companies in 2009 was equal to almost a fifth of renminbi loans outstanding from the banking system at year-end 2009. In short, by almost any standard both the total debt and the bank borrowing of local government platform companies are quite large.

Judging the ability of the platform companies and other public service providers to service their debt in the future is difficult. Some charged that many of the infrastructure projects funded by the stimulus program are white elephants and would fall short of the goal of creating employment and jump-starting private consumption.⁶⁵ This view was fostered by widespread reports that in the fall of 2008, shortly after the central government announced the RMB4 trillion stimulus program, thousands of provincial and municipal government officials descended on Beijing seeking central government approval and funding for projects that together totaled more than RMB10 trillion.⁶⁶

While local investment companies undoubtedly did fund some white elephants, most public infrastructure projects initiated in 2009–10 will eventually generate large positive economic returns. Some projects were based on detailed long-term plans that were developed years in advance of the global financial and economic crisis. The dramatic expansion of rail development starting in 2009, for example, was based on the detailed Mid- to Long-Range

63. Jin Shuiming, "Liu Mingkang: Local Financial Platform Bank Loans Outstanding at Year-End 09 are RMB7.38 Trillion," *Securities Daily*, May 25, 2010, available at <http://finance.qq.com> (accessed on September 13, 2011).

64. This is substantially below Victor Shih's estimate of RMB11 trillion; see "China's 8,000 Credit Risks," *Wall Street Journal Asia*, February 9, 2010, available at <http://online.wsj.com> (accessed on February 12, 2010). It is above a figure of RMB5 trillion given by People's Daily, an agency of the Chinese Communist Party. "China on High Alert for Large-Scale Bad Loans," People's Daily Online, February 25, 2010, available at <http://english.people.com.cn> (accessed on February 26, 2010).

65. Victor Shih, "Beijing's 'Legless' Stimulus," *Wall Street Journal Asia*, April 3, 2009, available at <http://online.wsj.com> (accessed on September 12, 2011).

66. Andrew Batson, "China's Stimulus Race Sparks Fears of Excess," *Wall Street Journal*, November 24, 2008, available at <http://online.wsj.com> (accessed on September 12, 2011).

Network Plan for rail development approved by the State Council in 2003. This plan, which covers rail development through 2020, calls for a separation of passenger and freight on capacity-constrained trunk routes and the development of high-speed intercity regional passenger networks in densely populated areas. It is designed to address China's endemic rail transport capacity shortages. The World Bank characterizes it as "perhaps the biggest single planned program of passenger rail investment there has ever been in one country" (Amos, Bullock, and Sondhi 2010, 7–8).

Spending on rail development accelerated as the Mid- to Long-Range Network Plan was implemented, with total investment in 2003–07 reaching RMB522 billion. But, as the economic stimulus program was rolled out in the fall of 2008, the Ministry of Railroads brought forward eight specific rail projects from the plan that originally were scheduled for construction in later years. The planned investment in these accelerated projects, which will take more than a year to complete, totaled RMB405 billion, including outlays of about RMB25 billion for the acquisition of land for the 1,318 kilometer Beijing-Shanghai dedicated high-speed passenger line, which opened in mid-year 2011. Thus, while originally the ministry had planned to expand the high-speed rail network by 12,000 kilometers in 2009, under the accelerated plan this number was bumped up to 16,000 kilometers. As a result investment in rail construction, which had totaled RMB155 billion in 2006 and RMB177.2 billion in 2007, jumped to RMB335 billion in 2008. Outlays on rail construction in 2009 soared further, to RMB623 billion, with about 60 percent of the funding going to the development of the high-speed rail network. In 2010 rail construction was budgeted at RMB823.5 billion, or \$120 billion.⁶⁷ In contrast, President Obama's economic stimulus program allocated \$8 billion to develop high-speed rail in the United States in 2010 and promised an additional \$1 billion annually in federal funds for several additional years.⁶⁸

The stimulus program also accelerated the development of China's electrical grid, notably the expansion of the network of ultra-high-voltage

