Policy Burdens, Soft Budget Constraint and State-owned Enterprise Reform in China

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I. Introduction

The transition from a planned economy to a market economy in China started at the end of 1978. The transition has turned China from a poor, inward looking economy to one of the most dynamic economies and largest trading powers in the world. The annual growth rate of GDP reached 9.7 percent in 1978-98, while the annual growth rate of import and export trade reached 14.8 percent. During this period, per capita income quadrupled and household bank savings increased 220 times. Such rapid economic growth for such a long time in a country as large as China has never occurred in human history. China is also the only East Asian country that maintained its currency stability and a positive rate of growth during the recent East Asian financial crisis. The achievement is truly an economic miracle.

Because of the existence of a large technological gap between China and developed countries, China can rely on borrowed technologies to maintain a dynamic growth for another two or three decades (Lin, et al. 1996). If China can realize this technological potential, China will be the largest economy in the world early in the next century.

However, in spite of the overall achievement that China has achieved in the past 20 years and the great potential for future growth, the Chinese economy is encountering a series of problems. Each of them, if worsened, may lead to a sudden breakdown in the economic system and jeopardize the possibility of realizing the growth potential.

The major problems that China faces are as follows:

1. The state-owned enterprises (SOEs) currently employ 100 million workers in urban areas, about two-thirds of the urban labor force, and possess two-thirds of total fixed assets in China. The economic performance of the state-owned sector is extremely poor. More than one third of the state-owned enterprises has continuously
encountered explicit losses. Another one third of the enterprises has implicit losses. Only a small portion of the SOEs is profitable. Without the state’s subsidies and protection, the majority of these enterprises would collapse immediately. Subsidies to the SOEs have drained the government’s fiscal resources and limited its ability to invest in education and other areas that are important to future growth and stability.

2. The banking sector is extremely weak. Some studies estimated that about 25 percent of the outstanding bank loans are non-performing, even higher than the figures in Thailand, Korea and other countries before the recent financial crisis. As China has not liberalized its capital accounts, it has the ability to insulate itself from a possible speculative attack, thus preventing the country from the contagion of the recent crisis. However, if China cannot solve the non-performing loans and other banking problems, depositors may eventually lose their confidence in the banking sector, resulting in a bank run and economic crisis.

3. The benefits of growth in the past 20 years were not evenly distributed across the regions. The economic development in the hinterland provinces has lagged far behind that in the coastal provinces. Regional disparities are widening after the reforms. The disparities may develop into disrupting social and political issues.

4. Rapid economic growth has endangered environmental sustainability in China. The situation is quite alarming. Recent floods in the lower reach of the Yangtze River and in Northeast China were good examples. If China does not pay enough attention to this issue, the revenges from nature may become more frequent and may render economic growth to a sudden halt.

Among the above problems, the last one is a common issue for almost all economies in the developmental process. China can learn from other countries’ experiences and needs to take decisive measures to deal with it. The other problems are related to the issues in the SOEs. For example, because poor performance, SOEs’
survival rely on the low interest-rate loans from the banks. Currently SOEs receive about 70 percent of all bank loans. However, many SOEs are unable to repay their loans. Those loans thus become non-performing. The widening of regional disparities is partly a result of the need to suppress prices of goods that the central and western provinces have comparative advantages, such as grain, cotton, and minerals, as a way to subsidize SOEs. Because the comparative advantage of coastal provinces is in manufacture, the more the coastal provinces grow, the more the coastal provinces import grain, cotton and other agricultural and mineral products from the central and western provinces. Therefore, the poorer central and western provinces are subsidizing the growth of richer coastal provinces by providing the coastal provinces with the subsidized inputs. The growth of the coastal provinces thus resulted in the widening of regional disparities. Therefore, the improvement of SOEs’ performance is a precondition for addressing the problems of non-performing loans in the banking sector and of regional income disparities.

The Chinese government understands very well the strategic importance of SOEs reform in the overall success of transition to a market economy in China. Since the reform started in 1978, the improving the performance of SOEs has been the central focus of the Chinese government. During the Fourteenth Communist Party Congress of October 1997 and the Forth Plenary Session of the Fourteenth Central Committee of Communist Party in September 1999, government leaders continued to emphasize that the reform of SOEs remained the central task of economic reform. How to bring a successful reform to SOEs is the focus of this paper.

