
State versus Market Capitalism

On the eve of China's economic reform in the late 1970s, private economic activity and the role of the market were severely limited and the role of the state and state-owned enterprises was pervasive. The State Planning Commission set output targets for major products, which in the case of industrial goods were produced almost entirely by state-owned firms, and arranged for the supplies of raw materials and intermediate goods needed to meet these production goals. Almost all prices—whether for agricultural products, investment goods, or retail commodities—were set by the State Price Commission. The Ministry of Finance provided funding through the government budget for investment in most of these state firms. Overall, more than a third of total output was allocated through the unified state budget, an extraordinarily high share for a low-income economy with minimal transfer payments to its citizens. Typical of planned economies, China had a mono-banking system, in which a single, wholly state-owned financial institution controlled almost four-fifths of all deposits, was responsible for more than 90 percent of all loans, and simultaneously served as the central bank (Lardy 1998, 61).

China's nonagricultural economy was heavily dominated by state-owned firms, a legacy of the system of central economic planning introduced in the mid-1950s. In industry, state-owned enterprises in 1978 accounted for only about one-quarter of all firms, but the balance of firms were collectively owned, which almost invariably meant a considerable degree of ownership and control by provincial or local governments. Moreover, state-owned firms accounted for four-fifths of industrial output and seven-tenths of industrial employment. State firms controlled the lion's share of industrial fixed assets as well. As will be demonstrated in chapter 3, state-owned units also dominated most components of the tertiary sector, although in some cases collective, quasi-governmental units also had a significant presence.

Agriculture was organized in collective units called communes, which were required to deliver a large share of their output to state-owned procurement agencies at prices set by the State Price Commission. In rural China there were tiny family-controlled private plots, but severe restrictions on marketing the agricultural output from these plots meant production was almost entirely for self-consumption rather than the market.

This chapter traces a momentous shift in the roles of the state and markets in allocating resources in the Chinese economy. It examines markets for products and factors of production. Product markets have been dramatically transformed, with price formation almost entirely determined by supply and demand rather than the government. The picture for factors of production is more complex. Labor markets have been largely transformed but retain some nonmarket elements from the prereform era. The market for capital is the most state controlled, and markets for other factors of production such as electricity, water, refined petroleum products, and natural gas—a group of commodities the Chinese refer to as “products of a resource character”—remain subject to various administrative controls.

Product Markets

In the late 1970s, bureaucrats in the State Price Commission fixed the prices of all important goods. Created when central planning was first introduced to China during the First Five-Year Plan (1953–57), the commission set the prices at which rural collective units were compelled to deliver fixed amounts of various types of agricultural output to state procurement agencies. It also set prices for all important consumer goods, sold almost entirely through state-owned retail establishments, and it set the prices of all important producer goods, including machinery and equipment, coal, and other ores and minerals. These producer goods were allocated according to plans drawn up by the State Planning Commission.

Equally important, these administered prices were set with scant regard for actual market conditions. The State Price Commission set prices not to equilibrate supply and demand but primarily to enhance the government’s control of resources in the economy. For example, the bureaucrats set low prices for forced deliveries of agricultural products to the state for two reasons. First, the government pursued a low-wage policy in urban areas to boost profitability of state-owned firms, particularly manufacturing companies, which were located predominantly in urban areas. These firms were required to surrender virtually all their profits to the Ministry of Finance, thus the low-wage policy boosted fiscal revenues as a share of GDP. Low wages were made possible in large part by low prices for grain and other staple foods in urban areas. Second, the government wanted to ensure especially high profits in industries that were heavily dependent on inputs from the agricultural sector—food processing, textiles, apparel, and cigarettes. Again, supernormal profits in these industries fed directly into higher fiscal revenues for the government and thus more control over economic resources.

Similarly, the government set low prices for coal, energy, and many other industrial raw materials. Again the goal was greater government control of resources. If the price of coal had been determined by market supply and demand, state industries such as steel and electric power would have paid more for this critical input, thus reducing their profitability. While on a net basis market pricing of coal, energy, and raw materials might have been a wash for the overall profitability of state firms, the government's low-price strategy for industrial raw materials concentrated profits in a smaller number of state firms producing final goods rather spreading profits over a larger number of firms, including those producing raw materials and intermediate inputs. The government believed this concentration facilitated revenue collection and thus enhanced state control, enabling it to pursue a big-push industrialization strategy.

Most of these features of central planning were still in place in 1978, though the chaos of the Cultural Revolution (1966–76) had reduced the role of planning compared with the 1950s. As reform got under way in the late 1970s, price-setting bureaucrats had little idea of what market equilibrium prices would be for most products because those markets did not exist. Since China's leaders had pursued an extremely autarkic trade policy for more than a decade, they also had little or no knowledge of world market prices, which might have provided some guidance for setting domestic prices. The most important consumer goods—grains, edible vegetable oil, cotton cloth, and even bicycles—were rationed in urban areas, just as they had been in the 1950s. State units, whether factories or government offices, distributed coupons to their employees, and these coupons as well as the appropriate amount of cash had to be presented at state-run outlets to acquire such goods. Machinery and equipment and other producer goods were subject to what was referred to as “unified distribution” (统一分配), a key part of the system of material supply planning introduced in the First Five-Year Plan (1953–57). In practice, this meant that the State Planning Commission directly allocated hundreds of important raw materials and investment goods, such as coal, timber, cement, steel products, and metal cutting lathes. Based on estimates of various technical coefficients, the Planning Commission allocated to each major state enterprise the inputs necessary to meet the output targets specified in each enterprise plan. The plan also specified the allocation of the output of each major enterprise (Lardy 1978, 15).

As economic reform began, rigid state price controls gradually eroded. Rural free markets, which the state had suppressed during the Cultural Revolution, were gradually reopened. Once delivery quotas to the state were met in local areas, the government allowed farmers in these localities to sell their surplus on these rural free markets. Similarly, in the early 1980s the government began to liberalize retail prices for a growing range of consumer goods. But the biggest breakthrough came in 1983, when the state established a two-tier structure for the pricing and distribution of coal, steel, machinery and equipment, and other producer goods (Wu and Zhao 1987). Under this scheme, enterprises were still required to deliver planned levels of output

to state agencies at state-fixed prices but could sell their above-plan output in parallel markets in which prices were freely determined by supply and demand.¹

Under this scheme the government kept the overall physical quantity of each product subject to the material allocation system more or less constant. Given steady economic growth, the share of output allocated at government-fixed prices gradually declined as firms channeled incremental output entirely onto the market, typically at much higher prices (Naughton 2007, 92–93). The marketized share of production grew dramatically, and by 1993 the material allocation plan was formally abolished (Naughton 2007, 101).

The resulting transformation of the domestic price environment is captured in table 1.1, which shows, for three broad commodity categories, the share of transactions measured by value at market, state-guided, and state-fixed prices for various years from the beginning of reform in 1978 through 2003. State price setting eroded most rapidly for agricultural and consumer goods. By the mid-1980s over half of all farm gate sales were at market-determined prices, and retail commodities were not far behind. The state initially retained substantially more control of producer goods prices; market-determined prices did not dominate the sales of these goods until the 1990s. By 2002–03, market-determined prices prevailed in about 95 percent of all transactions involving both retail commodities and agricultural products and 87 percent of all transactions for producer goods.

By 2001, the number of products subject to government price fixing was quite small—13 commodities, 9 services, and 5 types of public utilities. For consumer goods, the main items still subject to state price fixing are salt and pharmaceuticals. The government also controls the prices of fuels such as gasoline, diesel fuel, aviation fuel, and natural gas; prices of electric power, water, and other utilities; railway freight rates; and prices of postal and telecommunication services (Lardy 2002, 26–27). Of course, government control or regulation of the prices of some of these commodities and services is commonplace in other market economies.

Even where government-administered prices have been retained, some are now fixed in a very different way from the past. In the 1980s, for example, the government maintained rigid and highly distorted prices for both crude oil and refined petroleum products. The State Price Commission fixed the domestic price of crude oil at about one-sixth the international level. But in the late 1980s the government began to ratchet up the domestic crude oil price, and a decade later, when convergence to the international price was largely complete, it adopted a formal policy of changing the fixed price of

1. The declining importance of state-fixed prices was also reflected in bureaucratic shifts. In August 1982 the State Price Commission, an independent agency reporting directly to the State Council, was downgraded to become the State Price Bureau within the State Planning Commission. The Planning Commission itself later became the State Development and Planning Commission and later the National Development and Reform Commission.

Table 1.1 Price formation in the reform era by commodity type, 1978–2003 (percent)

Year	Retail commodities			Agricultural commodities			Producer goods		
	Market	State-guided	State-fixed	Market	State-guided	State-fixed	Market	State-guided	State-fixed
1978	0	3.0	97.0	6.0	2.0	92.6	0	0	100.0
1985	34.0	19.0	47.0	40.0	23.0	37.0	13.0	23.0	64.0
1987	38.0	28.0	34.0	54.0	17.0	29.0	n.a.	n.a.	n.a.
1991	69.0	10.0	21.0	56.0	20.0	22.0	46.0	18.0	36.0
1992	n.a.	n.a.	5.6	n.a.	n.a.	10.3	n.a.	n.a.	19.8
1995	89.0	2.0	9.0	79.0	4.0	17.0	78.0	6.0	16.0
1999	95.0	1.0	4.0	83.0	7.0	9.0	86.0	4.0	10.0
2000	95.8	1.0	3.2	92.5	2.8	4.7	87.4	4.2	8.4
2001	96.0	1.3	2.7	93.9	3.4	2.7	87.6	2.9	9.5
2002	96.1	1.3	2.6	94.5	2.9	2.6	87.3	3.0	9.7
2003	95.6	1.4	3.0	96.5	1.6	1.9	87.4	2.7	9.9

n.a. = not available

Note: The numbers represent the percentage of transactions, measured by value, at the three types of prices.

