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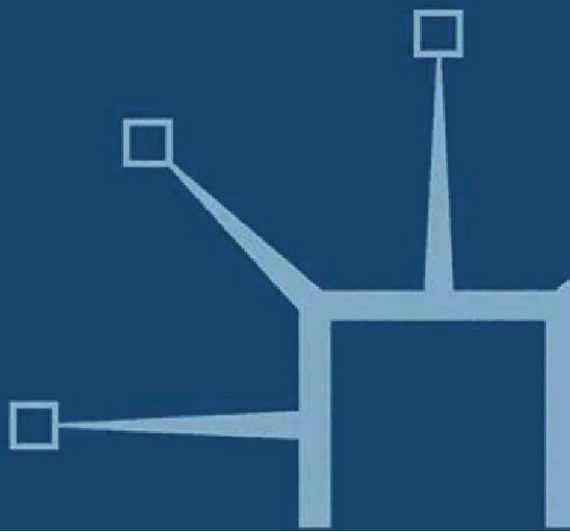
The Political Economy of State-owned Enterprises in China and India

Xu Yi-chong



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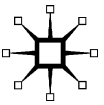

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Acknowledgements

State-owned enterprises (SOEs) have been a central part of economic life in China and India since the early 1950s. By the mid-1990s their financial performance had deteriorated so much that few still believed they were the future of economic development. Serious reforms were launched in both countries, not to replace state ownership but to transform these enterprises into modern corporations. Now, SOEs have become the epitome of Chinese 'state capitalism' and 'Capindianism'. Some observers praise them for their contribution to high economic growth; others see them as a grave 'threat' to market capitalism. Where did they come from? Why is it so difficult to get rid of them? What is their relationship with the government? And, how do they differ from other large corporations in the world? This book examines these questions in five key sectors in the economy – electricity, coal, steel, oil and banking – from historical, institutional and organisational perspectives.

This project is a collective effort not only of contributors but also of those who participated in the August 2011 workshop organised jointly by Griffith University and the Institute of South Asian Studies (ISAS), National University of Singapore (NUS). The participants brought with them insights derived from their knowledge and experience of country practice, international political economy and politics in general. We thank Shahid Javed Burki (ISAS), Bibek Debroy (Centre for Policy Research, New Delhi), Robin Jeffrey (NUS), Jørgen Østrøm Møller (Copenhagen Business School, Denmark), John Ravenhill (Australian National University), Ronojoy Sen (ISAS-NUS), Patrick Weller (Griffith University) and Yukyung Yeo (Kyung Hee University, Seoul, South Korea).

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Abbreviations

ABC	Agricultural Bank of China
AC	alternating current
AMCs	asset management companies
AOC	Assam Oil Company
BCCL	Bharat Coking Coal Limited
BIS	Bank of International Settlements
BJP	Bharatiya Janata Party
BOC	Bank of China
BOC	Burma Oil Company
CBC	Communication Bank of China
CBRC	China Banking Regulatory Commission
CCB	China Construction Bank
CCP	Chinese Communist Party
CDB	China Development Bank
CFWC	Central Finance Work Commission
CIC	China Investment Corporation
CIL	Coal India Limited
CMIE	Centre for Monitoring Indian Economy
CMBC	China Minsheng Bank Corp. Ltd
CNPC	China National Petroleum Corporation
CNOOC	China National Offshore Oil Corporation
COD	Central Organization Department, Chinese Communist Party
CPSEs	central public sector enterprises
CPSUs	central public sector utilities
CRS	contract responsibility system
CSG	China Southern Power Grid Company
CSRC	China Securities Regulatory Commission
CTPs	credit-equivalent trust products
CWMPs	credit-backed wealth management products
DPE	Department of Public Enterprises, India
E&P	exploration and production
ECL	Eastern Coalfields Limited
Exim	Export-Import Bank, China
GAIL	Gas Authority of India Limited
GFC	global financial crisis

GOI	government of India
ICBC	Industrial and Commercial Bank of China
IEA	International Energy Agency
IPP	import-parity pricing
KSOCMs	key state-owned coal mines
LGFVs	local government financing vehicles
LLCs	limited liability corporations
MCL	Mahanadi Coalfields Limited
MEP	Ministry of Electric Power, China
MOCI	Ministry of Coal Industry, China
MOF	Ministry of Finance, China
MoPNG	Ministry of Petroleum and Natural Gas, India
MRTP	Monopolies and Restrictive Trade Practices, India
mtoe	million tonnes of oil equivalent
mtpa	million tonnes per annum
NCDC	National Coal Development Corporation, India
NCL	Northern Coalfields Limited
NDRC	National Development and Reform Commission, China
NEA	National Energy Administration, China
NHPC	National Hydro Power Corporation, India
NOCs	national oil companies
NPCIL	Nuclear Power Corporation of India Ltd
NPLs	non-performing loans
NTPC	National Thermal Power Corporation, India
OIL	Oil India Limited
OMCs	Oil Marketing Companies
ONGC	Oil and Natural Gas Corporation Limited, India
PAT	profit-after-tax
PBC	People's Bank of China
POSCO	Pohang Iron and Steel Company, India
PSEs	public sector enterprises
RBI	Reserve Bank of India
SAFE	State Administration of Foreign Exchange
SAIL	Steel Authority of India Limited
SASAC	State-owned Assets Supervision and Administration Commission
SBI	State Bank of India
SCCL	Singareni Collieries Company Limited
SECL	South-Eastern Coalfields Limited
SEBs	State Electricity Boards, India
SERC	State Electricity Regulatory Commission, China

SG	State Grid Corporation
Sinopec	China Petroleum and Chemical Corporation
SMEs	small to medium enterprises
SOCBs	state-owned commercial banks
SOCMs	state-owned coal mines
SOEs	state-owned enterprises
SPC	State Planning Commission, China
SPCC	State Power Corporation of China
TPP	trade-parity pricing
TVCMs	Township and Village Coal Mines
TWh	terawatt hour
UHV	ultra-high-voltage
UPA	United Progressive Alliance, India
WCL	Western Coalfields Ltd., India

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The Political Economy of SOEs in China and India

Xu Yi-chong

China and India have attracted overwhelming attention lately not only because of their fast economic growth but also because of their idiosyncratic patterns of development, which are not always easy to categorise. They have not followed the same development path as those countries which industrialised in the nineteenth and first half of the twentieth century; neither have they trotted along exactly the same route as the so-called 'Asian tigers', even though both models of development were admired by many in the two countries. To some, the development in China, and increasingly in India, too, represents a model of 'state capitalism' or at least 'state-backed capitalism'. To others, both China and India are moving closer to the 'Washington model' identified by John Williamson some 20 years ago (1989). They have made solid progress on eight of Williamson's 'ten commandments', including fiscal discipline, trade liberalisation, openness to foreign investment and tax reform.

One stand-out feature of their development, however, is their state-owned enterprises, (SOEs) or public sector undertakings (later called public sector enterprises, PSEs). In both China and India, the private sector has been the driving force behind economic growth. It is estimated that the private sector accounts for more than two-thirds of the economy in both China and India (OECD 2009, 2011). Indeed, in China 'the number of registered private enterprises grew at an average of 30% a year in 2000–09' (*Economist* 12–03–2011: 11). In India, 'adaptable, ingenious and combustible, the family firm remains the backbone of [its] private sector' (*Economist* 22–10–2011: 6); and a couple of its large conglomerates, such as the Tata Group and Reliance Industries, are listed in the Global Fortune 500. While private entrepreneurship is vibrant and driving the transition from a planned economy to a competitive environment and economic growth, public enterprises, especially those

central SOEs and central PSEs (CPSEs), remain dominant in several strategic sectors, such as energy, transport, banking, telecommunications and steel, to name just a few.

These public sector enterprises have been criticised from both ends of the political spectrum: those advocating free-market systems and arguing that public ownership is at the root of inefficiency and corruption, and those alarmed by the potential threat to economic equity and social stability from these SOEs/PSEs as they gain increasing autonomy in their pursuit of profit maximisation. Public concerns about these players emerge because (a) the uneven playing field between public and private enterprises in accessing finance or other political and economic resources the government can distribute, (b) the steady decline in profitability and even losses of some SOEs, which are then paid for by the government and tax-payers, and/or (c) the slow process of introducing an effective corporate governance system in these public enterprises to ensure good performance as well as to prevent corruption. Finally, these state players have raised philosophical and ideological debates on the role of the state, the state versus markets, and 'varieties of capitalism'.

This book examines the changes of a dozen key SOEs/CPSEs in China and India in five sectors:

Sector	**China**	**India**
Coal	Shenhua Group (Shenhua)	Coal India Limited (CIL)
Oil/Natural Gas	China National Petroleum Corporation (CNPC) Sinopec	Oil and Natural Gas Corporation (ONGC) Oil India Limited (OIL)
Electricity	State Grid Corporation (SG)	National Thermal Power Corporation (NTPC)
Steel	Baosteel Group	Steel Authority of India Limited (SAIL)
Banking	Bank of China (BOC)	State Bank of India Limited (SBI)

All five sectors are identified as 'strategic' by their government for two reasons: they are important to national security, which 'includes internal political and social stability, external security and foreign relations'; and they are major contributors to 'the competitiveness of other sectors and the rest of the economy' (Hsueh 2011: 34). In addition, these large SOEs/CPSEs are major players in their own economies because

they often hold monopolistic or oligopolistic positions, are among the largest employers in both countries and have their activities across vast geographical areas in most provinces/states.

Barely a decade ago, most of these enterprises were at the brink of collapse due to political intervention, inefficient and often loss-making operations, and redundant labour forces. Today, they have become the top players in their own economies and are expanding rapidly into the global market. What has happened to these SOEs/CPSEs in the past decade? How have these state-owned enterprises defied all the accepted arguments that public ownership subjects firms to political decisions and even controls and, therefore, SOEs/PSEs cannot be efficient and/or be globally competitive? Or have they really succeeded as corporations?

These unexpected changes raise a number of questions: What are the government policies regarding the public sector in the past decade? How have these SOEs/CPSEs survived the push for liberalisation and even privatisation? At another level, is privatisation inevitable if countries want to achieve economic efficiency and global integration? Do SOEs/CPSEs behave differently from privately owned corporations? How different are they? How does the ownership matter in a by-and-large global market system?

The core of political economy of SOEs/CPSEs lies in their domestic politics: the relationship between the government and SOEs/PSEs. How does the government engage in the economy at all levels? Why do governments in Beijing and Delhi insist on state ownership in these sectors and of these particular SOEs/PSEs? What are the roles of relevant ministries and regulatory agencies? What are the corporate structures of these SOEs/PSEs? Who and what decides their strategic directions? What is the relationship between these public firms and their ultimate owner – the public in China and India?

These questions are on three interrelated levels: on the *firm* level, questions are about management, operations and sustainability, which are all shaped by corporate governance. Economists and management scholars have developed an extensive literature on these issues, such as incentive structures for players (owners, managers and employees) under the majority or minority share-holding arrangements; various distributions of income, power and authority; and profitability, efficiency and sustainability of firms. While affecting how firms behave by setting up the rules and parameters within which they operate, corporate governance is the product of political processes and decisions that are shaped by political institutions and preferences and by choices

of politicians – questions about *political and economic systems* in general. The middle level of questions are on the *structure of a given industry* – whether it is monopolistic, oligopolistic or competitive; whether the sector is decentralised or centralised; and whether the industry is considered as strategic or not.

More specifically, this project seeks to understand three key aspects of SOEs/CPSEs:

> *Institutional questions*: What are the organisational arrangements for these SOEs/CPSEs in each sector? What is their relationship with the central government? To whom are they accountable? What is the organisational structure of the industry in which they operate – monopolistic, oligopolistic or openly competitive? How does the industry's structure shape the operation of these SOEs/CPSEs? Does the organisational structure of these publicly owned corporations make any difference to their operation?
>
> *Operational questions*: Does the public ownership of SOEs/CPSEs allow them to operate differently from private companies? How do they make decisions on investment and operations? What have the government policies been on pricing and investment for SOEs and CPSEs? How do they operate in domestic and international markets? Are they contributors or impediments to economic development?
>
> *Sustainability questions*: Given the all-too-common assumption that all government instrumentalities are inefficient, how have SOEs/CPSEs sustained and even expanded their activities? How will they continue to function in their present forms, following the current development trajectories in China and India? Will they, at some stage, become fully market-oriented entities? What kinds of pricing and labour reforms might they introduce in future?

Understanding SOEs/CPSEs is important for several reasons: (a) in both countries, they contribute a large share of their GDP, while there is a strong voice against their presence; (b) there has been increasing international concern about state-owned companies competing for world resources and market shares; (c) how SOEs/CPSEs are organised and operate tells us a lot about the fundamental politics behind the economic reforms and development in China and India; and (d) an examination of the subject can help explain why, after almost three decades of neoliberal economic policies, public sectors in China and India still flourish and face different challenges and why outright privatisation did not seem to be an option politically and socially. Finally, since they

are seen as the exemplars of Chinese 'Red Capitalism' (Walter and Howe 2011) and the 'capindialism' (*Economist* 22–10–2011: 5) or Indian 'state-backed capitalism' (*Economist* 22–10–2011: 17), the project can help us better understand the debate over the development paths and 'varieties of capitalism' (Hall and Soskice 2001).

1. History of SOEs/CPSEs

History matters and the historical development of these SOEs/CPSEs can help explain their existence and their continuing dominant positions in the economies of China and India. Chinese SOEs emerged from the three decades of a planning system where distribution of resources – land, capital, labour and materials – was centrally controlled. In the past 30 years, the roles and nature of state-owned industrial enterprises in China have been continuously evolving. They have transformed from being units in a command economy tasked with meeting quantitative targets and providing comprehensive services to their employees, up to the late 1970s, to being enterprises responding to the price signals of a market economy in the 1980s and early 1990s, and to their recent incarnation as corporations in the twenty-first century. This transformation took place in tandem with government restructuring. In the first phase of reform (1979–93), as SOEs were gradually 'growing out of the plan' (Naughton 1995), bureaucratic accountability disappeared as enterprise groups took over many of the functions of line ministries. Rolling back the planning system was the key to economic growth; yet, without dismantling the national and sub-national industrial bureaucracies, this process created serious dysfunctionalities, such as state-asset depletion (Xu 1996, 2000), rapidly falling SOE profits, a rising ratio of debt-to-assets and an increasing stock of non-performing loans (Lardy 1998; Naughton 2007). By the mid-1990s, China's SOEs looked like an economic disaster waiting to happen, with the potential to trigger political and social instability. There came the second phase of SOE reform (Garnaut et al. 2005; Yusuf et al. 2006) where the SOE policy changed from 'reform without losers' (Lau et al. 2000) to 'reform with losers' (Naughton 2007: 91).

In 1994, the Chinese government adopted the Company Law that granted companies legal status. In 1995, the State Council endorsed a policy of 'grasping the large and letting go of the small'. Two years later serious efforts were made to close down loss-making SOEs. 'Between 1995 and 2001 the number of state-owned and state-controlled enterprises fell by nearly two-thirds, from 1.2 million to 468,000' (*Economist*

3–9–2011: 12). SOEs shrank from about 40% to 2.6% of all industrial enterprises (Li and Putterman 2008); 40% of SOE employees were laid off between 1998 and 2003 (OECD 2005b: 17; Steinfeld 1998); and the proportion of urban workers employed in the state sector fell from 59% to 32%.

Even though this 'quiet privatisation drive' was controversial at the time, with protests from laid-off workers and accusations that state assets were being siphoned off by government officials or/and people who had connections with governments, it continued well into the early 2000s when a new team of leaders took over in the central government. *Gaizhi* (restructuring and reform) is not, however, simply a euphemism for privatisation; it has also created a variety of public–private hybrids (Garnaut et al. 2005; Yusuf et al. 2006). At one end of the spectrum are the giant state-controlled enterprises in industries which the government considers 'strategic', such as banking, telecoms, transport or utilities. As of the end of 2010, the central government owned and managed 121 of these, of which 23 are defined as 'national champions', or backbone companies, with Baosteel, the State Grid, CNPC, Sinopec and Shenhua on the list.

Many of these central SOEs, heavily indebted only a decade ago, have been revitalised, leading in both profit contributions to the central budget and in China's expansion into global markets. Profits of industrial SOEs jumped from less than 1% of GDP in 1996–98 to 4.2% of GDP in 2007 (Naughton 2008), and taxes from the central SOEs accounted for more than one sixth of the total national taxation income. These large SOEs are also making inroads into global markets, gobbling up oil, gas, coal and metals (or paying for the right to explore for them), and buying public utilities, farmland and manufacturing firms; this alarms both foreign governments and companies. China's foreign direct investment (FDI) outflow surged at an average annual rate of 54.4% in 2002–09; 67.6% of it was from central SOEs, which accounted for over 80% of FDI outflow in non-financial sectors (UNCTAD 2010).

Nonetheless, consolidation and expansion of key state enterprises are not only a Chinese phenomenon. This is also occurring in India:

> When people think of state capitalism, China springs to mind, with its giant and opaque government-controlled firms. But India, more cuddly and less competent, is not too dissimilar. Some 40% of the profits of its 100 biggest listed firms come from state-controlled ones. In finance, energy and natural resources, they control at least two-thirds of production (*Economist* 22–10–2011: 17).

India has had a strong culture of private entrepreneurship. Public sector enterprises were encouraged in 1956 when the government adopted the Industrial Policy Resolution, which was then upgraded in 1973 and 1977. This led to the nationalisation of corporations in some key sectors; CPSEs were consequently created in coal, rail, electricity, and other industries. The nationalised industries served their purposes at the time by pooling resources together and channelling them into the key sectors and segments for industrialisation and infrastructure development. Economic inefficiency, especially as the result of inflexible labour policies, made these nationalised companies unsustainable. In 1991, Government of India (GOI) heralded liberalisation of the Indian economy and outlined a new strategy for the public sector. Since the catalyst for the reform was an exceptionally severe balance of payments and a fiscal crisis, liberalisation was pursued from the top down. GOI decided to shift to a liberalised economy with greater reliance on market forces and a larger role for the private sector, including foreign direct investment. Global integration, in turn, pressured GOI to reform its CPSEs.

Liberalisation and deregulation steps from 1991 onwards aimed at supporting growth and integration with the global economy. The thrust of the New Economic Policy emphasised a reduction of areas reserved exclusively for the public sector, divestment of equity of selected public sector enterprises, foreign equity participation in its industrial undertakings, liberalisation of trade and exchange rate, and rationalisation of tax and pricing systems. New industrial policies saw a sea change for most CPSEs as they had to face the competition from private sectors and joint ventures, with entry barriers being lowered and the scope of industrial licensing being relaxed. In the 2000s, GOI made a commitment to empower a handful of CPSEs and their managements by granting them more autonomy in making decisions on investment and operations. It was recognised that public enterprises could not compete with private sectors without having freedom to function and operate commercially. The concept of *Navratnas* and *Mini-Ratna* was introduced, with greater delegated authority, both financial and managerial. Among 247 CPSEs currently, 16 belong to the category of *Navratna*, which occupy sectors identical to China's backbone SOEs. Coal India Limited (CIL), National Thermal Power Corporation (NTPC), Steel Authority of India Limited (SAIL) and Oil and Natural Gas Corporation (ONGC) are among this elite group in India.

