



# CHAPTER 1

## REFORMING SOEs UNDER CHINA'S STATE CAPITALISM

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### 1.1. Introduction

The economic volatility in the developed world and the rise of state capitalism in emerging markets are the two prominent parallel developments in the world economy in the past decade. On the one hand, the advanced economies in Europe and North America have been hard hit by the global financial crisis and the Eurozone crisis. On the other hand, the emerging market economies represented by the BRICS have changed their development strategy from a Washington-consensus-based liberal capitalism model to a model of state capitalism. In Russia, the leadership in the past decade responded to the demand of the public for order and state control by reasserting direct state control over “strategic” industries and making private-sector oligarchs obedient to bureaucratic command. In China, the state advanced and the private sector retreated in the past decade. The state capitalism model has shown its extraordinary strength in the wake of the global financial crisis. China’s fiscal stimulus package working primarily through state companies has rather quickly stabilized output growth and employment, helped the country weather the crisis, and even led the world

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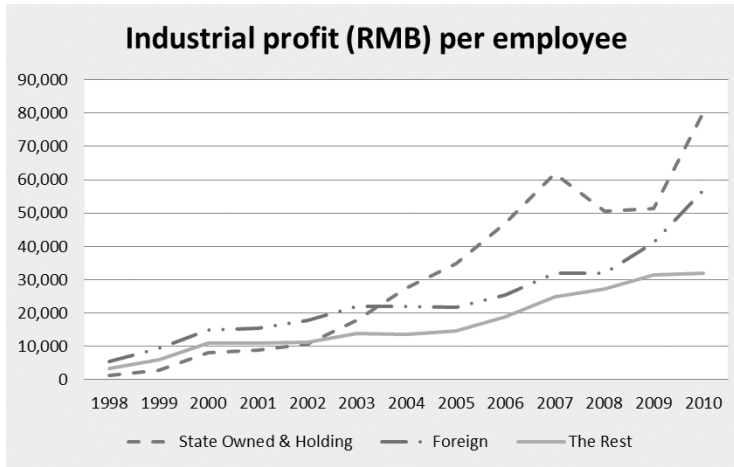


out of recession. The dynamic economic growth in China as well as other major emerging markets has boosted the public and the leadership's confidence in state capitalism as a sustainable model rather than a transient one on the road to liberal capitalism. As the most important pillar of the state capitalism model, state-owned enterprises (SOEs) have been playing an instrumental role in the society. In China, state companies make up 80% of the stock market capitalization value (The Economist, 2012). The state typically holds a substantial proportion of shares in large companies, promotes state-controlled national champions through favorable industrial policies and generous financial support, and steers state-controlled companies to help the state to fulfill political and social objectives.

Besides the size of the SOE sector, the profitability of SOEs is also extremely impressive. If you take a look at the 57 Chinese firms on the list of Global Fortune 500 in 2011, you will find that almost all of them are SOEs (Li *et al.*, 2012). Moreover, among the top 500 firms in China, 81.88% of the total profits are made by SOEs. The ten most profitable firms in China are all state companies, among which the five state-owned commercial banks and the three state-owned oil companies earn profits twice as many as those of the 184 private companies in China's top 500 firms list (Du *et al.*, 2012). If you compare the average profitability of SOEs with that of non-SOEs, you will find that the SOEs have been outperforming the non-SOEs in the past decade, exactly opposite to what happened in the 1990s.

Figure 1.1 plots the average profit per worker for firms of different ownership in the industrial sector for 1998–2010. It shows clearly that the state-owned and the other state-controlled firms became more profitable than non-SOEs after 2002. Given the decade-long coexistence of high GDP growth and remarkable profitability of SOEs, which appears to contradict the public image of SOEs in the 1990s as the money-losing and growth-undermining entities, we must address three questions. First, what is the root of recent prosperity of SOEs in the macroeconomic and global context? Second, what will be the important possible consequences if SOEs stay in the status quo? Third, if it is imperative to transform the remaining SOEs, how to proceed?

The main focus of this chapter is to address the third question, but the prerequisite is a confident understanding of the first two questions. Why



**Fig. 1.1.** Average profit per employee for 1998–2010.

Source: CEIC (taken from Li *et al.*, 2012).

after all should we worry about SOEs as they are making money now? Thus the chapter is structured as follows.

Section 1.1 briefly addresses the first two questions, which largely follows and summarizes the theoretical framework developed in Li *et al.* (2012). A simplified mathematical model is also developed here to show that the prosperity of China's SOEs is actually a symptom of the incompleteness of the market-oriented reforms. More specifically, we argue that the high profitability of the SOEs in the past decade is mainly due to that the remaining SOEs are monopolizing the upstream industries such as energy, raw materials, banks, and telecommunications while the downstream industries such as manufacturing and other tradable sectors are largely liberalized by year 2000. Therefore the expansion of the dynamic downstream sectors, which operate in fairly competitive markets and are facilitated by China's abundant labor endowment and its accession to WTO in 2001, leads to a huge increase in the demand for the upstream intermediate goods/services or production inputs, which are monopolized by the state via SOEs. Consequently, the upstream SOEs are able to extract monopoly rents from the downstream private sectors in this vertical structure. Li *et al.* (2012) also explain why SOEs were performing

poorly in the 1990s, when the downstream sectors were liberalized and SOEs lost competitions with the entering private firms. They argue that the upstream SOE monopoly, if not reformed in time, would eventually strangle the growth of the downstream private sectors and undermine the growth sustainability of China.

Du *et al.* (2012) attempt to detect the existence and estimate the magnitude of SOE monopoly in the manufacturing sector from 1998–2005 and their finding is also summarized in this chapter. They show that the monopoly of SOEs hurts the productivity and the remaining SOEs are still enjoying quite non-negligible monopoly power even in the manufacturing sector, which suggests that the upstream SOEs would probably have even stronger administrative monopoly power.

In Section 1.2, we summarize several key features of the remaining SOEs. Section 1.3 to Section 1.5 is the core part of this chapter. In Section 1.3, we analyze the important economic, political, and social functions played by the remaining SOEs, which reveals the delicacy and complicatedness of potential SOE reforms at the current development stage of China. Section 1.4 explores more closely the possible economic and political causes of SOE monopoly in different sectors and discusses what possible prescriptions we could provide for the SOE reforms after the diagnosis. In particular, we highlight the importance of endowment-driven industrial upgrading and the related industrial policies when considering the reform of China's SOEs. We argue that government indeed should play an active and appropriate role in the structural transformation due to various market failures, but the current prevalence of SOEs in China is way beyond what is warranted by economic efficiency criterion. We argue that the SOE reforms have to be careful and case by case, not only should we underplay the positive contributions of SOEs in certain sectors and industrial policies, but also we should try to strictly confine the role of SOEs to the legitimate boundary where market failure is significant while the government failure (rent seeking) is limited. Instead of advocating overnight elimination of SOE monopoly in all sectors, we propose a strategy of case-by-case and sequential reforms of SOEs that is consistent with China's institutional reality and its endowment-driven industrial upgrading at the current development stage.



Successful SOE reforms cannot be isolated from other complementary institutional or policy support that is beyond the SOEs themselves, which is discussed in Section 1.5. We particularly emphasize the importance of political and legal reforms, which are crucial to preventing China from falling into a predatory state capitalism in which the special interest groups become strong enough to effectively block welfare-enhancing SOE reforms. Section 1.6 concludes.

## 1.2. Causes of High Profitability of SOEs

In analyzing the causes of high profitability of SOEs in China, the World Bank (2012) points out sharply that a large share of SOEs' profits comes from the monopoly power they enjoy. Governments at various levels typically impose limits on entry and competition to help SOEs maintain monopoly power; at the same time, governments typically offer public procurement contracts to SOEs and provide other favorable treatments to SOEs. In this sense, the high profitability of SOEs in China is a direct outcome of administrative monopoly.

The recent study of Li *et al.* (2012) examines the issue of administrative monopoly of SOEs in upstream industries and its impacts on the whole national economy in detail. In that chapter, they build a general-equilibrium model trying to explain why SOEs outperformed non-SOEs in the past decade while the opposite was true in the 1990s, although the GDP growth rates of China were stably high during the whole period.