China’s traditional economic system consisted of a set of three internally consistent institutional arrangements:
1. A price-distorted macro-policy environment, including policies of low interest rates, over-valued exchange rates, and low prices for raw materials and living necessities.

2. A planned resource allocation mechanism.

3. An autonomy-deprived SOE management system and a collective farming system.

The above institutional arrangements were formed to facilitate the pursuing of a heavy industry—oriented development strategy in a capital-scarce economy (Lin et al. 1996a and b). Under the traditional system, economic efficiency was poor due to the misallocation of resources and the suppression of incentives.

China adopted a gradual, piecemeal approach to reform. The changes started with the de-collectivization of the farming system and the delegation of partial autonomy to SOEs, gradually extended to the relaxation of rigidity in planned resource allocation and liberalization of control in commodity prices and exchange rates. Most reforms, except for those related to farming systems, have been introduced with the intention to improve the vitality of SOEs.

In China’s academic and policy debates at the time when the reforms started, most researchers attributed the SOEs’ poor performance to low incentives due to a lack of autonomy. As a result, reform measures focused on increasing SOE’s autonomy so as to improve incentives and efficiency. Recently, many economists have regarded the vagueness in the delineation of property rights as the major cause of SOE’s problems. The SOE reform was designed accordingly.

In this paper I would argue that the SOE’s problem originates from the separation of ownership and control, generic to any large modern corporation. Due to the separation, incentive incompatibility and information asymmetry problems arise between the owners and the managers. If the owners cannot overcome the information asymmetry problem, the incentive incompatibility problems will become
serious. Because it is prohibitively costly for owners to oversee the actions of the managers directly, the solution to the information asymmetry problem depends on the existence of simple, low-cost, sufficient information indicators of managers’ performance, and on a low-cost mechanism of rewarding and disciplining of managers’ performance. In a market economy an enterprise’s profit level in a fair, level-playing field competitive product market is a sufficient indicator of its manager’s performance and a competitive labor market of managers is a low-cost reward/discipline mechanism. Therefore, to a large extent the problems of information asymmetry and incentive incompatibility between the owners of a large enterprise and its managers can be resolved. After the reform in China, market competitions among SOEs and between SOEs and non-state-owned enterprises have started to emerge. However, SOEs in China have to bear many policy-induced burdens, which make the profitability of SOEs unable to perform the function of a sufficient information indicator for the SOE managers’ performance. Therefore, the problem of incentive incompatibility cannot be overcome. Moral hazard and opportunistic behaviors become epidemic in SOEs. The key to a successful SOE reforms in China is to eliminate the policy-induced burdens, enabling SOEs to compete with any enterprises in a level-playing field, and to create a competitive labor market of managers.

II. Conflicts between productivity improvement and profitability decline

In the traditional system, SOEs played a central role in the Chinese economy, especially in the industrial sector. In 1978, output value of SOEs accounted for 80.8 per cent of the total industrial output value in China, while the number of state owned industrial enterprises accounted for 24 per cent. At that time, plans dictated every thing for SOEs. A manager of an SOE did not have autonomy in deciding what to produce, where to invest, whom to hire, and how much to pay workers. As a result, managers had no means to improve productivity or motivate the workers. The main
symptoms of the SOEs’ problem were the ‘iron rice bowl’ (secured job) and the ‘large canteen meal’ (egalitarian wage rate) for the SOE employees. Efficiency was very low.

Deng Xiaoping and other veteran leaders, who returned to power after the death of Chairman Mao and the purge of the ultra-left “Gang of Four”, initiated a series of reforms to improve the efficiency of the economic system in later 1978. Since then, the reform of the SOEs has been the main focus of China’s overall reform. The SOEs were given more autonomy in making decisions regarding production, sales, and investment. They are allowed to retain a portion of profits for workers’ bonuses and welfare and for investment.

Along with the increase of managerial autonomy, a number of new institutional arrangements were introduced to monitor SOEs’ performance. The first one, promoted in 1981, was a profit retention system, in which managers took full responsibility for profits and losses. Under this arrangement, a profit quota was set for profit-making SOEs. Any profit that exceeded the quota was retained by the enterprises, either in total or in a predetermined portion. If the quota was not made, enterprises were required to make up differences with their own funds. Similarly, a loss quota was set for those SOEs running at a loss. Losses exceeding the quota were no longer automatically covered by state budgets - the reduced loss was retained in full, or in portion, by the enterprises.