Into the 2000s, the zeal to divest seemed to have dissipated in China and India as many key SOEs/CPSEs turned around from loss-making to making a significant contribution to government's

revenue through payment of dividends, interest on government loans, and taxes and duties. In China, the total assets of SOEs under the State Asset Supervision and Administration Commission (SASAC), the 'owner' of central SOEs, was about US$1 billion in 2003. Less than a decade later, it nearly quadrupled to US$3.8 billion, and revenue jumped from a little over US$500 million to US$2.5 billion. In India, an average annual growth of CPSEs' contribution to central revenue was 27% between 2004 and 2009, and the number of loss-making CPSEs declined from 100 to 59 between 1997 and 2007. In 2009–10, overall net profits of all CPSEs rose by 10.4% from the previous period of 2008–09 (Department of Public Enterprises 2011: 2). Some of these SOEs/CPSEs have become internationally competitive powerhouses.

By 2011, seven of the SOEs/CPSEs in this study were on the list of the Global Fortune 500 (Table 1.1), and all SOEs/CPSEs were expanding rapidly in domestic and global markets, competing with the global heavyweights from mature economies. They drew international attention, not only because of their size or what they do, but also because of the apparent support of their government and other state-owned institutions.

In countries where these SOEs made investments, alarms have been raised about the spreading of 'state capitalism' and threats to national security. Yet, we know little about the nature of these investments and their investors, and even less about the relations between these SOEs

Table 1.1 Global ranking of the world's 500 largest corporations, 2011

China				India			
Country ranking	**Company**	**Global 500 rank**	**Revenue ($ millions)**	**Country ranking**	**Company**	**Global 500 rank**	**Revenue ($ millions)**
2	CNPC	5	273,422	4	SBI	291	32,450
3	State Grid	7	226,294	7	ONGC	361	26,945
11	Bank of China	132	59,212		CIL		11,450
21	Baosteel	212	40,327		SAIL		9,629
30	Shenhua	293	32,446		NTPC		9,540

Source: CNN Money at http://money.cnn.com/magazines/fortune/global500/2011/countries/China.html, and the website of each company.

and the Party-state, and especially how bureaucratic politics shape the strategies of these new global players.

2. Institutional background

Scholars have long argued that the state structure (the institutionalised politico-administrative machine) defines the rules of the game, determines who can participate in what games and under what conditions, and shapes the relationship between the government and business groups (North 1990; March and Olsen 1989; Hall 1986; Evans 1995). The argument that the state structure defines the boundary of economic governance is particularly relevant for our understanding of the reforms of SOEs/CPSEs in both China and India, as there is an inseparable relationship between the state and the market. In the 1990s, scholars in and outside China and India called for an urgent and radical reform of privatising their public sectors: the ultimate success, argued Nicholas Lardy, would 'depend on the willingness of the Chinese Communist Party to embrace privatisation' (Lardy 1998: 22). Jeffrey Sachs was in agreement that the losses of Indian PSEs were so great that the country must go along the way of privatisation (quoted in Holtz 2002). The governments in Beijing and Delhi accepted the diagnoses and made a commitment to restructure and reform their public enterprises, many of which were loss-making entities. They did so, however, in a quite different manner.

The normal assumption is that the Chinese government under communist rule would have a complete authority to define these boundaries and ensure the game would be played accordingly. Competition and rivalries among government agencies, however, constantly shifted these boundaries and changed the rules of the game as reforms, including those of SOEs, took place in tandem with periodic reorganisations of 'the pinnacle of party–state control over the Chinese economy' (Pearson 2005: 304). In contrast, there has been a stable relationship in India, not only among government agencies, but also between government agencies and coalitions of interests formed over the decades in any given sector, even as its CPSEs are becoming market players.

In the 1980s, the Chinese government conducted two rounds of reorganisation to streamline the ministries and to separate government from economic functions. The first objective might have been achieved in terms of numbers, but the second objective was quickly aborted, as the government was not willing or ready to tackle the problems of SOEs. In the mid-1990s, separating the government responsibilities from

economic activities became the priority of the reform. To achieve this, another two rounds of government reorganisation took place in 1993 and 1998. This coincided with the rapid corporatisation of large SOEs in the mid-1990s. Newly incorporated SOEs inherited the state assets, economic activities and most of the personnel from their line ministries and became independent 'legal' entities; the large ones were then placed directly under the State Council. Consequently, line ministries became redundant and were abolished in 1998, their government functions transferred to the State Planning Commission and State Economic and Trade Commission, which were eventually reorganised into the current National Development and Reform Commission (NDRC).

At the end of the 1990s and early 2000s, there was a series of realignments of interests for institutions as well as government officials. One issue emerged immediately as line ministries were abolished and SOEs became independent – that is, how to ensure state-assets would remain in the hands of the 'state' and 'the state' could exercise its ownership rights. In 2002, the State Council decided to create an agency to supervise state assets of those central SOEs. The State Asset Supervision and Administration Commission (SASAC) was formally created in 2003 with two main responsibilities: (a) as the owner, not a manager, of state assets of industrial enterprises, as those public financial institutions were already under the China Securities Regulatory Commission and the China Banking Regulatory Commission; and (b) as the owner of SOEs, to continue their reform in order to ensure and expand the value of state assets. The creation of SASAC indicated a significant shift of the role of the state from direct intervention in to oversight of enterprise management.

In 2003, 198 SOEs were placed under the administration of SASAC, and nearly 40% of them were loss-making. To carry out the restructuring and reform, SASAC would need not only the authority, but also the financial resources. It had neither. It did not have control over the appointment of management of SOEs, which remains in the hands of the Department of Organisation of the Chinese Communist Party (CCP); it did not have the power to collect dividends, as the Ministry of Finance initially refused to see the tax payments from SOEs decline. Nor could it have any say on investment or pricing because these powers were in the hands of NDRC (Pearson 2005, 2007; Naughton 2008, 2010). SASAC did, nonetheless. have one objective that it could push forward: consolidation and expansion of SOEs, which it did and did it well, as large SOEs expanded in size, operation and reach. However, what SASAC proposed to do was not always agreed or supported by other

government agencies. Rivalry and competition among government agencies have not only produced inconsistent policies, but also created an environment in which SOEs could game the system; in effect, they try to socialise their losses and privatise their profits. Finally, frequent government reorganisation has made it almost impossible to have a permanent coalition of interests to influence and shape policy making the way we can see in India.

In India, as discussed above, reform of CPSEs was initiated from the top down. GOI launched the reform by lowering the entry barriers so that private and foreign companies could enter several industrial sectors. The decision has forced CPSEs to face some competition. Yet, reforms have not changed the government structure. All line ministries have remained, even though most CPSEs have been commercialised and corporatized. GOI has not redefined the role, functions and responsibilities of these line ministries, nor has it specified that these ministries would act as owners of state assets, planners or regulators. Meanwhile, in contrast to the chaotic situation in China – where government agencies are competing among themselves and with SOEs, – in India, seldom is any government agency challenged by its counterparts or CPSEs. Opposition is expressed and heard in parliament, but there seems to be unison among bureaucracies in discussing government policies.

More importantly, CPSEs, as the remnants of the old planning system, are under a direct line of authority of ministries of the central government. Over the decades, these line ministries have developed embedded interests in CPSEs, which in turn are protected and promoted by the ministries. In some sectors, such as coal, electricity and petroleum, a coalition of the line ministry, CPSE and main customers and unions often works together in defending their share of resources, their subsidies in pricing and the interests of their labour forces.

3. Corporate governance

The structure of corporate governance has immediate impact on how SOEs/CPSEs operate and whether they are sustainable. All state-owned corporations – in China, India or elsewhere – have to pay attention to the government's agenda, political, economic and social. They are expected to produce public goods or asked to carry out social and political objectives. Meanwhile, they are no longer the old-style SOEs, subject to a complete planning system and control. With commercialisation and corporatisation, these SOEs/CPSEs are expected to behave as market players. 'With a growing pool of retained profits' and greater autonomy,

they often make 'investment choices that are based on their own preferences and not state industrial policies' (Kennedy 2011: 16). There is, therefore, a constant balance between operating as a commercial entity and as a public institution. Ultimately, corporate governance – built on, among other things, a modern operational board of directors – can ensure efficient performance and protect the interests of both majority (the state) and minority shareholders.

It is generally accepted that corporate governance based on the efficient functioning of boards is able to ensure efficient performance (Berglof and Claessens 2004; Frederick 2011; Vagliasindi 2008). Some have even argued that ownership itself is not an issue so long as there is effective corporate governance to ensure the commercial viability of the corporation and protect the interests of its ultimate owners (OECD 2005a; Kwoka 2005). Corporate governance, meanwhile, raises many questions: Who serves as directors? To whom are they accountable? What are their responsibilities? What are the board processes? These questions may seem straightforward, and they are at the core of political power and corporate control (Gourevitch and Shinn 2005).

In the early 2000s, Chinese SOEs worked on the 'managing director responsibility system', which had been adopted in the 1980s to allow SOEs more freedom in their economic activities. The system posed serious problems once SOEs were corporatised because the 'managing director responsibility system' means not only that a single individual is responsible for the performance of an SOE, but more importantly that a single individual makes decisions for the enterprise without being overseen by the 'owner'. Since the manager of an SOE is appointed by the CCP, not SASAC, the manager could have tremendous political, financial and economic control over the SOE, while the power of SASAC to supervise and oversee can be quite limited.

In the past eight years, more and more SOEs under SASAC adopted a board of directors and some have foreigners serving as directors, as seen in China National Petroleum Corporation (CNPC), Sinopec, Baosteel and Shenhua. The board of directors system is not yet well established in China, as it remains to be seen how the interest of majority and minor shareholders can be represented; how the board can strike an intricate balance between viable commercial performance and production of public good; and especially the relationship between the board and the management team, which is still appointed by the CCP. Yet, some SOEs, such as the State Grid, remain operating under the manager responsibility system, and their managers have no intention of letting anyone close enough to look over their shoulders. This has created

serious accountability issues and caused concerns, even among some top leaders in Beijing.

In India, laws, rules, regulations and formal organisations are much better established than in China. It has never been a question whether CPSEs should have a board of directors once they become commercial entities. Indeed, all CPSEs under review have had boards of directors, and all have independent directors as part of corporate governance. However, as OECD recommended, 'corporate governance needs to be improved so that the directors and chief executive are appointed by the shareholders and not the government. Public sector banks, with reduced government holding, should no longer be governed by social objectives and the employees of the nationalised banks should have the same employment status as those in private banks' (OECD 2011: 130).

In both China and India, it remains to be seen whether modern corporate governance eventually will rest on the board of directors and whether the board can operate effectively to protect the interests of the state and minority shareholders.

4. Industry contrasts

In this study, the five sectors – coal, oil, electricity, steel and banking – have different structures and historical developments, which shape the operation of SOEs/CPSE.

Coal industry – coal provides nearly 60% of the total primary energy requirement in China and India, and its adequate supplies are, therefore, crucial for continuing economic development and industrialisation. The coal industries, nonetheless, are organised quite differently. In China, the coal sector has always been decentralised and dispersed, and a variety of ownership types exists. Coal prices were completely deregulated in late 1990s. The largest national coal company, Shenhua, was only created in 1995. Since then it has operated in a liberal market environment with very low entry barriers and deregulated prices, and it has to compete with small and local coal companies that have had the support of local governments. Meanwhile, Shenhua has been pushing for vertical and horizontal integration. With the nationalisation of the coal industry in 1973, the Government of India created Coal India Limited (CIL), which has almost monopolised coal mining in most parts of the country since then. There has developed a close relationship among the Ministry of Coal, CIL and trade unions in protecting and promoting the interests of the industry. This may explain the resistance to the central government's push for reforms of lowering the entry barriers.

Oil industry – neither China nor India has large oil reserves. One of the key issues when one examines the state of global energy security is who controls world oil resources today and who the major players are in global energy markets. The so-called seven sisters – the major Western oil companies that divided up world oil after World War II – now control only a small proportion of the international reserves (7% controlled by oil companies from OECD countries in 2004). The so-called national oil companies (NOCs) – those that are owned by a government, either entirely or partially with controlling shares – now control the lion's share of world oil reserves and market activities. NOCs are important not only because of the growing demand for oil, but also because almost all NOCs are from non-OECD countries.

In the past decade or so, the Chinese and the Indian oil companies, all of which are owned by the government, have been pursuing overseas expansion by investing in equity oil around the world. China National Offshore Oil Corporation (CNOOC), CNPC and ONGC are increasingly global players, competing with the traditional international oil companies as well as with each other. Domestically, all face a serious issue of being a commercial entity and required by the government to assist in maintaining social stability, especially when oil prices rise in global markets, and to ensure oil supply to the core sectors of the economy, whether they can pay or not.

Electricity – in the post–World War II era, most countries in the world nationalised their electricity industry, which remained publicly owned and vertically integrated until the 1990s, when deregulation and unbundling swept the world, 'thanks to' many multilateral institutions, especially the World Bank. Electricity reform was needed in the 1980s in China and the 1990s in India, when power shortages were a key impediment to economic growth. The electricity industry in China has always been centralised, while that in India is on the list of 'concurrent subjects' under the constitution, which means states have control over most generation and distribution capacities. Does this 'constitutional arrangement' over the power sector mean different reform paths and development in India?

Steel – the story of the steel industry in China and India almost corresponds to that of the coal industry – that is, the industry was decentralised and fragmented in China while much more concentrated in India. In China, the steel industry is predominantly made up of large and small mills owned by the central, provincial and local governments, as well as thousands of small mills owned and operated by villages and townships. After persistent pushes for merger and consolidation for

more than two decades, no one major steel maker in China produces more than 10% of the market share. The Chinese government has been trying to close down many of the smaller steel makers, many of which have old-style, inefficient and high polluting plants. It aims to have its top ten steel producers control 60% of national steel capacity by 2015.

In India, two large steel makers, Steel Authority of India and RINL, consistently owned over one third of market share until the early 2000s, when secondary producers increased their share production. By 2007, the share of the market by the two large producers had declined to only 23%. Yet the industry remains much more concentrated than that in China. Created in 1973 as a holding company to oversee most of India's iron and steel production, SAIL, combined with several other public sectors, gained a dominant share of steel production in the next two decades. Meanwhile, private players dominated downstream production, which was mainly producing finished steel using crude steel products. Under a controlled regime, the industry developed slowly, and many steel makers, including SAIL, were inefficient. In the 1990s, steel was the harbinger of deregulation and the first industry to be deregulated. Yet, reforms did not lead to an immediate change in the steel industry, as large plant capacities were reserved only for the public sector and capacity control measures, price regulation, licensing regulations and foreign investment restrictions were retained.

Banking – reforms and restructuring of SOEs/CPSEs could not have been possible without reforming the banking and financial systems in both countries. A financial market is a relatively new phenomenon in China while it has had a long history in India. In the 1990s, banking reforms were launched in both countries, where state-owned commercial banks remain key players.

There are two broad views of the governments' participation in financial markets. The development view, presented by Alexander Gerschenkron (1962), argued that as economic institutions in developing countries were not sufficiently developed for private banks to play a crucial development role, the government could and should create big banks as 'state apparatus' in order to take the 'commanding heights' for economic growth. The alternative view argues that while the government's ownership of banks might be desirable for both financial and economic development, state ownership is often buttressed by considerable incompetence and corruption. Both China and India followed the first view, maintaining a strong government presence in the banking sector.

China's banking sector consists of many institutions – policy banks, state-owned commercial banks, joint-stock banks, commercial banks

and credit cooperatives, and so forth. The big four state-owned commercial banks control the lion's share of the banking market. In India, 16 public sector banks control a significant portion of the banking activities. In both countries, the state-owned banks unwittingly fostered the fiscal mismanagement of loss-making SOEs, a history that led to the corporatising and commercialising of the state-owned banks. While the central government continues to retain a large percentage holding in equity capital in these large commercial banks, the banks now have to compete among each other and also with private and foreign banks.

The Indian banking system emerged from the colonial era and was nationalised after independence, as Indira Gandhi announced in 1969: 'Major banks should be not only socially controlled, but publicly owned' (*Economist* 11–06–2011: 75). Nationalised banks did not perform well. The colonial predecessor of the State Bank of India, The Imperial Bank, was ten times larger than another colonial bank (HSBC). Today the former is one-tenth the size of the latter. In the late 1980s, state banks accounted for 93% of total assets and nearly 90% of branches, including a number of development banks (OECD 2011: 121). Since 1990, barriers to entry have been lowered and new banks have emerged. Yet, as in China, the banking sector in India is still dominated by the state sector, which controls three quarters of deposits (*Economist* 11–06–2011: 75).

In sum, all chapters in this book discuss:

a. History and industry structure – why and how they emerged as SOEs/CPSEs, and whether the industry is organised around a monopolistic, oligopolistic, or competitive structure.
b. Organisational structure of the SOEs/CPSEs and their relationship with the government: Who is making decisions; how are decisions made; how is the public interest represented in their decision making?
c. Operations – what are their objectives, strategies, and means to achieve their objectives; what are they doing in domestic and international markets; and what are the impacts on global market?
d. Sustainability – are they profitable or loss-making; how are they supported by the government; and what has been done to reform them into modern corporations?

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2
The Shenhua Group: A Giant Made in a Decade

Jianping Zhao and Xu Yi-chong

1. Introduction

Compared with other state-owned enterprises reviewed, the Shenhua Group has the shortest history – it was created only 15 years ago – yet it is now the largest coal producer in the world. It has been built into a large integrated corporation with operations in coal mining, rail, port, power generation and shipping. It moved up to the list of the Global Fortune 500 (the top 500 corporations worldwide as measured by revenue), ranking 35th among Chinese companies, and 356th in the world. Financially, Shenhua has consistently outperformed the rest of the coal industry in China and has had a safety record in coal mining comparable to its international peers. It is also becoming a technological leader in areas such as coal liquefaction and coal-to-gas processing. Shenhua, nonetheless, has not been able to avoid some of the problems commonly experienced by other SOEs in China. This chapter examines the development path of the Chinese coal industry in which Shenhua was created, and analyses the factors that contributed to its explosive expansion, albeit that this expansion took place in a relatively efficient and sustainable manner.

2. The boom-and-bust road of the coal industry

In order to fully understand and analyse the expansion trajectory of the Shenhua Group, it is necessary to understand the history of coal industry development in China. Compared with other energy sectors, the coal industry in China has always been much more decentralised. Decentralisation is the key reason for its successes as well as its failures. Before 1979, a central planning system operated in China under the

guideline of *five-unifications*: unified investment, supplies of inputs for coal development, distribution of coal outputs, pricing, and subsidies for the losses. Through both five-year and annual plans, the government was able to decide, for the entire coal industry, what to produce, how much to produce, who would get what resources and at what price. Widespread coal reserves, especially in remote and poor regions, also meant that the central government could not 'reach the object of its rule without the cooperation of the provincial level and the provincial leaders [who knew] how to turn their pivotal position into a source of influence and constraint on the Centre' (Lieberthal and Oksenberg 1988: 90, 352).

The central planning and decentralisation were manifested by the structure of the coal industry. There were three types of coal mines, and the working conditions of coal miners differed markedly: those miners working at key state-owned coal mines (KSOCM) – under the central government, represented by the Ministry of Coal Industry (MOCI), received the best treatment in terms of salary, health care, retirement and their children's work placement; those working at township and village mines (TVCM) had none of these 'privileges'; and those working at mines managed by the provincial, prefectural and county governments – referred to as state-owned coal mines (SOCM) – were treated somewhere in between. Limited control and authority of the central government over the coal industry were intensified as reform started in the late 1970s. In 1978, there were 84 large mines directly controlled, operated and managed by the MOCI. They contributed more than 55% of the total coal output in China. More than 500 of the smaller mines were managed by provincial, county and commune authorities. Of these, the local small mines produced about 15% of the total coal output. Indeed, these data are only estimates, because 'the production and consumption of the output from the non-state mines [were] virtually beyond their [central planners'] control prior to the late 1970s' (Thomson 2003: 56).