67. For funding details see Bullock, Sondhi, and Amos (2009, 79–84); Amos, Bullock, and Sondhi (2010, 8); Xin Dingding, "Locomotion," *China Daily Business Weekly*, November 17–23, 2008, 3; "High-Speed Rail Spearheads China's Efforts to Boost Economy," People's Daily Online, March 3, 2010, available at <http://english.people.com.cn> (accessed on March 3, 2010); and "High-Speed Railway Accounts for Over Half of China's Railway Investment," People's Daily Online, April 27, 2010, available at <http://english.people.com.cn> (accessed on April 27, 2010). Fixed asset investment in rail, which also includes the costs of acquiring rolling stock and land, was even higher than the numbers in the text—RMB682.3 billion in 2009 and RMB407 billion in 2008, according to the National Bureau of Statistics (2010e, 58). The Ministry of Railroads put fixed asset investment in 2009 slightly higher, at RMB701.3 billion, according to the article in People's Daily Online of April 27, 2010, just cited.

68. The gap between the levels of funding for high-speed rail in China and in the United States is even greater than these numbers suggest since construction and rolling stock capital costs are significantly lower in China than in the United States (Amos, Bullock, and Sondhi 2010, 2). Moreover, some of the funds for high-speed rail in the United States were not spent and were cut from the fiscal 2011 budget as part of the deficit reduction program passed by Congress in early 2011.

(UHV) transmission lines. UHV lines, which include lines with a voltage of 1,000 kilovolts or above of alternating current and 800 kilovolts or above of direct current, allow the efficient transmission of large amounts of power over long distances. China was the first country to deploy UHV transmission lines, giving it the ability to carry much more power efficiently over longer distances than is possible, for example, in the United States. This substantial increase in cross-regional power transmission capacity over time will allow China to overcome bottlenecks in its electrical grid system and thus use its large power-generating capacity more efficiently as well. State Grid Corporation, which is China's largest electrical distributor, plans on investing an additional RMB500 billion in the 12th Five-Year Plan (2011–15) to extend its UHV transmission network to 40,000 kilometers by the end of 2015.⁶⁹

While accelerated rail development and the development of the UHV electrical transmission network were clearly based on well-developed plans designed to address unmet demand for transportation services and to increase cross-provincial electrical power transmission capacity, respectively, the question remains as to whether local infrastructure projects also will satisfy unmet needs. What about the municipal infrastructure projects, such as roads, airports, subways, water supply, and wastewater treatment systems, undertaken by local quasi-governmental agencies?

One legitimate concern is that some services provided by quasi-governmental agencies are priced substantially below the level that would allow full cost recovery, i.e., they do not generate revenue sufficient to pay operating as well as capital costs. Because increases in tariffs over the last decade or more have lagged rising costs, most municipal water companies in China have lost money every year since the mid-1990s.⁷⁰ Similarly, the fares on subway systems in China, as in virtually every other country in the world, are so low that fare box revenue usually does not even cover operating costs. According to the head of China's Civil Aviation Administration, landing fees and other related revenues don't cover operating costs at most of China's airports, making them money losers.⁷¹ Fares on the high-speed intercity passenger trains China is building will not generate revenue sufficient to cover both operating and capital costs. Thus underpricing of some services provided by quasi-governmental agencies will impair the ability of these agencies to repay the loans taken out in order to meet the growing demand for these services. To the extent that platform companies invest in activities that do not generate revenue, their ability to repay is even more impaired.

69. "State Grid to Invest RMB500 Billion Yuan in China," People's Daily Online, January 6, 2011, available at <http://english.people.com.cn> (accessed on January 6, 2011); US Department of Energy, "Secretary Chu Remarks at the National Press Club," November 29, 2010, available at www.energy.gov/news (accessed on February 7, 2011).

70. "High Price for Water Reform?" People's Daily Online, October 29, 2009, available at <http://english.people.com.cn> (accessed on September 12, 2011).

71. Li Jiaxiang, quoted in *Dragon Week*, GavekalDragonomics, February 28, 2011.

While the financial returns to some of the investments undertaken by platform companies and other public service providers may be modest, several additional factors need to be taken into account in any evaluation of the magnitude of the burden of debt created by the rapid build out of China's infrastructure in 2009–10. First, and most important, it is likely that over the medium and long term the real economic returns to the economy as a whole on many of these infrastructure investments will be high. China is in the midst of the largest rural-to-urban migration in global history, and thus the demand for services in urban areas has been rising and will continue to rise steadily. The real economic returns to infrastructure investment in China therefore are likely to be high. This is a general phenomenon in emerging markets, where infrastructure investment typically generates higher returns than other forms of physical capital (Calderon, Moral-Benito, and Servén 2009). Indeed, the rapid development of infrastructure slightly ahead of demand has been a hallmark of China's economic growth, particularly in the last decade. Unlike India, where insufficient infrastructure investment has been a brake on economic growth, rapid infrastructure development in China has facilitated and stimulated its superior growth performance (Naughton 2010, 449–50).