Sources: Lardy (2002, 25); Beijing Normal University (2003); Li and Wang (2006, 104–106); Dougherty, Herd, and He (2007, 310).

crude oil on a monthly basis to keep it roughly in line with the international price. Shortly thereafter, in mid-2000, the government began a policy of ad hoc adjustments of the prices of refined petroleum products to keep them from diverging too much from international prices and in January 2009 adopted a formal policy of adjusting these prices whenever an index of global crude oil prices changes by more than 4 percent in any 22-day working period. But the government has typically not mechanically raised refined product prices by the full indicated amount when the international price of crude is above \$80 per barrel (Lardy 2012, 107–108).² The link between domestic and international pricing was further tightened in 2013, when the National Development and Reform Commission (the successor to the State Planning Commission) began to change domestic prices of refined products every 10 working days and also eliminated the 4 percent threshold requirement previously necessary to trigger a price change.³ Despite the government’s continued control of prices of crude oil and refined petroleum products, it is fair to say that the highly distorted prices of the past have given way to a more market-oriented price regime.

Labor and Capital Markets

Prior to the late 1970s there was no market for labor in China. In urban areas the Ministry of Education or government labor bureaus at the local level assigned jobs to almost all potential workers when they left school at whatever level. In rural areas the population was organized into collective production units, either agricultural communes or collective enterprise units known as township and village enterprises. Labor mobility and labor turnover were nil. Spatial mobility was highly constrained; rural residents rarely were able to leave their home villages to seek alternative employment. In urban areas job assignment was lifetime. In 1978 in urban China, the combined number of workers who voluntarily left their jobs or were fired was less than 0.05 percent of the labor force. “A worker was 10 times more likely to retire and four times more likely to die on the job than to quit or be fired” (Naughton 2007, 181).

In urban employment there was also no wage flexibility and thus no linkage of wages to productivity. Beginning in the mid-1950s the government determined wage levels for nonagricultural jobs based on a complex classification system that considered occupation, region, industry, ownership (state versus collective), administrative level (central versus local), and size and technological level of the workplace. Factory workers were divided into 8 wage grades and administrative and managerial workers into 24 levels (Cai, Park,

2. The domestic price of crude oil is determined by a global index reflecting crude oil prices for North Sea Brent, Middle East benchmark Dubai, and Indonesian Cinta crude oils.

3. National Development and Reform Commission, “Notice on Further Perfecting the Price Formation Mechanism for Refined Petroleum Products,” March 26, 2013. Available at www.ndrc.gov.cn (accessed on August 6, 2013).

and Zhao 2008, 169). Once a worker was assigned a wage grade or level based on these criteria, wage increases were strictly a function of seniority. Based on the number of employees of various types, the government specified the annual wage bill in the plan for each major state enterprise.

The emergence after 1978 of labor markets characterized by labor mobility and turnover, as well as a linkage between productivity and wages was very gradual. In rural areas by the early 1980s, farmers were allowed to start individual nonagricultural businesses. But initially government regulation still prevented farmers from leaving their home villages, giving rise to the phrase “leaving the land without leaving the village” (离土不离乡) (Cai, Park, and Zhao 2008, 170). In 1983 the government for the first time permitted rural residents to engage in long-distance transport and marketing of agricultural products, slightly expanding the opportunities for nonagricultural employment. A year later farmers who ran their own businesses or worked in enterprises in small towns were allowed to register as nonagricultural households in those towns. Also by the middle of the decade, the government allowed farmers to seek employment in township and village enterprises (TVEs) in nearby towns, facilitating the continued, rapid expansion of employment in TVEs.

As a result of these and other reforms, the number of migrant workers expanded, and a larger and larger share migrated over longer distances. The earliest official data show that in 1982 only 7 million residents, less than 1 percent of China’s population, had migrated and were employed outside their native county.⁴ This number rose to 22 million by 1990, 79 million by 2000, and 163 million in 2012. Including 99 million who migrated within their native county, the total number of migrant workers for 2012 was 263 million, a fifth of China’s entire population. Of these, 99 million were employed in urban areas within their native county, 87 million were employed outside their native county but within their native provincial-level administrative unit, and 76 million had found employment outside their native province.⁵ These migrants are predominantly, but not entirely, of rural origin. In 2000, for example, 15 percent of migrants who were employed outside their native province were of urban origin. These long-distance, city-origin migrants tend to be relatively highly educated (Liang and Ma 2004, 484). These data demonstrate that spatial mobility, both rural to urban and intraurban, increased dramatically during the reform era, thus coming a long way toward fulfilling one of the criteria for concluding that China has developed a vibrant labor market.

4. In the 1980s China had about 2,000 counties.

5. The underlying data in this paragraph are based on the Chinese census, which defines migrants as those who at the time of a census have been living for at least six months in a place other than where their household is registered. Data for 1982, 1990, and 2000 are from Liang and Ma (2004). Data for 2008 and 2012 are from National Bureau of Statistics of China, *Report on the 2012 National Migrant Worker Investigation Survey*, May 27, 2013. Available at www.stats.gov.cn (accessed on May 28, 2013).

In urban areas the state took steps to gradually phase out the system of permanent employment in state-owned enterprises beginning in the mid-1980s when it dropped the system of lifetime job assignment for factory workers and introduced five-year labor contracts for new employees. This gave enterprises the flexibility in deciding whom to hire. But the state, fearing urban unemployment, still imposed strict limits on firing workers during their contractual period. Contract workers accounted for only 4 percent of total employment when the system was first introduced, but by 1995 this had grown to 39 percent, presumably meaning that almost all new enterprise hires in this period were contract workers (Cai, Park, and Zhao 2008, 172).

But the real end of the permanent employment system in state-owned enterprises came in 1995 when, under the slogan “seizing the large and letting go of the small” (抓大放小), the government began a massive downsizing of state-owned companies. Thirty million state workers, almost two-fifths of the total, lost their jobs as small and medium-sized state-owned firms were closed or privatized. The share of job losses in the collective sector was even larger, resulting in a dramatic shrinkage in public sector employment (Naughton 2007, 184).

The last domain in which the state ended the system of labor assignment was for college graduates. As early as the 1980s, some college graduates began to seek employment through job fairs and direct negotiation with potential employers. By 1992 only about half of college graduates were assigned to jobs through the plan of the Ministry of Education, and by 2001 this share had fallen to less than 5 percent (Beijing Normal University 2003). In March 2002 the State Council endorsed a Ministry of Education proposal to formally end the system of job assignment for college graduates, replacing it with a market-driven recruitment process (Qu and Jiang 2006, 48).

The 1980s also marked the beginning of wage flexibility in urban production units. This began in the state sector when firms were allowed to retain part of their profits rather than remitting them in their entirety to the Ministry of Finance. One of the approved uses of these funds was to pay bonuses to workers. However, the government still regulated bonus amounts, and the traditional government pay scales based on occupation, region, and other factors still largely determined worker compensation. By mid-1992 the government gave state-owned enterprises more autonomy to set their internal wage structures, and in 1994–95 the Ministry of Labor issued new regulations allowing firms even more flexibility in setting wages, including the authority to allow wages to grow more rapidly than profitability as long as the increase in wages did not exceed improvements in labor productivity (Cai, Park, and Zhao 2008, 169, 171).

In addition, the state had no control of the earnings of self-employed workers and made little or no attempt to influence the wages of workers in registered private firms. These categories of employment, discussed in detail in chapter 3, grew slowly in the 1980s. By 1990, in urban and rural China combined there were only 72.75 million self-employed and private sector workers,

accounting for 8 percent of the total labor force, including farmers (National Bureau of Statistics of China 2004, 122–23).⁶ But, stimulated by reforms discussed in chapter 3, the number of private workers grew rapidly during the past two decades. By 2010, private sector employment, where wages were market determined, reached 281.5 million and accounted for almost two-fifths of total employment.⁷ In addition, there were an estimated 136 million workers in urban limited-liability companies, shareholding limited companies, and foreign-funded enterprises where the majority or dominant owner was private and where wages also were market determined.⁸ Thus in total, by 2010 about 415 million nonagricultural workers, or 55 percent of China’s total labor force, were employed in units where the market determined wages.

While largely transformed, China’s labor market falls short of being fully marketized because of continuing controls on place of residence through the household registration system. Introduced in 1955, this system impedes the movement of labor from rural to urban areas by restricting the ability of registered rural residents to attain the right to live permanently in urban areas. In 2012 China’s urban population was 712 million (52.6 percent of the country’s total population). Of these, only 480 million, 35.3 percent of China’s population, had an urban residence (户口) permit.⁹ Holding an urban residence permit not only conveys the right of permanent abode in urban areas but also the right to the full range of social benefits. Thus migrant workers living in cities generally are not eligible to participate in China’s five social insurance schemes (pensions, health care, unemployment, workers’ compensation, and maternity leave), and if they migrate with their families, their children usually cannot attend urban, publicly funded primary and secondary schools.¹⁰

In summary, China has transitioned from a system of job assignment with bureaucratically determined pay scales and lifetime employment to a far more

6. The total is the sum of 14.91 million and 6.14 million self-employed in rural and urban areas, respectively; 1.13 million and 0.57 million employed in registered private enterprises in rural and urban areas, respectively; and an estimated 50 million employed in township and village enterprises that were registered as individual businesses or private enterprises (Naughton 2007, 286).