After 1978, the central government called on localities and enterprises to pool their resources to build and operate small- and medium-sized coal mines, partly to meet the rising demand for energy but more importantly to develop the local economy and alleviate the absolute poverty of 75% of the rural population (about 540 million), who relied entirely on subsistence agricultural activity and hardly had sufficient food or warm clothes. In 1981, the State Council approved a proposal from the National Energy Commission to allow localities to invest in coal mining, to subsidise loss-making local coal mines, and to reduce

taxes for the local coal mines. Less than two years later, in 1983, the State Council approved new regulations and measures to encourage local investment in coal mining, calling for the state, local governments and individuals to speed up their investment in the coal industry in response to a coal shortage (Thomson 1996, 2003; Wright 2012). This was the consistent policy throughout the 1980s until the economy slowed down after 1989. Indeed, in the 1980s there was a sense of 'rush' as the central government encouraged villages, towns and localities to engage in and expand coal mining. Most of the top leaders – including Wan Li, Zhao Ziyang, Hu Yaobang and many others – visited coal-rich regions in places such as Shanxi, Shaanxi and Shandong to encourage locals to develop the potential coal reserves. As the Chinese saying goes, 'Let water run as fast as it can while there is water' (有水快流).

The policy worked and the proportion of coal production from TVCM increased from 15% of the total output in 1978 to 36% in 1990. The number of small mines jumped from 16,000 in 1982 to 63,000 in 1985. By the end of the 1980s, this number reached 79,000, and half of these mines remained unlicensed (World Bank 2008). The policy to promote the development of small-scale coal mines worked not so much because of the 'higher level of subsidies, tax allowances, investment in infrastructure and funds for the maintenance of mines' (Andrews-Speed 2004: 82), but on the contrary, the central government at the time made it quite clear that the coal industry was the area in which it did not have to invest because it could see an immediate improvement of rural life and a rapid increase in coal production to meet the badly needed coal supplies for the expansion of electricity (CCIY 1982–89).

The policy also worked because of political uncertainties. Coal reserves were concentrated in provinces and regions where the rural poor had in the past been encouraged by Mao and others to mine for coal; yet, no sooner had some of these mines been opened, they were quickly ordered to be closed down. At the early stage of the reform, few were sure how long the new policy would last and few wanted to miss the opportunity – 'let's rush through before the door is closed' was the general mentality.

The mining operations expanded quickly, but the small local mines were under-capitalised, under-mechanised and unsafe, with a fatality rate four-and-a-half times higher than in central state mines (Rui 2005, Thomson 2003; Fingar 1987, 1993). More importantly, the proliferation of small mines threatened the coal resources and economic viability of larger mechanised ones, which lost ground in the face of strong competition from the smaller operations (Albouy 1991).

To address these problems, the central government then ordered the closure of unlicensed small mines. During the three-year economic entrenchment (1989–92), about 23,000 small mines were closed each year (Rui 2005: 57).

Following Deng Xiaoping's southern tour in 1992 some small local coal mines reopened as both economic reform and growth picked up the speed. This time, market forces played a key role in the revival and expansion of small and often illegal coal mines. In 1993, the central government freed coal prices (except for thermal coal – coal used to generate electricity) as part of its general shift from the 'socialist system with market characteristics' to the 'socialist market system' (Table 2.1). As both central and provincial governments poured resources into the expansion of the power sector, demands for coal rose and coal prices soared too. Taking advantage of the rising coal prices, small coal mines expanded in number as well as in production, despite the government's call to close small, dangerous and inefficient coal mines. The share of coal production from small mines had risen from 36% of the total coal production in 1990 to its peak of 47% in 1994 (Table 2.2).

Rushing into coal production might be a 'logical' response of local governments, towns and villages to the rising demands and prices, as the widespread, easy-access coal reserves in some poor regions could be turned into an opportunity to get rich quickly. Cutthroat competition, however, resulted in 'illogical and detrimental consequences' for the industry. The small mines were notorious for not only their primitive operations, the wasteful exploitation of resources and their inefficiency but, more importantly, for their very poor safety records. Employing just 4% of the Chinese labour force, the coal industry suffered 45% of the industrial fatalities (Wright 2004: 629); this became a serious domestic and international political problem for the government. Moreover, small mines expanded at the expense of state-owned and more advanced large coal enterprises, which shouldered not only the cost of production but the cost of all social welfare for their miners – schools for their children, health and housing for their families and retirement benefits – and would receive low prices for their coal production as the result of the 'dual pricing' system. At the same time, the larger more efficient and much safer state-owned mines lost their foothold in the marketplace, and their profitability eroded steadily. This quickly created a chain of indebtedness of state mines and state-owned banks.

In 1992, the key state-owned coal mines recorded losses of up to 5.75 billion yuan, equivalent to 5% of the total central government

Table 2.1 Average coal sale price by key state-owned coal mines (KSOCM), 1980–2009

Price regime	Year	Sales price (yuan/t)	% increase from previous year
Single planned price	1980	21	
Some relaxing of coal price	1985	26	23.8
	1990	44	69.2
	1991	58	31.8
	1992	90	55.2
Dual-track price system	1993	105	16.7
	1994	109	3.8
	1995	115	5.5
	1996	125	8.7
	1997	166	32.8
	1998	160	–3.6
	1999	143	–10.6
	2000	140	–2.1
	2001	150	7.1
Price control largely abolished	2002	168	12.0
	2003	174	3.6
	2004	206	18.4
	2005	291	41.3
	2006	301	3.4
	2007	330	9.6
	2008	370	12.1
	2009	353	–4.6

Source: China Coal Information Institute/China Coal Industry Association.

expenditure that year. The central government had to keep pumping resources into the industry. By the mid-1990s, the 'coal-rush' had generated its own momentum for a further rush as 'rational planning' was thrown out of the window; 'local protectionism flourished during the late 1980s'; and there had developed institutional interests for local governments to engage in a chaotic competition (Lieberthal and Oksenberg 1988: 337–71).

Table 2.2 **Coal production from mines of different types, 1990–2010**

	Total	KSOCM		SOMC		TVCM	
Year	(Mt)	(Mt)	(%)	(Mt)	(%)	(Mt)	(%)
1990	1079	480	44.5	205	19.0	393	36.4
1991	1084	480	44.3	203	18.7	400	36.9
1992	1114	482	43.3	202	18.1	429	38.5
1993	1152	458	39.8	204	17.7	490	42.5
1994	1229	469	38.2	202	16.4	555	45.2
1995	1313	482	36.7	213	16.2	617	47.0
1996	1382	537	38.9	222	16.1	623	45.1
1997	1341	529	39.4	226	16.9	586	43.7
1998	1233	500	40.6	210	17.0	522	42.3
1999	1280	513	40.1	214	16.7	552	43.1
2000	1300	534	41.1	199	15.3	567	43.6
2001	1380	630	45.7	219	15.9	530	38.4
2002	1450	710	49.0	260	17.9	480	33.1
2003	1670	830	49.7	290	17.4	550	32.9
2004	1956	919	47.0	295	15.1	741	37.9
2005	2190	1040	47.5	300	13.7	849	38.8
2006	2380	1147	48.2	328	13.8	904	38.0
2007	2523	1230	48.8	336	13.3	957	37.9
2008	2716	1377	50.7	345	12.7	994	36.6
2009	3050	1518	49.8	366	12.0	1166	38.2
2010	3413	1694	49.6	516	15.1	1203	35.2

Source: China Coal Information Institute/China Coal Industry Association.

3. Creation of Shenhua Group

This backdrop of a chaotic coal business and loss-making state-owned coal mines led to the restructuring of the industry. In 1994, the State Council adopted a new 'Industrial Policy for the 1990s', which stated that 'the construction of large key state-owned mines must be accelerated and efforts made to promote the transformation and improvement of local mines and mines operated by townships' (IEA 2000: 30). In

August 1995, the State Council created a 100% state-owned coal corporation, Shenhua Corporation, with an initial registered capital of 2.58 billion yuan. Shenhua was made accountable directly to the State Council through the State Planning Commission (SPC). It was designated to develop and mine the Shenfu-Dongsheng coalfield, develop its associated rail systems, power-generation plants, ports and shipping. It was permitted to raise capital from various sources and granted a licence for coal imports and exports.

The core of Shenhua spun off from the Huaneng Fine Coal Company. In 1982, an exploration team discovered a large coalfield across the border between Shaanxi and Inner Mongolia – the Shenfu-Dongsheng coalfield. It was estimated at the time that the coal reserves in the region were 367 billion tonnes, a third of the country's verified coal reserves. In 1984, the central government created the Fine Coal Company, which was merged with the Huaneng Company in 1985 to develop this potential coalfield.

Little progress had been made under Huaneng's ownership and management. During that decade, a shortage of finance was the key constraint to the development and expansion of any state-owned companies, coal included. As state-owned coal mines were facing heavy financial losses, Huaneng channelled most of the available resources, such as export credits, from bilateral arrangements into the construction of new power plants, whose financial viability was assured by the government's 'cost-recovery' electricity pricing policy. By 1995, Huaneng was still showing little interest in the coal-mining business and had no immediate plans to develop the Shenfu-Dongsheng coalfield.

In contrast, the Ministry of Coal Industry (MOCI) was re-established upon the abolition of the Ministry of Energy in 1993. The central government also indicated that further restructuring of the coal sector was coming, and the decentralisation of centrally owned coal mines to local governments and the dismantling of MOCI were both on the cards. The uncertainty about the future pulled the coal industry and MOCI together, as there was already some resentment in the coal sector that a large coalfield with good quality coal reserves such as Shenfu-Dongsheng had been placed under the control of the power sector (Huaneng was created as a power company). Many at MOCI wanted to have a large coal corporation under its wing and with its headquarters in Beijing, as other sub-energy sectors had done. This view was endorsed by many former senior officials of the coal industry who were by now working in other important government agencies, such as the State Planning Commission.

There was no clear indication that the State Council would like to create Shenhua as a major national coal champion to lead the industry or to lead the reform in the industry, as the State Power Corporation of China (SPCC) did in the electricity sector or China National Petroleum Corporation did in the oil sector. Indeed, different views were advocated by two powerful politicians at the State Council. Li Peng, the premier at the time but on his way out, favoured large centrally controlled companies, particularly in energy sectors; and Zhu Rongji, the rising vice-premier, was promoting the decentralisation of the state-owned enterprises in non-strategic areas, including the coal sector. Even in those strategic sectors, Zhu was in favour of competition rather than monopoly or oligopoly, and he detested the monopoly companies such as banks and power companies with their luxury offices in skyscrapers in every city. The reform in the mid and late 1990s mirrored these two quite different political philosophies.

Shenhua was created, therefore, as an ambiguous compromise borne out of various interests. It was a part of the effort to construct large and modern energy corporations, while the central government was preparing for a new round of decentralisation of the coal industry.

4. The expansion trajectory of Chinese style

In its initial stage, the political and economic environment was not favourable for Shenhua's development and expansion. Politically, by the mid-1990s, 'a conscious strategy had been formulated under the rubric of *zhuada fangxiao* [抓大放小], which means literally "grasping the large, releasing the small"' (Yang 2004: 33). The policy led to the creation of several major SOEs out of the existing ministries. Yet, the State Council had no intention to apply this strategy in the coal sector, not only because the industry had always been decentralised but also because it was loss-making at the time.

Shenhua had little political support or financial backing, as capital shortage remained a main constraint for infrastructure expansion. The number of new large coal projects shrank from 56 in the eighth five-year plan (1991–95) to 32 in the following five years. Meanwhile, the rapid expansion of TVCMs had already shown a sign of overproduction. Then, with the onset of the Asian financial crisis in 1997, energy demand declined. Because of the glut of coal at the beginning of 1998, the coal industry was heavily indebted. KSOMCs were particularly hard-hit as they could not compete effectively with TVCMs in reducing costs by laying off workers, adjusting their production levels, or even promoting

sales, including by illegal means such as bribery. KSOCM entered the most difficult period in its history as government budget support was largely removed, the share of production by TVCMs increased and the lack of a level playing field caused most of them financial distress.

In 1998, Zhu Rongji replaced Li Peng as the premier of the State Council and started pushing ahead with reform of SOEs. The Ministry of Coal Industry was abolished along with several other line ministries, and its administrative responsibilities were transferred to a downgraded State Administration of Coal Industry (SACI) under the State Economic and Trade Commission, which was eventually merged with the State Planning Commission in 2003. The State Council, meanwhile, decentralised to the provinces the ownership and management of all 90 KSCOMs under the MOCI, 'leaving the SACI as a purely regulatory body for the industry' (IEA 2000: 28).

Deregulation and decentralisation of the coal industry were pursued to provide more of a level playing field for all types of mines. It was argued that KSCOM were less able to adapt to market conditions as they were under too much control from Beijing, and the local governments tended to favour SOCM in terms of resource allocation and policy support. With decentralisation, the central government hoped provincial governments would have the incentive to promote KSOCMs rather than TVCM as they gained a greater stake in KSOCMs. Another motivation for the central government to decentralise the coal industry was to get rid of the heavy financial burden of the indebted mines. This was in great contrast to the development of the power industry, as the central government insisted on ownership and control of its successful sectors and companies. All provinces accepted the transfer, except the government of Inner Mongolia Autonomous Region. It argued with the State Council that Inner Mongolia was a very poor region, with a small population (then 23 million) and could not afford taking on more financial burdens from the loss-making coal mines. Finally, a decision was made by Prime Minister Zhu Yongji that the Shenhua Group would take over all KSOCMs in Inner Mongolia – a decision that was not appreciated by Shenhua at the time, yet that eventually benefited the company greatly in the 2000s.

In 1998, the State Council repeated its call to close 'the 25,800 small illegal mines which undercut the prices of the large mines due to their very low capital costs and the fact that they ignored safety regulations' (IEA 2000: 30). The decision to close small mines was partly designed to reduce total production, as demands had declined; and partly to improve mining efficiency. A vast waste of coal resources occurred in small

mines, as they had no systematic mine planning and used archaic and inefficient mining methods. Many small mines encroached on the lease areas of KSOCM, reducing reserves available for mechanised mining and creating serious safety risk for their operations. More importantly, the decision was prompted by the record-high coal-mine casualties of 6,897 in 1994 and 5,990 in 1995, which became a serious political embarrassment for the government and the Chinese Communist Party (CCP). The fatality rate of TVCMs was so many times higher than that of KSOCM (Table 2.3).

The continued overproduction and poor coal prices in 1999 and 2000 led to the government's decision to revisit the development of the booming small mines. Several other factors were also behind this decision and a long-lasting determination and efforts to close small and inefficient coal mines. The coal mining industry had been notorious for its high number of fatalities, but after years of efforts to improve safety standards, the fatality rate for KSOCM had been reduced from 3.85/mt in 1985 to about 1/mt in the late 1990s. The fatality rate for TVCM had also been reduced significantly, although it was still at about 8 mt in the late 1990s (Wring 2004, 2012: 164–70). A more disturbing phenomenon was that the average fatality rate was rising steadily after it had bottomed at 7.7/mt in 1996. It nearly doubled and reached 14.61/mt in 2000 (Table 2.3). It was clear that in order to sharpen their competitive edge during a sluggish coal market, the TVCMs were cutting corners in costs by reducing investment in mine safety measures, which had never even reached the minimum level. Furthermore, the fatalities were not restricted to one region; there were incidents and reports of serious accidents all over the country.

While in 1998 the central government called for the closedown of small mines, no effective measures were available to enforce the call. As the loss-making situation continued to deteriorate through 1999 and 2000, the State Council's General Office issued an 'Urgent Notice on the Shut-down of KSOCM/SOCM Owned Small Mines and the Suspension of TVCMs for Rehabilitation' in March 2001. Six months later, it issued 'Notice on Further Work to Shut Down and Rehabilitate Small Mines and Improve Safety', which further defined the types of mines that must be closed or suspended, and spelled out more clearly the enforcement measures that would be put into place. In the subsequent years, a kind of 'hide-and-seek' game continued between the government and the TVCM, more precisely between the central/provincial government and the country/township government. As corruption had penetrated every corner of society, small mines were either partly or fully owned

Table 2.3 Fatality rates of mines of different types (fatalities/Mt), 1985–2010

Year	National average	KSOCM	SOCM	TVCM
1985	7.63	3.84	9.41	11.92
1986	7.65	2.99	8.20	14.00
1987	7.37	2.57	6.48	14.43
1988	6.78	2.51	6.00	12.80
1989	6.67	1.74	6.30	13.00
1990	6.16	1.43	5.00	12.79
1991	5.21	1.06	6.20	10.10
1992	4.65	1.01	4.50	9.20
1993	4.78	1.12	4.90	8.50
1994	5.15	1.19	4.82	8.32
1995	5.03	1.16	4.90	8.13
1996	4.67	1.17	4.02	7.70
1997	5.10	1.45	4.13	8.44
1998	5.02	1.02	3.76	8.60
1999	5.30	0.92	3.73	12.95
2000	5.71	1.44	4.11	14.61
2001	5.03	1.27	4.10	14.82
2002	4.94	1.27	3.83	11.69
2003	3.71	1.07	3.00	7.61
2004	3.08	0.929	2.771	5.87
2005	2.811	0.931	2.039	5.533
2006	2.041	0.628	1.907	3.885
2007	1.485	0.383	1.269	3.024
2008	1.182	0.332	1.146	2.467
2009	0.892	0.382	0.804	1.507
2010	0.749	0.278	0.507	1.414

Source: China Coal Information Institute/China Coal Industry Association.

by local government officials or the private owners were protected by local officials.

By 2003, the impact of the Asian financial crisis was over. The energy demand, driven by much stronger economic growth, started to grow at

a rate of double digits. The local capital market also changed dramatically, with state banks having abundant funds and looking for bankable projects (Yang 2004). While the government continued its efforts to tackle the problems of small mines and to boost coal production, it was also able to take financial and policy measures to support the KSOCM to expand capacity and increase production. The newly created State-owned Assets Supervision and Administration Commission (SASAC) took over the responsibility of fostering the expansion of large and profitable SOEs, while reforming the loss-making ones and sometimes forcing them to go under.

5. The evolution of Shenhua's management

One of the main arguments made by scholars and 'China watchers' is that SOEs are under strict control of the Chinese Communist Party and the central government because the top tier of officials of the central SOEs are appointed by the CCP's Organisation Department jointly with the State Asset Supervision and Administration Commission (Pearson 2007; Chan 2009). Even though it is not a requirement, most senior managers of SOEs are members of the CCP, and 'many of them circulate back into government positions after a stint as executives' (Walder 2011: 31). Yet, the appointment of managers for a particular SOE tends to be made from among people who have been around the industry for some time and know the ins and outs of the operation and politics involved. Consequently, regardless of whether they are professional politicians or technocrats, these executives by and large manage the operation of the SOEs primarily according to commercial principles, while implicitly following the party's guidelines and responding to the party's specific calls when needed.

Appointment of the management team for Shenhua has been significantly transformed, even in the past decade or so. The first and second generation of party officials have gradually been replaced by party technocrats and then by technocrat-managers. The four presidents of Shenhua (Xiao Han 肖寒, 1995–98; Ye Qing 叶青, 1998–2003; Chen Biting 陈必亭, 2003–08, and Zhang Xiwu 张喜武, 2009–present) have represented this transformation of Shenhua from an old-style SOE to a modern corporation.