In 1981, the state also started a new experiment, called “replacing the profits remittance with taxes.” The old practice of submitting all profits to the state was abolished and replaced by the new practice of paying taxes as well as charges for fixed capital and working capital to the state. In 1983 the taxes and charges paid by the large and medium-sized SOEs were unified, and became an income tax. In 1985 the
SOEs’ investments were changed from interest-free state appropriations to bank loans with interest charges.

By the mid 1980s, the profit retention system was replaced by another type of system called the ‘Enterprise Contract Responsibility System.’ The contract specified the division of responsibilities, rights, and benefits between the state and the large- and medium-sized SOEs so that the SOEs could run their own business independently, assuming sole responsibility for all profits and losses. A typical form of the enterprise contract system was the so-called shuangbao yigua (two guarantees and one linkage), in which the SOE pledged to realize a pre-specified taxes and profits and to finance technical upgrading requested by the state with its own funds. The SOE’s total wage fund was linked to the total realized profits. Compared with traditional management in which the state took all revenues, paid all expenses and the enterprise had no managerial autonomy at all, the contract system was widely welcome. By the second quarter of 1987, 90 per cent of industrial SOEs had adopted this system. At the end of 1980s, the modern stockholding corporation system began to be introduced to large, profitable SOEs and the leasehold system was introduced into small SOEs.

The above reforms have given SOEs increasingly more rights to sell their outputs on the market at market prices and to use retained profits for investment, welfare programs and bonuses. As a result, the SOEs have more incentives to improve efficiency through technical upgrading and product innovation. Induced by market signals and profit motives, the SOEs invested part of their retained profits in industries that had been suppressed by the traditional development strategy, resulting in an improvement in resource allocation. Improvements in incentives and resource allocation resulted in a new stream of resources which, together with the output
increase from farming system reform, become the material basis for China’s gradual, incremental reforms (Lin et al. 1996a and b).

As SOEs were allowed to sell part of their outputs at market prices, the SOEs reforms also led to the emergence of a ‘dual-track’ system of resource allocation and prices. Under the dual-track system, the market started to allocate resources alongside the traditional plan allocation. Reforms were thus extended from micro-management to the resource allocation mechanism and price systems. In 1987, the dual-track system was applied to 40 per cent of all production materials and accounted for 75 per cent of total transactions in production materials. To increase the SOEs’ autonomy further, the categories of industrial products directly controlled by the State Planning Commission decreased from over 120 in 1979 to about 60 in 1992. In the same period, the categories of materials distributed exclusively by the state dropped from 126 to 26, and the categories of commodities purchased by the Ministry of Commerce fell from 188 to 23. The proportion of all commodities produced under the planned allocation and prices fell below 30 percent by 1992. Currently except for a very limited number of products, such as petroleum, the allocation and prices of majority of goods have been liberalized. In addition, factor markets were developed to some extent and the sources of SOEs’ finance diversified. On the foreign exchange market, the dual-track system was replaced by a unified, managed floating system in 1994.

The move to the dual track system provided an opportunity for the rise of township and village enterprises (TVEs), joint ventures, and other non-state enterprises whose development before reform has been suppressed by their lack of access to inputs and output markets. Without state subsidies and protection, the survival of non-state enterprises depends on their strength in market competition. Non-state enterprises adapt to competition and their management is flexible. The Non-state enterprises’
competitiveness has created pressures for SOEs. With the enlargement of non-state sector and the shrinkage of state sector in terms of output share (Table 1), SOEs have been under growing competition.

Under the traditional system, the SOEs’ micro-management had two main drawbacks: lack of autonomy and lack of incentive. These two drawbacks have been alleviated through 20 years of reform. Gradually, state intervention in micro-management was reduced and the managers of SOEs gained more discretionary power. The increase in managerial autonomy has improved the managers’ incentives (Groves et al. 1994). As expected, reforms have resulted in the improvement of SOE productivity (Li 1997). According to World Bank estimates, the average annual growth rate of total factor productivity in the state sector was 2.4 percent per year from 1980 to 1988 (Table 2).