7. The total is the sum of 25.41 million and 44.67 million self-employed in rural and urban areas, respectively; 33.47 million and 60.7 million employed in registered private enterprises in rural and urban areas, respectively; and 117.2 million in township and village enterprises that were registered as individual businesses or private enterprises (Zhang 2011, 137).

8. An estimate of this number for 2011, 131.3 million, is presented in chapter 3 and summarized in table 3.8. Using the same methodology for 2010 yields an estimate of 136 million.

9. “Reform to bridge the gap,” *China Daily*, December 19, 2013. Available at www.chinadaily.com (accessed on December 15, 2013).

10. The share of migrant workers employed outside their native county who were covered by social insurance schemes in 2012 was as follows: pension, 14.3 percent; health, 16.9 percent, unemployment, 8.4 percent; workers’ compensation, 24 percent; and maternity, 6.1 percent. National Bureau of Statistics of China, *Report on the 2012 National Migrant Worker Investigation Survey*, May 27, 2013. Available at www.stats.gov.cn (accessed on May 28, 2013).

market-driven system. Employment is now via voluntary contracts between workers and employers, wages are by and large market determined, and formal lifetime employment has disappeared. There is evidence of massive labor mobility both within and across counties as workers search for better employment opportunities than are available in their native place. However, labor mobility would be further enhanced by relaxing and eventually abolishing the household registration system.

Has the transformation toward market determination in the allocation of labor been matched by changes in China's allocation of capital? Critics charge that China's banks systematically misallocate investment resources, mainly by concentrating their lending on state-owned firms, and that stock and bond markets remain too small and flawed to improve the overall allocation of capital. This view became particularly salient during the global financial crisis, when it was alleged that most of China's massive increase in bank lending was allocated to state-owned enterprises (Fan and Hope 2013, 4).¹¹

As will be laid out in detail in chapter 3, state-owned firms' share of output has steadily eroded since 1978. By 2011 state firms produced only 26 percent of industrial output, with virtually all the rest produced by private firms, including privately owned foreign firms. The transformation is even more dramatic in manufacturing, where state firms' share of output is only 20 percent (National Bureau of Statistics of China 2012b, 54, 503, 513).¹²

But in finance, the state remains totally dominant. The share of bank assets controlled by what the Chinese government categorizes as the five large-scale commercial banks (all listed and majority state owned) has gradually receded and is now just under half. But most of the balance of Chinese bank assets are held in smaller institutions in which the state is the majority or dominant owner. Among the domestic banks, only rural banks, city commercial banks, and perhaps Minsheng Bank, which together accounted for about 15 percent of the assets of the banking system in 2012, can realistically be considered private (Hamid and Tenev 2008, 455; China Banking Regulatory Commission 2013, 164). And the share of assets in the more than 100 foreign banks operating in China has been stuck at around 2 percent for more than a decade, the lowest share of foreign bank assets among a group of 21 emerging markets surveyed by the Bank for International Settlements (BIS).¹³ China's banking

11. "In 2009 SOEs were the recipients of some 85 percent of bank loans associated with the government's 4 trillion yuan emergency stimulus package." Andrew Moody and Hu Haiyan, "Debate heats up on role of govt giants," *China Daily*, July 8, 2013, p. 13.

12. Industry consists of manufacturing, mining, and utilities. In 2011 the share of output of utilities (supply and production of water, electric power, and gas) and mining produced by state-owned firms was 90 percent and 52 percent, respectively, and utilities and mining accounted for 6 and 13 percent of the value of industrial output.

13. China, at 2 percent, was tied with Saudi Arabia and Israel as the country with the lowest foreign bank share of financial assets. The average of the foreign bank share for the 21 countries was 32 percent (Mihaljek 2010).

system is more state-centric than even India's (a country not covered by the BIS survey), where foreign banks have a 6 percent share of bank assets and domestic private banks control about a fifth of all bank assets.¹⁴ The role of foreign firms in China in the insurance and securities industries is even more limited than in banking.¹⁵

State domination of China's banking system is reflected not only in the high share of state ownership of banks but also in the almost constant flow of senior bank executives to and from the People's Bank of China (China's central bank) and the China Banking Regulatory Commission. This flow may not only provide an additional channel for the state to influence banking decisions, it also raises questions about the ability of the central bank and the bank regulator to effectively supervise and regulate China's largest state-owned banks.¹⁶ In contrast, in the United States retiring chairmen, vice chairmen, and governors of the Federal Reserve Board, the regulator of the most important US banks, sometimes assume positions in the financial sector, but it appears that in the post-World War II era none has ever assumed the leadership of a top US commercial bank.¹⁷

However, this study argues that focusing solely or largely on the role of China's banks in the allocation of credit fails to recognize the fundamental transformation that has occurred in the way capital is allocated in China. As already noted, at the outset of the reform process in 1978, almost all investment—95 percent—was financed through the state budget (National Bureau of Statistics of China 1982, 295, 395–96). Thus for all practical purposes there was no market for capital; investment funding was allocated through the planning process. But the share of investment financed through the budget

14. James Crabtree, Lionel Barber, and Victor Mallet, "Indian central bank chief pledges era of competition," *Financial Times*, November 19, 2013, p. 1.

15. With one exception, foreign participation in the insurance industry is restricted to joint ventures in which the foreign share is limited to 50 percent. These joint ventures account for only 2 percent of premium income, so roughly speaking the foreign share in the industry is 1 percent. Foreign participation in the securities industry is also restricted to joint ventures in which the cap was originally 33 percent but was raised to 49 percent in 2012. These joint ventures accounted for 2 percent of assets in the industry in 2012. Since few foreign securities firms were immediately able to increase their ownership shares in their joint ventures, roughly speaking the foreign share in the industry in 2012 was 0.7 percent.

16. For example, Shang Fulin was vice governor of the central bank from 1996 to 2000, then moved directly to become chairman of the Agricultural Bank of China. He subsequently served as chairman of the China Securities Regulatory Commission and now serves as chairman and party secretary of the China Banking Regulatory Commission. Guo Shuqing served as vice governor of the central bank from 1998 to 2005 and then moved directly to become chairman of the China Construction Bank. Zhou Xiaochuan, the current central bank governor, in 1998 moved directly from his previous post as vice governor of the People's Bank of China to become head of the China Construction Bank.

17. I am indebted to my colleagues Edwin Truman and David Stockton, who together served more than 50 years at the Federal Reserve Board, for this assessment.

declined precipitously in the first half of the 1980s as the government instituted reform measures, such as allowing firms to retain an increasing share of their profits rather than remitting them in their entirety to the state budget. As early as 1985 the share of investment financed through the state budget had fallen to less than one-fifth, by 1988 it was less than one-tenth, and by 1996 under 3 percent (National Bureau of Statistics of China 1997, 151).

The reduction in the role of budgetary funds as a source of capital was offset in part by an expansion in the role of bank credit, but more important was the expansion of retained earnings of enterprises. In the first half of the 1980s, bank credit financed between 12 and 14 percent of investment. From the second half of the 1980s through the mid-1990s, bank funding accounted for a fairly constant one-fifth of investment finance (National Bureau of Statistics of China 1997, 151). But the share financed from enterprise retained earnings jumped to 55 percent as early as 1984 and averaged over 50 percent from 1985 through 1990 (National Bureau of Statistics of China 1986, 365; 1991, 143).

The same trend can be examined from another angle—the sharp reduction in the government revenue share of GDP. The unified state budget, which includes central, provincial, and local fiscal revenues, dropped from 31 percent of GDP in 1978 to only 11 percent of GDP by 1996.¹⁸ This is mostly explained by a drop in profit remissions by firms to the Ministry of Finance, from RMB57.2 billion in 1978, when these funds accounted for just over half of all government revenue, to only RMB4.9 billion in 1993, which was only 1 percent of government revenue. Profit remission was eliminated after 1993. To offset the decline in profits remitted to the Ministry of Finance, the government in 1985 introduced a corporate income tax levied on state, collective, and private enterprises. But the offset was very partial; in 1996 the corporate income tax accounted for only 13 percent of government revenues (National Bureau of Statistics of China 2001b, 246–48).

The key point to emerge from this analysis is that once reform began China transitioned quickly from a system in which almost all investment funds were allocated by the government bureaucrats who compiled the state investment plan to one in which most investment was financed from the retained earnings of enterprises, with lesser amounts financed by bank credit. Taken in conjunction with the reform of prices analyzed earlier, this means that starting in the mid-1980s retained earnings financed most investment in an environment in which prices increasingly reflected scarcity values as established in markets. The most productive firms had larger retained earnings and therefore were able to grow more quickly by using these earnings to finance expansion. The result was an improvement in the allocation of capital and much faster economic growth than had been achieved when bureaucrats determined the allocation of investment funds.

18. These figures are exclusive of what are known as extrabudgetary revenues, which grew in importance between 1978 and 1996.