Second, the financial viability of some infrastructure investment projects should not be evaluated on a stand-alone basis. Some critics, for example, have challenged the economic viability of China's high-speed rail program on the grounds that while the fares are high relative to personal income in China, they are not high enough to cover the operating and capital costs of the high-speed rail network. But, China's high-speed rail system seeks to compete with airlines on major intercity routes, such as Guangzhou-Wuhan and Beijing-Shanghai, where relatively well-to-do passengers are paying high airfares. Moreover, according to an analysis by the World Bank, the main economic and financial benefit of building a dedicated high-speed passenger rail network on new alignments is that it frees up capacity on existing rail lines that can then be used to haul more freight (Bullock, Sondhi, and Amos 2009, 74; Amos, Bullock and Sondhi 2010, 8, 15). The Bank estimates that over time the capital costs of most of China's planned high-speed rail network can be largely recouped from the additional revenues that the previously existing rail system can garner from hauling more freight; the fares for high-speed rail service need to cover only the operating costs of the system.⁷² This cross-subsidy from freight to passenger traffic is feasible since the Chinese rail system is under the uniform administration of the Ministry of Railroads and its various regional operating subsidiaries (Freeman 2010).

Third, while some local investment companies may have weak cash flow, on average they are not insolvent. At year-end 2009 the assets of these companies amounted to RMB8 trillion, slightly more than their outstanding

72. The Bank does express some skepticism that this will be true for high-speed lines planned to extend into China's far western regions, where the population density is far lower than in the Guangzhou-Wuhan and Beijing-Shanghai corridors, where the initial lines have been built.

debt.⁷³ Thus lending to these companies is not likely to have the same adverse financial and fiscal consequences as did large-scale bank lending to chronic money-losing state-owned companies in the mid-1990s. Many of these state-owned borrowers at that time had liabilities far exceeding their assets, so that when they were ultimately closed and liquidated the banks recovered little or nothing (Lardy 1998, 43, 142–43). Ultimately the government had to inject about RMB3.4 trillion into the banking system to facilitate its restructuring (Ma Guonan 2006, 22).

In short, eventually, municipalities and other local governments will probably have to assume responsibility for repaying some of the borrowing that their local investment companies are unable to repay. But the services these companies provide are likely to contribute to sustaining China's economic growth and thus, over time, will help generate increased government tax revenues as well. Moreover, absent a major property price correction, local governments are likely to continue to enjoy substantial income from the leasing of land, revenue that is not reflected in local government budgets but that has become an increasingly important source of revenue in recent years. Finally, the pilot property tax programs initiated in Shanghai and Chongqing in early 2011 are likely to become national programs, and over time the share of property owners subject to the tax likely will increase. This will provide additional revenues to local governments to repay loans that local investment companies cannot repay.

In the longer term, China needs to adopt different policies to finance infrastructure projects. The current system of financing long-term infrastructure development with short-term bank loans and bonds is far from optimal. China needs to develop a sizeable longer-term bond market to provide a source of funding for infrastructure projects that have economic payoffs that materialize over many years or even decades. Half of the local government debt of RMB10.7 trillion outstanding at year-end 2010 comes due in 2011–13. Only 30 percent of the total is scheduled for repayment in 2016 or later (National Audit Office of the People's Republic of China 2011). Thus the average maturity of local government debt is relatively short. Similarly, at mid-year 2011 the average remaining maturity of the RMB585.5 billion in outstanding bonds issued by the Ministry of Railroads is less than two and a half years.⁷⁴ But the

73. "China on High Alert for Large-Scale Bad Loans," People's Daily Online, February 25, 2010, available at <http://english.people.com.cn> (accessed on September 12, 2011).