From the social perspective, the increase in the SOE total factor productivity indicates the success of SOE reform. But the state, as the owner of the SOEs, also has concerns about the SOEs’ profit rates and their contribution to state revenues. By this standard, SOE reform is far from satisfactory. When the reform started in 1979, most SOEs were profitable. Taxes and revenues from SOEs were the government’s main sources of fiscal income. However, in spite of the significant increase in productivity, the profitability of the SOEs has declined substantially since the reforms started. Currently, evidence shows that more than 40 percent of SOEs are operating at losses in spite of large amounts of implicit subsidies from low-interest loans and other policy protections. The decline of the SOEs’ profitability is partly attributable to the dissipation of the SOEs’ monopoly rent. However, the walloping increases in wages and other fringe benefits are other important reasons. The average annual growth rate of SOEs’ wage fund in the state sector was 16 percent in 1978-96, while the average annual growth rate of output in the same period was 7.6 percent.
The reform measures, which increased the SOEs’ managerial autonomy and retained profits, increased the SOEs’ incentive and productivity. However, the state, as the owner of the SOEs, has not been benefited directly from the reforms. The government has been constantly experimenting with various kinds of institutional arrangements to search for an arrangement that can protect the state’s rights while giving more autonomy to SOEs. Many researchers in China regard the transformation of SOEs to modern corporations, specifically joint stock companies, to be the key to the problem.

To find a reform that can achieve the goal of protecting the state’s right and enhancing the SOE’s autonomy, we need to understand why there was a contradiction between the increase in SOE productivity and a decline in profitability. Otherwise, SOE reforms might be led astray.

III. Institutional incompatibility and SOE reform

The state ownership of enterprises was an indispensable part of China’s traditional economic system. It is a product of carrying out the heavy-industry-oriented development strategy. To develop capital-intensive heavy industries in a capital-scarce underdeveloped economy, it is necessary to artificially suppress interest, foreign exchange, wage rates, and prices of energy, raw materials, and living necessities to lower the costs of capital formation in heavy industries. These distortions formed the macro-policy environment and caused overall shortages in the economy. Planning and administrative measures became indispensable for guaranteeing the allocation of scarce resources to the priority sectors. To ensure that enterprises would follow state’s orders and that surpluses would be used according to the state’s strategic goals, the institution of state ownership was adopted. The government could then
assign compulsory tasks to the SOEs and exercise direct controls over revenues and
surpluses.  

Under the traditional economic system, the state owned the SOEs and delegated
the operations to the SOE managers. The separation of ownership and control was
likely to cause the problem of incentive incompatibility. The government tried to
maximize surpluses so as to accumulate funds to the largest possible extent for the
expansion of priority sectors, while the managers and workers tried to maximize their
personal income and welfare. The separation of ownership and control also led to the
problem of information asymmetry. The state did not involve in direct operation of
SOEs and therefore did not have complete information about the costs and revenues
of SOEs. Due to the asymmetry of information, the managers might reduce profits
submitted to the state by overstating costs and/or underreporting revenues. Under the
above price-distorted, macro-policy environment, profits or losses of an SOE would
not reflect its managerial performance and there was no other simple sufficient
indicator that can be used as proxy for the managers’ efficiency. The costs for the
state to monitor the managers of the SOEs were extremely high. To prevent the
managers of the SOEs from embezzling state properties and profits, the government
could not give discretion power to the SOEs. This consideration led to the formation
of a puppet-like micro-management institution. The SOEs received all inputs from the
state according to central plans, and delivered all outputs and remitted all revenues to
the state. The wage rates of workers and managers were set by the state, all expenses
were covered by the state, and all activities required the state’s approval.

Under the traditional arrangement, it was impossible for the SOE managers to
embezzle the state properties and profits for their own benefit because they did not
have any autonomy. However, the SOE managers also lacked the means to improve

1 Please see chapter 2 of Lin, Cai, and Li (1996) for a discussion about the conflict between the
development goal and endowment structure and the implication of this conflict on the choices of
the enterprise’s operations and to stimulate workers’ incentives. To improve SOEs’ performance, managers were increasingly given more discretion power during the reform process. However, the reform so far has not found an effective way to overcome the information asymmetry problem. Therefore, the increase in managerial discretion gives the managers more opportunities for opportunistic behavior. As a consequence, taxes paid to the state and profits shared by the state were both declining even though the reforms have improved SOEs’ productivity.