If the development of the coal industry before 1979 was shaped by the constant struggle between Mao, who was in favour of decentralisation, and Liu Shaoqi and Zhou Enlai, who were in favour of centralised large-scale coal mines (Lieberthal and Oksenberg 1988), the development of

Shenhua has been shaped much less by ideological differences of its leaders than by their personal backgrounds, experiences and perception of the world. First, their different educational backgrounds showcase the evolution of a Chinese elite in the past 30 years: Xiao had a high school education; Ye went to technical college; Chen was a university graduate at the prestigious University of Science and Technology of China (known as China's MIT), and Zhang received his PhD in mining engineering. Second, their working experience was so different, Xiao was a generalist and party official; Ye a bureaucrat, youth league official and party official; Chen was a deputy mayor and deputy governor in Jiangsu before taking a position on the management team at Shenhua; and Zhang was technical professional and manager of various subsidiaries of Shenhua before taking over its helm. Third, they were all coal industry insiders: Xiao was the deputy minister and then minister of MOCI; Ye was the deputy minister of MOCI (1982–88) and deputy minister of the State Planning Commission in charge of the coal industry; Chen spent the least time in the coal industry among the four before taking over as Shenhua's president; Zhang worked in various subsidiaries of Shenhua for his entire career. Fourth, the fact that they were all CCP members was not the only condition for their appointments, nor did it mean that they would act and think in the same way in their leadership roles. Their educational backgrounds, experiences and perceptions of the world, rather than the instruction of the CCP or the State Council, helped them shape the direction of Shenhua's development.

In 1995, Xiao Han, the former minister of MOCI, was appointed by the State Council as the chairman, and Han Ying, the former vice-minister of MOCI, was appointed as president of the newly created Shenhua. For about three years, the two tried to get this new creature off the ground, as many SOEs were either loss-making, facing an imminent threat of bankruptcy, or of being forced to be closed down or restructured. Shenhua did not have much of a history even though it originated from the Huaneng Fine Coal Company, which itself was the creation of the reform in the 1980s. Xiao Han, one of the old 'revolutionary leaders', came to Beijing as the deputy ministry of MOCI in 1975 and became the minister of MOCI just before the reform started. His ministerial life was short-lived, lasting less than two years before being moved to the State Economic Commission (SEC) as a deputy. In March 1983, he was moved to the State Council's office, in charge of the planning and developing of an energy base in Shanxi. This experience gave him the credentials to become the head of Shenhua even though he did not have the required technical expertise or management experience. He,

like many top officials at the time, was rewarded because he had been serving the CCP for most of his life. Xiao took up the position as the chairman of Shenhua at nearly 70 years of age, and he made little contribution to building up the company. His deputy, Han Ying, fared little better. He was brought to Beijing in 1977 by Hua Guofeng to become secretary of the Chinese Youth League. In 1982, he was promoted to the deputy minister of MOCI, but was sent to Inner Mongolia to be in charge of the coal industry there, partly because he was on the 'wrong' side of the political contest – the side on its way out.

In retrospect, Shenhua was set up with designs to become a modern corporation, but in 1995 there was no history of management for modern coal mines. The most suitable leaders were those who were familiar with the industry and had good connections with other government agencies. As the future of the company was unclear and the top officials of MOCI at that time were not interested in running a company, the choices of Xiao and Han appeared to be natural ones. They were placed in charge of the company also as part of their retirement rewards. In reality, they played their role and made a significant contribution in shaping the future of Shenhua during a very challenging time, particularly in setting a solid footing in the railway and port businesses, which were traditionally monopolised by powerful ministries such as the Ministry of Railways.

In 1998, there could not have been a more suitable person than Ye Qing to take over Shenhua. Ye had been in the coal business for many years and was 'an insider'. Prior to taking this position, he was in the powerful SPC in charge of the energy sector. He was well-connected to all the key ministries and knew how the government bureaucracy worked in granting approvals, allocating funds, and so forth. He was able to bring an important source of funding to Shenhua and, because of his previous working relationship with some of the top leaders, he could approach individuals such as Li Peng and Zhu Rongji directly if needed. Because of these factors, Ye was able to make a number of key strategic investment decisions and expand the company significantly during his tenure, and this at a time when other SOEs were facing many difficulties.

Chen Biting was appointed as the chairman of Shenhua in 2003 when Ye well passed retirement age. Chen had a quite different background. He had worked in provincial governments for many years, and his network with the central government was much less extensive than both of his predecessors. By then Shenhua had expanded significantly: it had become the largest coal company in China, producing 102 million tonnes a year and controlling stakes in six power-generation plants with

a total capacity of 5.2 GW. The economic and market environment had become much more favourable, and Chen was able to further expand the company by capitalising on the available resources and tools.

6. Development of Shenhua

Initially, Shenhua had an advantage over other SOEs – it did not have to shoulder many of the social costs incurred with its own retirees, or health-coverage, education and housing costs for its employees. It was also given free coal resources – good quality coal that was easy to mine and with low levels of sulphur and dust – as well as land and licences. Nonetheless, Shenghua faced many challenges in the second half of the 1990s (as did many SOEs involved in the economic transition), such as a shortage of investment capital, the chain of debt problems, and the semi-controlled pricing. Access to adequate funding was a serious challenge as Shenhua had no revenue and little assets, while the amount of funds required to finance the construction of coal mines, railways and ports was large, long-term, intensive and highly risky. The government had to help finance the development and expansion of Shenhua with loans from policy banks and other state banks, or with other available credits.

In its early years, Shenhua focused on obtaining funds to continue the development of the Shenfu-Dongsheng coalfield, as well as the construction of the dedicated railway line and port. By then, the government had long changed its policy from central allocation of budget to bank borrowing. To expand its operation, Shenhua borrowed heavily and accumulated a huge debt in its first three years. For example, in 1997 Shenhua contracted US$1.35 billion in foreign loans with China Investment Trust and Investment Corp (Citic) and with another two companies to buy equipment from Japan and other countries for the construction of a coalfield, a railway line and a port (Gao 1997). None of these projects would see a quick return, while Shenhua could not generate enough revenue by selling coal, as the market was saturated and TVCMs had undercut the price. By late 1997, Shenhua's debt–equity ratio was as high as 87%. While the management team of Shenhua chose not to report the 'bad story' to the State Council, an auditing report of the company went to the SPC, which was responsible for the performance of Shenhua. Its vice-minister, Ye Qing, in turn reported this to Li Peng, who was in his final days as premier. Li had always supported large-scale energy operations, whether in coal, oil or the electricity sector. Even in the 1980s he had raised concerns about potential

safety issues and irrational and disorderly production of small-scale operations as the CCP, and the central government encouraged villages and towns to rush into coal mining (CCIY 1988–92). When he was informed that the high debt level of Shenhua had become the main obstacle to its expansion, Li made a decision to inject 20 billion yuan into Shenhua – equivalent to 1.5% of China's total fixed investment in 1997 (Anonymous 2005).

The money came from a special fund that the central government had been accumulating since the early 1980s in 'substituting coal for oil'. Part of the fund was initially used to finance the formation of Huaneng in 1986. When Li Peng decided to use the fund to boost Shenhua, Ye Qing was able to bring over the newly injected capital of more than 20 billion yuan, as he took over as chairman of Shenhua in 1998. This injection brought down the equity–debt ratio of Shenhua to about 52% (Anonymous 2005).

New challenges emerged as the economy in China slowed down following the Asian financial crisis. The demand for energy also slowed. When it went into operation in 1996, Shenhua had nine mines (five central and four county-level), with a total annual output of 6.6 million tonnes, less than 1% of the market share. With the coal glut in the country in 1998–99 (IEA 2000), Ye made a decision to use some of the newly injected capital to acquire existing power plants, to construct new ones and to form a power-generation company as Shenhua's subsidiary – Guohua Power Company. Shenhua's coal was fed into its power plants, which solved the problem of competing for a share of the coal market and, later, in the early 2000s, it avoided the rising coal price.

Expansion into the power industry was possible for two reasons: First, Shenhua was created as an integrated company and was allowed to engage in coal mining, construction and operation of associated rail and port, and in building and operating power-generation plants. Unlike India, where there has always been captive coal mining and captive rail transport, the integrated ownership and control across coal mining, power generation and transportation was unheard of. Indeed, in the late 1990s the power sector was monopolised by the newly created State Power Corporation of China (SPCC). Shenhua was made an exception. Second, even with the newly injected capital, Shenhua could not have expanded its generation business without the financial support of state-owned banks. The banking reform in China in the mid-1990s led to the establishment of three policy banks – China Development Bank (CDB), Export-Import Bank (Exim) and Agricultural Development Bank (ADB). Policy banks were designed to finance 'long-gestation, low profitability,

or high-risk projects considered essentially for national economic development' (World Bank 1996: 38). CDB was specifically asked to assist the financing for projects in infrastructure (e.g. ports or airports), energy (coal, natural gas and oil or electricity), or the 'pillar industries' (e.g. automobiles, electronics, machinery, construction). Yet, even for policy banks, lending to SOEs is not automatic, as many have assumed it to be (Rui 2005; Rui et al. 2010) as they have increasingly seen themselves as financial institutions (Downs 2011). When Ye went to the CDB to borrow for the acquisition, Chen Yuan, the chairman of the CDB, was initially reluctant to lend to Shenhua because the coal industry, in general, was loss-making. It was a shared belief between Chen Yuan and Li Peng that made this loan possible.

Chen was described as 'one of the most important exponents of neoconservative thinking' and of 'combining political control and economic marketisation' (Fewsmith 2008: 93). He had rejected decentralisation in a similar fashion as Li Peng, as both believed that the decentralisation championed by Deng led to 'the fragmentation of the national market', 'the erosion of central resources' and consequently a 'weak and powerless central government surrounded by numerous "feudal lords" ' (Fewsmith 2008: 94). In the 1990s, both men were seeking ways to reverse the trend of decentralisation and to re-strengthen the central control to make the market system work. Yet, when he was appointed as chairman of the CDB, Chen Yuan liked to present himself as an ambitious and entrepreneurial financier, using his position and the authority granted to him to 'use the bank as a vehicle to spur broader changes in China that would serve the country as a whole' (Downs 2011: 7–8). His initial refusal to make loans to Shenhua was evidence of the apparent contradiction of his ideas about decentralisation and state power.

The issue was brought to the premier, Zhu Rongji. Even with the intervention, CDB did not make the loan until after it conducted a thorough audit of Shenhua. Bank lending, even from a policy bank, set a discipline for Shenhua, which had put aside, from each tonne of coal it was selling, a certain amount of money to service its debt. A good record of servicing the debt and performance brought more support from the CDB and other banks. In late 2000, the CDB lent Shenhua another 10 billion yuan with a lower interest rate and for a longer term than the loans from commercial banks. In 2002, the CDB, also on behalf of Shenhua, issued a one billion yuan bond on the domestic financial market.

With the political, organisational and financial support from the central government, Shenhua expanded during Ye's tenure. By 2003,

it controlled 35 coal companies (an expansion from its original nine mines), and its total assets swelled from 2.58 billion yuan to 117 billion yuan, while its total employees reached 80,000. Shenhua's annual coal production was approaching 100 million tonnes, making it the largest coal producer in China, although its market share was still about 6%. It had six power plants under operation or construction. More importantly, its major coal mines were posed to further expand production capacity quickly and the key railway lines and port were ready to deliver coal. The Shenhua Group also established a subsidiary, Shenhua Coal to Oil Company Limited, to undertake the major coal to oil research work and projects as entrusted and supported by the government.

Executives of SOEs are accountable to the Organisation Department of the CCP and the SASAC as they are appointed by the two institutions. They are also responsible for the performance of these SOEs. None of the executives would get ahead in their careers if the SOEs they are heading make losses. Consequently, whether or not they are active or passive in exercising their given authority makes a difference in their performance. For example, before leaving his post, Ye confessed to the vice-premier in charge of energy, Zeng Peiyuan: 'I have to apologise that I have not reported to you earlier or received permissions on many decisions. I did what I thought the best for the company without going through the formal procedures. Fortunately, everything turned out alright; we succeeded and made huge profits' (Anonymous 2005). The spirit of this confession reminds one of the words of a minister of a Western democracy, who said: 'Inevitably, if you are an activist minister, as I always wanted to be, there are some clashes with the prime minister, [but] you can just go and do things and be prepared for the inevitable rebuke' (Tiernan and Weller 2010: 199). Being active and making independent decisions undoubtedly allowed Ye to get things done at Shenhua.

Ye retired in 2003 and Chen Biting took over as the chairman of Shenhua. Two important changes took place in 2003: one was a transition of the governing team from Jiang Zemin-Zhu Rongji to Hu Jintao-Wen Jiabao, and the other was another round of government organisation reform. The previously powerful State Economic and Trade Commission was abolished and two new commissions – the State Asset Supervision and Administration Commission (SASAC) and the China Banking Regulatory Commission – were created to manage the impact on the domestic economy of China's entry into the World Trade Organisation (WTO). SASAC was especially important for the reform and restructure of SOEs. With these organisational changes of the central government,

Shenhua was transferred from being directly accountable to the State Council to being accountable to the SASAC. The creation of SASSC 'represents an important step forward toward clarifying and modernising the administration of government property rights and improving the oversight of government managers' (Naughton 2003: 1). Shenhua was one of the 198 SOEs placed under the supervision and management of the SASAC, and 10% of these large SOEs were loss-making at the time and a third of other central SOEs (15,546 in total) were also losing money (SASAC 2004: 76).

The challenges facing the SASAC were multiple. There was competition from non-state enterprises, joint ventures and foreign companies, while some of the very large SOEs experienced heavy losses. However, for political, social and economic reasons these SOEs could not be closed down easily, as Zhu Rongji did with many small-scale SOEs. Restructuring large SOEs would not only incur high costs but also would require clear policies on what to do with their employees and their families, and how to resolve the problem of triangle debts. SASAC decided to encourage the 'strategic' large SOEs to convert to modern corporations and to absorb some less successful SOEs by merging and acquiring them. Chen Biting took over Shenhua as the new chairman, determined to take advantage of the policies of strengthening and expanding large SOEs while merging and acquiring small ones. He did not have an extensive network within the central government, but he did experience a favourable environment that encouraged expansion.

In 2003, the government completely freed coal prices, and quickly rising demand for electricity drove up coal prices. Chen decided to expand Shenhua's activities in various sectors – coal mining, coal export, rail construction, power generation and shipping. His strategy of 'expanding to new areas, restructuring the existing units, building a bigger and better Shenhua' aligned perfectly with the agenda of SASAC. In just two years, its total assets expanded from 117 billion yuan to 188.8 billion yuan and the number of employees grew from 80,000 to 148,000. Shenhua had constructed a 1,300-kilometre rail line and ports with 800 mt capacity, and its generation capacity had expanded to 19.2 GW. As it was expanding, Shenhua also adopted other aggressive measures to transform itself into a 'real' corporation: shedding its auxiliary segments, spinning of 4,301 units from its core business, submitting three coal mines for bankruptcy, and reducing its workforce by 7,277 (SASAC 2008).

In 2005, the government developed a more coherent and long-term strategy for the development of the coal industry, and the State Council

issued a document called 'Some Opinions on promoting the Sound Development of the Coal Industry', which highlighted principles and guidelines for developing a sustainable coal industry. The principles included: (a) accelerating the development of large-scale coalfields and cultivating the growth of large coal enterprises and corporations; (b) using the state budget and the state financial services to support the development of large coalfields and coal enterprises; (c) diversifying ownership through public share offerings; and (d) encouraging the large coal enterprises/corporations to merge with and acquire the small and medium-sized coal mines. Large coal corporations like Shenhua Group were expected to take the lead in the strategic development of the coal industry.

With the support of the SASAC, the major part of Shenhua Group, Shenhua Energy Company Limited, was listed on the Hong Kong Stock Exchange in 2005 and then on the Shanghai and Shenzhen exchanges. Shenhua's initial public offering in June 2005 raised HK$25.5 billion (US$3.3 billion). In less than two months its shares rose more than 23%. In October 2007, Shenhua listed in the two domestic stock markets, and its IPO price of 36.99 yuan quickly rose to 70.50 yuan. The strong gains were interpreted by the management team as an indicator of investor confidence in this integrated company and in the government's policy of supporting large SOEs (Hadi 2007).

There was opposition to the decision within Shenhua, especially to the decision to list on the Hong Kong Stock Exchange. Opponents argued that since Shenhua did not need money it should not waste resources in bringing in international organisations and foreign companies to audit the company and help it set up a modern accounting system just so that it could list on the Hong Kong Stock Exchange. For Chen Biting, however, that was precisely the reason for going public. Li Rongrong, the minister of SASAC agreed, 'by listing first overseas, China's state-owned enterprises are exposed to international competition and the scrutiny of international investors' (Carew 2005).

In the next couple of years, Shenhua made a number of acquisitions. In August 2005, through capital injection, Shenhua became the major shareholder of Shenhua Xinjiang Energy Company Limited. In December 2005, it acquired the Inner Mongolia Baori Xile Coal Mine Company Limited, with total assets of about 4 billion yuan. In 2006, Shenhua acquired the Ningxia Mei Group by setting up the Ningxia Group Liability Limited Company as its subsidiary. The registered capital of the group company was 10.1 billion yuan. Its total available assets amounted to 21.3 billion yuan and the net assets were 12.2 billion yuan.

With the capital injection and management expertise, Shenhua was able to speed up the completion of projects under construction and the planned projects under control of the former Ningmei Group. As a result, the annual production capacity of the Shenhua Ningxia (Ningmei) Coal Group reached 80 mt in 2008 and more than 100 mt in 2010. The integration of coal mining, power generation and coal chemical projects also escalated the speed of change. These acquisitions allowed Shenhua to expand its coal mining beyond the Shenfu-Dongshen coalfield and provided a solid footing for its growth and expansion in the long-term.

By 2008, the total assets of Shenhua had reached 425.3 billion yuan, compared with 117 billion in 2003. Its employees had doubled to 159,000 and it had become the largest coal producer and trader in China. Consequently, its employees were rewarded for the rise in company profits as their average salary topped those of all coal companies. For example, the average annual salary of employees at China's second largest coal company in China, China Coal Corp, was 29,300 yuan in 2008 compared with 49,950 yuan for Shenhua's employees (CCIY 2009). In late 2008, however, Shenhua's share suddenly collapsed to 15 yuan from its peak of 94.88 yuan a year earlier. There was a public uproar against Shenhua as its investors blamed it for manipulating the stock market and creating a bubble, while the public demanded their share of success as the ultimate owners of all SOEs (Niu 2008). So much noise was made in the media that the SASAC announced in December that Chen was retiring as the chairman of Shenhua. By the second half of the 2000s, there was increasing resistance from local governments to 'selling' their coal mines to Shenhua, as the coal price skyrocketed and coal mining became a 'cash cow'. Instead, local governments started encouraging local state-owned coal companies to acquire and merge with small- and medium-sized coal mines within the provinces now under their ownership.

Politically, in the second term of the Hu-Wen team (2008–12), there was a clear sign that the government had changed into what might be termed a 'dictatorship without a dictator' – that is, the central government was much less effective in getting its policies implemented. Various government ministries, large state-owned companies and provincial governments, each with vested interests, played dominant roles in shaping economic policies. In contrast to the previous prime minister, Zhu Yongji, Wen seems neither capable nor courageous enough to make hard economic decisions and implement any major economic reforms. Corporatisation and market-oriented reform of state-owned

sectors has stalled. Instead, there have been many indications that there has been a retreat towards more government ownership (国进民退) and more direct control of state-owned enterprises.

7. Operating commercially under state ownership

By 2010, the Shenhua Group had become a key player in China's energy sector and one of the country's largest state-owned companies. It had built a large integrated corporation with coal mining, rail, port, power generation and shipping (Table 2.4). It joined the world's largest companies, ranking number 35 among Chinese companies and 356 in the Global Fortune 500. In the 2011 ranking, it was number 30 among Chinese companies and 293 among global companies. Perhaps the most important achievement was the improvements in its large-scale and safe operations.