74. One source reports total bonds outstanding at year-end 2010 of the Ministry of Railroads were RMB585.5 billion and total scheduled payments of principal and interest in 2011 were RMB144.8 billion. "Bond Market Gives the Ministry of Railways a Hard Look," Caixin Online, August 1, 2011, available at <http://english.caing.com> (accessed on August 1, 2011). The *China Daily* reports that the ministry paid bond interest of RMB19.3 billion in 2010. Yu Hongyan, "Banks May Raise Lending Interest Rates to Railway Ministry," *China Daily*, July 29, 2011, available at www.china-daily.com.cn (accessed on July 29, 2011). Based on the growth of the stock of bonds outstanding between 2010 and 2011, I estimate that interest payments in 2011 will be about RMB22 billion, meaning repayments of principal will be an estimated RMB123 billion. At that pace the ministry's

ministry's rail expansion program has very high initial costs and will generate increased revenues over a period of decades. The growth of revenue in the early years of the development of high-speed rail will be slow for two reasons. First, the large increases in freight throughput will depend on the completion of the four north-south and four east-west high-speed passenger corridors, which will allow the development of longer freight corridors. Second, over time, as passenger demand develops, the intervals between trains on the high-speed network will be reduced, thus increasing revenues.

In addition to developing longer-term financial instruments, the Chinese government might consider subsidizing the cost of debt financing for infrastructure, just as the United States does by providing favorable federal tax treatment on interest paid on municipal bonds issued by state and local governments.

Rise of the State and the Demise of Reform?

What about the charge that the stimulus program substantially enhanced the role of the state and thus fundamentally undermined China's long-term economic reform trajectory, in which the private, market-driven economy has increasingly supplanted state-owned companies and the state more generally? In this view China previously "thrived by allowing once-suppressed private entrepreneurs to prosper," but now "it is often China's state-run companies that are on the march."⁷⁵ Assessing this charge, captured in the Chinese phrase *guojin, mintui* (advance of the state, retreat of the private) is complex. On the one hand the government launched no important reform measures to enhance the role of the market during the stimulus program. Indeed, since President Hu Jintao and Premier Wen Jiabao assumed office in 2003, the pace of fundamental, market-enhancing, economic reform has slowed and, as this study will show, in some cases has been reversed. On the other hand, as will be argued below, the momentum generated by earlier market-oriented reforms continues to play out in very important ways.

This interpretation tends to be borne out by a variety of important metrics showing that the stimulus program did not fundamentally change the nature of resource allocation in China's economy by enhancing the role of the state at the expense of the market. First, the pattern of bank lending to businesses in 2009–10 does not support the contention that loans during the stimulus program went primarily to state-owned firms, squeezing out private firms. To analyze this issue we have to rely on an analysis of lending by size of firm since data on bank lending to various categories of firm ownership is not available. Previously published data usually gave the breakdown of loans to large firms

outstanding bonds will be repaid in 4.8 years, meaning the average remaining maturity of the bonds is 2.4 years.

75. Michael Wines, "China Fortifies State Businesses to Fuel Growth," *New York Times*, August 29, 2010, available at www.nytimes.com (accessed on September 12, 2011).

and to medium-sized and small firms combined. Fortunately data now show lending to small and medium-sized firms separately.⁷⁶ Because two-thirds of small firms are private, with the balance being mostly firms of mixed ownership, such as collective or cooperative, lending to small firms is a good proxy for lending to private firms (Liu Xiangfeng 2007). At the other extreme, two-fifths of large firms are state-owned, and fewer than 10 percent are private (National Bureau of Statistics of China 2009d, 1). Thus data on lending to large firms are a reasonable proxy for lending to state-owned companies.⁷⁷ Finally we have data on lending to the self-employed or what are sometimes called household businesses.⁷⁸ This lending should be regarded as going to private firms although in the Chinese statistical system household businesses are not classified as firms.