The conflict of interests between owners and managers has existed ever since the appearance of large modern corporations, especially the joint-stock companies, in which ownership and control was separated (Berle and Means 1932). The problem of information asymmetry between managers and owners makes managerial discretion a potential issue for any large enterprise. In a market economy, however, there exist a number of institutions, which can lower the costs of monitoring managers’ performance, and of punishing/rewarding bad/good managers. As a result, managers find it is to their own interest to work for the interests of the owners.

The crucial institutional arrangements in a market economy are a level-playing field competition in product market and manager market, and no barriers to entry. Under such conditions, an enterprise’s profitability depends solely on its competitiveness, which in turn depends on its manager’s ability and efforts. The evaluation of a manager’s competence and behavior becomes simple and direct. The owners of an enterprise can infer the performance of its manager simply by compare the enterprise’ profit level with the industry’s average profit level. That is, in a level-playing field competitive market, an enterprise’s profit level is a simple, objective, and sufficient information indicator of the enterprise’s managerial performance (Holmstrom 1982). The problem of information asymmetry is resolved to a large extent. With a sufficient statistic of a manager’s performance, incentive compatibility
between the owners and the managers can be achieved in two ways: directly, the
owners can design a managerial compensation scheme that is based on the
comparison of the firm’s performance with the industrial average or on the rank of the
firm’s performance in the industry (Holmstrom, 1982); indirectly, a firm’s
performance in a competitive market provides a signal to the managerial labor market
about the manager’s talent and behavior and the signal determines the manager’s
future wages (Fama, 1980).

Clearly, in a market economy, the assessment of a manager’s performance are
taken care of by market competition. This is an essential condition for the success of
modern corporate governance. Without a competitive market in the planned
economy, the deprivation of SOE managerial autonomy is a second best institutional
arrangement from the viewpoint of protecting the state’s property and of securing the
fulfillment of the state’s objectives. Hence, the SOE governance in the pre-reform
period was endogenous. Its specific arrangements were conditioned by the lack of a
low cost sufficient information indicator of the managerial performance due to price
distortions and the lack of market competition. Without overcoming the problem of
information asymmetry, the deviation of managerial institution from the pre-reform
arrangement would lower the owner’s interests.

IV. Policy Burdens and soft-budget constraints

Before the reforms, except for shirking, agency problems such as on-job
consumption, looting and other wrong doings were not serious in SOEs because of
the deprivation of managerial autonomy. The analysis in section III suggests that the
increase of competition in a market economy would have eliminated or at least

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2 If only the firm’s performance itself, but not the performance of other firms in the market, is
observable, competition may also mitigate the agency problems by the threat of liquidation (Klaus M.
Schmidt, 1997) and reduction in the firm’s profits, which reduce the room for managerial discretion
(Hart 1982). However, the optimal contracting literature suggests that these above effects are not
very robust.
mitigated these agency problems. Since the beginning of economic reform, the emergence and growth of the nonstate sector has posed a challenge to the state-owned sector. Competition has begun to appear in Chinese economy. However, agency problems in SOEs have worsened after the reforms in spite of the intensification of competition. What are the reasons?

From the literature we know that the observation of some summary indicators, such as an enterprise’s relative profits, will be a sufficient statistic of its manager’s performance if firms face only common uncertainties (Holmstrom 1982). That is, such a enterprise does not have any idiosyncratic shocks in its input costs, output prices, or production process. However, this condition does not hold for the SOEs in China and other transitional economies. As legacies of pre-reform policies, the SOEs encounter a number of idiosyncratic burdens, including:

1. The capital intensity of many large SOEs is too high, judging from the capital-scarcity nature of the Chinese economy. They are not viable if they have to pay market-determined interest rates and face market competition, especially competition from the capital-abundant economies (Lin and Tan 1999). Before the reforms, both their investments and working capital came from interest-free fiscal appropriations. They were also shielded from international competition. After the reform, the government replaced the fiscal appropriations with interest-bearing loans, and the protections were also gradually eliminated. In a capital-scarce economy, the capital-intensive enterprises industries are not competitive by nature. However, the state views the capital-intensive industries as strategically important and the SOEs are instructed to operate in those industries.

2. Some SOEs’ output prices are still distorted. Before the reforms, the prices of energy, raw materials, and other products or services, which were considered as inputs to the heavy industry projects, were artificially suppressed. After 18 years of reform, most
prices have been liberalized. However, the prices of energy, transportation, and a few other products are still kept below the market-equilibrium level. These prices often cannot cover production costs.