Their key argument can be briefly summarized as follows. As a result of economic liberalization and SOE reforms in the 1990s, a vertical structure of state capitalism emerged around 2000. That is, SOEs have largely retreated from most of the downstream sectors (such as manufacturing and many services including hotel and restaurants) while SOEs continue to monopolize some key industries and markets in the upstream sectors (such as energy, finance, telecommunications), which provide intermediate goods or services that the downstream sectors need as necessary input for their business operations. The dynamism in the liberalized downstream sectors, especially after China's entry to WTO in 2001, is the main engine that drives the fast GDP growth. At the same time, the expansion of the downstream sectors enlarges the total demand for the upstream



goods and services, which are monopolized by the upstream SOEs. Consequently, upstream SOEs are able to extract huge monopoly rents from the downstream, especially given low wages sustained by the large labor pool in China. This is why high GDP growth coexists with SOEs outperforming non-SOEs in the last decade.

To formalize this important idea, we will use a much simplified mathematical model adapted from Li *et al.* (2012) to illustrate the key mechanisms. Interested readers are strongly advised to read that chapter for a more complete and careful technical treatment.

Consider an open economy, where there are two sectors in the home country: one is the agriculture sector and the other is the industrial sector. There is a vertical structure of industries within the industrial sector, that is, there is an upstream industry and a downstream industry.<sup>1</sup> The upstream industry provides intermediate goods and services that the downstream one uses as inputs for its production. The upstream industry can be imagined as energy or raw materials. The downstream industry can be imagined as manufacturing. Suppose there is a continuum of households with measure equal to unity. Each household is endowed with  $L$  units of labor (time). All these households share the same utility function as follows:

$$u = c_0 + c_d^\theta, \quad \theta \in (0,1), \quad (1.1)$$

where  $c_0$  denotes the consumption of the agriculture product and  $c_d$  denotes the consumption of the downstream good.  $\theta$  is a parameter that determines the price elasticity of demand for the downstream good.

Suppose labor is the only production factor and all the technologies are constant returns to scale.<sup>2</sup> More precisely, one unit of labor produces one unit of agriculture good, which is produced by perfectly competitive farms. So the price of the agriculture good is equal to wage  $w$ , which is normalized to unity. The agriculture good is also called the numeraire good in this paper.

<sup>1</sup> In Li *et al.* (2012), there are a continuum of horizontally differentiated downstream industries and partial liberalization of the downstream industries is also explicitly studied under non-competitive market structure.

<sup>2</sup> Both capital and labor are needed in the model of Li *et al.* (2002), which also addresses the question why China's labor income share is declining in the past two decades. Also see Brandt *et al.* (2008, 2010).



Suppose one unit of labor produces  $\eta$  units of the upstream good, denoted by  $x_u$ , where the subscript denotes “upstream”. So the unit cost of upstream good is  $\frac{w}{\eta}$ . The upstream industry has only one firm, which monopolizes the supply of the upstream good. This upstream monopolist firm is State-owned but actually controlled by an elite group in this society. No private firms are allowed to enter the upstream industry. Good  $x_u$  cannot be used for consumption.

The downstream industry is perfectly competitive with free entry, and each firm has the following Cobb-Douglas production function:

$$x_d = Ax_u^\alpha l^{1-\alpha},$$

where parameter  $A$  is the TFP of the downstream industry,  $x_u$  and  $l$  are the upstream intermediate good and the labor used in the production. Let  $p_d$  and  $p_u$  denote the prices of the downstream good and the upstream good, respectively.

Therefore, we must have equilibrium price of downstream good given by

$$p_d = \frac{p_u^\alpha w^{1-\alpha}}{A\alpha^\alpha (1-\alpha)^\alpha}. \quad (1.2)$$

A household maximizes his utility function (1) subject to the following budget constraint:

$$c_0 + p_d c_d = I, \quad (1.3)$$

where  $I$  denotes the total income of this household. This household optimization problem yields the following equilibrium demand for the downstream and numeraire goods:

$$c_d = \left( \frac{p_d}{\theta} \right)^{\frac{1}{\theta-1}} \quad (1.4)$$

and

$$c_0 = I - p_d \left( \frac{p_d}{\theta} \right)^{\frac{1}{\theta-1}}. \quad (1.5)$$

Observe that the household demand for the downstream good is independent of his total income, which captures the reality that domestic



private Consumption-GDP ratio is sustainably low in China,<sup>3</sup> therefore Equation (1.4) is also the aggregate domestic demand for the downstream consumption good (recall there is a unity measure of households).

By Shepard's Lemma, to produce one unit of downstream good, it requires  $\frac{\partial p_d}{\partial p_u}$  units of upstream good and  $\frac{\partial p_d}{\partial w}$  units of labor. Therefore, by revoking (1.2), we obtain the aggregate domestic demand for upstream goods that are used to produce domestic consumption good as given by

$$D_u = \left(\frac{p_d}{\theta}\right)^{\frac{1}{\theta-1}} \frac{\partial p_d}{\partial p_u} = \alpha \left(\frac{1}{\theta}\right)^{\frac{1}{\theta-1}} \left[ \frac{w^{1-\alpha}}{A\alpha^\alpha(1-\alpha)^\alpha} \right]^{\frac{\theta}{\theta-1}} p_u^{\alpha \frac{\theta}{\theta-1}-1} \quad (1.6)$$

Remember this is an open economy model and suppose the rest of the world has the following demand function for the downstream goods produced in the home country<sup>4</sup>:

$$D_d^f = B \cdot p_d^{-\gamma}, \quad \text{where } \gamma > 1.$$

Therefore the total upstream goods needed to produce for this external demand of downstream good is given by

$$D_u^f = B \cdot \alpha \left[ \frac{w^{1-\alpha}}{A\alpha^\alpha(1-\alpha)^\alpha} \right]^{-\gamma+1} p_u^{\alpha(1-\gamma)-1}. \quad (1.7)$$

The upstream monopolist SOE tries to maximize its profit by solving the following problem:

$$\Pi \equiv \max_{p_u} \left( p_u - \frac{w}{\eta} \right) \cdot \left[ \alpha \left(\frac{1}{\theta}\right)^{\frac{1}{\theta-1}} \left[ \frac{w^{1-\alpha}}{A\alpha^\alpha(1-\alpha)^\alpha} \right]^{\frac{\theta}{\theta-1}} p_u^{\alpha \frac{\theta}{\theta-1}-1} + B \cdot \alpha \left[ \frac{w^{1-\alpha}}{A\alpha^\alpha(1-\alpha)^\alpha} \right]^{-\gamma+1} p_u^{\alpha(1-\gamma)-1} \right], \quad (1.8)$$

<sup>3</sup> This ratio is only 35% in China and far lower than the international average, which is above 55%. This is partly due to the income inequality, which is discussed in Li *et al.* (2012).

<sup>4</sup> The foreign demand function is endogenously derived together with the endogenous trade pattern in a general-equilibrium two country model in Li *et al.* (2012).





where the first parenthesis is the net return for each unit of output and the second parenthesis is (1.6) + (1.7), i.e. the total sum of the domestic and external demand for the upstream good.

Obviously, if  $B = 0$ , then the home country is a closed economy. In that case, the solution to the above monopolist problem is

$$p_u = m \cdot \frac{w}{\eta},$$

where the markup  $m$  is defined as  $m \equiv \frac{\alpha\theta - (\theta - 1)}{\alpha\theta}$ .

On the other hand, if all the downstream output is only to serve the foreign demand, then

$$p_u^* = m^* \cdot \frac{w}{\eta},$$

where the markup  $m^*$  is defined as  $m^* \equiv \frac{\alpha(1-\gamma)-1}{\alpha(1-\gamma)}$ .

The solution to the original problem (1.8) cannot be obtained in a closed-form way, but it exists and is unique. The equilibrium markup  $\hat{m}$  is a weighted average of  $m$  and  $m^*$ . The larger the external demand shifter  $B$ , the closer  $\hat{m}$  is to  $m^*$ , which would imply an endogenous and time-varying SOE price markup when extended to a dynamic model.