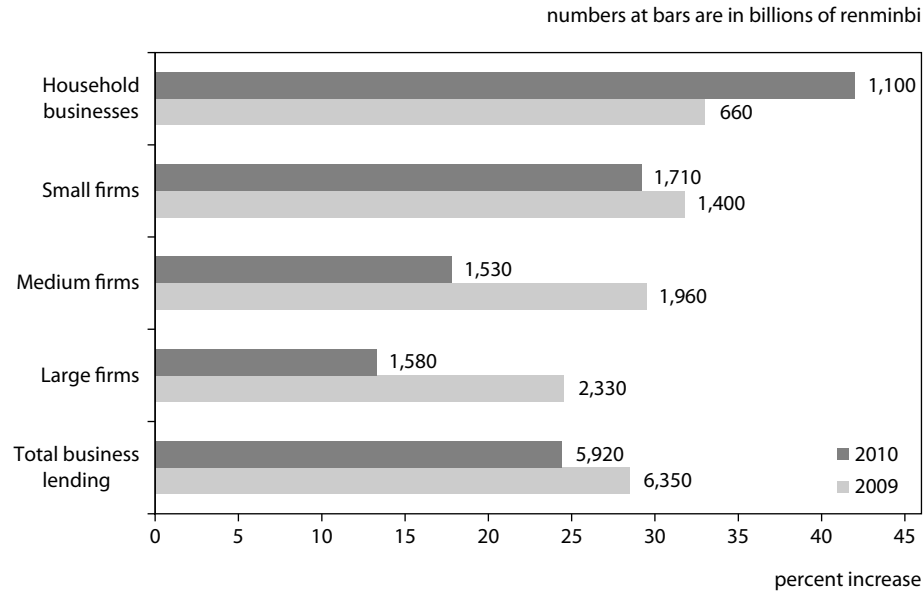
As shown in figure 1.1, in percentage terms the growth of borrowing by household businesses in 2009 and 2010 outstripped the pace of borrowing by all firms, regardless of size. In 2009 and 2010 borrowing by family businesses and farmers expanded by RMB660 billion and RMB1,100 billion, respectively. Business loans outstanding to individuals cumulatively over the two-year period grew by 90 percent, compared with a 60 percent expansion in total credit extended to businesses by the banking system. Moreover, at the end of 2010 one-third of individual business loans outstanding were for a term greater

76. The focus here is on data for the small firms only rather than the more frequently encountered data covering the universe of small and medium-sized firms (SMEs). The reason is that medium-sized firms in China can be rather large. In the industrial sector, for example, medium-sized firms may employ as many as 3,000 workers, have assets as large as RMB400 million, and have sales as great as RMB300 million. Small industrial firms employ fewer than 300 workers, have assets under RMB40 million, or sales less than RMB30 million. “Interim Regulations on SME Categorizing Criteria,” May 16, 2007, available at www.sme.gov.cn (accessed on September 12, 2011).

77. In this study, except where explicitly stated to the contrary, “state-owned companies” refers to the universe of both traditional state-owned companies and those formerly state-owned firms that have converted into joint-stock companies, i.e., shareholding companies, in which the state remains the dominant shareholder. The former are governed by the People’s Republic of China Law on Industrial Enterprises Owned Wholly by the People, which dates from 1988. The latter group of firms is governed by the Company Law, which came into effect on July 1, 1994. This group is designated as *guoyou konggu qiye*. Chinese authorities invariably translate this as “state-holding companies.” I prefer to translate this term as “state-controlled shareholding companies.” State-controlled shareholding companies began to emerge in the second half of the 1990s as traditional large state-owned companies converted to ownership by shares and then listed on domestic and international stock exchanges.

78. “Self-employed individuals” is the usual Chinese translation for *geti* or *geti hu*. I also use the terms “family business” or “individual business” to identify these units. They are unincorporated, and thus are not included in the category private firms. Historically these family businesses have been limited to fewer than eight workers. However, in March 2011 the State Council, China’s cabinet, approved legislation eliminating limits on the number of workers these businesses may hire. “China’s Cabinet Approves Individual Business Legislation,” People’s Daily Online, March 31, 2011, available at www.english.people.com.cn (accessed on March 31, 2011).

Figure 1.1 Bank lending to businesses by type of borrower, 2009–10



Note: Data are for state-owned commercial banks, China Development Bank, policy banks, joint-stock commercial banks, city commercial banks, postal savings bank, city credit cooperatives, and foreign banks.

Sources: China Banking Regulatory Commission (2010, 44–45; 2011, 49); People's Bank of China (2010b, 2011b).

than one year. Thus the self-employed and farmers are able to rely on bank borrowing not only for working capital but also to finance some of their fixed investment.