Despite this transformation, the market for capital and some other factors of production remains distorted. Most importantly, the government still controls the interest rates that banks can pay on deposits and the price of foreign exchange. This control has led to a significant degree of financial repression, particularly in the Hu Jintao–Wen Jiabao era (Lardy 2012). In addition, as noted earlier, the government continues to influence the prices of key energy products, such as oil, gas, and electricity, as well as the price of land for industrial uses. Since liberalization of product markets and to a lesser extent the labor market has outpaced the liberalization of the markets for capital, Yiping Huang has characterized China’s market reforms as asymmetric. He estimates that the distortions resulting from the failure of the government to fully liberalize the markets for capital, land, and energy, as well as environmental cost distortions and the ability of employers to avoid making social insurance contributions for migrant workers, amounted to as much as 7 percent of GDP in 2008. The underpricing of capital, as a result of government policies leading to financial repression, was the largest of the five distortions (Huang 2010, 77–79). These distortions should be thought of as a subsidy to producers, the costs of which are borne by owners of the factors of production, frequently households. This is particularly the case for capital, which largely originates from household savings.

But what if the markets determining prices are not competitive? Then prices likely would not reflect scarcity values, and the increased financing of investment from retained earnings rather than government budget allocations might not improve the allocation of capital. It is therefore important to ask whether China’s markets are in fact competitive.

Competition

The key characteristic of a market economy is competition. Even if product prices are freely determined by supply and demand, there is a flexible labor market, investment is financed mostly with retained earnings, and the remaining distortions due to asymmetric price liberalization are eliminated, the efficiency gains of a market economy will not be fully realized if there is insufficient competition. The most common reason for insufficient competition is the presence of a monopolistic or oligopolistic market structure—when a single firm or a small number of firms dominate a single product market and thus are in a position to raise prices above the marginal cost of production, in the process earning supranormal profits. In that case a system in which investment is financed primarily from retained earnings will not necessarily lead to an allocation of capital that is more efficient than that achieved under China’s pre-1978 system of economic planning.

One of the most common critiques of state capitalism in China is that in many sectors state-owned enterprises have substantial market power, allowing them to dictate prices and earn above-normal profits (US-China Economic and Security Review Commission 2011, 42). Competition, according to this

critique, is inhibited either outright by state regulations prohibiting the entry of private firms into these sectors or by a lack of access to bank credit and other sources of finance by potential private competitors, which effectively protects incumbent state-owned firms, particularly in more capital-intensive industries. Even though, as will be shown in chapters 2 and 3, the share of output produced by state firms in most sectors has shrunk dramatically, critics charge that “though fewer in number, today’s SOEs are more powerful than ever.”¹⁹ Those who argue that China is pursuing a model of state capitalism cite the growing number of Chinese state firms that are included in lists of the largest global companies in support of this “fewer but more powerful” hypothesis (US-China Economic and Security Review Commission 2012, 78–79). Indeed, only one Chinese company was included in the Fortune Global 500 in 1990, but 70 Chinese companies made the list by 2012. All but four of these were state companies, and 42 of them were firms under the administration of the State-owned Assets Supervision and Administration Commission of the State Council.²⁰

Two types of evidence undermine the argument that state firms generally have substantial market power, are more powerful than ever, and thus can set prices in order to earn supranormal profits. First, even in sectors closely linked to heavy industry, where one might expect a handful of very large state firms to dominate, the opposite is true. For example, in 2011 there were 880 state-controlled firms in coal mining, 109 in ferrous metal ore mining and processing, 264 in nonferrous metal ores mining and processing, 312 in steel production, and so forth (National Bureau of Statistics of China 2012b, 512).²¹ Given the large number of state players in most sectors, it is difficult to imagine that these firms can exercise substantial market power. The exceptions, such as telecommunications, are analyzed later in this chapter.

Even if it were possible for such a large number of state firms to collude to restrict production and raise prices or there were a central government agency or party unit performing this function, in each of these industries there is an even larger number of private firms. In 2011 in the coal mining industry there were 4,420 private firms, in ferrous metal ores 2,536 private firms, in nonferrous metal ores 1,058 private firms, and in steel 4,246 private firms (National Bureau of Statistics of China 2012b, 522). And as will be shown in chapter 3, these private firms control a substantial share of output in each of these indus-

19. “The state advances,” *Economist*, October 6, 2012, p. 53.

20. Hu Angang, “State enterprises are a bellwether of China’s economic rise,” *Red Flag Manuscripts* 2012, no. 19. Available at www.qstheory.cn/hqwg/2012/201219/201210/t20121011_185632.htm (accessed on September 18, 2013).

21. As explained in chapter 3, there are relatively few traditional state-owned enterprises remaining in China; most have been corporatized. The data on state-controlled firms include traditional state-owned enterprises and corporatized firms in which the state is the dominant or majority shareholder. See chapter 3 for details.

tries, further undermining the possibility of state firms engaging in monopolistic or oligopolistic pricing practices.

The hypothesis that in general state firms cannot exercise market power is confirmed by a more systematic analysis of the degree of concentration in production in various industries. This analytical approach looks at industrial concentration ratios, typically the share of output controlled by the largest four or eight firms in an industry. Market power is more likely to exist when a small number of firms control a large share of output since this could give rise to collusion in price setting among the big players, with minor producers following the pricing of the market leaders. Alternatively, the potential for a small number of firms to exercise market power can be measured by the Herfindahl-Hirschman index, a measure of concentration that gives more weight to larger firms.

It is important to recognize that early in the reform era the Chinese economy was characterized by an extraordinarily low degree of industrial concentration, even when examined at a highly disaggregated level. In 1985 the eight largest firms contributed more than 70 percent of output in only 6.5 percent of 523 industrial subsectors; nearly three-fourths of Chinese subsectors had eight-firm concentration ratios of 40 percent or less. In contrast, in Russia in 1989 the four largest firms accounted for at least 70 percent of output in nearly half of 406 industrial subsectors (Rawski 2011, 332). Thus the industrial sector in China early in the reform era was significantly less concentrated than most observers would expect.

Even though the state has promoted consolidation among its manufacturing firms in several sectors over the past 30 years, in some critical industries concentration has actually declined since the mid-1980s. In steel, for example, the top eight steel firms produced 49 percent of output in 1985 and 44 percent in 2010.²²

The same two points—that reform began with a relatively low degree of industrial concentration and that concentration has fallen since—emerge from an Organization for Economic Cooperation and Development (OECD) working paper (Conway et al. 2010, 13) and a formal OECD (2010) study, which both examined industrial concentration in China in 1988 and 2007. Assessed on the basis of the Herfindahl-Hirschman index, the authors of the working paper judged that in 1988 production was highly concentrated in only 15 percent of almost 600 industrial subsectors, a share that fell to a tiny 6 percent in 2007.²³ In 1988 73 percent of the subsectors were judged not concentrated, a share that rose to 81 percent in 2007. The OECD study also disaggregated these figures based on the extent of state ownership. Interestingly, the number

22. Data for 1985 are from Rawski (2011, 332) and for 2010 are from BOC International, *2012 Steel Industry Outlook*, February 1, 2012. Available at www.bocigroup.com (accessed on June 6, 2013).

23. Subsectors were rated as highly concentrated if the Herfindahl-Hirschman index was greater than 0.25, concentrated if the index was between 0.15 and 0.25, and not concentrated if the index was less than 0.15.

of subsectors where state firms accounted for more than half of output and where concentration also was judged to be highly concentrated fell from 50 in 1988 to only 9, less than 2 percent of the subsectors, in 2007.

It once was argued that China's economy has been characterized by a considerable degree of provincial economic autarky as a result of local protection combined with weak institutional and physical infrastructure to support interprovincial trade (Young 2000). As a result, this argument went, China did not have an integrated national market but rather about 30 semiautonomous provincial-level markets. Thus the lack of regional economic integration raised the possibility that state firms in some sectors in some localities could exercise market power and raise their prices above competitive levels despite a relatively large number of state and private companies on a national basis. In short, a four- or eight-firm concentration ratio calculated at the provincial level would be substantially higher than the national concentration ratio, suggesting that some firms could exercise substantial power in local autarkic markets.

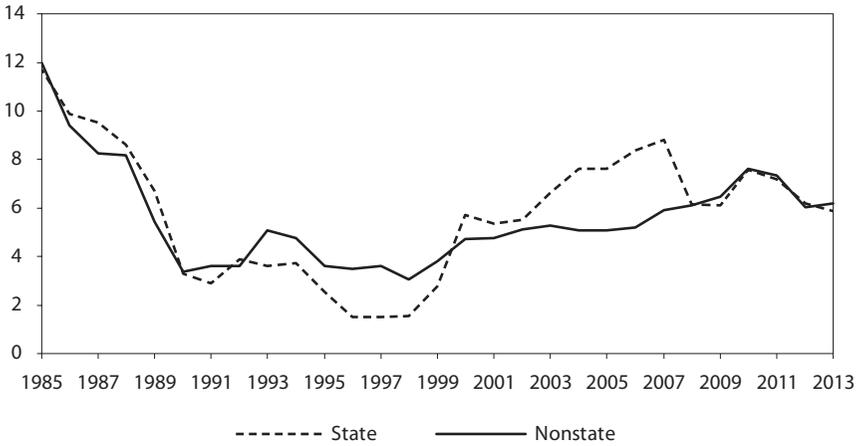
Empirical evidence, however, does not support this view. Barry Naughton's path-breaking work on domestic trade flows led him to conclude that "interprovincial trade is large, both relative to GDP and relative to foreign trade. The picture of Chinese provinces as relatively autarkic units, separated from each other, though perhaps open to foreign trade, is clearly false" (Naughton 2003, 209). An examination of data on interprovincial flows of railway freight haulage and other substantial evidence of cross-regional competition reaches a similar conclusion (Brandt, Rawski, and Sutton 2008, 575–76).