3. The SOEs bear a heavy burden from retirement pension and other social welfare costs. Before the reforms, the state adopted a low nominal wage policy. The wage was only enough to cover the employee’s current consumption. The SOEs were responsible for their employees’ retirement pensions, housing, medical cares and other needs. Before the reform, this policy did not pose any extra burden on the SOEs because the state covered all the SOEs’ expenditures by fiscal appropriation. However, after the managerial reform, the SOEs have had to be responsible for the wages and social welfare of not only the incumbent employees but also their retired workers. The older an SOE is, the more retired workers it has and the heavier the burden from retired workers’ pensions and social welfare expenditures it carries.

4. The heavy-industry-oriented development strategy before the reforms did not create enough job opportunities for urban residents. SOEs were thus forced to employ many redundant workers. The SOEs are not allowed to reduce the redundant workers for the sake of social stability.

The above policy-determined burdens put the SOEs in a disadvantaged position in competing with nonstate enterprises. Because each SOE is established at a different time, has somewhat different technology and capital intensity and has a different number of retired as well as redundant workers, the impact of the above policy burdens on each SOE’s competitiveness is idiosyncratic. Therefore, competition among the SOEs and/or between the SOEs and nonstate enterprises cannot serve as a device to extract information optimally. Under this circumstance, the expansion of SOEs’ managerial autonomy will worsen the agency problems.
In theory, the state should be responsible only for the SOEs’ losses that arise from the policy burdens. However, because of the information asymmetry problem, it is very hard for the state to distinguish between the policy-induced losses and the SOE’s own operational losses. The managers of SOEs will ascribe all their losses—no matter whether the losses are due to the policy burdens or due to their own incompetence or opportunistic behaviors—to the state’s policies. Consequently, in most cases, the state in practice has to be responsible for all the SOEs’ losses. As such, the SOEs’ budget constraints become soft. The soft budget constraints in turn worsen the moral hazard, managerial slacks, on-job consumption and other agency problems. To constrain the agency problems, the state will have to intervene directly into the SOEs’ operations. Then there will arise a vicious cycle of policy burdens, subsidies, agency problems, and political interventions in the SOEs’ management system. The conflict between increasing productivity and declining profitability in SOEs after reform provides a good example.

V. The elimination of policy burdens and SOE reform

The failure of 20 years of managerial reform to eliminate agency problems and tighten the SOE budget constraint has made privatization attractive to some economists. However, as long as the policy burdens remain, even if SOEs are privatized the state cannot excuse itself from policy-induced losses, and soft budget constraints will persist. This has been the case with mass privatization in Eastern Europe and the former Soviet Union (World Bank 1996). For SOE reform to be effective, it is first necessary to remove policy burdens. Without policy burdens, the

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3 The agency literature suggests that, without competition, it is still possible to design a second-best incentive contract to minimize the principal’s problem. However, the literature assumes the shocks, no matter common or idiosyncratic, to be exogenous and the contract is enforceable. In the case of policy burdens, the state has to be accountable for the burdens. As such, incentive contracts between the state and SOEs are not enforceable and will not mitigate the principal’s problem.
SOEs must be accountable for their own performances and their budget constraints can be hardened.

The success of China’s reforms so far can be attributed to its gradual, incremental Pareto improvement approach (Lin et al. 1996a and b). The final success of SOE reform depends on the creation of a fair competitive environment so that the SOE’s budget constraints can be tightened and the incentive between the state and the SOE’s managers and workers will become compatible. Reform measures should generate ‘Pareto improvements’ or at least ‘Kaldor improvements’ in order to maintain social stability. The following reform can be used to eliminate SOEs’ policy burdens and create a level playing field for SOEs.