Small firms in both 2009 and 2010 were able to increase their borrowing much more rapidly than both medium-sized and large companies. In 2009 and 2010 bank lending to small-scale enterprises expanded by RMB1.4 trillion and RMB1.7 trillion, respectively. Indeed, in 2010 the pace of growth of lending to small firms was more than twice as rapid as the growth of lending to large firms, and the absolute amount of new lending to small firms exceeded that going to large firms.

In short, both individual businesses, which are entirely private, and small firms, which are predominantly private, were able to access a large share of the expanded supply of bank credit, which was one of the most prominent features of China's stimulus program starting in late 2008. The expansion of credit to household businesses was particularly notable. In 2008, the last precrisis year, household businesses were able to expand their borrowing by only half the pace of growth of total loans, so their additional borrowings were a very modest RMB192.5 billion. As noted, this pattern reversed in 2009–10. The charges that China's "banks exist to provide funding for the government and its state-owned enterprises" (Wolfe and Aarsnes 2011) and that "Chinese banks overwhelmingly lend to SOEs [state-owned enterprises] and always have" (Walter and Howie 2011, 43) are outdated and wholly inaccurate. Similarly an estimate that "90 percent of the stimulus funds have gone to state-owned enterprises" (Huang Yasheng 2011, 4) is not supported by the evidence.

The second strand of the critique that the stimulus program privileged state-owned over private companies is that the state-owned companies, flush with funds borrowed from state-owned banks, expanded their economic footprint during the financial crisis by buying up private-sector competitors (Bremer 2010, 144). The state did nationalize some small-scale, private coal mines in 2009 and in a well-publicized case forced the privately owned Rizhao Steel Company to merge with the state-owned Shandong Steel (Naughton 2009).⁷⁹ But these were isolated incidents that were not designed to expand the economic footprint of the state. The campaign launched in 2009 in Shanxi Province to consolidate the coal industry by nationalizing small, private coal mines and turning them over to large state-owned operators was motivated by the desire of the national government to reduce mining fatalities in China, which have been horrifically high. Private coal mining in China has been quite profitable, in part because owners of small-scale private mines are much more prone to cut corners on safety, and thus these mines account for a disproportionate share of mining accidents and deaths.⁸⁰ Previous attempts by the

79. See also "The Pendulum Swings against the Pit," *Economist*, October 17, 2009, 54.

80. Leslie Hook, "China Digs Deep to Reshape its Coal Mining Industry," *Financial Times*, April 29, 2011, 21.

government to enforce safety regulations in numerous, small-scale private mines met with limited success (Wright 2007). The Rizhao Steel case was complex, as Naughton's (2009) analysis shows, but was not part of a broader trend of expanding the role of state-owned steel companies. Indeed, private steel firms, which already accounted for about 40 percent of crude steel output in 2008, flourished in 2009–10 as national investment soared, boosting the demand for steel products.

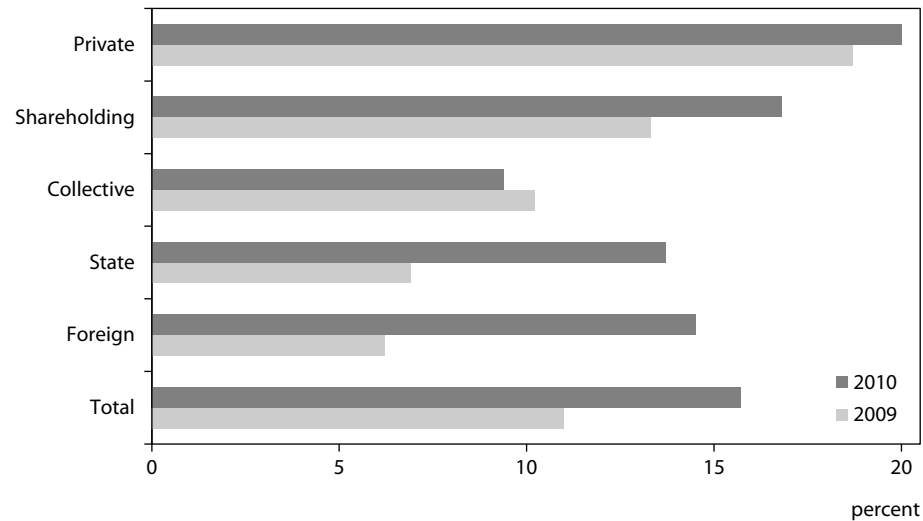
Aggregate data on the expansion of industrial production by ownership also support the view that the nationalization of private companies did not extend to sectors other than coal. If takeovers of private firms by state-owned firms were widespread, one would expect to see an uptick in the share of output produced by state firms. But 2009–10 was marked by a substantial continuity in the long-term decline in the role of state-owned firms in China's economy, particularly in the industrial sector, which accounts for fully two-fifths of China's GDP. In 1978 the share of industrial output produced by state-owned firms was 81 percent; 30 years later, as the global financial crisis began to unfold, it was 28 percent (National Bureau of Statistics of China 1987, 257; 2009b, 487, 498).⁸¹ Contrary to the assertion of Naughton (2011, 324) that "the shrinkage of the state sector has now stopped," the shrinkage trend continued unabated during the global financial and economic crisis. National industrial value added rose by 11.0 and 15.7 percent in 2009 and 2010, respectively.⁸² This industrial growth is disaggregated by ownership in figure 1.2. The output of state-owned firms rose only 6.9 and 13.7 percent in 2009 and 2010, respectively. Given their below-average growth performance, the share of industrial output contributed by state-owned firms continued to decline in 2009–10, extending the pattern evident for three decades prior to the onset of the global financial crisis.