The second type of evidence supporting the view that state firms lack substantial price-setting power is based on an analysis of firm profit margins rather than indicators of the degree of concentration of production in various industries. Firms with market power presumably would charge higher prices than firms in competitive markets and thus earn higher profit margins than firms in more competitive sectors. The simplest way to test whether state firms as a group have substantial market power is thus to look at reported profits divided by sales revenues for firms with different types of ownership. As shown in figure 1.1, in manufacturing the sales margins of state firms since the mid-1980s have been somewhat more volatile than those of nonstate firms, with a larger decline at the time of the Asian financial crisis of 1997–98 that was then offset by a sharp increase in margins through the mid-2000s. But average profit margins for state and nonstate enterprises from 1985 through 2010 were almost the same, 5.8 percent for state firms and 5.6 percent for nonstate firms. And the profit margins of the two types of firms are virtually indistinguishable in the past few years. Thus there is no evidence either that state firms as a group have long had market power that boosts their profitability relative to firms with other types of ownership or that state firms have become more powerful in recent years.

Of course, if one focuses on a subsector where a few state firms dominate, there is strong evidence of market power leading to supranormal profits for at least a few firms. In the petroleum sector, for example, the average profit

Figure 1.1 Profit margins in Chinese industry by ownership, 1985–2013

total profit as a share of sales revenue



Note: Total profits are earnings before corporate income tax. The earnings and revenue for nonstate industrial enterprises are calculated as the difference between the total for all industrial enterprises and the total for all state-controlled industrial enterprises. These data are for above-scale firms and thus only include firms with revenue greater than RMB5 million between 1998 and 2011. After 2011, the threshold was raised to RMB20 million. Prior to 1991, gross output value is used as a substitute for sales revenue.

Sources: National Bureau of Statistics of China (1991, 391; 1992, 420–21; 2013c, 478–79); ISI Emerging Markets, CEIC Database.

margin of the listed China National Offshore Oil Corporation (CNOOC) from 2004 through 2012 was an astounding 44 percent, six times the average of state industrial companies in the same period. PetroChina from 2004 through 2007 also had extraordinarily high profit margins, averaging about 30 percent, but the firm’s profit margin has eroded steadily since and by 2012 stood at only 7.6 percent, above the 5.8 percent average for state-owned industrial firms but not in the same league as CNOOC.²⁴ Sinopec’s performance is substantially weaker, with average profit margins in 2004–12 of only 6.5 percent. The firm’s margins in 2012 were only 3.3 percent, well below the average for state-owned industrial firms.

The finding that only CNOOC enjoys super-elevated profits is somewhat surprising given that there has been very little entry by private firms in the oil sector so that state-owned firms still control more than 90 percent of production of crude oil and about two-thirds of petroleum refining (see table 3.6).

24. The slide in PetroChina’s profitability coincides with the period when Jiang Jiemin served as chairman. Jiang was detained on corruption charges shortly after he stepped down as chairman in 2013. At least one financial analysis has attributed part of the slide in PetroChina’s profitability to an understatement of revenue, funds that were drained off by Jiang and his associates, a charge the company has denied. Simon Rabinovitch, “Probe points to shake-up for PetroChina,” *Financial Times*, September 18, 2013, p. 15.

CNOOC earns supranormal profits for at least three reasons. First, CNOOC was created in 1982 as practically a startup firm and thus has a much leaner corporate structure.²⁵ In contrast, Sinopec was formed in 1983 from the merger of 39 large state-owned companies controlled by the Ministries of Petroleum, Chemicals, and Textiles. The China National Petroleum Corporation (CNPC), the parent of the listed PetroChina, was formed when it replaced the Ministry of Petroleum in 1998.²⁶ Thus Sinopec and PetroChina each exhibit the major legacy burdens of state-owned enterprises: massive numbers of staff, old technology and equipment, and bureaucratic inertia built up over the decades.²⁷

Second, CNOOC is less disadvantaged than the other major state oil companies by state price policy. For example, it is not in the oil refining business, where state control of refined product prices periodically has led to significant financial losses for firms like Sinopec, China's largest oil refiner (Lardy 2012, 107–109). Similarly, price controls erode the profits of PetroChina, China's biggest gas supplier. It imports natural gas at a price determined in the global market, but because domestic gas prices are controlled, it makes a loss of one renminbi on every cubic meter of imports.²⁸ CNOOC imports gas but sells it to the CNOOC Gas and Power Group at market price, insulating CNOOC from losses in this business.²⁹

Third, in contrast with CNOOC, which is heavily concentrated in upstream gas businesses, PetroChina and Sinopec are more integrated oil companies with substantial downstream activities, for example in the chemical industry. But there has been massive entry of private firms in the chemical industry, reflected in a decline in the share of output produced by state firms to under a fifth by 2011. In short, a significant part of the business activity of both PetroChina and Sinopec is in very competitive segments of the petrochemical industry. The combined effect of these three factors is that among the big state oil companies only CNOOC is able to earn monopoly-like profits. CNOOC is successful not only compared with its domestic peers but also internationally.

25. CNOOC absorbed a single previously existing company—the China National Oil and Gas Exploration and Development Corporation, which had been a unit of the Ministry of Petroleum Industry (Lieberthal and Oksenberg 1988, 86).

26. Sinopec Group and its listed arm, Sinopec Corp., technically are of relatively recent origin since they were not incorporated until 1998 and 2000, respectively. But Sinopec Group grew out of the China Petrochemical Corporation.

27. Julia Grindell and Robert Armstrong, “Lex in depth: CNOOC,” *Financial Times*, November 15, 2012, p. 6.

28. “China Natural Gas,” *Financial Times*, July 3, 2013, p. 12. The firm's losses on imported natural gas in 2012 were RMB41.9 billion. Without these losses, PetroChina's reported after-tax profits in 2012 would have been 40 percent higher. *PetroChina Limited 2012 Annual Report*, pp. 28, 160. Available at www.petrochina.com.cn (accessed on September 25, 2013).

29. CNOOC Gas and Power Group appears to be a direct subsidiary of the CNOOC Group, the holding company that has a 64.45 percent stake in CNOOC Limited, the formal name of the listed company.

Figure 1.2 Profit margins of state nonfinancial corporations, 2000–2013

total profit as a share of sales revenue



Note: Total profits are earnings before corporate income tax. The earnings and revenue for services are calculated as the difference between the total for all state-owned enterprises and the total for industrial state-owned enterprises. Services includes construction.

Sources: National Bureau of Statistics of China (2013c, 478–79); Ministry of Finance, www.mof.gov.cn (accessed on March 28, 2014); ISI Emerging Markets, CEIC Database.

On the metrics of net income per barrel of petroleum equivalent produced and return on equity, CNOOC ranks a tenth above Chevron. The price of CNOOC stock has risen more than 1,000 percent over the decade, five times more than that of ExxonMobil.³⁰

We can expand the analysis of the relative profit margins of state and private firms beyond the industrial sector by looking at the profit margins of all state nonfinancial firms, including firms both in industry and in services. This is important for two reasons. First, state service-sector firms account for a growing share of profits of state nonfinancial firms, rising from 15 percent in 2000 to 31 percent by 2012.³¹ Second, some key service sectors, such as telecommunications, are dominated by a handful of state firms that might well have above-average profit margins due to their oligopolistic market structures. Similarly, the state has a complete monopoly in the case of rail transport, and the state-owned China Ocean Shipping Company (COSCO) and China Shipping Group have a near duopoly in ocean shipping. Figure 1.2 shows the profitability of the entire universe of state nonfinancial firms for the period 2000 (the first year for which data are available) through 2013, as well as prof-

30. Julia Grindell and Robert Armstrong, “Lex in depth: CNOOC,” *Financial Times*, November 15, 2012, p. 6.

31. The share of profits in state service firms is estimated by subtracting profits of state industrial firms from the profits of all state nonfinancial enterprises. The underlying data for the calculation are available at www.stats.gov.cn and www.mof.gov.cn (accessed on July 17, 2014).

itability for state industrial and state services firms. The average profit margin for all state nonfinancial firms in this period was 5.8 percent, less than the 6.8 percent profit margin for state industrial firms over the same period. The disaggregated data for industrial and services firms clearly show that, except for 2007–09, the profitability of state industrial firms is well above that of state service sector firms. Thus the hypothesis that state nonfinancial firms in the service sector as a group have market power that allows them to earn unusually high profits is rejected.

But again a drill-down to a component of services dominated by a few state firms reveals some evidence of market power. The best example is China Mobile. This firm assumed the wireless business of China Telecom, which had been China's monopolist telecommunication company until it was broken up in 1999. China Mobile benefited from its position as the monopolist in the wireless space during a decade of extraordinary rapid growth of wireless services, vaulting it to the position of the world's largest wireless service provider. Although China Telecom regained a wireless license in 2008, China Mobile remains dominant in mobile telephone service with about 800 million subscribers. Like CNOOC, China Mobile has superelevated profit margins—averaging 33 percent in 2004–12. But as in the oil sector, the other large state telecom players are far less profitable. The profit margins of China Unicom and China Telecom in 2004–07 both averaged about 20 percent, but their margins have fallen in recent years to 3.8 percent and 7.0 percent, respectively. China Telecom's profits are dragged down by its mandate to provide wired service to the entire domestic market. But this has been a market with relatively slow growth compared with wireless. So even in an important sector with almost complete state control, only one of the three players has high profit margins.