**Proposition 1.1.**  $\frac{\partial \Pi}{\partial A} > 0$ ;  $\frac{\partial \Pi}{\partial B} > 0$ .

The proof is straightforward. The first inequality in the above proposition says that the upstream SOE profit will increase when the downstream private firms have a higher productivity. This is because a more productive downstream industry will imply a lower price of the final consumption good and hence a larger consumer demand, which raises the total demand for the upstream good as the downstream production scale expands. This induced increase in the demand for the monopolized upstream intermediate good will then lead to a larger SOE profit. Notice that this is diametrically opposite to the case when the SOE and private firms are competing in the same or horizontally differentiated industries, as what was happening during the SOE reforms in the 1990s. At that time, SOEs and private firms were rivals, so a higher productivity of the opponent private firms would imply a lower profit of SOEs.



The second inequality in the above proposition says that a larger foreign demand for the downstream goods will imply a higher profit of the upstream SOE in the home country. The intuition is also straightforward because more exports of the downstream good will imply more expansion of the production scale of the downstream (private) industry in the home country, therefore the upstream SOE can sell more of their intermediate good/service to the downstream private firms and hence extract more monopoly rents. This is consistent to the fact that China's export expanded rapidly after its entry to the WTO in 2001. In fact, the timing is also consistent to the fact that the profit of SOEs accelerated and first exceeded that of the private firms around 2002 (see Figure 1.1). If China were a closed economy, then the total demand for the downstream sector would be limited by domestic consumption demand, therefore the total profit of upstream SOE would not be that impressive. Notice that, in our model, upstream SOE benefits more from trade liberalization in the downstream industry although the upstream SOE is not directly involved in export. In reality, SOEs indeed only accounts for less than 15% of the total export in China in recent years, but they are much more sensitive to the external market conditions.

**Proposition 1.2.** *When  $L$  is sufficiently large, we have  $\frac{\partial w}{\partial L} = 0$ ;  $\frac{\partial \Pi}{\partial L} = 0$ . When  $L$  is sufficiently small, we have  $\frac{\partial w}{\partial L} < 0$ ;  $\frac{\partial \Pi}{\partial L} > 0$ .*

The proof is straightforward and hence skipped. The intuition is the following. When labor supply is abundant, the industrial sector cannot absorb all the labor, so the agricultural (numeraire good) output is still positive. Therefore the wage is sustained at a constant level (equal to one) despite the expansion of the industrial sector, for example, due to increased foreign demand or rising domestic productivity. And because of this constant wage level and the fact that the total demand for the downstream and hence the upstream good is independent of income  $I$ , as reflected by (1.4) and (1.7), the labor endowment does not affect the upstream SOE profit either. However, when  $L$  becomes sufficiently small, then eventually all the labor will be absorbed by the industrial sector in home country, therefore the wage will no longer be constant after all the labor has moved out of agriculture. More labor supply leads to a lower wage. In that scenario wage will increase as the industrial sector expands



and hence the upstream SOE will have a smaller profit due to the rising labor cost.

This proposition highlights the importance of labor abundance in contributing to China's upstream SOE profitability. If China were a small country, then the wage would rise immediately after the downstream private industry expanded, which would squeeze the room for markup pricing charged by the upstream SOE for its monopolized intermediate good. To put it more precisely, this model shows how the upstream SOE achieves its prosperity by extracting monopoly rents from the competitive downstream private sector via domestic and foreign consumers by taking advantage of China's abundant labor endowment.

Now when wage rate rises as the economy develops, how to make this development model of state capitalism sustainable, especially when the foreign demand is weak (when  $B$  is small, due to, for example, world financial crisis)?

The above model suggests that there are only two prescriptions, that is, to reduce the price markup of the upstream SOE and raise the productivity of upstream SOE ( $\eta$ ). Otherwise, the final downstream good would no longer remain competitive in the international market, especially when another country such as Vietnam is competing with China for the downstream good. This indicates that the upstream SOE monopoly has to be reformed in order to relax the growth bottleneck for the downstream sector and for the whole economy.

In Li *et al.* (2012), they also use the same framework to explain why SOEs were performing poorly in the 1990s. At that time, the downstream sectors started to be liberalized on a massive scale, so the entry of private firms and other types of non-SOEs enhanced the market competition. Not surprisingly, the SOEs were unable to compete with those new entrants and thus incurred more financial losses than before. At the same time, upstream SOEs such as state-owned banks were required to extend various subsidies to those dying SOEs, which resulted in pervasive non-performing loans and worsened the aggregate performance of SOEs even further. Thus SOEs on average performed poorly during this period when compared with private firms and other types of non-SOEs. Nevertheless, the aggregate economy still grew rapidly thanks to the improved resource allocation from the low-efficiency SOEs to



high-productivity non-SOEs, in addition to the technological progress and so on. The impact of capital market frictions in this process is carefully explored in Song *et al.* (2011).

Thus, we can conclude that the transition of the SOE sector from financial plight in the 1990s to high profitability in the 2000s primarily stems from the fact that SOEs largely withdrew from market competition with non-SOEs in downstream industries and enjoyed administrative monopoly rents in the upstream industries. Various forces such as government protection, abundant supply of low-wage labor, strong export demand, etc. work together to contribute to the prosperity of the SOE sector. By exploring the experience of SOE restructuring and privatization from 1998–2005 as a quasi-natural experiment, Du *et al.* (2012), attempts to detect the existence and changes of administrative monopoly power for SOEs in China's manufacturing sector. This is a challenging task because monopoly power is typically covert and hard to measure. They investigate the changes in firm-level markup, i.e., the wedge between product price and marginal cost and then combine this analysis of markup with that of total factor productivity (TFP) following the SOE restructurings. By examining a comprehensive dataset of Chinese enterprises, i.e., Chinese Industrial Enterprise Survey compiled by the National Bureau of Statistics in China, they recover the firm-level markup estimates and TFP estimates. Then, they investigate the changes in markup and TFP for privatized SOEs before and after restructuring, and compare them with the changes in markup and TFP for the control group firms that remained as SOEs throughout the sample period. An implicit assumption is that the privatized SOEs would have followed the same trend in markup and TFP changes if they had not been restructured. The differences in the changes of markup and TFP between privatized SOEs and the firms in the control group capture the effects of state ownership on markup, that is, the administrative monopoly power.

Their study finds that privatized SOEs experienced a statistically significant decline in markup and a significant rise in TFP in the post-restructuring years. These changes occurred primarily in the year of privatization and the immediate following year, which gives support to the claim that the changes in markup and TFP stem from the change in the



ownership nature of the firms. Theoretically speaking, a reduction in firm-level markup could be an outcome of a decrease in product price, an increase in production costs, or both. Given that TFP has increased following privatization, the decline in markup is unlikely to be driven by an increase in marginal costs. On the contrary, a reduction in market prices of products and hence administrative monopoly power should be the primary reason for the drop in markup for privatized SOEs. This in turn demonstrates that SOEs had overcharged for their products and obtained substantial monopoly rents before they were restructured.

In Du *et al.* (2012), they focus on mostly downstream manufacturing industries where non-state enterprises and foreign enterprises have kept entering for decades in the reform period and the state ownership has gradually reduced its presence. Even in these industries, they still detect the existence and very significant impacts of administrative monopoly power. It is imaginable that in some more strategically important upstream industries where the state has strictly prevented the entry of non-state enterprises and foreign investment, the administrative monopoly power could be even more prevalent and severe.

To summarize, the above researches both show that administrative monopoly is a crucially important feature of the remaining SOEs, no matter in the SOE-dominant upstream industries or the gradually-liberalized downstream industries. Furthermore, Li *et al.* (2012) argue that the root of recent prosperity of SOEs in China is the incompleteness of the market-oriented reforms in China: the downstream sectors are largely liberalized as the SOEs were “let go”, either becoming bankrupt or privatized, and trade liberalization is also deepened by China's entry to WTO, but the upstream SOEs still maintain the monopoly position, which enables them to extract monopoly rents from the non-SOEs in the liberalized downstream sectors.