1. For SOEs that are highly capital-intensive, such as those in the heavy machine building industry, survival in a competitive market environment is unlikely because they are inconsistent with China’s comparative advantage. There are two approaches that can be used to reform these enterprises. First, if their products still have large domestic markets, the government should allow them to list in the international capital markets or to obtain foreign direct investment through joint ventures. As long as they can get access to foreign capital, their capital costs will be reduced and their survival is not constrained by China’s comparative advantage. Such approach is also attractive to foreign capital because it provides a channel for the foreign capital to enter Chinese market. Second, for those enterprises their domestic markets are limited, the state should encourage them to shift their products to new market niches that are consistent with China’s comparative advantage. To avoid an immediate shock, the state can continue the existing level of subsidies to them. The various subsidies should be simplified into one explicit subsidy and the total subsidy fixed at the existing level. With this arrangement, the SOEs can survive at the current welfare level. These SOEs generally have the best-trained engineers and workers in China -
they have a comparative advantage in human capital. If they are given the freedom to shift their production lines, they should be able to find a niche in the market where they are competitive. By gradually shifting production capacity to more competitive products, profits will rise. The state can monitor operational efficiency by profit levels,\(^4\) and benefit from improved efficiency through more tax revenue.

2. The price formation mechanism of SOEs in the infrastructure sector should be changed. If they have economies of scale but are not natural monopolies, such as SOEs in coal and petroleum industries, prices should be liberalized and allowed to reach international levels so that their products can compete with products imported from international markets. The SOEs in large communication and transportation sectors are natural monopolies and their products and services are non-tradable. To eliminate shortages in these industries, the state should apply the cost mark-up pricing method to their products and services. When the state rids itself of the burden of managing millions of SOEs and concentrates on managing a few large enterprises in the infrastructure sector, problems arising from insufficient information can be alleviated, and the efficiency of these SOEs can be improved.

3. The state should relieve all SOEs from the burden of retirement pensions. The additional surplus extracted through the low-wage policy before the reform was remitted to state coffers and used as the state’s investment funds. To create a level playing field for competition between SOEs and non-SOEs, the state should take full responsibility for pensions of SOE employees who were hired before the reform and are now retired. For current employees of SOEs, the state should be responsible for their pensions in proportion to the number of years they were employed before the reform.

4. The solution of the over-staffing problem of SOEs ultimately depends on a change in the economic development strategy. We realize that the heavy-industry-oriented

\(^4\) Their profits is calculated as follows: \(\text{(Revenues} + \text{subsidy}) - \text{costs of operation})\).
development strategy and the corresponding macro-policy environment encourage the use of capital and discourage the use of labor. The ability of SOEs to absorb labor is constrained because they are implementing the traditional development strategy. At the same time, SOEs indisputably have to maintain social stability and employ urban laborers according to plan, which is more than they need. In particular, after the micro-management mechanism and labor productivity of SOEs are improved, the over-staffing issue will become more acute, and the burden of surplus labor arises. However, when SOEs are finally freed of the constraints imposed by the traditional development strategy, their industrial structure will be adjusted, and their ability to employ labor will also increase. The situation of over-staffing will be mitigated. If there are still redundant workers, the state should provide programs for early retirement or to assist the workers finding jobs in the nonstate sector. The latter is possible because non-state enterprises have developed according to market demand and industrial opportunities and they are in conformity with China’s comparative advantages, so they are more labor intensive, and are able to absorb labor. For example, rapidly growing township-and-village enterprises can employ 18 workers for a net value of 100,000 RMB Yuan worth of fixed assets, while SOEs can employ 3.5 workers for the same amount of fixed assets. Therefore, with the continued expansion of the non-state sector, the ability for the entire society to absorb labor will increase, and the surplus labor of SOEs will have more opportunities to find jobs in the nonstate sectors.

VI. Concluding remarks

As in past decades, the SOE still has a comparative advantage in human capital, technological capacity and material strength. Due to a central role in the traditional economic system, SOEs were assigned the best managerial staff, technicians and workers in China.
In 1993, the number of research and development personnel in large and medium-sized SOEs was 1.3 million, accounting for 57 per cent of the national science and technology work force. For the state sector, the ratio of research and development expenditure to revenues is more than 2.2 times the national level. Nevertheless, many large and medium-sized industrial SOEs are struggling for survival. Once these SOEs are relieved of their policy-induced burdens and allowed to adjust their production lines to utilize their comparative advantage in human resources and technology, they should have the ability to compete with other enterprises in the market.

After the realization of reform measures discussed earlier, the SOEs’ soft budget constraint can be eliminated. Remaining distortions and interventions in the economy can then be removed. These measures include:

- Lifting financial repression and liberalizing the interest rate to establish a flexible and efficient capital market.
- Further liberalizing the foreign exchange market and making the domestic currency convertible.
- Removing the barrier to rural-urban migration, liberalizing the labor market, and allowing employment and wage levels to be determined by demand and supply in the labour market.
- Liberalizing the prices of all commodities and forming an integrated national market.