What about state firms in China's financial sector? Do they exercise market power that allows them to earn supranormal profits? The analysis below focuses on banking. Although nonbank financial institutions in China have expanded in the last decade or so, assets in the banking system are still many times larger than the combined assets of insurance companies, securities firms, asset management companies, and other nonbank financial institutions.³²

The first thing to note is that concentration in the banking sector has been falling steadily throughout the reform period, suggesting strongly that if the largest banks once had market power it has eroded. China initially had a monobank system in which the People's Bank of China served simultaneously as the central bank and the only commercial bank. At the outset of reform, there also was a network of rural credit cooperatives to serve rural areas, but the assets of this network were dwarfed by the People's Bank. But early in the reform period, government policy led to the emergence of a number of new

32. At the end of 2011, assets in the banking system were RMB113.3 trillion, assets of all securities firms totaled RMB1.6 trillion, and the combined assets of the five largest insurance companies (a highly concentrated industry) were RMB5.6 trillion (China Banking Society 2012, 419, 482, 491–99).

banks. In 1979 the government recreated the Agriculture Bank of China, which had been abolished in 1965; separated the Bank of China from the People's Bank; and in 1980 converted the Construction Bank from a payments agency under the Ministry of Finance to a real bank, able to take deposits and make loans. More importantly, in 1984 the State Council created a central bank by designating the People's Bank of China as the central bank and establishing the Industrial and Commercial Bank to take over the deposit taking and lending functions of the People's Bank (Lardy 1998, 62–63). But by the mid-1980s, China still had a highly concentrated banking system, with the four state-owned banks accounting for 99 percent of all bank assets and about 90 percent of the combined assets of banks and rural credit cooperatives (Lardy 1998, 224).³³

Competition in the banking system early in the reform era was inhibited not only by the high degree of bank concentration, but also by restrictions on the geographies and types of banking services each bank could provide. For this reason, within China the four state-owned banks in the 1980s were invariably referred to as “specialized banks” (专业银行). Lending to support agriculture and rural industrial and commercial enterprises was the exclusive domain of the network of rural credit cooperatives and the Agricultural Bank; state enterprises borrowed mostly from the Industrial and Commercial Bank of China; the Construction Bank was a principal source of funds for new investment projects; and the Bank of China had a monopoly to carry out all types of foreign exchange transactions (Lardy 1998, 64–65).

Competition in banking increased beginning in the mid-1980s as a result of both the creation of a number of new banks and the gradual expansion of the scope of business of the existing specialized banks. The government authorized the creation of about a dozen new national joint stock banks beginning in the mid-1980s and continuing in the 1990s. Perhaps the most famous of these is China Minsheng Bank, authorized in 1995. Its initial 59 shareholders were almost entirely private enterprises, making the bank China's first private shareholding bank. The government began licensing urban credit cooperatives starting in 1986, and by 1994 their numbers had expanded to more than 5,200. Beginning in the mid-1990s in most cities networks of these cooperatives merged to form urban cooperative banks. Later these institutions became known as city commercial banks, the best known of which are Bank of Shanghai and Bank of Beijing. By 2011 China had some 500 banks, including 5 large-scale commercial banks, 3 policy banks, 12 shareholding banks, 144 city commercial banks, 212 rural commercial banks, 190 rural cooperative banks, 40 foreign banks (with 253 branches and subsidiaries) established as legal entities in China, and 95 foreign bank branches, as well as 2,265 rural credit cooperatives (China Banking Society 2012, 517–18).

The transformation of the banking sector since the mid-1980s also is reflected in a dramatic decline in concentration. By 2011 the original four large

33. Data are for 1986.

state-owned banks accounted for only 44 percent of the assets of the banking system (including credit cooperatives), slightly less than half the share they controlled in the mid-1980s. Including the Bank of Communications, which with the original four large banks make up the universe that the Chinese now identify as the five large-scale commercial banks, boosts this ratio to 48 percent (China Banking Society 2012, 419, 423–427). This is exactly equal to the concentration ratio for the top five banks in the United States in 2011.³⁴ Moreover, bank concentration is rising in the United States since the financial crisis, whereas it has been falling in China for decades. If judged only on the criterion of concentration, within a few years China is likely to have a more competitive banking system than the United States.

Competition in the banking sector also increased as the government eased regulatory barriers. The best example is the erosion of the Bank of China's initial monopoly on all types of businesses involving foreign currency. Banks other than the Bank of China were authorized to conduct foreign exchange business in their branches located in the four special economic zones on China's southeast coast as early as 1985. By the end of 1992 the government had authorized more than 1,000 domestic branch banks and 145 nonbank financial institutions to carry out foreign exchange business. Thus the Bank of China gradually lost its monopolies on offering deposits and loans denominated in foreign currency, the settlement of foreign trade transactions, and other types of foreign exchange transactions. By 1996, Bank of China's share of the foreign trade settlement business had fallen to two-fifths (Lardy 1998, 65).

How does the return on assets in China's banking system, which is heavily state dominated, stack up against the return on assets in other national banking systems? Are returns relatively elevated, suggesting either that banks benefit from the remaining government controls on interest rates that banks can pay on deposits or that declining concentration in the banking industry and the easing of some regulatory barriers have not prevented the exercise of market power in the state-dominated banking system? The short answer is that the average return on assets in China's banking system is very close to returns of banking systems in other Asian countries. The average return on bank assets in China in 2012 was 1.26 percent,³⁵ above returns in India (1.05 percent) and Singapore (1.21 percent) but below those in Malaysia (1.31 percent), Hong Kong (1.38 percent), Thailand (1.38 percent), and the Philippines (1.74 percent) (IMF 2013a, 17). Returns in China were higher than the 0.97 percent in the United States in 2012, but profitability in US banks was badly depressed by the global financial crisis, and profit recovery was still under way in 2012. By the

34. Audrey Redler, "International Comparison of Banking Sectors," European Banking Federation, March 18, 2014. Available at www.ebf-fbe.eu (accessed on June 10, 2013).

35. This is the number reported by the International Monetary Fund and is used in the text since the IMF is the source for the return on assets of banks in other Asian countries. The Chinese regulator reports that the return on bank assets in 2012 was 1.2 percent (China Banking Regulatory Commission 2013, 168).

first quarter of 2013, return on assets of the roughly 7,000 banks supervised by the US Federal Deposit Insurance Corporation had risen to 1.12 percent.³⁶ In short, it does not appear that returns in the Chinese banking system, which is still heavily state dominated, are now higher than comparator countries. For the five-year period before the global crisis (2002–07), the average return on assets for Chinese banks was 0.78 percent, which was actually well below the returns in banking systems in all the comparator Asian countries just listed (IMF 2013a). This difference was due largely to the protracted banking cleanup process during the 2000s, which gradually addressed the huge volume of nonperforming loans created in China in the 1990s.

In short, it is difficult to make the case that state banks have substantial market power that elevates profitability. Indeed, the opposite seems to be the case. State-owned banks may have had substantial potential market power in the early years of reform, when a handful of these institutions controlled almost all bank assets. However, during this era the central bank tightly controlled both deposit and lending rates, limiting the ability of banks to exercise potential market power. More obviously, state-owned banks were under considerable pressure from the government to support money-losing state-owned enterprises, which led to the insolvency of these banks rather than to excess profits (Lardy 1998, 119). But since then, the number of banks has expanded dramatically, resulting in a reduction by half in the degree of concentration. Moreover, the share of bank assets controlled by the five largest Chinese banks is identical to the five-firm concentration ratio in the United States, a fairly competitive banking system. Finally, return on assets in China's banking system in recent years is about the same as other Asian comparator countries.

Another critique of state firms is that many receive subsidies that allow them to escape the discipline the market normally imposes on persistently money-losing firms—a takeover by another firm via merger and acquisition or exit via bankruptcy. Such protection could undermine the competitive nature of the market and in particular could impose a substantial hurdle for private firms seeking to gain market share in subsectors in which state firms are dominant. State firms, even if less efficient than private firms, could sell their output below cost, confident that subsidies would be forthcoming to cover their losses.

The assertion that pervasive subsidies to state firms undermine the competitive character of markets in China is difficult to evaluate since subsidies can be channeled by various routes, few of them fully transparent. As shown in table 1.2, the share of state industrial firms running in the red rose from about a quarter at the beginning of the 1990s to about two-fifths by the end of the decade. The financial losses of these firms were substantial, averaging almost 1.5 percent of GDP annually over the course of the decade. Harry Broadman estimated the annual subsidies to state industrial and service enterprises in 1990–93 at about 9 to 10 percent of GDP annually. His estimate takes

36. Gretchen Morgenson, "Quantity Over Quality in Bank Profits," *New York Times*, June 2, 2013, Business section, p. 1.

Table 1.2 Losses of state industrial firms, 1978–2012

Year	Share of enterprises losing money (percent)	Total losses (percent of GDP)	Total losses (percent of sales revenue)
1978	n.a.	1.1	n.a.
1980	19.2	0.8	n.a.
1985	9.6	0.4	0.5
1986	13.1	0.5	0.8
1987	13.0	0.5	0.7
1988	10.9	0.5	0.8
1989	16.0	1.1	1.6
1990	27.6	2.9	3.0
1991	25.8	1.7	2.6
1992	23.4	1.4	2.7
1993	30.3	1.3	2.0
1994	n.a.	1.0	2.2
1995	33.5	1.1	2.5
1996	33.6	1.1	2.9
1997	38.2	1.1	3.0
1998	40.6	1.4	3.4
1999	39.2	1.1	2.7
2000	34.1	0.7	1.7
2001	36.0	0.7	1.7
2002	36.1	0.6	1.4
2003	35.2	0.5	1.2
2004	37.4	0.5	1.2
2005	35.5	0.6	1.3
2006	31.9	0.5	1.2
2007	25.8	0.3	0.7
2008	27.4	1.1	2.3
2009	26.3	0.5	1.0
2010	21.4	0.3	0.6
2011	20.6	0.5	1.0
2012	24.5	0.6	1.3

n.a. = not available

Sources: Lardy (1998, 35); National Bureau of Statistics of China (2013b, 126); ISI Emerging Markets, CEIC Database.

into account explicit subsidies provided through the state budget to unprofitable enterprises averaging 2.3 percent of GDP, partly due to policy factors such as sales prices set below cost, most obviously for grain sold in urban areas, implicit fiscal subsidies in the form of interest rate subsidies on loans, as well as quasi-fiscal subsidies in the form of low-cost policy loans (Broadman 1995, 13–15).