Naturally, we will have to ask the following question: what will happen if SOEs continue to monopolize the upstream sectors? Or put differently, is this development model of state capitalism sustainable?

To understand the possible causes of existing SOE monopoly in different sectors, it is crucial to first briefly re-examine the key characteristics of existing SOE and the economic, political, and social roles they are playing, which we now turn to in Section 1.2.



### 1.3. Key Characteristics of Existing SOEs

First of all, SOEs have largely retreated from the downstream industries such as manufacturing and the remaining SOEs are largely concentrated in the upstream and high-profit margin industries such as energy, raw materials, telecommunications, banks, etc. This vertical structure has been documented in details in Li *et al.* (2012).

Second, the remaining SOEs are typically large. In 2007, the total number of SOEs in China stands at approximately 112,000. The government has cultivated a host of national champions such as Petro China, China Petrochemical Corporation, State Grid Corporation of China, etc. Tables 1.1 and 1.2 show the characteristics of the large firms in China in year 2007. At present, SOEs account for 63.2% of China's top 500 enterprises in terms of number, 82.82% in terms of operational income, and 90.40% in terms of total assets. China's largest SOE, China Petrochemical,

**Table 1.1.** Structure and performance of top-500 Chinese enterprises in 2007, by ownership (%).

Ownership	No. SOEs	Assets	Profit	Employees	Taxes	ROA
State	69.8	93.6	87.9	89.3	92.7	1.4
Collective	5.8	4.2	2.2	2.4	1.7	0.8
Private	17.8	1.7	7.1	7.0	3.9	6.1
Foreign	6.6	0.5	2.8	1.3	1.7	8.5

ROA = return on assets.

Source: From Xiao *et al.* (2009).

**Table 1.2.** Structure and performance of top-500 Chinese enterprises in the service industry 2007, by ownership (%).

Ownership	No. SOEs	Assets	Profit	ROA
State	61.4	93.6	92.4	0.8
Collective	11.4	5.4	1.1	0.2
Private	23.2	0.8	5.3	5.3
Foreign	4.0	0.1	1.2	8.3

Source: From Xiao *et al.* (2009).



has an operational income ten times as large as Huawei, the largest private enterprise in China (Du *et al.*, 2012).

The dominance of SOEs among large firms is more pronounced in the service sector.

Third, most of the largest SOEs, especially those in the upstream industries, are supervised and directly controlled by the central government via SASAC while the local governments are mainly in charge of the relatively small SOEs via local SASAC branches. Szamosszegi and Kyle (2011) provide a detailed documentation on this feature.

Fourth, the SOE sector incurred tremendous inefficiency due to administrative monopoly. It is likely that the social costs the sector has imposed on the national economy are larger than the social benefits it has created. SOEs provide social safety net for a small group of stakeholders at the expense of low production efficiency. SOEs extract substantial monopoly rents by overcharging their products and services, which undermine seriously the interests of the general public. SOEs lag far behind private enterprises in technological innovation. SOEs account for only 35%, 25%, and 20% of the total number of patent applications, the total number of technological innovations, and the total number of new products developed, respectively, in China (Du *et al.*, 2012). Hence, it is doubtful whether the positive effects produced by SOEs could outweigh the negative effects incurred (Also see Sun *et al.*, 2003).

Fifth, the SOE sector has formed a vested interest group that actively seeks rents through administrative monopoly. The administrative monopoly power allows bureaucrats overseeing SOEs, SOE management and employees, and other stakeholders to reap substantial rents to benefit themselves. One striking indicator is that the SOE sector's high profitability does not lead to sizeable profit contributions of SOEs to the state. Theoretically speaking, SOEs are obliged to not only pay taxes to the state as do non-SOEs but also contribute profits to the State because the State, representing all the people, are the owner of the SOEs and are thus entitled to receive the profits generated from state-owned assets. In reality, the SOE sector has made a surprisingly small amount of profit contributions to the state. In 2011, only 7.4% of SOE profits were contributed to the state. A big chunk of profits were used to raise SOE management and employee salaries, fringe benefits, benefit governments and bureaucrats at



various levels, etc. In view of these patterns, we can largely claim that the SOE sector has become a vested interest group, which would strongly oppose the deepening of market-oriented reforms.

## 1.4. Roles of SOEs in China's Macroeconomic Policies

### 1.4.1. Roles of SOEs in China's fiscal and monetary policies

SOEs play a key role when China's government implements counter-cyclical fiscal and monetary policies. For instance, to cope with the recent world-wide economic recession, China government released a stimulus package worth four trillion RMB mainly through capital injection into the state-owned banks and provision of cheap loan and large investment into large SOEs.

Expanding fiscal policies, roughly speaking, refers to tax cut and increases in government expenditure. However in reality government spending seems more often used than tax policies in China. This is partly because the effect of increasing government spending is more speedy and significant. Fiscal policies working through government expenditure could more efficiently and accurately translate the government's intentions to investments into certain target areas and projects. SOEs are the best party to execute government expenditure plans as they are administered by the government. More importantly, China is a fast-growing and populous developing country, where industrialization and urbanization are taking place at an enormous scale. Therefore, a lot of public infrastructures are needed to not only support the manufacturing sector to serve the international market, but also to facilitate the process of massive urbanization and real estate market. In other words, the expanding fiscal policy in China is not merely a short-term Keynesian prescription, but rather a long-term investment as well. This is certainly different from the old-fashioned "dig-hole-and-fill-hole" Keynesian therapy for developed countries (see Lin, 2010).

Since upstream industries such as electricity, telecommunications, petroleum and petroleum chemicals, coal and gases, oversea transportation, steel and metal production, railways and railway construction, ship-building, civil aviation are almost all monopolized by SOEs, it is natural that expanding fiscal policy will be carried out mainly via those upstream





SOEs, which in turn are expected to provide relatively cheaper inputs and intermediate services, public and private, that are needed by the downstream private sectors.

There is another political economy reason for why China's government tends to favor expanding government expenditure as a means to implement expanding fiscal policy. Local government leaders, partly for their own promotion purposes in the political tournament, are more inclined to invest in physically visible projects such as public infrastructure and real estate markets rather than reducing individual or corporate taxes. This is because the spending helps attract FDI and facilitate the growth of the manufacturing sector, public investment and foreign export.<sup>5</sup> Besides, the major source of tax revenue for the local governments is the earnings from leasing the publicly-owned land to the businessmen. Since the amount of total tax revenues collected is an important criterion of judging the performance of local government leaders by their superiors and part of the tax revenues needs to be used to finance the public spending, thus local government leaders have less incentives to cut taxes when implementing fiscal policies.

The monetary policy in China also mainly relies on the state-owned banks and SOEs. The debt market and stock market are underdeveloped in China, and thus banks are the dominating form of financial intermediaries and the major avenue for firms to mobilize external finance. Most banks are however state-owned and the interest rate is not entirely determined by the market. Thus the central bank controls the money and credit supply by mainly setting the quota for the total amount of loans to be lent to firms. Compared with private firms, SOEs are more closely and politically connected to those State-owned banks and therefore, holding everything else equal, SOEs receive a disproportionately large fraction of loans. Sometimes, due to the hold-up problem, SOEs can continue to obtain more generous loans in the future from the banks even if they cannot pay back their debt in time.

Another important reason why SOEs tend to get loans from the banks more easily is because of the mismatch between the current financial

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<sup>5</sup> Wang (2010) develops a political-economy macroeconomic model to explain why China has attracted twelve times more FDI than India due to the endogenous policies chosen by the central and local governments in the presence of vested interest groups.



institutions and the industrial structure in China. Namely, there exist insufficient amounts of small and medium-sized banks, which can better serve most of the small and medium-sized (often labor-intensive) firms. Since remaining SOEs are generally large firms while private firms are largely of small and medium sizes, SOEs are much better served by the existing large banks (mostly state-owned banks) and therefore less budget-constrained than the private firms. Not surprisingly, SOEs, despite their shrinking numbers as compared with private firms, are still the major players for China's monetary policy as well.