Shenhua's success could be attributed to the following: first, there was strong government support to grant access to good quality coal resources; the government provided free licences and approvals in a timely manner for the development and construction of infrastructure facilities; and government assistance was provided in obtaining the huge financing required. In the mid-2000s, about 7% of the investment of Shenhua came from the central government directly, about 28% from internal funds, and 65% from bank loans (World Bank 2008: 11). Access to long-term and low-interest loans from policy banks was the key for its survival and expansion. After several initial loans, in 2006 CDB lent 9.5 billion yuan to one of the largest coal projects of Shenhua

Table 2.4 Shenhua Group in 2010

Coal mines (No.)	**Power capacity (MW)**	**Railway line (km)**	**Port capacity (mt)**	**Cargo ships (No.)**	**Total assets (billion yuan)**	**Total staff**
53	33,950	1470	150	11	551	167,000
Coal production (mt)	**Power generation (Twh)**	**Railway transport (mt)**	**Port handling (mt)**	**Total revenue (billion yuan)**	**Total profit (billion yuan)**	**Coal mine fatalities (per mt)**
357	160	300	117	219.6	58.5	0.02

Source: Shenhua Group, www.shenhuagroup.com.cn.

and, by then, its accumulated lending to the project had reached 38.1 billion yuan (equivalent to US$6 billion). CDB's lending to coal projects would be as long as 20 years. The close relationship between the banks, especially the policy banks, helps Shenhua's expansion and also provides Shenhua with room to operate independent from direct control of the government.

Second, a favourable policy and market environment enabled Shenhua to grow quickly and operate commercially. When Shenhua was established, restructuring, commercialisation and corporatisation of SOEs had made a great deal of progress, and it was already well accepted that state-owned companies should operate independently and commercially. Shenhua was able to capitalise on the experiences and lessons learned by putting in place the right institutional structure, management structure and incentive schemes required for a modern corporation. Moreover, by then, the coal price had already been partially freed and the capital market was in place. These policy changes enabled Shenhua to raise some capital from the public by listing Shenhua Energy Company on the stock markets. This in turn provided further incentives and disciplines for Shenhua to operate according to market principles.

Third, Shenhau has had good management groups well-suited at each stage to its characteristics and needs. Between 1995 and 2011, Shenhua was under four different groups of leaders even though all were Communist Party members. The earlier leaders had worked at various government agencies for years before taking on the position and were well-connected. The later ones were more professional and able to take advantage of the available market mechanisms.

Finally, Shenhua has been able to reward its management and staff. Its employees were rewarded as their average annual salary topped that of all coal companies. For example, as stated earlier, the average salary of employees at China's second largest coal company in China, China National Coal Group Corp., was 29,300 yuan in 2008 compared with 49,950 yuan for Shenhua's employees (CCIY 2009).

Nonetheless, Shenhua could not avoid some of the problems commonly experienced by all state-owned corporations. First, rather than improving productivity and efficiency, it depended on expansion as a key strategy. So long as there is easy access to financing, Shenhua would keep expanding regardless of its level of profitability or efficiency. Like other large SOEs, 'they are not interested in competition, but rather, in destroying their competitors (if the situation threatens the rent they can extract) or else in colluding' (IEA 2006: 77). Furthermore, comprehensive

development was the norm. Rather than focusing on core business and specialising only on what it is good at, Shenhua engages in multiple business activities. For example, it already has 167,000 employers and 32 subsidiaries, of which several are in the business of real estate development, which of course has no connection with the production and utilisation of coal. One consequence is the duplication and waste of investment, infrastructure and personnel. Table 2.5 provides a glimpse of how Shenhua compares with some other international coal mine companies.

Finally, 'although the central government has chosen to build Shenhua as the industry leader in the coal sector, it is unable to implement industrial policy in the detailed fashion Japan and South Korea were able to do in their phase of rapid industrialisation' (Nolan 2001: 758). The policy of 'grabbing the large, letting go the small' has not worked in the coal industry, which remains fragmented. Shenhua was never able to become the dominant player in the industry. Its market share in China grew from 3.08% in 2000 to 6.3% in 2006 and 10% in 2008, more because of closing down small, dirty and unsafe coal companies than restructuring the industry. The market share of Shenhua, then remained at 10% between 2008 and 2010, despite its production increasing by about 50% in 2007–10. Shenhua's production increase

Table 2.5 Shenhua's performance compared with its international peers

Item	Shenhua (2010)	Coal India Ltd. (2010)	Peabody (2009)	Arch Coal Inc. (2009)
Coal production (mt)	357	431	189	148
Total assets (US$ millions)	87 000	8 215	9 820	3 986
Total revenue (US$ millions)	34 700	3 683	6 590	2 980
Total profit (US$ million)	9 242	2 431	1 450	412
Total number of employees	167 000	383 347	9 200	3 600
Productivity (t/man/day)	25	4.7	68	137

Source: Shenhua Group, at www.shenhuagroup.com.cn; Coal India Limited, 'Annual Report & Account 2010–11', at http://www.coalindia.in/Documents/CIL_Annual_Financial_Report_201011_08082011.pdf; and US Energy Information Administration and Author's calculation.

Table 2.6 Coal production by the largest coal mining enterprises in 2010

Enterprises	Output (Mt)	Changes in 2009 and 2010 (9%)	As % of national output
Shenhua Group	357	9.0	10.5
China National Coal Group	154	22.9	4.5
Shanxi Cooking Coal Group	102	26.4	3.0
Shaanxi Coal-Chemical Group	100	41.4	2.9
Datong Coal Mine Group	100	34.5	2.9
Henan Coal Chemical Group	74	29.9	2.2
Luan Coal Group	71	28.8	2.1
Jizhong Energy Group	70	65.7	2.1
Total of eight coal companies	**1028**		**20.2**

Source: China Coal Information Institute.

came primarily from capacity increase of its existing mines rather than acquisition and merger. Consequently, the top eight large coal companies together produce only 20% of the country's coal, in contrast to the United States, where the top three coal producers have more than 70% of the market share (Table 2.6).

The coal production capacity of Shenhua is expected to increase to about 600 mt annually by 2015, as many mines under construction are brought into production. The fastest growing mining groups are those owned by the provincial governments in coal-rich provinces, such as Shanxi and Shaanxi, and they are expanding quickly through a provincial government-sponsored program of merger and consolidation. Many more 'super mine' groups, with production of 50–100 mt annually, are expected to emerge in the coming years. Meanwhile, the central government's control of the coal sector will continue to be very limited.

8. Conclusion

Shenhua's story illustrates a unique development trajectory for the company that will be difficult to replicate in China or elsewhere in the

world. It is in some ways a miracle that Shenhua has expanded so rapidly and achieved so much. In 15 years, Shenhua expanded in size and activities: its total assets swelled from the initial investment of 12.56 billion yuan in 1996 to more than 550 billion yuan in 2010; its total revenue jumped from 969 million yuan in 1997 to 216 billion yuan in 2010; and its coal production rose from 52.7 mt in 2001 to 357 mt in 2010. Meanwhile, it significantly improved its efficiency and its safety record. In 2010, its fatality rate for coal mines was 0.025 per million tonnes of coal produced compared with the national average of 0.749 and the KSOCM average of 0.278. It achieved an average productivity of 28.5 tonnes per worker per day compared with the KSOCM average of 5.5 tonnes.

In the coal sector, the State Council repeated its call to promote and consolidate large and state-owned mining corporations. In 2010, it issued 'Some Opinions on Accelerating the Merger and Consolidation of Coal Mine Enterprises', with the objective to form more mega-sized mining groups with annual coal production of more than 50 million tonnes. In August 2011, the National Reform and Development Commission, together with three other ministries, issued the 'Notice on Furthering the Closing of Outdated Coal Production Capacity during the 12th Five Year Plan Period', and mandated the closing of about 3,000 small mines in the next five years. Shenhua is unlikely to play a role in the continued restructuring and consolidation program, but it will increase coal production in existing coal mines and expand operations in new coalfields in Inner Mongolia and Xinjiang regions. Internationally, Shenhua has acquired a coal-mine in Australia and started coal-mine development in Mongolia and Russia.

Compared with many other state-owned companies, Shenhua seems to have expanded in a financially and socially sustainable manner, and its success undoubtedly could be attributed to government policies and support. As a state-owned company, Shenhua is subject to state control, and its chairman and general manager are appointed by the organisation department of CCP, while other senior managers are appointed by the CCP and the SASAC. But the governance of Shenhua provides it with a large operational space and it is able to make investment and operation decisions independently and with autonomy. Indeed, Shenhua is a rational market actor that actively maximises its profits subject to the rules of the game. As a result, economically and financially, its actions are no longer always consistent with the wishes of the central government. Politically, however, Shenhua's management has to be fully aligned with CCP's policy and direction. It also faces administrative obligations to

respond more actively to government calls for engaging in other economic and social developments, such as developing the West, revitalising the Northeast and providing donations for natural disasters.

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3
Coal India Limited: The Last One Standing

Xu Yi-chong

Two features have characterised the Indian coal industry: centralisation and state ownership. Both have their historical reasons. Centralisation originated in the late eighteenth century when the East India Company was granted a licence to start coal mining in the Raniganj Coalfield along the west bank of the river Damodar, about 120 miles west of Calcutta. Despite the laissez-faire policy of the British-Indian government, centralisation of the coal industry continued; upon independence, about 70% of the country's coal production was in the hands of a few large producers, and 60% of the coal was consumed by three sectors: rail, steel and utility. Today, more than 80% of the coal production is from Coal India Limited (CIL). State ownership can be traced back to the World War II era when the British-Indian government temporarily took over the production and distribution of coal, imposed price controls and determined wages through government arbitration, in order to serve the war effort of the British troops.

Privatisation of the coal industry in the United Kingdom was spearheaded under the Thatcher government, and few countries in the world still maintain public ownership in the coal industry. India is one of the few exceptions. The coal sector remains dominated by the public sector enterprises (PSEs) under the central and the state governments, with more than 90% of the coal produced in 2009 by PSEs. CIL is the largest coal employer in the world, with its vast empire of opencast mines, and is the largest public corporation in India in terms of market capitalisation. It represents what is known as 'a weird mix of São Paulo, Seoul and Shanghai' or 'capindialism' (*Economist* 2011: 5), where the state not only maintains ownership, but also sees CIL as an effective instrument to do 'the maximum service to the nation'. Why is the Government of India still in the business of coal production and distribution? How has

the CIL developed and expanded? What is the relationship between the Ministry of Coal and CIL? More importantly, as a PSE, CIL is not 'allowed' to fire its workers. How, then, has it reduced its employees from more than 600,000 in 2006 to 397,138 as of March 2010? Does CIL operate as a corporation or as an arm of the GOI? And is its business sustainable?

1. Blood of the economy

Coal meets two thirds of the commercial energy demands in India. Coal reserves in India, which constitute nearly 275 years of supply at the current level of production (IEA 2002: 25), are large and widely, yet geologically unevenly, allocated. Major deposits of hard coal are located in the eastern and central parts of the country; three states – Madhya Pradesh, Andhra Pradesh and Orissa – produce about 70% of coal in the country. This means coal has to be transported to where the bulk of the population is and, especially, to high-growth regions. Coal is the single largest commodity transported by rail, accounting for about 59% of the total tonnage in rail transport in 2000 (Teri 2001: 11). About half of the rail capacity is now used for transporting coal. Coal transport is governed by a preferential traffic schedule arranged by the state-owned Indian Railways. Uneven distribution of coal reserves also raises another issue of regional equity – coal is located and produced in relatively poor states and consumed in wealthy ones.

Coal production has increased steadily to meet rising energy demands, particularly from some of the energy-intensive industries, such as steel and cement. More than 85% of total coal production in India is from open cut mining. Opencast mining has a quite high recovery rate of 90–95%, comparing with 40–50% in underground coal mining. In India, about 15–20% of coal mining is underground operation below 300 metres deep. This can partially explain a steady rise in the proportion of opencast mining from 26% of total coal production in 1973.

The main consumer of coal in India has changed throughout history. Initially, coal was mainly used for rail services. When the country decided to expand its heavy industries in the 1960s and 1970s, the steel industry became the main customer, and it still remains an important one. Today, however, the largest customer of the coal industry is power generation, which consumes about 80% of domestic coal production. This inseparable relationship between coal and power generation means any meaningful reform in either the coal industry or the power sector can take place only when it happens to the other sector as well.

2. Nationalisation

Upon independence, the government quickly realised that 'it was too risky to let the free market regulate the production and use of this crucially important exhaustible natural resource' (Kumar 1981: 762) and passed a series of acts during the first couple of years to ensure state ownership of the coal industry. In 1948, the Indian Parliament adopted the Industrial Policy, which 'laid the fabric of a mixed economic structure in which the arena of operation of public sector and private were clearly demarcated' (Kumar 1997: 188). In 1952, it passed the Coal Mines (Conservation and Safety) Act that instituted controls on the mining and use of coking coal. The Industrial Policy Resolution of 1956 extended considerably the list of what were called 'Schedule A' industries – those in which the state would have either a monopoly or the exclusive right to operate. Coal and lignite mining and mineral oils were both listed as 'Schedule A' industries, and the generation and distribution of electricity and the manufacture of heavy electrical plants were also now included in the list (Inoue 1992; Sengupta 1994).

With the guidelines provided by the Industrial Policy Resolutions of 1948 and 1956, two state-owned coal corporations emerged: Singareni Collieries Company Limited (SCCL) – owned and managed by the government of the state of Andhra Pradesh until 1960 when the central government took over 49% of its ownership and control rights – and the National Coal Development Corporation (NCDC), which was directed to develop new coal mines in other states. Even though most coal mines remained privately owned until 1971, the share of coal output from the two public sector units increased from 10% of the total production in 1955–56 to more than 20% in 1970–71. Meanwhile, total coal production rose only slowly, and then stalled in the mid-1960s. It temporarily rose in 1969–70, and this was quickly followed by a dramatic decline in the following years. Private investment in the coal industry dried up. The World Bank later attributed this decline in investment in the coal sector to 'the threat of nationalisation [that] kept private mine owners from making any new investment to expand production' (1997a: Annex 2.1, 1). Meanwhile, shrinking employment in the coal sector and violation of the rules on wages, welfare and safety conditions for miners in the Bengal-Bihar region, where India's major coal reserves were, led to the formation of strong unions among coal miners and the rise of the leftist parties in the region (Kumar 1981).

The combination of inadequate investment and consequent low production, rising demand for coal particularly from its steel industry,

widespread malpractices in wages and other statutory dues to workers, and violation of safety laws, led to the decision of the Government of India (GOI) to nationalise the coal industry in 1971.

Nationalisation took place in two phases: GOI first took over the control of 214 coking coal mines (200 of them were located in the Jharia coalfield in Bihar) under the Emergency Provisions of the Coking Coal Mines Act adopted by parliament in October 1971. The Act provided the rationale for the GOI's taking over of the management of coking coal mines as well as coke oven plants: to guarantee the supply required to meet the increasing need of steel plants; to introduce scientific coal mining; to raise productivity; to protect miners from being exploited; to ensure adequate investment, and to control tax evasion in the industry (Kumar 1997: 188–89). In 1973, parliament enacted the Coalmines Nationalisation Act that extended the right of GOI to take over the management of the coking and non-coking coal mines in seven states. This was followed by the nationalisation of all mines.

As the result of the nationalisation, the government incorporated Bharat Coking Coal Ltd (BCCL) to operate the coking coal mines, with headquarters at Dhanbad in Jharkhand. This company was placed under the overall control of the Steel Authority of India Limited (SAIL). The other mines, except captive mines (mining for specified end uses), were brought under the ambit of the public sector under the Coal Mines Authority Limited, headquartered at Calcutta. Two years later, in 1975, Coal India Limited (CIL) was set up as a holding company to expand coal production through government-financed investment projects. CIL acquired the title, and the right, to manage all nationalised coal mines, including those under the NCDC. SCCL, which had been under the ownership and management of Andhra Pradesh (AP), became a joint public sector understanding between the central and AP government. The third entity under the central government was BCCL. This completed the centralisation and nationalisation process.

CIL consequently became the second largest company in India, just behind Indian Railways. It had and still has seven coal-producing subsidiaries, situated mostly on geographical location, and one planning and design institute:

- Bharat Coking Coal Ltd. BCCL, (Bihar)
- Central Coalfields Ltd. CCL, (Bihar)
- Eastern Coalfields Ltd. ECL, (West Bengal)
- Mahanadi Coalfields Ltd. MCL, (Orrisa)
- Northern Coalfields Ltd. NCL, (Madhya Pradesh)

- South-Eastern Coalfields Ltd. SECL, (Madhya Pradesh)
- Western Coalfields Ltd. WCL, (Maharashtra)
- Central Mine Planning and Design Institute Ltd.

With these subsidiaries, CIL is the largest coal producing company in the world and also has the largest coal reserves in the world. As of 31 March 2010, CIL had 471 coal mines, of which 273 were underground, 163 opencast and 35 mixed mines in nine states in the central and eastern regions. It also operated 18 coal-washing plants and 26 training institutes. Opencast mines are almost always cheaper and more efficient than underground mines. They are also less dangerous. Opencast mining is not, however, as labour intensive as underground ones, thus generating little direct work opportunity for the local communities.

Nationalisation initially served several economic and social objectives. 'It provided more or less equitable access to energy services and, by capturing economies of scale, India developed and operated a sophisticated mid-sized energy supply system' (World Bank 1997a: 1) The average annual growth rate rose from 2.2% in 1974 to about 5.6% by 1991, and coal production nearly tripled from 42 mtoe in 1972–73 to 122 mtoe in 1993–94. With a ban on private investment in the coal industry, nationalisation created a large publicly controlled monopoly, CIL, which controlled more than 90% of India's coal production by the early 1990s. During this period, however, as GOI financed 70–90% of CIL's investment, irresponsible behaviour developed. By 1991, CIL had accumulated losses of Rs. 25 billion, and its overdue liabilities to the government had reached Rs. 23 billion (an equivalent of US$75 million and US$69 million, respectively). The financial position of many subsidiaries was so bad that by the mid-1990s, three of the seven production subsidiaries – BCCL, CCL and ECL – were running perennial losses. The central management of CIL transferred resources from profitable subsidiaries, such as MCL, NCL and SECL, to the two major loss-making subsidies, BCCL and ECL. In a few years, their losses almost wiped out all the profits and left CIL in red.

3. Reforms

The foreign exchange and budget crisis in 1991 forced GOI to cut back subsidies and phase out its financial support to several public sector enterprises, including CIL. Because internally generated resources were insufficient, in the following three years CIL's production capacity began to decline. With its equipment having outlived its usefulness,

coal managers 'cannibalised' part of their equipment. Without injection of new investment, there were no new projects and CIL was on the decline. CIL had to do something to get new capital injections. It decided to go to the World Bank for help. With the central government's support, it asked for a large loan from the World Bank to finance replacement of equipment, to expand production of existing mines, and to expand and rehabilitate mining organisations. GOI supported the project because it wanted CIL to accept the reform and to rely on market forces rather than government subsidies, to open itself to private investors, to phase out subsidies to loss-making operations and to make the coal industry commercially viable and financially self-sustaining. The World Bank supported the project because it wanted to use the financial and technical assistance to convince the Indians to open the coal industry to private investment and competition.