What can we learn by examining the performance of industrial firms with other types of ownership, shown in figure 1.2? In 2009 the weakest economic growth performance, at 6.2 percent, was turned in by foreign-owned companies.

81. In 2008 traditional state-owned companies accounted for 9 percent of industrial output, and state-controlled shareholding companies for 19 percent. The long-term decline from 81 to 28 percent in the share of output produced by state-owned companies probably understates the decline. This is because the 28 percent share in 2008 is based on a total industrial output number that excludes the output of nonstate firms with sales under RMB5 million per year. In 2004, the only year for which I have been able to find the data, these smaller firms accounted for 16 percent of industrial output value (see note immediately below). If these smaller, nonstate firms accounted for the same share of industrial output in 2008 as in 2004, then the two types of state-owned companies combined accounted for only 24 percent of industrial output in 2008.

82. These data are for the universe of industrial firms that includes all state-owned firms and firms with other forms of ownership if their sales exceed RMB5 million per year. Chinese authorities refer to this universe as "all state-owned enterprises and non-state-owned enterprises above designated size." These firms account for the overwhelming majority of industrial output. For example, in 2004 state-owned enterprises and non-state-owned industrial enterprises above a designated size accounted for 84 percent of the gross value of industrial output (National Bureau of Statistics of China 2005, 488; 2006b, 505).

Figure 1.2 Growth of industrial value-added by ownership, 2009–10



Notes: "State" includes shareholding firms in which the state is the controlling shareholder. "Foreign" includes firms with funding from Taiwan, Hong Kong, Macao, and other countries.

Sources: National Bureau of Statistics of China (2010c, 2011c).

But these firms are disproportionately export oriented, producing half of China's total exports. Given the sharp decline in China's exports in 2009, it is natural that the growth of these firms slowed substantially relative to firms with other types of ownership. When China's exports soared by more than 30 percent in 2010 and the value of exports exceeded the previous record of 2008, the growth of foreign-funded firms rebounded sharply, to 14.5 percent, and outpaced the rate of expansion of state firms. Private firms in both years were at the top of the performance league by ownership, expanding by 18.7 and 20 percent in 2009 and 2010, respectively. Firms with various hybrid types of ownership—collective, cooperative shareholding, and shareholding—also outperformed state-owned firms, though by smaller margins than private firms (National Bureau of Statistics of China 2010e, 133; 2011c).