#### **1.4.2. Roles of SOEs in the industrial policy and external capital market**

In 2006, China government identified seven “strategic” sectors — defense, electric generation and distribution, petroleum and petrochemicals, telecoms, coal, civil aviation and waterway transport. It was explicitly articulated that the state would keep “absolute control” in these sectors. Consequently, new entry is highly restricted even though several state firms might compete with one another. Moreover, China government also designated the following industries as “basic or pillar” industries — machinery, automobiles, information technology, construction, steel, base metals, and chemicals — the state would retain “somewhat strong influence” (Owen *et al.*, 2007). In such sectors, private participants could face a range of entry barriers or other constraints.

As the world's largest manufacturer, China consumes a huge amount of energies and raw materials every year. It is therefore crucial for China to seek new energies and new materials to eventually substitute for the exhaustible resources. This is also important for the purpose of environmental protection. These upstream industries exhibit enormous positive externality and also require large investment, and pollution-intensive technologies tend to persist due to the path-dependence in technological progress (Acemoglu *et al.*, 2012). Therefore it makes sense that the government should adopt industrial policies to support the R&D for these industries (Also see Rodrik 2008 and Wang 2012b).

However, in China this ownership-neutral and justifiable industrial policy is actually equivalent to ownership-discriminating policy in favor



of SOEs because only SOEs are allowed to enter and operate in these industries. Clearly, limited competition and high risks associated with R&D are likely to result in low efficiency and over subsidy. Then why are SOEs more favored by the government to implement industrial policies?

First of all, some SOEs are for national defense and military purpose, so it is understandable that they are subsidized by the government. For a large country like China, the demand for the weapons and other military equipment is huge, but they are sometimes too expensive to import or sometimes even not purchasable in the international market for political reasons. Government procurement is another important way to support such SOEs.

Second, some upstream civil industries such as energy and telecommunications are related to national security and these industries typically also exhibit the characteristic of natural monopoly. Government regulation has to be introduced in order to restore social efficiency. Given the large fixed investment and entry cost, new private firms can hardly enter and compete with the incumbent SOEs even if they are allowed to enter. At the same time, these industries have strong positive externality and may be undersupplied by profit-seeking private firms.

Third, China government is trying hard to develop some “national champions” in the international market. Despite the large export, China still has few, if any, internationally renowned high-quality brands. The general image of China’s exports in the world is cheap and of low quality. To change this bad image and to facilitate the switch from “made in China” to “created in China”, China government is eagerly trying to help develop or strengthen some national brands. Large SOEs seem too big to fail, namely, less likely to be defeated at the domestic and international market, especially given that they are backed up by the government. And precisely because of this previous government support, many large SOEs are already enlisted in foreign stock markets. The presence of those firms in the international stock market by itself serves as an important and free advertisement on their brand names. Consequently, China’s government finds it less risky to continue to support these incumbent large SOEs, which the government is very familiar with, rather than to identify and support new private firms to develop national champions. Besides, SOEs are more likely to follow the instructions from the government to achieve certain non-profit-seeking objectives.



Fourth, China's SOEs are also undertaking the majority of outward FDI, especially in the energy and raw materials industries. China has accumulated a large stock of foreign reserve, which is largely composed of low-return US Treasury bills. One way to raise the return rate is for SOEs to make outward FDI, especially in those upstream industries such as natural resources in those resource abundant countries. This is also to ensure a more secure and stable supply of those exhaustible inputs to support China as the world's largest exporter of manufacturing goods. Chinese private companies make much less outward FDI, either due to the lack of capital or personnel support from the government, or simply because they are not allowed due to capital control. Moreover, outward FDI is sometimes made for China to achieve certain political and diplomatic goals, which make China's government favor SOEs to non-SOEs.

### ***1.4.3. Roles of SOEs in maintaining social stability***

In the process of China's economic reforms, SOEs have been serving as social stabilizers. In the absence of an adequate social safety net, the oversized labor employment and the provision of various social services by SOEs have contributed tremendously to the maintenance of social stability and the formation of a stable business environment for the development of non-SOEs. Many existing large SOEs are much more than business companies. They also provide schools, hospitals, housing, entertainment facilities and other benefits to the employees, retirees, and their family members (Lin *et al.*, 1998). One common feature of SOEs is overemployment because those SOEs have to accept the new people assigned by the superior government. Moreover, when hit by negative shocks, SOEs are less likely to fire workers than non-SOEs for the sake of protecting job security and maintaining social stability. For example, Daqing city is a new city where almost all the citizens are related to the Daqing Petroleum field, which is state-owned. Suppose those large SOEs are privatized, we would naturally expect to see massive layoff and the termination of many other non-profitable social functions that are served by these SOEs. This can easily cause social instability in those regions, especially because most people work in the same large SOEs and also live in the same region. By the logic of collective actions, those who are hurt by the SOE privatization can be better coordinated to voice out their oppositions.



## 1.5. How to Reform SOEs

Our discussions in this chapter as well as in our related chapters show clearly that the high profitability, low productivity, and slow technological innovations in the SOE sector are the symptoms of the collusion between SOEs and bureaucrats to seek rents at the expense of the establishment of competitive markets.

This collusion in rent seeking could stem from several factors. First, bureaucrats like to see the presence of a sizeable SOE sector, which facilitates them to steer production to achieve their political objectives including maintaining employment and achieving social stability. One widely recognized reason why SOE reforms are often ineffective is the political control of managerial appointment (Qian, 2002). Under this circumstance, SOEs are ensured to be instruments of bureaucrats to fulfill their political objectives. Second, bureaucrats like to grant SOEs monopoly rents in order to relieve the burden of subsidizing SOEs so that fiscal budget could be released for bureaucrats to pursue other political objectives. Third, bureaucrats also have strong motivations to improve SOE performance as a showcase of their administrative performance. SOEs have been regarded as the leading force of a “socialist market economy”, and numerous efforts were made to improve SOE performance. A natural way for bureaucrats to support SOEs is to help maintain SOE monopoly through means such as reducing the competition pressures from non-SOE entrants and offering government procurement contracts to SOEs. Hence, administrative monopoly is an effective means of seeking rents for government officials and SOE managers. Once enjoying administrative monopoly rents, the SOE sector and bureaucrats form a vested interest group that vehemently oppose market liberalization. This has become a critical issue in current socioeconomic reforms. No doubt to continue with SOE reform we need to further emancipate our mindset and overcome the resistance forces of the various interest groups.

From the methodological point of view, discussion of SOE reforms inevitably involves how to draw a borderline between market and government, which is under debate all the time even within the academia, not to speak of the policy circle. However, the guiding economic principle is clear: government should intervene only when market fails sizably and when the government failure is sufficiently limited in the sense



that intervention can be well implemented and monitored to avoid large efficiency loss and rent seeking. When it comes to policy implementation in reality, political feasibility must be considered.

Both the progress of economic theory and policy practice in China's reform history convey the following message compellingly: Reforms should be pragmatic and the policy recommendations should be formulated case by case in the realistic, concrete, and specific context rather than provided ideologically even before appropriate diagnosis is conducted. It is naïve to peddle the panacea of privatizing all the SOEs overnight as proposed in the so-called "Washington Consensus". Instead, the useful experiences from the successful experimental and pragmatic approach of China's reform should all be kept in mind. Examples include installing the household responsibility system in the rural reform, establishing special economic zones and facilitating regional industry agglomeration, and nurturing township and village enterprises. They also point to the importance of entrusting and making best use of the innovativeness of ordinary people and local government in the whole market-oriented reform in an imperfect environment.

On the other hand, we must emphasize that the scope of SOEs, or government intervention at large, should be kept as limited as possible in order to cultivate a business-friendly and fair-competition environment. This becomes increasingly important because China has already achieved the status of a mid-income country and therefore it has to switch from the current investment-based mode of growth to the innovation-based mode of growth (Acemoglu *et al.*, 2006). So far, no economic system is known to perform better than a free private enterprise system in terms of inducing innovation.