But, since the downsizing of the state sector begun under Premier Zhu Rongji in the second half of the 1990s, the share of state-owned industrial

enterprises losing money has declined, and their losses have been much smaller, averaging 0.6 percent of GDP in the first decade of the 2000s and slightly less than that in 2010–12 (National Bureau of Statistics of China 2012a, 130). Government subsidies of these losses have dropped dramatically for two reasons. First, explicit subsidies through the budget fell to an annual average of only 0.5 percent of GDP in the 2001–10 decade (Anderson 2012, 9). Second, bank policy lending financed by funds provided by the central bank at low interest rates was phased out.

Moreover, in the past decade or so a large share of state industrial firms' losses appear to be transitory and self-financed rather than chronic, as was the case with a subset of state firms in the 1990s. In short, as market conditions vary in different sectors, firms that lose money in one year may return to profitability the next, while other firms move in the opposite direction. In this respect China's state-owned firms may not be very different from firms in market economies. Jon Anderson examined the universe of 5,000 companies listed on the New York Stock Exchange and NASDAQ for the period 2003–07. This group of firms relative to the size of the US economy is similar to that of state enterprises relative to the size of the Chinese economy. He found that in any given year an average of 28 percent of the US listed firms lost money in an amount that aggregated to an average of about 1 percent of US GDP. This picture was not so different from that of China in the same period when, on average and over the same years, 34 percent of state-owned firms lost money in any given year in an amount that aggregated to 0.5 percent of GDP (Anderson 2012, 10).

If government subsidies to corporations were a sufficient criterion to label a country's economic system as "state capitalist," many market economies would qualify. The US federal government extends subsidies directly through, for example, payments to farmers in a variety of programs that cost US taxpayers about \$25 billion annually; indirectly through what are called tax expenditures, in effect tax breaks for special interests such as the oil and gas industry; and also indirectly through high tariffs. The best examples of the latter subsidies are the 25 percent tariff on imported pickup trucks, a tariff that makes pickups the most profitable segment for US auto makers, and tariff rate quotas on sugar imports, which mean that US consumers pay about three times the world price for sugar, amounting to an extra \$3.5 billion a year.³⁷

US state and local governments also provide subsidies to retain and attract businesses. In what appears to be the first major effort to tally state and local government subsidies, the *New York Times* documented that these annual subsidies total about \$80 billion but noted that the incentives are awarded by "thousands of government agencies and officials and many do not know

37. "That Sickening Sugar Subsidy," Bloomberg View Editorials, March 13, 2013. Available at www.bloomberg.com (accessed on December 18, 2013). Froma Harrop, "US sugar subsidies a sour deal for taxpayers," *News and Observer*, October 24, 2013. Available at www.newsobserver.com (accessed on December 18, 2013).

the value of all their awards.” Thus the cost of these subsidies “is certainly far higher.” The investigative reporting showed Texas, at \$19 billion annually, awarded the most subsidies of any state and that 48 companies had received more than \$100 million in state grants since 2007.³⁸

A prominent example of state subsidies to a private company in the United States occurred when the Boeing Corporation announced in 2013 that it would consider producing its critical, next-generation wide-body 777X aircraft in a location other than Washington State, where the firm’s first wide-body 747 plane came off the Everett, Washington, assembly line in 1968. The announcement set off a frenzied bidding war in which ultimately 22 states, offering tens of billions of dollars in subsidies, sought to attract a new Boeing assembly facility and the thousands of associated jobs. In the end the firm decided to use its existing Everett facility, in part because the state of Washington offered \$8.7 billion in subsidies, reportedly the largest state subsidy ever offered to a single corporation.³⁹

Finally, in evaluating the degree of competition in China’s domestic market, one should look at two additional factors: imports and the domestic sales of foreign affiliates operating in China. Even a market with a single domestic monopolistic producer could be competitive if either the good or service the monopolist produces is tradable and barriers to imports are low or the barriers to foreign direct investment are modest. If the sole domestic producer tries to raise prices, consumers will increase their purchases of the good or service produced abroad. Or competition can be added to the domestic market if foreign firms become significant local producers and sell a portion of their output on the domestic market. In either case the domestic monopolist that raised its prices would lose market share and potentially eventually fail if it continued to maintain an elevated price.

As already noted, as reform was getting under way, China for all practical purposes was an autarkic economy, with all foreign trade monopolized by a handful of state-owned import and export companies, an average import tariff rate of 56 percent, and myriad import quotas and import licensing requirements. As a result, goods imports were only 5 percent of GDP. But by the mid-1980s this share jumped to 14 percent. As China cut tariffs and reduced other import barriers as part of its negotiations to join the World Trade Organization, the ratio of imports to GDP continued to rise, breaching 20 percent in 2002. Despite the considerable slowing of world trade during and in the wake of the global financial crisis, China’s imports continued to grow strongly, reaching

38. Louise Story, “As Companies Seek Tax Deals, Governments Pay High Price,” *New York Times*, December 1, 2012; Louise Story, “Lines Blur as Texas Gives Industries a Bonanza,” *New York Times*, December 2, 2012; Louise Story, “Michigan Town Woos Hollywood but Ends Up with a Bit Part,” *New York Times*, December 3, 2012. Available at www.nytimes.com (accessed on December 18, 2013).

39. Steven Greenhouse, “Boeing Workers Approve 8-Year Contract Extension,” *New York Times*, January 5, 2014, p. 15. Reid Wilson, “States competing for 777X jobs project,” *Washington Post*, November 30, 2013. Available at www.washingtonpost.com (accessed on January 8, 2014).

\$1.8 trillion by 2012, up 80 percent over the level of 2009 and equivalent to 22 percent of GDP (National Bureau of Statistics of China 2012a, 20, 63). The ratio of imports to GDP is now considerably higher in China than in the United States and provides substantial additional competition in the domestic market.⁴⁰

A second way that foreign firms add competition to the domestic market is via sales from their foreign affiliates in China. As a result of decades of foreign direct investment, foreign firms have a significant presence in China, reflected in a cumulative-value foreign direct investment of \$2.2 trillion by the end of 2012, far and away the largest amount of foreign direct investment in any emerging market. Indeed, globally China's stock of inbound direct investment is second only to that of the United States. The role of foreign firms looms particularly large in the manufacturing sector, where these firms now account for fully one-quarter of all output (National Bureau of Statistics of China 2012a, 131).⁴¹ While the export activities of these foreign firms are well understood, many observers do not recognize the importance of the Chinese domestic market to many of these firms. In 2011, domestic sales of foreign affiliates in China reached RMB15 trillion.⁴² This is substantially larger than the value of China's imports, which, when measured in domestic currency, was RMB11.3 trillion in 2011, and equivalent to almost one-quarter of the sales revenue of indigenous firms.

Obviously, Chinese firms that seek to export goods and services into the global economy also are subject to competition from other global players. China's exports in 2012 were \$2.05 trillion, subjecting 25 percent of GDP to competition from global firms. Services too are subject to global competition. Thus COSCO, China's largest shipping business and the world's largest bulk shipper, has not been immune to increased pricing pressure as global trade slumped in 2009 and then recovered only very gradually. COSCO Holdings,

40. A significant share of China's imports is parts, components, and assemblies that are used to produce export goods. Since these imports do not enter the domestic market, it is sometimes argued that China's relatively high import share both overstates China's degree of openness to international trade and the degree of competition provided by imports in China's domestic market. This argument ignores two important points. First, from the point of view of Chinese firms that either are supplying or seek to supply such parts, components, and assemblies to firms producing for the export market, these imports are the key source of competition in the market. Second, China is hardly the only country that is participating in global production chains; the import content of US manufactured exports in the mid-2000s was 16 percent, for example. (OECD, *Statextracts*, "STAN Input-Output Import Content of Exports." Available at <http://stats.oecd.org> [accessed on June 7, 2013]).