The World Bank in the 1980s made several loans to India's coal sector, hoping it would change without demanding conditions. In 1984, a loan of US$151 million was given for the development of the Dudhichua coal mine in Singrauli, Uttar Pradesh; in 1985, a loan of US$248 million was made for the development of an opencast mine and an underground mine in the Jharia coalfield in Bihar; and in 1987, a loan of US$340 million was made for the expansion of an opencast mine in the Korba coalfield, Madhya Pradesh, the construction of an opencast mine in West Bengal, and imports of coking coal. The total of a US$739 million loan in addition to a US$12 million credit might have dealt with some temporary problems, but these did not substantially change the industry (World Bank 1997a). Not all these projects were successful. Yet, when GOI approached the World Bank for another loan to push forward the reform of CIL in 1994, the World bBank agreed.

The World bBank granted CIL a loan of US$530 million, with the promise of reform from both GOI and CIL (World Bank 1995, 1997b, 1998). Many aspects of the reform and restructuring would be quite politically sensitive, in part because their impact would be concentrated in a few major coal-producing regions (mostly in southern Bihar and West Bengal where the Communist Party of India-Marxist, CPI-M, had been in power); their impact would affect centre-state relationships (e.g. state electricity boards could no longer count on 'automatic' credit from CIL for coal supplies); and steps, such as the closure of mines and retrenchment of coal miners, would require the support of labour unions, which would be reluctant to see their membership dwindle. Having realised the potential difficulties involved in implementing the restructuring plan, the World Bank designed a separate loan program to

assist CIL's efforts to mitigate the environmental and social impacts of mining expansion to be undertaken in 25 mines under the Coal Sector Rehabilitation Project. The Indian government agreed to package the environmental and social components as a separate project with a combination of a free-standing loan of US$52.51 million from the World Bank and US$63 million from the International Development Agency (World Bank 1996, 2003).

This time, despite the joint efforts of the World Bank and the central government, the body politic resisted the fundamental changes. By 2002, the World Bank, as it did in many sectors and many projects, admitted once again that its loan had failed to achieve its designed objectives and it 'overestimated the Government of India's ability to undertake major sectoral reform, corporate restructuring and significant labour reductions in the context of the prevailing political instability, trade union resistance, and potential social unrest in the coalfields in the wake of such a reform' (World Bank 2002a: 2). Part of the difficulties of reform was the resistance from coal miners, whose wages were about 8–9 times more than the prevailing minimum wage. This not only made employment with the coal companies highly attractive, but fostered what is known as the 'aristocracy of the working class'. The coalition between the near monopoly of CIL and trade unions of coal miners was a powerful political force resisting the change in the 1990s (Sengupta 1994).

After the reform was launched in 1991, the Government of India decided one way to improve the efficiency and productivity of CIL and SCCL was to introduce competition. Given the political situation, no one wanted to tackle the issue of monopolies. Instead, in 1993, the government decided to allow investment into the captive coal mining and then formally introduced to the parliament the idea of lowering the entry barriers to the coal industry.

The initiative for restructuring the coal sector came from GOI, which was unable to provide subsidies to CIL continuously while having to keep CIL afloat and at the same time expand. The government was also under great pressure from the steel and power sectors, both of which needed stable and sufficient coal supplies. In April 1995, the Planning Commission set up the Committee on Integrated Coal Policy to assess the country's coal demands for the 9th (1997–2002) and 10th (2002–06) Five Year Plan. The Committee confirmed the policy agreed upon in 1975 that 'coal shall remain India's primary source of commercial energy supply' and predicted that the coal supply-demand mismatch in India would become very serious unless active measures for

expanding coal production were pursued. It argued that extra capital expenditure would be required if the domestic industry were to contribute more to closing the coal supply gap. With constraints of the government's budget allocation to CIL and SCCL, the Committee recommended liberalising the coal sector for private investment (Planning Commission 1996).

With the recommendation of the Committee on Integrated Coal Policy, the Cabinet of the Congress Party in February and then of the coalition government in May 1997 approved a proposal to amend the Coal Mines (Nationalisation) Act of 1973 to:

- allow Indian companies to mine coal and lignite in the country for commercial purposes, without the existing restrictions of captive consumptions,
- allow Indian companies to undertake exploration of coal and lignite resources in the country, and
- empower the central government to prescribe by-rules, in order to ensure rational, coordinated and scientific development and utilisation of coal resources consistent with the growing demands of the country, the location of mines, the minimum size of the coal mine and such other conditions which should be necessary for the purpose of coal mining operations by a company.

The central government had not consulted the coal-bearing states before it submitted the bill for debate. The states argued that they had a major role to play in changing the legislation because they were the owners of mineral resources in the country. Mining leases, concession and prospecting licences were issued by the states. Such things as the land acquisition, forestry clearance, and provision of land for compensatory resettlement of affected people, were all their responsibility.

Before the bill was even submitted to the parliament, the Ministry of Coal received a strike notice from the trade unions of coal miners, supported by the national trade unions, demanding the withdrawal of the bill. Two issues were at stake: (a) lowering entry barriers to coal mining, and (b) reducing redundant workers in the coal industry. The government insisted that lowering the entry barriers to the industry was only to expand production and meet the rising demand while trade unions argued that increasing budget support to the coal industry was the way to go. The government of the Congress Party had stopped budget allocation to the coal sector in 1995–96. Even after the Congress Party-led government collapsed in May 1996 and was replaced by the Bharatiya

Janata Party (BJP) for just 15 days and then Janata Dal, the government argued that such support could not be restored.

In 1997, the coalition government strengthened the regulatory provisions in the bill by setting up standards for investment in coal mining from private companies in terms of location and minimum size of the coal and lignite mines. This change was made partly to ensure the rational, coordinated and scientific development and utilisation of the coal and lignite, and more importantly, as a compromise with trade unions, environmental groups and those states opposing the bill, that opening up the coal industry for competition would be limited. The compromise did not help the government or the bill. When the government was ready to submit the bill, the Lok Sabha (Assembly) was dissolved. After the election in 1998, the new cabinet of the BJP government introduced it again to the Rajya Sabha (Council of States) in 2000.

One main component of the bill was to allow the private sector participation for non-captive coal mining in order to make up a huge gap between demand and supply of coal in the country. Twice since the creation of CIL, the parliament had enacted legislation to establish some exceptions for investment so that captive coal mines could be developed. In 1976 and subsequently in 1993, additional provisions were enacted to amend the Coal Mines (Nationalisation) Act to allow coal mining for captive end-use for steel, power and cement, and to permit the exploitation of isolated small patches of agencies approved by state governments. The need for investment in the coal industry in the second half of the 1990s raised the issue of whether GOI should allow the private sector to invest in non-captive coal mining, which was seen by trade unions as a move to privatisation.

The Ministry of Coal explained the objective of the proposed change to the Coal Mine (Nationalisation) 1973:

(1) To allow the Indian companies to mine coal and lignite in the country without the existing restriction of captive mining. In other words, the objective is to allow the Indian companies in the public and *private* sectors to mine coal and lignite and also allow them to sell coal and lignite in the country.
(2) To allow the Indian companies in the public and *private* sectors to be engaged in exploration of coal and lignite resources in the country (Standing Committee of Energy 2001).

Significant changes had been made in this proposal from the one proposed by the government in 1997. Not only was expansion of

captive coal mining deemed necessary, but 'private investors' should be allowed to invest. These changes brought about immediate opposition from trade unions, environmental and social NGOs and coal-bearing states. Trade unions saw such a move as the privatisation of CIL that would endanger their employment and threaten their protected interests and wellbeing. They argued that nationalisation took place in the early 1970s precisely because private sectors were unable or unwilling to invest in the coal industry and the private companies indulged in a variety of malpractices in respect of labour standards, welfare and wages. The bill was, however, intended to denationalise CIL and demolish the pillar of the public sector. Having realised that the objectives of nationalisation (to make large capital investment in the coal mines to meet the burgeoning demands, to prevent unscientific mining and to ameliorate the working conditions in the industry) had not been achieved, trade unions meanwhile argued that privatisation was not a solution – 'beheading is never a treatment for headache' (Roy 2001). Threats of a strike were issued repeatedly.

In responding to the suspicion and opposition to the proposal, the Ministry of Coal emphatically repeated that the proposal was not intended to privatise CIL, its subsidiary companies, or other government coal companies:

> As far as the future of Coal India Limited itself is concerned, there should be absolutely no doubt or apprehension that the purpose of this Bill is to privatise Coal India. There is no thinking at all in government today regarding the privatisation of Coal India. What is being visualised by this Bill is an addition to the efforts of Coal India's 360 MT that is what we visualise from the opening up of these blocks. There is absolutely no intention whatsoever to dilute Government of India's equity in Coal India (Standing Committee of Energy 2001).

This assurance did not calm the opposition. Even though the parliament's Standing Committee on Energy recommended adoption of the Amendment Bill 2000 with a majority of 16 to 5, the bill did not obtain 'the requisite political support for passage' (Planning Commission 2005a: 110). Facing the opposition of the leftist parties and a threat of strikes by trade unions working in the coal sector, the cabinet organised the Group of Ministers to look into the problems in the coal industry and decide whether it should continue pushing for the amendment. The Group of Ministers convened several times in 2001 and 2002 but made

no decision. Meanwhile, the five years of BJP in power (1998–2004) saw 'no fewer than 10 coal ministers come and go' and, in 2004, CIL had no 'full-time head since its chairman had been suspended for corruption' in 2003 (Anonymous 2004).

The debate on whether the country should open its coal industry for private investment was divided along ideological lines as well as between those with and without coal reserves. The left-wing parties opposed the bill and the government of West Bengal in particular registered its strong opposition. The former secretary of the Ministry of Coal commented on the failure of enacting the bill:

> The cited arguments opposing the opening up of coal mining to the private sector were based on an outdated economic and political philosophy and lacked any understanding of the changes that have taken place in Indian and world economies in the past two decades. ... None of the arguments have any merit. If the private sector can operate the largest oil refinery, large telecom networks, and air travel networks and bring significant reduction in the cost of these services without any negative fallback, there is no reason that the same will not happen in the coal sector. It is unfortunate that a small minority effectively stalled reform in a major sector of the economy to the detriment of the average Indian citizen, who has to pay a high price for energy because of the inefficiencies inherent in a state monopoly (Parakh 2006: 18).

The opposition's arguments might be outdated and old-fashioned, but the government could not risk political instability. While waiting for the parliament's approval of the amendment bill, the government took the more aggressive approach of removing barriers to investing in captive coal mining. An amendment to the Coal Mines (Nationalisation) Act 1973 introduced two exceptions to the exclusive mining rights of the public sector: (a) captive mining by private companies engaged in production of iron and steel, and (b) sublease coal mining to private parties in isolated small pockets not amendable to economic development and not requiring rail transport. The amendment allowed the government to start granting permission to public or private companies to invest in captive coal mining. In 1993–95, it allotted three blocks and then in 1996–98 allotted ten blocks for captive mining (Table 3.1). By 2003, the Ministry of Coal, in consultation with CIL and SCCL, identified 128 blocks for captive mining and allotted 27 to the public/private sector. Yet, by 2003, out of the 27 coal blocks

Table 3.1 Details of captive blocks allotted, 1993–2005

1993–95	1996–98	1999	2000	2001	2002	2003	2004	2005
3	10	2	2	1	1	22	5	22

Source: Ministry of Coal, 'Report of the Expert Committee on Road Map for Coal Sector Reforms' Government of India, New Delhi, December 2005, 47.

allotted to public/private sector parties for captive mining, mining had begun in four blocks only (see Table 3.1).

To answer the inquiry of the Lok Sabha (the lower house of the Indian Parliament), the Ministry of Coal explained:

> Completion of procedural formalities like obtaining of mining leases from the State Government and forestry/environmental clearance from Ministry of Environment and Forestry (MoEF) and complying with other statutory requirements take a long time in development of the coal mine blocks allotted to the parties. Some end-use plants have been delayed and as a result the captive mining has also necessarily been delayed. (Standing Committee of Energy 2003: para. 2.63)

The delays were interpreted by politicians as deliberate prevarication by private investors. The Standing Committee of Energy argued that 'private entrepreneurs were deliberately delaying the use of such captive blocks in the light of the Coal Mines (Nationalisation) Amendment Bill which permits private sector participation in the coal sector without any restriction' (Standing Committee of Energy 2003: para. 2.70). There was also the blame game: the parliamentary committee blamed the government for not being able to work efficiently and effectively in ensuring the allotted blocks to be developed. The government accused trade unions of blackmailing the country by launching strikes. Even after it became clear that the amendment would not be enacted, and more blocks were identified and allotted for captive coal mining, progress was slow.

Of the 68 allotments, 41 blocks were allocated to the private sector and the remaining 24 to the public sector units. By 2005–06, only 6.6% of total coal production came from captive mining. This slow progress in investing in captive coal mines was partly the result of the lengthy bureaucratic approval procedures governing land acquisition and new mine development. More importantly, by definition, captive coal

mining means that investors in coal mining can only 'sell' coal to its operated industry, whether a power plant or a steel mill, without using the rail system. 'Power-generating companies view captive projects as vital to the operation of a specific power plant [and] if the captive mine were not able to produce coal at the required rate, the whole power project would suffer' (IEA 2002: 68). Meanwhile, given that coal in India tends to be located far from the end-users, building power plants close to coal mines means there would have to be well-connected transmission and distribution networks that can carry electricity to end-users, or the power industry would have to build its own rail-lines to carry coal to the power plants.

Because of opposition from various directions, the government could not put through the amendment to the Coal Mine (Nationalisation) Act 1973 to open coal investment to other private investors except for captive mining. The Expert Committee on Road Map for Coal Sector Reforms, formed by the Planning Commission, submitted another report in December 2005. It concluded that 'the current provisions for increasing the level of competition in coal mining through captive mining were adequate and reasonable' (2005b: part I: 43). Procedures and processes, however, should be improved to 'expedite the allotment of the captive coal blocks in a transparent and effective manner'. Delays in allotting and approving captive mines were only one reason for the lack of investment in the sector. Private investors would not be interested in investing in coal mining if they were not allowed to invest in 'virgin blocks with a better grade of coal and having reasonable geomining conditions' (IEA 2002: 69). Yet, the procedure for allocation of captive blocks requires the Ministry of Coal, in consultation with CIL and SCCL, to identify coal blocks. What would be the incentive for CIL and SCCL to identify those blocks with good quality and good potential for their potential 'competitors'? Obviously none – this is the nature of monopoly. It is no surprise that the Expert Committee in 2005 concluded that 'despite the obvious urgency in the last two years to make effective use of the captive and other dispensations under the current law to increase the number of players in coal mining, actual achievement leaves much to be desired' (Planning Commission 2005b: 48).

The second issue was the labour force in the coal sector. In 1997, CIL employed 636,000 and produced 250 million tonnes of coal a year. This made CIL one of the most inefficient coal producers in the world. ECL, BCCL and CCL, three of the seven subsidiaries of CIL were making heavy losses. With the budget cut from GOI, CIL was no longer able to cross-subsidise these loss-making subsidiaries. In 1996, GOI identified

BCCL as a 'sick unit' because of its deteriorating financial situation, its liabilities doubled between 1984–85 and 1994–95, and referred it to the Board for Industrial and Financial Reconstruction for restructuring. The Board was responsible for dealing with the problems of industrial sickness of those firms, in which public money was locked up. Part of the reasons for the heavy losses at BCCL was the redundant workers it had inherited from various sources. In 1994–95, the company identified more than 22,000 persons as surplus. Any restructuring would have to include reduction of surplus work force. The BCCL workers' unions, backed by the All India Central Council of Trade Unions, affiliated to CPI, and the Indian National Trade Union Congress vehemently opposed the restructuring of the company. As a result, nothing happened (Kumar 1997; Siddartha 1997).

An monopolistic structure has provided CIL and SCCL (especially CIL) with a dominant position in the industry, which has been further strengthened by the British tradition of having a strong trade union movement. The coalition between the near monopoly of CIL and the powerful trade unions of coal miners provided protection for coal miners in terms of their employment, wages, safety standards and working conditions. Wages of coal miners in the 1990s were eight to ten times the national average wage. The high pay scale was protected by a complicated negotiation process. The wage structure and other conditions of employment, such as the fringe benefits of employees and their working conditions, were negotiated between the representatives of employers (CIL and its subsidiaries, SCCL, Tata Iron and Steel and India Iron and Steel companies – private companies , both of which are private but have captive coal production), and representatives of workers, such as the Indian National Trade Union Congress, All India Trade Union Congress, and the Centre of Indian Trade Unions. The Central Wage Board for Coal Mining then recommended the result of the negotiation to the Government of India, which would then accept it as a formal binding agreement on wages (Sengupta 1994).

Two sets of issues are involved in the relationship between coal and poverty – one concerns the wellbeing of coal miners themselves, and the other concerns those who live in the vicinity of the coalfields. The coal industry tends to be geographically concentrated, labour intensive, and often slow in adopting new technology. Coalfields tend to depend on a limited range of economic activities, and the coal industry is consequently subject to market fluctuations. The post-war international consensus on government intervention in the coal industry rested on

the belief that if it were not protected or strictly regulated, the industry did not and could not ensure adequate investment. In turn, there would be little incentive for coal mine owners to invest in technology transfer and in improvement of production methods because 'rationalisation' was too expensive and risky for private investors, and consequently coal miners were vulnerable to exploitation. This was the same rationale provided by the British government when it first intervened by regulating the industry in the 1920s and 1930s and then nationalised it in 1947 in Britain. Protecting the interests of coal miners was also one of the main reasons the Indian government nationalised the industry.

In addition to higher wages, coal miners also enjoy subsidised housing, water supplies, medical care and education for their children. The high wages and generous benefits for coal miners in relatively poorer states make coal mining a very attractive proposition for local people. In addition, coal miners enjoyed a virtual guarantee of continued employment according to the Industrial Disputes Act. For firms of 100 employees or more, 'workers in both the public and the private sector, once employed, cannot be laid off without governmental permission' (Bajpai 2002: 18), 'which is almost never granted' (Sachs et al. 1999: 6). Nonetheless, good protection for coal miners had its downside; the rate of absenteeism in some mines was so high that it affected coal production, especially in harvest seasons, when coal miners took off to help their families (Mowli 1996).

Market reforms have presented serious challenges for governments that wish to protect the welfare of coal miners. Concentrated coal employment in poor states made the public in these areas quite suspicious of any reform, opening up the industry for competition. Indeed, 'the less educated and poorer feel they would lose more during the process of reform, and liberalisation is seen as little more than a veil for redistributing income in favour of the rich' (Chhibber and Eldersveld 2000: 366). Even though the processes of reform and liberalisation in the coal industry are not necessarily contradictory to protecting the labour and their welfare (indeed they may be complementary), to achieve both simultaneously in a rapidly changing economy can be difficult because market reforms initially tend to benefit the rich and hurt the poor, benefit the skilled and hurt the unskilled, and benefit the urban and hurt the rural population. Moreover, with rapid economic reform, the government might not be able to continue the same degree of protection for all sectors and all sections of the economy, financially and politically.

Supporters of the reform argue that one main practice in the coal industry should be abolished: lifetime employment, on the grounds

that it is outdated and impedes the competitiveness of the Indian coal industry. The political reality is, however, that the government could not get sufficient support from the opposition to revise the law and, therefore, CIL still cannot lay off redundant workers. Nonetheless, there has been a gradual yet significant reduction of the labour force in the coal industry.

In 2002–03, several states, such as Andhra Pradesh, amended the labour rules and introduced a distinction between 'core' and 'non-core' activities in an industrial firm. 'The regulatory change permitted employers to hire contract labour in ten non-core activities and also to appoint casual workers to intermittent employment in any area of work even if it was designated a core activity' (Jenkins 2004: 343). Outsourcing a number of productive and non-productive activities was one measure taken by several subsidiaries in the following years. Common among these activities were transportation of coal and sand and the upkeep and maintenance of townships, hospitals and office vehicles. In a few cases, such as WCL and later even BCCL, significant production activity such as the removal of overburden is being carried out by the engagement of hired heavy earth-moving machinery. Payment for such engagement is made on a per cubic meter basis, which enabled the coal company not only to reduce cost but also to enhance the component of variable cost and correspondingly reduce fixed cost in the cost structure (BCCL 2006; World Bank 2002a, 2002b).