Due to the limit of knowledge and space, we will only focus on several specific aspects of SOE reforms, which we view as of first order importance. No attempt is made to provide a comprehensive discussion or conclusive prescription about how to reform all the different kinds of SOEs optimally.

As argued in Section 1.1, monopoly of SOEs in the upstream sectors may ultimately strangle the dynamic growth of the downstream private sectors if price markup is charged continuously. Theoretically, the causes of monopoly in different sectors can be mainly divided into two different categories. One



is natural monopoly, which is purely due to technological characteristics such as economy of scale and economy of scope. Textbook examples include sectors such as electricity and telecommunications. The other is administrative monopoly, which is granted by government via regulations on entry and operations. A classic example is the national defense industry.

We can see that most of the “strategic industries” and “pillar industries” mentioned in Section 1.2 are the mixture of these two types, and they are also often entangled with industrial policies and political factors discussed in Section 1.3. This tremendously complicates the policy analysis.

### **1.5.1. Natural monopoly and SOE reforms**

It must be emphasized up front that natural monopoly itself is not a legitimate excuse for SOEs to exist in such sectors. The necessity of exercising certain government regulation in such sectors does not mean that the firms have to be state-owned or state-controlled, especially when sufficient regulatory power is established. In addition, the large market size of China often makes it possible to accommodate multiple firms that can all reach the efficiency scale.

The reform of the telecommunication industry is a case in point. From 1999–2000, with the rapid increase in the market demand, the former China Telecom was first divided into four independent groups based on the business lines: fixed network, mobile network, satellite communications, and radio paging. In addition, several competitive carriers such as China Unicom and China Netcom were also gradually emerging and consolidated. As a result, economic performance of this industry as a whole has been improved rapidly as more competition has been introduced. In 2011, two Chinese firms in the telecommunication industry entered the list of Fortune Global 500: China Mobile Communications (ranked 87th) and China Telecommunications (ranked 211th).

In spite of all the achievements of the previous reforms in the telecommunication sector, however, there is still big room for further reform. Many types of operations and services are still not as cost efficient as many other countries after quality adjustment, while at the same time private investment is still *de facto* virtually restricted in this industry. Given the current oligopoly market structure, the coexistence of high sales



revenues but relatively high quality-adjusted cost indicates the plausibility of further enhancing the market competition and industry efficiency by privatizing some big firms and encouraging more entry. Similar argument can be also made for the Petroleum industry in China.

### **1.5.2. Infrastructure investment and SOE reforms**

Public infrastructure such as transportation facilities, electricity supply and telecommunication service is crucial for economic development. China's manufacturing sector would not be so successful without sufficient provision of public infrastructure, as evidenced by international comparison. Due to the huge positive externality and large fixed investment, these sectors cannot fully develop without government support. Given China's institutional environment (such as land being publicly owned and banks also being largely state-owned), SOEs can effectively utilize public resources and circumvent much coordination and transaction cost in the building process of such infrastructure. In reality, SOEs indeed have played an important and positive role in the infrastructure provision from the social efficiency point of view.

However, once the public infrastructure is built, there seems to be no sufficient reasons why the daily operation has to be still conducted by SOEs. More private competition could be introduced in different forms such as by running a public auction and/or sub-contracting to private firms. Aviation in China is state-owned, and their profitability is low and often negative. The large market size of China should have allowed for more than one firm to stay profitable in the business. In fact, there are already quite a few airlines in China competing for customers, and it seems possible to consider privatizing some of those regional airlines to see how the gradual reform works. Major airlines such as the United Airline or the American Airline in the United States are all private firms, so it seems justifiable to allow for such gradual reform experiment in China's Aviation industry.

### **1.5.3. Industrial policies and SOE reforms**

As discussed in Section 1.3, some industries such as national defense are for non-civil purposes so it seems justified to keep those firms as state-owned. However, in some other industries including the aviation industry





or telecommunication industry, national security seems largely used by the incumbent as an excuse to maintain the administrative monopoly and government protection. In the United States, AT&T and T-Mobile are both private firms in the telecommunication industry. Many large oil companies, banks, insurance companies are all private as well. This contrast indicates that national security is not a sufficient reason to justify state-ownership and administrative monopoly in these industries.

We should make it clear that we are not arguing that those aforementioned industries should be allowed to operate in the *laissez faire* manner. They do need some appropriate government regulations. But we only want to emphasize that the entry of private investment should be also carefully considered before it is blindly excluded without sufficient and objective justifications. If, for some strong and plausible reason (such as national security), no private firms are allowed to enter, then the possibility of having more than one SOE should be still seriously considered in order to induce more competition. At the same time, the non-crucial part of the production should be outsourced to the private sectors as much as possible.

Moreover, justifiable industrial policies such as R&D support, especially for civil purposes, are often ownership-neutral and therefore, from the social efficiency point of view, government should not discriminate against private firms in the implementation process. In reality, it is clear that the most successful and most innovative firms in the world, such as Apple, Google, Microsoft, GE, are all private. Although government subsidy on R&D is still justifiable for those companies and the related industries, the profit-maximizing motive of those individual firms is already very strong for them to voluntarily invest huge amounts of expenditure on R&D (Aghion and Howitt, 1992).

In order to understand the nature of industrial policies in China and the related SOE reforms more deeply, we should first well recognize that the main driving forces of industrial upgrading are different between developed countries like the United States and the developing countries like China. The former is already at the world technological frontier so industrial upgrading can be achieved mainly by new inventions and innovations via R&D. By contrast, the latter is still at the lower end of the technological ladder and their industrial upgrading is mainly achieved by the



adoption and adaptation of foreign existing technologies without being able to enjoy the legal monopoly rent via patent protection.

The major incentives for firms in those developing countries to upgrade technologies and enter a new industry are to seek production opportunities that can best utilize the most abundant and hence the cheapest production factors in the economy. Only by doing so can these firms fully take advantage of the endowment comparative advantage and become cost competitive in the world market. More specifically, socially optimal industrial upgrading in China and other developing countries are endowment-driven, that is, industries are moving from labor-intensive and low value-added industries to more and more capital-intensive and high value-added industries. This endowment-driven structural change is formalized in a tractable closed-economy growth model with infinite industries in Ju *et al.* (2011). Later, Wang (2012a) also explores theoretically how international trade and international trade policies affect the endowment-driven industrial upgrading.

Then the natural question arises: What is the role of industrial policies and SOEs in the socially optimal process of the endowment-driven industrial upgrading in China, or developing countries in general? In a recent research by Ju *et al.* (2011), they develop a theoretical model of optimal industrial policies, which features the “market-led-and-government-facilitated” approach instead of government “picking the winner”. They show that, in the presence of Marshallian externality, laissez faire market equilibrium is no longer efficient and government should use industrial policies to rectify the market failure by coordinating the firms to the right and time-varying target industry which follows the endogenously evolving comparative advantage of the economy. This is actually what the government of the East Asian miracle economies followed after World War II.

By contrast, the government of China in the pre-reform era failed in its industrial policies because the government tried to prematurely push the overly capital-intensive industries such as steel as the target industry, which violated the principle of Heckscher–Ohlin comparative advantage. Similarly, former Soviet Union, India, and many Latin American countries also failed to grow fast in the same periods as their industrial policies were also to promote prematurely the overly capital-intensive industries



that prevailed in the most developed countries at that time. And precisely because the “winner industry” picked by the government could not be supported by the market itself as it significantly defied the comparative advantage, SOEs and resource rationing had to be established to pursue the wrong industrial goals of the government. The larger the deviation of the target industry from the economy’s endowment structure, the more badly SOEs are needed and the more perverse the rent-seeking becomes as it requires more central planning and non-market resource allocation. That can at least partly why SOEs were pervasive (and also performing badly) not only in China and former Soviet Union, but also even in capitalist countries such as India and many Latin American countries (Also see Lin, 2009).