State-owned firms continued to underperform and private firms to overperform in another domain—exports. As recently as 1995 state-owned companies accounted for fully two-thirds of China's exports. By 2008 their share had fallen to 18 percent, and that share continued to fall during the crisis, reaching 14 percent in 2010. Initially, foreign-funded firms took up most of the slack left by the declining export prowess of state-owned firms. But their share peaked in 2005 and from 2005 through the end of 2010 the share of exports produced by private firms doubled, to 30 percent. Private firms for the first time ever in 2009–10 became the most important source of China's growth of exports.⁸³

Finally, we can examine the growth of assets of state-owned firms compared with private firms. In the two years prior to the crisis, private firms' assets grew by an average of 37 percent, twice the 18 percent average rate for state-owned firms. During the stimulus program the pace of growth of assets of private firms relative to state-owned firms fell to about 1.5:1.⁸⁴ So only in this one domain of the four examined is there any evidence that state-owned firms benefited during the stimulus program compared with private firms. Two caveats should be noted. First, this outcome almost certainly reflected the substantial ramping up of infrastructure investment during the stimulus program, almost all of which is state-owned, rather than an erosion of the ability of private manufacturing and services firms to expand their investment. Second, the stimulus program did not absolutely advantage the ability of state-owned firms to expand their assets; it is more accurate to say that the stimulus program only diminished somewhat the ability of private firms to expand their assets more rapidly than state-owned firms.

China's economic stimulus program was far from perfect. But the political system did generate a rapid and reasonably coherent response that was successful in bringing China through the biggest global economic crisis in

83. ISI Emerging Markets, CEIC Database.

84. Assets of private firms grew by an average of 19.8 percent in 2009–10, while state-owned firms expanded their assets by 12.9 percent. ISI Emerging Markets, CEIC Database.

several decades with relatively strong growth momentum. The banks largely financed the program with a huge increase in lending. This entailed risk of increased inflation, which materialized beginning near the end of the second year of the stimulus. But the People's Bank of China continued the gradual tightening measures begun in mid-2009, and by mid-2011 the rate of growth of broad money was down to a pace consistent with strong growth and moderate inflation. While the authorities were successful in controlling the buildup of financial leverage associated with the acceleration of the housing boom during 2009–10, they did not avoid excessive investment in housing; this may constitute a significant macroeconomic risk to China's future growth, an issue that is examined in some detail in chapter 3. The stimulus did not lead to significant excess capacity in manufacturing as there is no evidence of any price deflation for industrial goods in 2010–11. Private consumption expenditure held up unexpectedly well in 2009 but resumed its underperformance in 2010, giving some support to critics on that issue. While there are legitimate concerns about the magnitude of local investment company debt, most of this debt financed infrastructure investment that is likely to have positive long-run economic returns. Successful financing of this debt and future infrastructure projects requires further reforms, notably the development of a long-term bond market and perhaps some explicit mechanism to subsidize the interest cost on debt related to infrastructure development.

Finally, the stimulus program did not lead to a wholesale advance of the state at the expense of either private firms or individual businesses. Even at the height of the crisis, state-owned firms did not increase their share of bank lending, indeed their share shrank, and the share of industrial value added and exports produced by state-owned firms continued to shrink at roughly the same pace as they did prior to the global financial crisis. Purely private firms, on the other hand, became the most important contributor to the growth of both manufacturing output and exports. Similarly, there was a large increase in the share of bank lending going to households, both to support the expansion of their individual businesses and to finance mortgages on residential property. While some describe China as the poster boy for a model of state capitalism that is successfully challenging the Western free-market model, the stimulus program has not reversed the long-term trend of a declining role for state-owned companies, whether measured by their share of total bank lending, their share of industrial output, or their share of exports.⁸⁵ Needless to say state-owned companies in telecommunications, finance, petroleum, and a few other sectors maintained their monopoly or quasi-monopoly positions during the global financial and economic crisis. But the domination of state-owned firms in these sectors has been a constant feature of China's economic landscape for more than three decades. Focusing excessively on the continuing important

85. Geoff Dyer, "China's 'Market-Leninism' Has Yet to Face Biggest Test," special report, *Financial Times*, September 14, 2010.

role of these firms can lead one to overlook significant developments in other sectors of the Chinese economy.

It is too early to judge whether or not the stepped-up level of state industrial policy that emerged in 2009–10 will have a decisive impact on the evolution of China’s economic growth. As Naughton (2011, 318–19) notes, the origins of China’s “indigenous innovation” policy clearly date to the promulgation of the Medium and Long-Term Developmental Program for Science and Technology Development (2006–10) in 2005, long before the global financial and economic crisis. It remains to be seen how this initiative, including some of the supplementary policies rolled out during 2009–10, will ultimately affect the balance between state and market.