A typical feature of second-generation reform in India is the competitive policy learning between states. This practice was also adopted in the coal sector (Kale 2003; Sinha 2004; Singh 2004). Slowly and gradually, without fundamental changes to the laws, CIL managed to reduce its workforce by 11% in just four years, from 636,000 in 1996–97 to 562,000 in 2000, and then by another 30% in the next decade to 397,000 by 2010, not through firing or laying-off, but through retirement.

4. Recent reform and prospects

One announced objective of the reform in the 1990s was to lower the entry level to the coal industry to introduce competition, improve economic performance and increase the total production to meet the rising energy demand. The repeated calls by the central government to lower entry barriers had met a brick wall in India, yet things started changing in the 2000s, especially after 2003. With rapid economic growth, demands for energy rose as well. Coal deregulation became a reality by default. While domestic coal marketing and pricing are still handled

by state-owned enterprises, especially CIL and SCCL, private participation in production is allowed for captive use. While the boundary of coal production for captive use has been expanded, allotted blocks are often slow to develop. One main obstacle for this development is state governments. Even though coal, under the constitution, is under the jurisdiction of GOI, land is controlled by states. Land acquisition is a necessary condition for any mining development. State governments can use this to bargain with CIL and thereby with GOI. As of 2010, the Ministry of Coal had allocated 32 coal blocks to 56 companies in Orissa, both PSEs and private firms. A year later, only one block had gone into production. Some blocks allotted for captive coal mining had to 'de-allocated', as private owners could not bring them into production because state governments would not grant land acquisition requests. In 2010, the Orissa state government 'demanded 10 coal blocks be allocated in favour of OMC [Orissa Mining Corporation]' (Anonymous 2011b). Under the federalist system, CIL depends on the Ministry of Coal to negotiate with states for land acquisition, which remains a serious challenge to expanding domestic coal production.

Historically, to protect domestic coal producers and insist on the official policy of self-reliance, GOI had restricted coal imports. A quota system on coal importation was in place until 1993. 'The import duty was initially 85% of the price' and it was lowered only after reform was implemented: to 35% in 1994 and 10% in 1997 (IEA 2002: 51). In the first decade of the 2000s, economic growth picked up speed and energy demands rose quickly. Coal production, however, fell behind: an average annual growth rate of coal production was 5% while demands for coal from power, steel and cement industries rose by 8% (Anonymous 2011a). According to the Planning Commission, for example, the coal demands in 2011–12 would reach 696 mt, while domestic production would only be 559 mt. This gap of nearly 20% would have to be filled by coal importation. Imported coal was priced much higher than domestically produced coal. This led to increasing conflicts between the coal industry and its main consumers – the power, steel and cement industries.

CIL blamed state governments for their delays in granting land acquisition for mining; coal consumers blamed CIL for its failure to integrate modern mining practices and technologies for its operations; private investors blamed CIL for allotting good-quality coal blocks to itself; and others blamed coal theft and corruption for the disappearance of a quarter of coal production each year (Anonymous 2011a; Chandra 2011). Indeed, it is the combination of all these factors and more that

contribute to the gap in coal production and demands. At the core is public ownership, which provides the legal basis for GOI to protect CIL in all aspects, such as keeping the best quality of coal reserves for itself, or continuing to receive government funding for its investment in India as well as overseas. 'In our country, it is a mixed economy', explained the coal minister. 'The first priority is to be given to government companies; within that, our first priority will be Coal India and state governments' (Singh 2010).

As the gap between supply and demand is growing, GOI has been urging PSEs to pursue active acquisition of coal resources abroad for securing long-term coal supplies. In recent years, Indian Prime Minister Manmohan Singh has repeatedly called on PSEs to speed up the search for global assets: '[T]here is a need for our public sector enterprises to explore global opportunities and step up our search for raw material assets' (Singh 2010). GOI also promised its support for PSEs' international pursuit of strategic resources and mining. To expand its global footprint, CIL pursued three strategies: to acquire overseas coal assets; to form joint venture partners with coal asset owners for exploration, development and operation of Greenfield coal assets; and to sign long-term coal supply agreements with preferential prices. The targeted areas include South Africa, Australia and Indonesia. In 2006, the Ministry of Coal proposed that the cabinet allow CIL to form a subsidiary to acquire coal mines overseas. Its Coal India Africana Limitada (CIAL) was created as a 100% owned subsidiary and eventually secured two coal blocks in Mozambique with estimated reserves of one billion tonnes in 2009. CIL was now is actively pursuing its overseas expansion, entering into discussions with Peabody, Rio Tinto and others to secure its access to coal.

Reform eventually did take place in 2008. To make it a global player, GIO granted CIL the *Navratna* status. Six of its subsidiaries had been granted the *Mini Ratna* status by GOI a year earlier. The *Navratna* status provides CIL with greater operational freedom and autonomous decision making. CIL currently signs a production-target agreement with the Ministry of Coal each year. In turn GOI appoints the chairman, managing director and several board members. For example, the board of directors consists of 11 members – a full-time chairman, appointed by GOI, four functional directors (one of them acts as deputy, appointed by GOI) and six non-executive directors (including two government nominees and four independent directors). Given its nature, CIL is expected to serve the national interest while receiving government support.

One indication of this inseparable relationship is 'pricing'. Under Section 4 of the Colliery Control Order 1945, as continued in force by the Essential Commodities Act, 1955, GOI was empowered to control coal prices and distribution. This power allowed the government to influence CIL's financial performance and the supply of coal to specific customers. Political considerations often led to the sale of coal either below its economic price or to some of the state electricity boards, which were unlikely to pay for it. Indeed, non-payment from SEBs was one of the major impediments for CIL to perform and expand. For much of the 1990s, CIL was squeezed in the middle. With the huge amount of debts owed by state electricity boards, the loss-making subsidiaries and huge tax payments to the government, the cash-strapped CIL was unable to invest in exploration and development. This became the main reason for GOI to open up to private investment under the scheme of captive investment – not as a way to transform CIL, its subsidiaries or other government coal companies such as SCCL into private companies, but as a measure to increase output to meet rising demand.

As part of the reform measures, prices of the administered grades of coal were revised in 1994. In 1996, following the recommendations of the Bureau of Industrial Costs and Prices, the government deregulated the price and distribution of coking coal and high-grade steam coal. In the following year, the central government ended control over 60% by quantity and 75% by value of CIL's production. In 2000, as part of the condition to borrow from the bank, the central government also agreed to deregulate the prices for all grades of coking and various grades of soft and hard coal, which it duly did when the Ministry of Coal handed over the price setting to the CIL. One main complaint from the power sector is the rising coal price. It is reported that between 2004 and 2011, coal prices increased by 89% while electricity, steel and cement prices rose by 13%, 26% and 50% respectively (Chandra 2011). 'Through hiking the selling price, it [CIL] has increased the average realisation per tonne by 25% year over year' (Anonymous 2011a). Even with the price hike, CIL often does not promise delivery. Shortage of coal forces its end-users to rely on coal imports or to invest in overseas coal mines to deal with coal shortages.

5. Conclusion

Coal India Limited is one the last publicly owned monopolies in the world. It is cheered by some as India's 'most valued company' in terms of market capitalisation. It is criticised by others for its failure

to meet rising demand and for its often-delayed delivery of coal. The public's catchphrase was 'CIL's monopoly has to go' because this behemoth had become the problem rather than the solution to coal shortages, coal theft, illegal mining and corruption, and also because of its slow movement in introducing competition and improving efficiency (Anonymous 2011a). At the same time, the minister of coal insisted that 'CIL's monopoly will definitely stay', and GOI made it clear that CPSEs are here to stay to 'explore global opportunities', to secure India's energy supplies and to maximise the national interest (Singh 2010; Singh and Bhaskar 2011).

Since the second half of the 1990s, GOI has demonstrated a strong desire to reform the coal industry and introduce competition. Meanwhile, as the chairman of the Expert Committee wrote to the prime minister in September 2007, 'Regarding restructuring of CIL, the Committee felt that it may not be appropriate to initiate any major restructuring of the existing legal and administrative arrangement of CIL at this time' because of widespread opposition from both 'the Coal Industry executives and workers', as restructuring would threaten the relative seniority of the personnel and their positioning of staff, and create fears among coal miners about their future (Ministry of Coal 2007: 2). While the debates on reform went on, the global market situation also changed. Countries were building their national flagship companies, especially in energy sectors. Private energy companies consolidated; oil-exporting countries took over their oil companies; and transition economies, such as China and Russia, were building their national champions as well. By the second half of 2010, the Expert Committee in India decided it might not be a bad idea to keep the monopolised position of CIL, which would 'help in building and nurturing a brand and a corporate culture' around CIL.

> The large size helps to recruit and retain the best technical and management personnel. It helps in import and export negotiations and in building and managing potential coal mines *abroad*. The large size of a company helps in managing its training activities economically and efficiently. Size plays an important role in managing efficiently the procurement and maintenance of new and costly mining equipment and new technology. (Ministry of Coal 2007: 56, 55)

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4

China's Oil Industry: 'Corporate Governance with Chinese Characteristics'

Monique Taylor

Through a process of gradualist reform, China's national oil companies (NOCs) – China National Offshore Oil Corporation (CNOOC), China National Petroleum Corporation (CNPC) and China Petroleum and Chemical Corporation (Sinopec) – have been transformed into globally competitive state-owned enterprises (SOEs) with subsidiaries listed on domestic and international stock exchanges. Poor performance among Chinese SOEs provided the impetus for the latter phase of this transformation from the mid-1990s onwards, whereby the focus of ongoing enterprise reform shifted to ownership and corporate governance restructuring (Ewing 2005: 319; Naughton 2008: 20; Wildau 2008: 28). Despite the corporatisation of the NOCs, the Chinese government retains tight control not only over the holding companies, but also their publicly listed subsidiaries through majority share ownership and a range of unique corporate governance mechanisms, which taken together are often referred to as 'corporate governance with Chinese characteristics' (Liu 2006: 418; Ewing 2005: 320). In assessing the nature and extent of control that the Chinese government continues to wield at the firm level, it is necessary to examine the institutions and mechanisms employed by the central party-state to manage and govern the NOCs and their publicly traded subsidiaries. State shareholdings and government administration are significant sources of political control and corporate governance power. In addition, corporate governance in China faces another layer of interference imposed by Chinese Communist Party (CCP) institutions (McNally 2002: 91).

Beijing considers oil a 'strategic industry' that plays an integral role in China's economic growth and development. As such the oil industry is more closely controlled and nurtured by the central party-state than the non-strategic sectors of the Chinese economy. Within these strategic

or pillar industries, China has chosen to reform and grow large SOEs, dubbed 'national champions', providing them with protected market positions, preferential treatment and extensive financial support. In return, these companies are expected not only to flourish within their respective industries, but also to advance Beijing's strategic and political objectives. Since the 'grasp the large, release the small' policy (*zhua da fang xiao*) was adopted in 1996 the Chinese government has sought to institutionalise stronger central authority over the strategic sectors, so as to tighten Beijing's control of the top tier of Chinese industrial firms and at the same time improve their economic performances (Pearson 2007: 719). Liu claims that the development of large, centrally controlled SOEs in the strategic sectors of China's economy offers an 'adaptive and efficacious strategy' to maintain stability in financial systems, energy and natural resources supply, food supply, and transportation and communications systems (Liu 2009: 551).

Barry Naughton notes that state control of the commanding heights of the economy allows the Chinese leadership to achieve 'social goals, while also protecting national security and preventing foreign dominance of the economy' (Naughton 2010: 443). The most important social responsibility that the NOCs must fulfil is to guarantee a stable oil supply. In doing so company profits may be sacrificed; for example, government-regulated oil prices stabilise the market for refined oil, and the NOCs – namely Sinopec (as the country's chief oil-refining company) – are forced to suffer downstream losses when the international price of crude rises. Geopolitical and strategic imperatives also influence the foreign investments undertaken by the NOCs (Chen 2007). Hence the Chinese government is loath to relinquish control of the oil industry, especially at this stage of market transition since this sector plays such an important role in the overall stability of China's economy and society. The central party-state appears to be willing to absorb the costs of maintaining this stability, which sometimes results in efficiency losses for the NOCs. In recent years, Sinopec in particular has been partly compensated by the government for its massive refining losses.

The Chinese government's desire to maintain its control of the oil industry has implications for the corporate governance of NOCs. To outside observers the organisational structure of China's NOCs appears similar to that of Western firms, complete with clear corporate organisation and boards of directors that include independent directors. However, in practice they operate differently due to the presence of undisclosed CCP instruments of control, including 'external' mechanisms such as the CCP Central Organisation Department (COD), a body that determines

personnel appointments, promotions and dismissals in state firms and regulatory bodies, and 'internal' mechanisms such as party committees and powerful party secretaries who often double as company chairmen and CEOs (Yeo 2009: 1022). These institutions affect personnel management, corporate decision-making and corporate transparency (McNally 2002: 93). Furthermore, the central government's dual role as owner and regulator, which is enacted through state agencies such as the State-owned Assets Supervision and Administration Commission (SASAC), leads to further interference in the corporate governance of state enterprises, undermines managerial autonomy and also reduces incentives to regulate effectively (Ewing 2005: 323).

While the separation of government and management has been nominally established, in practice administrative interference by government agencies and party institutions continue to affect business operations. This is also the case for listed oil companies, since the government is the majority shareholder in all cases, and the interests of minority shareholders are not effectively protected (Tomasic and Andrews 2007). Furthermore, the senior management of listed subsidiaries are often 'circumscribed by the holding company' (Pearson 2007: 720). 'Corporate governance with Chinese characteristics' is a product of gradualist economic reform, whereby Western-style corporate governance and laws have been transplanted to the Chinese context of business and politics. Suffice to say these institutions do not possess sufficient authority to act independently of the party-state, especially when it comes to the commanding heights of the Chinese economy. Moreover, the central party-state currently possesses significant organisational and political capacities, which permit it to impose centralised, top-down authority when the need arises.

In this chapter, I evaluate corporate governance practices in China's oil industry by examining the ownership structures, senior management and boards of the NOCs, and the regulatory environment within which these companies operate. I also discuss how the Chinese government has structured competition among the NOCs in the domestic market, which also has implications for corporate governance. I begin by providing a critical overview of the extant literature on the relationship between the Chinese government and the NOCs, which tends to argue that the NOCs are increasingly autonomous and profit-driven entities. This is followed by a brief outline of the development of China's NOCs over the past thirty years. The purpose of this historical narrative is to show that the NOCs' corporate forms and operations have been created primarily through top-down reform, rather than from direct exposure

to market discipline, and these aspects continue to develop in tandem with party-state imperatives and objectives.

1. Explanations of the government–NOC relationship

Central to understanding the corporate behaviour of China's NOCs is the nature of the relationship between these companies and the Chinese government. This relationship has attracted much attention in recent years within business, policy and academic circles – attention sparked by the ever-increasing international oil activities undertaken by the Chinese NOCs. Initially the 'China, Inc.' model informed many analyses on this topic. This model assumes that the Chinese state is strong, monolithic and coherent, and governed by an omniscient political elite (Luft 2004). Hence, such commentaries and studies perceive the NOCs to be arms of the Chinese state simply by virtue of their government-owned status, and assert that these companies are charged with executing the country's oil policies at home and abroad. This over-simplified view soon gave way to more nuanced analyses that attempted to disaggregate 'China' and evaluate the institutional environment and governance arrangements used to control and regulate the NOCs. The NOCs' corporate forms and structures are also examined to some extent. Erica Downs, Trevor Houser and Bo Kong have made notable attempts to explain the relationship by looking inside China in order to assess the extent to which the government controls the NOCs and impacts their behaviour (Kong 2006; Downs 2008; Houser 2008, Kong 2010). They make similar arguments concerning the government-NOC relationship, broadly claiming that the NOCs are increasingly independent of the party-state, and comprise a powerful interest group in Chinese politics, able to influence political elites and shape oil industry development.

More specifically, Downs emphasises that the CNPC and Sinopec are ministry-level companies, and their general managers all hold the rank of vice minister (Downs 2008: 122). Hence, these companies are deemed politically stronger than some of the government agencies that have been charged with regulating them in the past. Downs credits the internationalisation of senior management, the creation of publicly listed subsidiaries, rising company profits, increasing oil imports and the allegedly decentralised and fragmented nature of the energy bureaucracy with weakening the extent of party-state influence on the NOCs (Downs 2008: 125–29). Houser similarly argues that China's NOCs are becoming more independent and operate according to commercial, rather than political, imperatives (Houser 2008). According to

this view the NOCs behave little differently to international or private oil companies. Bo details how the decentralisation of China's petroleum sector during the reform Era has substantially reduced 'government control over petroleum prices, production, and administration,' and at the same time has served to enhance 'the economic and political power of the revitalised NOCs' (Bo 2010: 19). Other scholars have argued that China's fragmented and decentralised bureaucratic structure weakens the central government's control over the NOCs (Liu 2009: 685; Jiang and Sinton 2011: 8).

The oil industry studies conducted by Downs, Houser, Kong and others, rely on the fragmented authoritarianism model to explain the relationship between the Chinese government and the NOCs. This model was developed by Michel Oksenberg, Kenneth Lieberthal and David M. Lampton during the 1980s to describe the policy process as it operated within China's economic sectors (Lampton 1987; Lieberthal and Oksenberg 1988; Lieberthal and Lampton 1992). The principal findings of their research revealed a 'fragmented bureaucratic structure of authority, decision making in which consensus building is central and a policy process that is protracted, disjointed and incremental' (Lieberthal and Oksenberg 1988: 22). Rather than being top-down and hierarchical, Lieberthal and Oksenberg demonstrated that, below the apex of China's political power structure, authority was decentralised, fragmented and disjointed. Hence fragmented authoritarianism suggests that the structure of the Chinese state and political system places major constraints upon policymakers. According to the proponents of this model, the fragmented and decentralised structure of government and bureaucracy produces bureaucratic inertia, and even conflict, often distorting policy implementation. In terms of the implications of this model for the government-NOC relationship, scholars argue that policies emanating from the centre are mediated and altered by the NOCs to suit their own corporate interests (Taylor 2009: 155). Within this institutional context, powerful vested interests, such as the NOCs, are said to wield disproportionate influence upon the policy process. This phenomenon is deemed to have intensified over the past decade due to the increasing magnitude of China's energy needs, which in turn has enhanced the value of the NOCs to Beijing, thus boosting their political clout (Downs 2008).

The continued unquestioning use of fragmented authoritarianism as a conceptual framework for understanding the Chinese political system is, however, problematic for a number of reasons. First, this framework was developed in the 1980s, and while it provided an apt explanation of China's institutional arrangements and policy process at that time,

there have been extensive reform efforts to rebuild and recentralise political authority in Beijing that have aimed to counter the fragmenting and decentralising forces the model describes. These reform efforts have been particularly significant since the mid-1990s (during what Naughton refers to as the second era of reform) and successful in various sectors in terms of defragmenting, streamlining and recentralising political authority (Naughton 2007: 91–92). Hence, the model is increasingly outdated and overstates the weakness of the centre. Second, the framework of fragmented authoritarianism fails to take into account the CCP as a distinctive political institution capable of overcoming bureaucratic inertia and powerful vested interests within the Chinese political system, such as the NOCs. This failure is a glaring omission, one that has become more pronounced in recent years given the significant intra-party reforms that have strengthened and improved the ruling capacity of the CCP (Shambaugh 2008: 103). Third, the framework ignores the Chinese leadership's carefully considered strategy of voluntarily relinquishing authority in some bureaucracies, typically those engaged in low-level politics, and strengthening it in others. Far from being an uncontrolled or unmanaged process, the state has been complicit in its own devolution in terms of its control of some areas of the economy and society.