41. Measured by sales of each firm's main business.

42. Combined foreign and domestic sales of manufactured goods by foreign affiliates were RMB21,860.50 trillion while exports of manufactured goods by foreign affiliates were RMB7,056.05 billion (National Bureau of Statistics of China 2012a, 129, 131). The difference between these two numbers is domestic sales. Both the sales and export data cover only so-called above-scale firms. See discussion of this concept in chapter 3.

the listed arm of COSCO (Group), incurred sizable losses in 2011 and 2012—RMB10.4 billion and RMB9.56 billion, respectively. In 2013, COSCO Holdings was forced to sell assets back to its parent company in an effort to avoid delisting of the company from the Shanghai Stock Exchange.⁴³

Evolving Role of Economic Planning

The corollary to the increasing and now dominant role of competitive markets in the allocation of resources is the vastly diminished importance of China's five-year plans. The First Five-Year Plan (1953–57) was a 240-page document setting forth thousands of targets (State Planning Commission 1956). In industry, the plan set levels of physical output for 1957 for almost 50 products ranging from steam turbines to gunny sacks, as well as an aggregate industrial value target. For products such as cotton yarn, cotton piece goods, and paper products, the plan further disaggregated output targets into quantities to be produced in modern factories and quantities to be produced by individual handicraftsmen and handicraft cooperatives using “local methods.”

In agriculture, the First Five-Year Plan set sown area, yield, and output targets for more than a dozen different crops ranging from rice to hemp; seven targets for animal husbandry; the amount of acreage to be planted with forests and shelter belts, the latter disaggregated into ten specific geographic regions; and a single target for the increased output of fisheries. These were not abstract targets. The plan also specified the value of agricultural investment to be undertaken (disaggregated into amounts to be spent by the Ministry of Agriculture, the Ministry of Water Conservancy, the Ministry of Forestry, and the Meteorological Bureau); the amount of new land to be brought under cultivation, as well as a target for the expansion of irrigated area; the number of modern plows, water-pumping stations, and other agricultural machinery to be made available; the number of tons of four types of fertilizer to be supplied; and the number of new observatories, weather stations, and weather posts to be established.

The First Five-Year Plan contained similarly detailed targets for important services, including transport, post, and telecommunications; commerce; education; and health. The plan even had small sections on art and literature, cinema, and libraries and museums. The plan specified the number of new theatrical troupes to be organized and further divided the number between state-sponsored troupes and troupes “organized by the people themselves.” Similarly the plan set forth the number of new theaters to be established by 1957 with the number broken down into state-operated (413), joint state-private (75), and private (1,200); the number of new films to be produced (400), the number of foreign films to be dubbed (308), the number of new mobile film projection teams (4,720, which would bring the total to 5,279) to be

43. Wang Ying, “New Head to Steer COSCO,” *China Daily*, July 3, 2013, p. 13.

established under state cultural departments; and the number of new cultural centers (2,600), libraries (109), and museums (57) to be built.

But the heart of the First Five-Year Plan was the plan for capital investment. The plan called for 694 “above-norm” investment projects and 2,300 “below-norm projects,” for which responsibility was divided among central government industrial ministries, other central government ministries, and local authorities. Plans for investment in the steel, nonferrous metal, power, coal, petroleum, machine building, chemical, building material, lumber, textile, pharmaceutical, and paper industries were particularly detailed.

In certain respects, the First Five-Year Plan was the apex of China’s attempt to steer economic growth via detailed plans. Before the ink was dry on the Second Five-Year Plan (1958–1962), Mao Zedong launched the Great Leap Forward, a catastrophic attempt to accelerate China’s growth from the already rapid 8.9 percent per annum pace of the First Plan. The Great Leap displaced a reasonably well-developed Second Plan, leading to a mass starvation that killed upward of 40 million and produced the worst five-year economic performance of the post-1949 period—national income shrank at an average annual rate of 3.1 percent (National Bureau of Statistics of China 1983, 23). The disruptive effects of the Great Leap were so severe that when the Second Plan officially ended in 1962 formal planning efforts were suspended until the government launched the Third Five-Year Plan in 1966. Unfortunately, that coincided with the onset of the Cultural Revolution, which lasted until 1976, when Deng Xiaoping made a gradual comeback and provided traction to the Fifth Five-Year Plan, “which set the economy on a more constructive trajectory” (Roach 2014, 85).

The Sixth Five-Year Plan (1981–85), the first to escape the pernicious after-effects of the Cultural Revolution, was in many respects similar to the first (State Planning Commission 1984). Running at well over 250 pages in the English language version, it set a huge number of targets for output (again in detailed physical terms and more aggregated value terms) in agriculture, industry, and services. The chapters on science and technology and education were more detailed than the First Plan. Again, the core of the document was the investment plan. Perhaps not quite as detailed as the First Plan, its organization is similar—in particular, its plans for expansion of productive capacity are in the same series of industries as the First Plan—but it includes plans for new industries such as electronics and computers.

The current Twelfth Five-Year Program (2011–15) differs from the first and sixth in several respects (National Development and Reform Commission 2011). First, as with the Chinese title of the Eleventh Plan, the characters for “plan” (计划) have been dropped from the title in favor of “program outline” (规划纲要). This change of terminology is consistent with the evolution of the name of the State Planning Commission, which was responsible for drawing up five-year plans since its formal establishment in 1952. In 1998 it was renamed the State Development and Planning Commission, and in 2003 it morphed into the National Development and Reform Commission. According

to China's official news agency, the "objective reason" for the change in terminology from plan to program "is because over the years the market has developed so that it already has become the main engine determining economic growth; after the development and transformation of the various economic bureaus, planning actually is no longer able to exercise sufficient controlling power over the great majority of economic activity and principal output."⁴⁴

A second difference between the Twelfth Five-Year Program and the first and sixth plans is that it sets far fewer targets. There is not a single output target for an industrial product in the Twelfth Program. In agriculture, there is a single target—to maintain annual aggregate grain production at a level of 540 million tons or more in 2011–15 rather than the highly disaggregated crop targets of the First Plan. And unlike the First Plan, the current program sets forth no arrangements for the investment and supplies of inputs judged necessary to achieve the grain output target.

Third, the targets in the Twelfth Program are more aggregate in nature: for example, 7 percent annual growth of real GDP; a 4 percentage point increase in the share of GDP originating in the service sector, clearly a reflection of the rebalancing agenda of the leadership; and a 4 percentage point increase in the share of the population living in urban areas. Four major targets in science and education include a 3.3 percentage point increase in the share of the relevant age cohort completing nine years of compulsory education and an increase of 1.6 in the number of patents filed per 10,000 residents. There are also a number of targets under the heading of resources and the environment, including no decline in the amount of agricultural sown area, a 3.1 percentage point increase in the nonfossil fuel share of energy consumption, a 17 percentage point reduction in carbon dioxide emissions per unit of GDP, and absolute targets for reduction of emissions of sulfur dioxide and three other chemical pollutants. Quite a number of targets focus on living standards and welfare. These include the growth of per capita disposable income in urban areas and the growth of per capita cash income in rural areas, the maximum rate of unemployment in urban areas, and a one-year increase in average life expectancy. Long lists of physical output targets have vanished.

Fourth, even these aggregate targets are mainly labeled as "forecasts" (预期性) rather than "mandatory" (约束性).⁴⁵ This is a far cry from the output targets in the First Plan, when national targets for important industrial products were disaggregated all the way down to the plant level and managers were rewarded or punished depending on whether the targets were met.

44. "The transformation from plan to program is a breath of fresh air," October 9, 2005. Available at http://news.xinhuanet.com/comments/2005-10/09content_3595992.htm (accessed on October 2, 2013).

45. Of the 28 aggregate targets in the Twelfth Program, 16 are binding and 12 are forecasts. The larger number of binding targets is due to the large number of emission and pollution reduction targets (carbon dioxide, organic pollutants, sulfur dioxide, ammonia nitrogen, and nitrogen oxide), each of which is mandatory and specified separately.

Only in investment does the Twelfth Program carry over the level of detail characteristic of the First Plan. And even in the investment domain, the targets for increases in capacity are focused on a few high-priority areas rather than a large number of basic industrial products. In infrastructure, for example, the plan specifies beginning construction on nuclear and hydroelectric power plants with a capacity of 40 and 120 gigawatts, respectively, to complete 200,000 kilometers of electric power transmission lines of 330 kilovolts or more capacity, and to bring the total operational network of the fast rail system to 45,000 kilometers.⁴⁶ Unlike the First Plan, there are no investment plans for increasing production capacity for steel and a large number of other basic industrial products.

China has transitioned from an economy where allocation of both financial and human resources was directed in large part by economic plans drawn up by government bureaucrats to one in which markets are dominant. The introduction of labor markets and the reform of the price formation process were essential to creating the basis for a market economy. Initially, a system of lifetime job assignment, wage rigidity, and extraordinary limits on geographic mobility impeded the ability of workers to seek employment that best used their skills. But early in the reform process, this system began to give way to market-driven job recruitment, flexible wages, and increasing geographic mobility.

Similarly, at the outset of reform, arbitrarily fixed, distorted prices meant that there was little or no connection between profitability and economic or social returns. Some firms were highly profitable because they benefited from underpriced inputs or overpriced output; others were loss making because their inputs were overpriced or their output was underpriced. Thus the initial price structure was entirely unsuited to a more decentralized investment decision-making environment in which firms financed investment largely with retained earnings. But this environment shifted as the scope of prices determined in competitive markets expanded and profitability more accurately signaled real economic returns. As will be analyzed in chapter 4, there is substantial room to further improve the allocation of capital through the elimination of a few important remaining price distortions and additional reforms in the financial sector. But the fundamental change already occurred in the first decade or so of reform.

46. High-speed rail is a subset of the fast rail target, but a number was not specified in the Twelfth Program. High-speed rail requires dedicated rail lines for trains that operate at speeds of either 250 km/h or 350 km/h.