Once these actions are taken, the managerial labor market and stock market will start to function. The profit of an SOE will then be a sufficient information indicator of the SOE’s managerial performance. With profit as a simple, objective measure of managerial efficiency, the state can easily monitor SOEs. The problem of incentive incompatibility, arising from information asymmetry and the separation of ownership from control, can then be overcome.
The elimination of policy-induced burdens and the creation of a competitive market do not guarantee that SOEs perform well. If an SOE fails to perform, other enterprises will have an incentive to takeover, replace management, improve efficiency and increase profits. Without policy-induced burdens an SOE should be able to make normal profits. Whether privatization is a necessary condition for improving SOE efficiency cannot be determined a priori. It is most important to allow enterprises with different ownership structures to compete freely in the market and let competition determine the survivors.

I only discuss SOE reform in China. However, the discussion should also be useful for SOE reform in other economies. Most SOEs in other economies are inefficient and require government subsidies for survival due to policy-induced burdens. These burdens make the profit level lose its function as a sufficient information indicator for managerial efficiency and give SOEs excuse for pressing for soft budget constraints. As in China, the managers of SOEs in other economies have no incentive to improve efficiency and governments cannot make the managers accountable. The key for successful reform of SOEs in other economies is to eliminate policy induced burdens so that the profit level can become the criterion for assessing the performance of SOE managers. Evidence from New Zealand indicates that this approach works (World Bank 1996:50).
Table I - STRUCTURAL CHANGE OF INDUSTRIAL OUTPUT, 1978-98

(BILLION YUAN, PER CENT)

<table>
<thead>
<tr>
<th>Year</th>
<th>total</th>
<th>SOE</th>
<th>Collective</th>
<th>Private</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>1978</td>
<td>423.7</td>
<td>328.9</td>
<td>94.8</td>
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<td>0</td>
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<tr>
<td></td>
<td>(100%)</td>
<td>(77.6%)</td>
<td>(22.4%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1985</td>
<td>971.6</td>
<td>630.2</td>
<td>311.7</td>
<td>18.0</td>
<td>11.7</td>
</tr>
<tr>
<td></td>
<td>(100%)</td>
<td>(64.7%)</td>
<td>(32.1%)</td>
<td>(2.1%)</td>
<td>(1.1%)</td>
</tr>
<tr>
<td>1990</td>
<td>2392.4</td>
<td>1306.3</td>
<td>852.3</td>
<td>129.0</td>
<td>104.8</td>
</tr>
<tr>
<td></td>
<td>(100%)</td>
<td>(54.6%)</td>
<td>(35.6%)</td>
<td>(5.4%)</td>
<td>(4.4%)</td>
</tr>
<tr>
<td>1995</td>
<td>9959.5</td>
<td>3122.0</td>
<td>3362.3</td>
<td>1182.1</td>
<td>1523.1</td>
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<tr>
<td></td>
<td>(100%)</td>
<td>(31.3%)</td>
<td>(33.8%)</td>
<td>(11.9%)</td>
<td>(15.3%)</td>
</tr>
<tr>
<td>1998</td>
<td>11969.3</td>
<td>3411.0</td>
<td>4584.3</td>
<td>2265.6</td>
<td>2383.7</td>
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<tr>
<td></td>
<td>(100%)</td>
<td>(28.5%)</td>
<td>(38.3%)</td>
<td>(18.9%)</td>
<td>(19.9%)</td>
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Table 2 - SECTOR COMPARISON OF GROWTH RATES OF OUTPUT VALUE AND TOTAL FACTOR PRODUCTIVITY (%)  

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>State sector</td>
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<tr>
<td>Total output value</td>
<td>8.94</td>
<td>6.77</td>
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<td>Total factor productivity</td>
<td>2.40</td>
<td>1.80</td>
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<tr>
<td>Collective sector</td>
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<tr>
<td>Total factor productivity</td>
<td>4.64</td>
<td>3.45</td>
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<tr>
<td>Total factor productivity</td>
<td>4.63</td>
<td>3.45</td>
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</tbody>
</table>

References