An implication of these analyses is that, fewer SOEs will be needed and the scope of rent seeking will be also more limited if China follows its comparative advantage and upgrades its industrial structures sufficiently in response to the market signals of the factor prices. As the relative wage increases along the economic growth path, China should gradually leave those labor-intensive sunset industries and upgrade toward more capital-intensive industries with high value added. This may help us not only understand the path dependence of China’s SOE reforms but also give hints on how to avoid too much SOE dependence in the future industrial development.

#### **1.5.4. Tax revenues and SOE reforms**

Some downstream industry such as tobacco and wine is still highly monopolized by state-owned enterprises in China. Stable tax revenues from these industries with low price-demand elasticity are presumably the main reason why the government does not give up the SOE monopoly. Notice that the monopoly rent is sizable also because the tariff rates on these consumption goods are high.

So, as long as the government can have stable fiscal revenues from the private sectors, it is socially optimal to privatize such industries, which exhibit no obvious market failure that justifies government intervention or state ownership. Recall that Du *et al.* (2012) show that there is still room to eliminate administrative monopoly of SOEs in China’s manufacturing



sector, although the sector itself becomes more and more dominated by non-SOEs.

Then a natural question is why not privatize all these SOEs and just levy taxes. Gordon and Li (2009) argue that, in many developing countries, the taxation ability is limited especially when the informal sectors are large and a substantial part of transactions are not traceable in the formal financial institutions, so the effective tax base is limited to that easy to implement (such as tariff). Thus it can be argued that enforcement constraint faced by government is smaller when taxing SOEs than non-SOEs. This issue involves financial institutions and the system of public finance, which we will revisit briefly.

Besley and Persson (2009) highlight the weak “state capacity” of many developing countries that government power is too weak to ensure that fiscal revenues can be effectively collected. However, the argument of state capacity does not seem particularly applicable in China’s case as the government is strong and it has much higher taxation ability than other developing countries like those in Africa.

Acemoglu and Robinson (2006) argue that the incumbent refuses to give up monopoly in exchange for pure taxation because they fear that their political power will be undermined when losing monopoly. In terms of China’s remaining SOEs, they are typically large firms supervised by SASAC. The managers have high official ranks and are powerful, often also have strong ties with central government leaders. The management levels can directly benefit from high profitability of the SOEs in their charge, for example, by having high on-job consumption, or diverting some SOE resources into their own pockets, or even simply enjoying the sense of achievement in managing a large firm. They will lose all of these benefits if SOEs are privatized. Consequently, these powerful people (together with their allies) are most likely to oppose the privatization of the SOEs even if the total tax revenues can increase after privatizing all the SOEs, as the general tax revenues are much harder to tap directly for this special interest group.

### ***1.5.5. Speed and sequence of SOE reforms***

Given the perverse consequences if SOEs continue to enjoy administrative monopoly power, should the administrative monopoly power be



completely and immediately deprived of the SOEs or be phased out only gradually? If the gradualist approach is adopted, how fast and at what sequence should the SOE reform take place? Should these SOEs be privatized as well and if so how to proceed?

One useful lesson that can be drawn from China's reform history in the past few decades is that gradual reform is more likely to mobilize enough political support and succeed at the right sequence and speed. Shock therapy that advocates once-and-for-all complete reform overnight is often both politically infeasible and economically too costly. These are well received wisdom now (see Roland, 2000). But at what sequence should the reform proceed?

Wang (2011) formalizes the mechanisms behind the observations that successful and sequential reforms often work as follows: As an economy develops, some institutions or policies become the most binding growth bottleneck, and so these binding constraints are relaxed by reform and the economic growth resumes until a new growth bottleneck is reached, triggering another round of reform to relax this new constraint, so on and so forth. That chapter also analytically shows that the magnitude of the reform is monotonically changing over time, depending on the power of the government and the redistributive effects of the reforms. A more powerful government tends to have a smaller fixed cost for each reform as the policy making process is easier and quicker. The more pronounced distributive impact of a reform, the larger the opposition force and hence the higher the variable cost associated with a reform. So the optimal reform is more piece-meal and gradual when the fixed cost of reform is less important relative to the variable cost of reform. This applies for authoritative countries like China. By contrast, the optimal reform should be less frequent but with more dramatic change for each reform if the opposite cost structure is true. This seems to be more likely to happen in countries where the central government is relatively weak and legislation process to initiate a reform is difficult.

More specifically, for the SOE reforms, the above analysis suggests that we need to first identify the most binding constraint for sustainable growth caused by SOEs at each development level. When the labor cost is still cheap, the monopoly of the upstream SOEs is not fatal enough to strangle the dynamic growth of the private downstream sectors as the



overall export price of the downstream sector is still internationally competitive. However, once the labor cost rises sufficiently with the deepening of industrialization and urbanization, or when China's external demand falls due to world financial crisis, or when another country can effectively compete against China in the world market, then the monopolistic price markup charged by the upstream SOEs on energy, raw materials, telecommunication services, and financial services will become the most binding force that undermines the development of downstream sectors as well as the whole economy.

If the national leadership of China really wants to maintain high growth and avoid the "mid-income trap", then the upstream SOEs will have to be reformed. In other words, we expect that the deteriorating external markets and the increasing pressure from other competitors may serve as a useful catalyzer for further SOE reforms. The upstream SOEs may first have to reduce their price markup to lower the production cost and enhance the competitiveness of the downstream sectors in the international markets. Then to survive the increasingly fierce international competition, upstream SOEs would have to improve their productivities sufficiently fast, which would require that more competition is introduced into the monopolized upstream sectors or even induce privatization eventually.<sup>6</sup>

Different from the small and medium-sized SOE reform in the downstream sectors in the 1990s, now the remaining SOEs are much larger and less of them are directly controlled by local government. So the central government will have to take more initiatives and play a more active role in this new round of SOE reform. In addition, now the SOEs to be reformed are mostly rich and making money, different from the money-losing SOEs in the downstream sectors in the 1990s. These new features naturally make further SOE reforms much harder than before.

From the political feasibility point of view, it seems plausible to start from the easiest reforms. First, the existing money-losing SOEs with no strong positive externality, especially those remaining in the downstream liberalized sectors, should receive no more preferential public subsidy and let go. Second, for those rich SOEs, preferential policies such as

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<sup>6</sup> Li *et al.* (2012) discuss the sustainability of the model of China's state capitalism.



low-interest loans or low tax rates should be gradually canceled to reveal the true profitability of those SOEs. Third, more competition should be introduced into those “strategic industries” even without privatization, for example, by dividing the incumbent giant into several competing entities or developing new state-owned competitors. Fourth, for industries such as tobacco and wine, it simply makes no economic sense why they have to be monopolized by SOEs. Instead, central government should immediately level the field and allow private firms to enter and compete, including paying the same tax rates. At the same time, those SOEs can be fully privatized. Fifth, the antitrust law should be enforced more effectively. At least the illegal part of the monopoly power enjoyed by some SOEs should be eliminated. Sixth, for those SOEs hard to privatize at present, the governance structure can be at least improved by making the selection of CEOs more transparent and more based on entrepreneurial capability. The remuneration and punishment schemes should be reformulated to be more consistent to the market rule.

## **1.6. Associated Policy and Institutional Changes Needed for SOE Reforms**

Our analyses and arguments have shown that the current presence of state ownership in the Chinese economy has been far more than what is warranted by the legitimate role assigned to SOEs in economic theory, and SOEs in China have displayed various symptoms that impede improvements in economic efficiency such as administrative monopoly and low production efficiency. In Section 1.4, we provide prescriptions for SOE reforms. The general principle of these recipes is to keep SOEs confined to the areas that state ownership can truly help overcome market failures and enhance economic efficiency, and prevent SOEs from becoming rent-seekers in the national economy. In other words, we are attempting to make China's model of state capitalism a benevolent one rather than a predatory one.

Nevertheless, the reform of the state sector cannot be successful without the support of a host of associated policy and institutional changes. Among many supporting reforms required (such as the financial reform and pension reforms), the SOE reform particularly calls for the modernization of the political and legal institutions and culture.



There is no doubt that appropriate industrial policies and legitimate government intervention could benefit China's economic development tremendously. Generally speaking, state capitalism can potentially play a positive role in the catch-up process of economic development. In the history of the currently developed countries, quite a few of them, e.g. Germany, had adopted the state capitalism model or incorporated central elements of state capitalism.<sup>7</sup> Theoretically speaking, state capitalism can effectively overcome market failures and kick-start economic development when private capital lacks incentives and capability to do so. The state can invest in infrastructure projects whose investment costs typically need a way too long period to recover for private capitalists. The state can launch and invest in technological innovations whose costs are too large and whose returns are too risky for private capital to undertake. The state can support the development of infant industries that private capital typically shuns because of daunting business risks involved. In these areas, among many others, state capitalism is expected to be able to overcome market failures and guide economic development. In this kind of intervention to facilitate the catch-up process for developing countries, the likelihood of the state making big mistakes in choosing wrong targets and making flawed strategies is relatively small. In economic catch-up, developing countries can typically learn from and follow the model of advanced economies to identify the key areas for state support so as to speed up the process of growth and development. Technically speaking, it is not too difficult for the state to make correct strategies to launch state initiatives in developing countries. Unlike mature economies where the state has no information advantage over development strategy, it is not essential in the catch-up stage to rely on private initiatives to explore areas of great potentials for development. In this sense, state capitalism can play a very constructive part.

Nonetheless, the technical feasibility for benevolent state capitalism does not necessarily mean that an efficient state capitalism model can be realized in practice. In developing countries, the primary obstacle to a beneficial state capitalism model comes from weak public institutions

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<sup>7</sup> Among others, Wade (1990), Chang (2003), Evans (2005) are all comprehensive monographs highlighting the positive and active role of government in the economic development.





where corrupt bureaucrats collude with various interest groups to take advantage of state intervention to seek rents. Under weak institutions, the rent-seeking and office-seeking bureaucrats excessively expand the scope and scale of SOEs to turn them into powerful means of controlling the economy, realizing various social and political objectives that violate the criteria of economic efficiency, and seeking private benefits. Under weak institutions, the corrupt bureaucrats and the interest groups form alliances to establish administrative monopoly for SOEs, to overcharge for SOEs' products and services, and to give privileged treatment to SOEs in public procurement contracts, which in turn produce high profitability for SOEs at the expense of the public interests. In other words, the negative features of SOEs are largely the outcomes of unfettered state power that infringe upon the rights of the citizenry.

The problems faced by China's state capitalism are no exception. In the past decade, in the face of the rising state capitalism in China, the public has expressed deep concerns over the SOE sector, especially the mounting worries over administrative monopoly and the vested interest groups in the state sector. At the same time, economists are concerned with the emergence of bureaucratic capitalism, where bureaucrats and their families come to dominate the business sector by wielding their political power and political connections. In fact, a big chunk of bureaucratic capitalism is related to the predatory state capitalism, where bureaucrats and their family members control large SOEs so as to turn SOEs into instruments of rent-seeking with the backing of their political power. The arrival of bureaucratic capitalism and predatory state capitalism poses serious threats to economic and political reforms and the realization of a harmonious and fair society. In this sense, any serious reform must address the issue of SOE reform. As pointed out by the World Bank (2012), one key issue in China's reform agenda is to break administrative monopoly and further deepen SOE reforms.

The most important policy and institutional change essential to SOE reforms is a fundamental reshuffle of the political and legal institutions and culture, the core of which is to establish a civil society based on rule of law where the citizenry can impose effective constraints on the government. This is particularly necessary and urgent for a country like China that lacks cultural and institutional tradition for a civil society. Examining



the tradition and current status of political and legal institutions and culture, we admit that China has a long way to go to build a modern civil society. In the traditional feudalist society of China, laws are simply the wills of the emperor or the political ruling class to constrain the behavior of the ordinary people. In the Chinese legal tradition, civil codes are almost non-existent and no attempt was made to extend laws to civil disputes. Laws are primarily confined to criminal offenses, and are treated as equivalent to penalties for criminals. Unfortunately, China has no tradition and awareness of using laws to uphold the interests and rights of individuals. Since 1949, China has introduced the Soviet Union version of Marxist legal doctrines in which laws are regarded as the instruments of proletariat to crack down enemies. This is not surprising at all as the Communist regime emerged from fierce class struggles and internal wars. This practice, however, has strengthened the Chinese political and legal culture tradition of ignoring individuals' rights and treating laws as instruments to rule the people, which clearly deviate from the ideals of the Western legal tradition to use laws to constrain the executive and uphold the rights of individuals (Liang, 2002; Ji, 2002). This is one of the fundamental institutional and cultural reasons for the prevalence of the mentality and practices of a bureaucrat-oriented society and unchecked state power in China. This also enables the unconstrained executive power to nurture a predatory state capitalism model that has aroused widespread concerns and worries.

To our pleasure, we see remarkable progress has been made toward political and legal institution reforms. As analyzed in depth in Jefferson and Zhang (2012), various positive developments including the rise of the middle class, local elections, frequent public protests, the increasingly independent legislature and judiciary, and the rise of non-government organizations have pushed China to move toward a modern civil society. It is also noteworthy that various developments such as the expansion of the internet access, the accompanied relaxation of government control on public expressions of opinions and the increasing responsiveness of the government to public concerns have all contributed to the democratization of the society and the increasing constraints on the executive power. These positive movements toward a modern civil society could provide the best support to the prevention of a predatory state capitalism.



## 1.7. Conclusion

In this article, we explore the role of SOEs and also study their ongoing reform in China's development model of state capitalism. Based on our previous research findings, we first explain why the SOEs have recently become more profitable than non-SOEs in the past decade. We argue that SOEs maintain monopoly power in the upstream industries such as energy, finance, and telecommunications and therefore these SOEs can extract monopoly rents from the liberalized and expanding downstream industries such as manufacturing, especially after China's entry to WTO in 2001. In addition, the remaining SOEs in some downstream industries, albeit shrinking, are shown to still have significant administrative monopoly power. We argue that a deeper SOE reform is urgent and imperative in spite of their seemingly high profits because the monopoly power of SOEs will eventually strangle the development of the private downstream industries, which is the true engine of China's growth, especially when the labour cost rises due to the deepening of industrialization and when the external demand declines due to world financial crisis and intensified competitions from other developing countries.

As an analytical preparation for the discussion on how to reform SOEs, we then briefly document several salient features of the existing SOEs and also examine the instrumental and delicate roles played by SOEs in China's fiscal, monetary, industrial, and social policies. In terms of how to reform SOEs, we argue that, although SOEs may be justified to continue their existence and operations in certain industry (such as national defense), it is important to stick to the principle that their roles should be confined only to those areas where the market fails significantly and the government failures are limited.

More specifically, we argue that the reform of SOEs has to be consistent with the structural change and the endowment-driven industrial upgrading in China. Government and SOEs could play a positive and active role in the provision of public infrastructure and industrial upgrading at the current development stage, but the abusive administrative monopoly power of SOEs are undermining economic efficiency and are inclined to cultivate vested interest groups to oppose to the reform at the expense of the public interest and long-term national development. If the industrial development is against China's comparative advantage, the



scope of rent seeking will be much wider and SOE reforms will be also more difficult. Taking both political feasibility and economic cost into account, we propose that China's remaining SOE reforms should be undertaken sequentially by the order of declining urgency. That is, the most binding constraint that SOEs impose on economic growth at each development stage has to be correctly identified and reformed afterwards with high priority. This strategy could be also complemented by and consist with the successive reform in an increasing order of difficulty.

Certainly, SOE reform in China cannot be isolated from other ongoing reforms. A successful and thorough SOE reform must require supporting reforms in other associated institutions and policies. Eventually and most fundamentally, political reform and establishment of a rule-of-law-based society are keys to prevent China's society from becoming a predatory state capitalism. China is at the critical moment of history to deepen its reforms of the remaining SOEs and other inefficient institutions, not only to just avoid falling into the mid-income trap, but also to ensure a sustainable and inclusive long run growth and prosperity.

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