While the fragmented authoritarianism model can still explain some aspects of the political system, its application should be much more cautious and qualified. In the literature on the government-NOC relationship it has been uncritically adopted and applied, leading to the inaccurate conclusion that the government is patently incapable of imposing its will on the NOCs. Failure to acknowledge the Chinese leadership's preference for a gradualist or incremental reform agenda (as opposed to the 'big bang' approach to economic reform, notably used in Russia during 1990s with disastrous results) might also account for the continuing popularity of this model. In this view scholars assume that a slower pace of institutional change is indicative of weak state capacity resulting from decentralisation and fragmentation, rather than being the product of a deliberate reform strategy, which has been relatively successful in ensuring fairly smooth and stable transitions. Through their use of the fragmented authoritarianism model, these studies effectively downplay or ignore the key mechanisms of political control that have been retained by the Chinese leadership to solicit compliance from bureaucracies, officials and business leaders. These mechanisms include the nomenklatura system and the establishment of party groups and committees within SOEs.

In contrast, I argue that the central party-state has strengthened and reasserted its political authority – in the strategic sectors of the economy in particular – and is now able to apply top-down policies to influence the operations of the NOCs when there is a perceived need to do so. A handful of scholars have reported similar findings in other sectors; for instance, with reference to reform of China's stock market, Stephen Bell and Hui Feng found that rather than being constrained by extant institutional arrangements, Chinese leaders have the ability to reach inside the state and reorganise the governing apparatus (Bell and Feng 2009: 135). This leads Bell and Feng to conclude the Chinese political system is governed by hierarchy and 'marked by a steep power gradient' wherein 'power can be quickly mobilised to effect change if needed' (Bell and Feng 2009: 135). While the central government is clearly disinterested in the day-to-day operations of the NOCs and encourages these companies to become internationally competitive firms that turn big profits, there are notable instances in which national interests have effectively trumped the NOCs' commercial objectives. In this view the nature of the government-NOC relationship in China can be defined as 'collaboration governed by hierarchy', where the NOCs influence oil industry development indirectly by virtue of their advisory capacity, and also possess operational autonomy to conduct their daily business activities, but are ultimately embedded in a hierarchical relationship with the government in which the flow of authority is decidedly top-down.

2. Historical development of China's NOCs

Among the main goals of China's economic reforms towards the state sector during the 1980s and 1990s was the separation of government from enterprises, the creation of new institutions to govern the market economy and the transformation of SOEs into modern corporations. This reform agenda extended to the oil industry, which is also a distinctive sector in that it possesses strategic status. Because of this, the government's reform of the oil industry has been even more cautious, as Kong notes: '[B]efore the central government withdrew from directly managing the petroleum economy, it wanted to ensure that its NOCs would be up for the task to guarantee the country's petroleum security as well as to preserve and enhance the value of state-owned assets' (Kong 2010: 13). Hence, the modernisation and corporatisation of China's oil industry was a heavily state-managed, incremental process. Since the beginning of the Reform Era (1978–present) reform of the apparatus responsible for oil production has consisted of two major restructurings

(Kong 2010: 13). The first round of restructuring aimed to achieve the move away from command-and-control regulation through the introduction of market characteristics into the oil industry, as the government sought to divest itself from oil production by creating SOEs (Kong 2006: 66). It entailed the abolition of the industry's line ministries, which were replaced by three NOCs – CNOOC, Sinopec and CNPC – a process that unfolded during the 1980s. The second stage of restructuring was geared towards the corporatisation and internationalisation of China's NOCs, and saw the vertical integration and partial privatisation of these companies' assets from the late 1990s to early 2000s, when China began to list parts of its largest SOEs on the international equity markets (Kong 2010: 13).

During the 1980s, three NOCs were created to replace the industry's line ministries. CNOOC was established in 1982, charged with offshore exploration and production, and offshore cooperation with foreign oil companies. In terms of bureaucratic rank, CNOOC was granted that of general bureau or vice-ministry. The refining and petrochemical assets from the Ministry of Petroleum Industries (MPI) and the chemical enterprises from the Ministry of Chemical Industry and synthetic fibre manufacturing from the Ministry of Textile Industry were brought together to create Sinopec in 1983. This company held ministry rank and operated directly under the State Council. The remaining onshore exploration and production and administrative functions and governmental responsibilities of the MPI – including ancillary services such as schools, medical facilities and transportation infrastructure – were restructured into CNPC in 1988. CNPC was also granted ministry rank. CNOOC has always been the most commercially oriented Chinese NOC, and appears to adhere to stronger corporate governance practices (Chen 2007: 49). This is mainly because CNOOC was set up to deal with foreign firms and, unlike CNPC and Sinopec, was not saddled with additional administrative and social functions. As a result, it has also achieved a far better financial position than the other NOCs. Bo claims that CNPC and Sinopec should not be considered standard SOEs, since they were placed under the direct supervision of the State Council and tasked to perform the administrative functions of their predecessor line ministries (Kong 2010: 14).

Despite the formal separation of government and SOEs, as stated in the regulations such as the 1992 *Regulations for Transforming the Operating Mechanism of the State-Owned Enterprise*, the separation is less clear in practice, especially due to the nature of personnel arrangements. The nomenklatura system of party personnel appointments (administered by the COD), and the CCP groups and committees within state firms,

ensure the influence of party institutions on corporate governance. Top executives and senior management of the newly created NOCs tended to be former petroleum bureaucrats and party members of significance. For example, when the MPI was abolished in 1988, its minister, Wang Tao, was placed in charge of CNPC. Personnel exchanges between the NOCs and the Chinese government flow in both directions: more recently, several top executives from the NOCs have secured prestigious government positions, such as former Sinopec chairman Su Shulin, who in 2011 became the governor of Fujian province. This further indicates the lack of genuine separation between business and government in China's oil industry, leading some scholars such as Downs to suggest that these links to the Chinese leadership allow the NOCs to shape the country's oil policy agenda, particularly as a result of their growing economic might. While, by virtue of their specialised knowledge of the oil industry, the NOCs undoubtedly fulfil a valuable advisory role to the Chinese leadership regarding petroleum matters, there is evidence to suggest that Beijing is still the pivotal player in establishing the NOCs' strategic direction (examples of this are provided later in this discussion). Since the NOCs have the expertise, they are responsible for specific investment decisions most of the time.

The functional specialisation of each NOC – that is, CNOOC in offshore oil development, Sinopec in oil refining and CNPC in onshore upstream exploration and production – was a legacy of ministerial compartmentalisation, which had been transferred to commercial operations through the creation of separate upstream and downstream conglomerates (Zhang 2003: 97). This compartmentalisation posed a challenge for the oil companies in terms of improving efficiency and developing their international competitiveness, and also made them particularly vulnerable to oil price volatility. There was a perceived need to break the upstream/downstream monopolies by establishing an oligopolistic market structure wherein several market players would compete. The market structure introduced in 1998 was specifically designed to promote limited and managed competition between these NOCs, encouraging them to seek profits in both upstream and downstream activities and improve their efficiency and performance in anticipation of the further internationalisation of these companies (Kambara and Howe 2007: 117). This round of restructuring saw the transformation of the Sinopec and CNPC into vertically integrated oil companies.

In 1998, the government ordered CNPC and Sinopec to swap assets along geographical lines so that each company gained both upstream and downstream portfolios, with rough geographical monopolies. This

move provided Sinopec with an upstream portfolio concentrated in China's South and CNPC with refineries and a distribution network in the North. However, each company remained dominant in their original segment of the oil market – CNPC in onshore upstream exploration and production, Sinopec in oil refining and CNOOC in offshore oil – so as to avoid creating too much head-to-head competition. The market position of each affects their financial performances (Houser 2008: 146). For instance, since upstream oil prices were liberalised in the 1980s and closely follow global price movements, CNPC benefited from the rise in world oil prices from 2003 onwards. Downstream oil prices, on the other hand, remain tightly controlled, and in some years, when domestic pump prices were below that of international crude oil prices, oil-refining became a loss-making exercise for Sinopec.

Despite these reforms, the NOCs still possessed 'bloated organisations, redundant personnel, heavy burdens of debt, and low-quality assets' (Wu 2005: 97). In order to transform them into modern competitive enterprises, the better-performing core assets were carved out of the state holding companies and restructured into joint stock limited companies for initial public offering (IPO) financing (Wu 2005: 97). In other words, this phase of corporate restructuring involved separating the core from the non-core business, and corporatising the resulting entity containing the core assets. The 'historical burdens' of non-core assets, non-performing financial claims, redundant personnel and other employee-support functions, as well as controversial projects such as CNPC's holdings in Sudan, would be left to the parent company (Wu 2005: 97). For instance, at CNPC the number of employees in the core company that was floated through PetroChina Limited was 480,000, compared with 1.5 million in the holding company. Employment is yet another social responsibility undertaken by China's large SOEs, as the government is concerned about the potential for social unrest caused by unemployed workers (Pearson 2007: 725).

Hence, the final stage of the restructuring saw the NOCs transfer their performing assets to subsidiary companies, which were subsequently listed on international stock exchanges. PetroChina Limited, the core assets of CNPC Group, was listed on the New York and Hong Kong stock exchanges in April 2000; Sinopec Limited, the core assets of Sinopec Group, was listed on the New York, London and Hong Kong stock exchanges in October 2000; and CNOOC Limited (incorporated in Hong Kong, unlike PetroChina and Sinopec, which were incorporated in the PRC), the core assets of CNOOC, was listed in the New York and Hong Kong stock exchanges in February 2001.

Table 4.1 Major share ownership of Sinopec, PetroChina and CNOOC

Company	Major shareholder	Percentage of shares owned	Share type
China Petroleum and Chemical Corporation (Sinopec Ltd)	China Petrochemical Corporation (Sinopec Group)	70.84	State-owned
PetroChina Company Ltd	China National Petroleum Corporation (CNPC Group)	86.07	State-owned
CNOOC Ltd	China National Offshore Oil Corporation (CNOOC)	64.41	State-owned

Source: Table derived from Xinting Jia and Roman Tomasic, with updated figures from official company websites.

The Chinese government remains the majority shareholder in all cases (see Table 4.1 for the most recent figures regarding share ownership of the publicly traded subsidiaries). These listings gave the NOCs the capacity to raise funds through international capital markets, to be invested in further exploration, production and refining projects. In addition, it was intended to promote corporate governance among Chinese companies by providing 'the managers with clearer incentives to focus on profitability' (Andrews-Speed 2004: 179). Richard D. Ewing notes that overseas listings also advance Beijing's desire to establish globally recognised Chinese brand names (Ewing 2005: 329). Soon after China's NOCs became listed, Beijing promulgated the 'Go Out' (*zou chuqu*) policy, encouraging the NOCs to acquire equity stakes in oil and gas production abroad. This policy was largely intended to improve the country's energy and natural resource security. Hence, it is clear that throughout thirty years of reform China's oil industry has been consistently regarded as far too important to be left to market forces or for the Chinese government to establish a genuine arm's-length relationship, let alone to consider extensive privatisation (Pearson 2007: 724). In other words, the development of this industry has occurred through top-down reform, rather than exposure to market forces.

3. Ownership and regulation of China's NOCs

While China's NOCs possess operational autonomy defined in terms of day-to-day management, the government maintains strategic control

of these companies and is able to influence their behaviour through various methods, a particularly significant one being ownership rights. That being said, I do not advance the simple assertion that ownership automatically translates into control. Rather, in this case I provide some compelling examples to support the argument that ownership rights in combination with other significant mechanisms, notably the nomenklatura system, do enable the Chinese government to compel the NOCs to undertake particular activities that further national interests over commercial interests.

Corporate governance structures in China are generally characterised by dominant state ownership, with only very limited roles for financial institutions, institutional investors, individual and family ownership (Ewing 2005: 325). Despite the fact that China's NOCs are now listed on domestic and international stock exchanges, in essence they remain government-controlled entities. The key mechanism that ensures government control is share ownership, whereby parent SOE control of listed subsidiaries through majority share ownership serves as a 'vehicle for government influence' (Ewing 2005: 323). Perhaps most importantly, with this dominance via majority share ownership comes the capacity to determine the composition of the board of directors and the management of the company.

In China, the stock market was introduced primarily for the purpose of reviving inefficient and uncompetitive state firms through limited exposure to market discipline, raising capital for restructuring and shifting the 'weight of corporate finance from beleaguered banks to equity markets' (Ewing 2005: 319). Initial public offerings of minority equity positions in the subsidiaries of the SOEs were the next step in China's drive to establish a modern enterprise system. From their inception in 1990 up until 2005, Chinese stock markets (Shanghai and Shenzhen stock exchanges) operated under a unique system known as the split equity structure, which was composed of both tradable and non-tradable shares (Jia and Tomasic 2010: 15). Under this system a minority of tradable shares were listed on the stock market, while the majority of shares, which were held by the government or 'quasi-government' entities, were excluded from the market and could only be traded 'between Chinese legal persons with the approval of the government' (Jia and Tomasic 2010: 6). Hence, there were three broad categories of shares: state shares (non-tradable), legal person shares (non-tradable and which can be owned by non-government institutions, typically SOEs) and tradable shares, with the government controlling both the state and legal person shares (Ewing 2005: 322). In most Chinese listed

companies less than 50% of shares were tradable on stock exchanges. It is important to note that while the drive to improve efficiency (the operational aspect of the business) through limited exposure to market forces was one of the goals behind partial privatisation, the party-state has never relinquished the desire to control the strategic direction of its SOEs and their listed subsidiaries.

The central party-state's desire to retain control, while at the same time improving the firms' performance through listing, did not achieve efficiency gains for the listed companies in many cases (Green 2003). Hence, since 2005 the central government has undertaken gradualist reform of the split equity structure, with the aim of integrating tradable and non-tradable shares, thus transforming the non-marketable shareholdings of state-owned enterprises into liquid assets. Since the tradable shares only constituted the minority of share capital, the split equity structure failed to subject listed Chinese companies to market discipline. Despite the split equity structure reform, the government chose to retain majority ownership of the NOCs due to the strategic significance of these firms in furthering China's economic development. Internationally listed Chinese companies such as PetroChina, Sinopec and CNOOC are still treated by the government as state firms, since the dominant shareholders are their parent companies (See Table 4.1).

The parent, or holding, companies are owned and regulated by central SASAC, which was created in 2003 to unify the state's ownership representation. It is important to note that state-owned Chinese companies are not homogenous, and consist of large SOEs in strategic sectors under the direct control of central SASAC (currently 117 state firms), the thousands of subsidiaries of these 117 corporations, companies owned by provincial and municipal governments, and companies that have been partially privatised yet retain the government as the major shareholder (SASAC 2011). China's NOCs fall under the purview of central SASAC and, hence, are subject to more direct forms of government control. The party-state's oversight of the holding companies through SASAC reduces corporate transparency and makes the task of independent audit by investment advisors very difficult to achieve, as McNally notes: 'Information regarding the performance of state holding corporations is viewed as highly sensitive, because it reflects how the state sector as a whole performs' (McNally 2002: 109).

Share ownership and international listings obviously determine the type of influence to which listed Chinese companies are exposed. For instance, PetroChina's foreign listings do render the firm subject to outside influence at a basic level due to the regulatory framework of

international exchanges. However, the degree of outside influence is limited; for instance, PetroChina is exempt from the listing requirements of the New York Stock Exchange because its parent company CNPC controls more than 50% of the company's share capital and, hence, voting power. There are some examples where foreign investors have influenced these companies' investment decisions and operations. Kathryn Lavelle notes that according to the provisions of public offerings in Hong Kong and the United States, minority investors holding H-shares are required to vote on affiliated transactions (Lavelle 2008: 138). Under these circumstances PetroChina was compelled to seek the approval of its minority shareholders in order to establish a joint venture with its parent firm (Lavelle 2008: 138). In doing so, PetroChina excluded controversial assets in Sudan, Burma, Turkmenistan, Iraq and Syria to ensure minority investor approval would be granted (Lavelle 2008: 138). That being said, such examples are infrequent, as the Chinese government has deliberately kept state ownership of the NOCs at a high level in order to ensure its control and minimise external influence through the share ownership structure.

China's NOCs have been mandated to protect and advance the national interest in certain ways, even when fulfilling this role compromises company profits and efficiency. The Chinese government clearly stipulates the social responsibilities that SOEs must fulfil, which are explicitly stated in *The Management Law of State-Owned Assets* (Liu 2009: 548). In a large economy under market transition, national strategic investment in key industries such as energy is crucial to economic development and societal stability (Liu 2009: 551).

For the NOCs the most basic social responsibility they must fulfil is to guarantee a stable energy supply. In some cases this requirement has had a detrimental impact on financial performances. For example, in 2008 PetroChina faced losses of around US$18 billion in its refining businesses since the costs of soaring international oil prices could not be passed onto consumers, as Beijing caps fuel prices to limit inflation. However, due to its strong specialisation in upstream oil activities, which offset to some extent the downstream losses, only Sinopec received subsidies in 2008 (to the tune of US$7.6 billion). Jiang Jiemin, chairman of PetroChina, stated that his company was forced to bear the burden of refining losses due to social responsibilities: 'We ... have to shoulder some social responsibility, such as ensuring the supply of refined oil products in China. So when there is some conflict, some sacrifice will be required' (Crooks 2008). From April 2008, both PetroChina and Sinopec were paid monthly state subsidies against their

monthly refining losses. Monthly subsidies replaced the ad hoc subsidy payments, which began in 2005, in order to help these companies better manage their cash flows and investment plans. That said, compensation provided by the government has not completely recovered the refining losses both Sinopec and PetroChina sustained over the years when international oil prices peaked. Mounting refining losses in China's NOCs elicited international shareholder angst and contributed to Warren Buffet's (Berkshire Hathaway) decision to liquidate his US$2.3 billion shareholding in PetroChina in 2007 (*ChinaStakes* 2008).

Another example of the state's control of the NOCs, and use of state firms to pursue other non-commercial objectives, is the construction of the West-East Pipeline Project (WEPP), which delivers natural gas from Xinjiang to Shanghai. In addition to the desire to exploit natural gas reserves in Xinjiang, this pipeline was part of Beijing's 'Go West' campaign, which aimed to develop China's impoverished western interior, hence fulfilling a major social policy objective (BBC 2001). Rather than commercial imperatives, it was these energy security and social policy considerations that drove the project. The US$5.2 billion pipeline, which began construction in 2002 and was completed in 2004, was opposed by CNPC's subsidiary PetroChina due to doubts concerning the project's economic feasibility and to Premier Zhu Rongji's insistence on foreign involvement in the project.

Despite these commercial objections, the Chinese government forced CNPC to undertake the WEPP. Downs claims: 'Under pressure from Zhu, the company reluctantly issued a tender for foreign participation and signed nonbinding agreements with Shell, ExxonMobil, and Gazprom' (Downs 2008: 131). Ultimately, foreign investors withdrew from the project in large part due to Beijing's insistence on capping the price of gas for industrial users such as large petrochemical companies (Hoyos et al. 2004). PetroChina welcomed the withdrawal of foreign involvement, but this development was not a result of any lobbying on the part of this company. Construction of the pipeline went ahead without foreign involvement, and the knowledge that any shortfall in meeting costs would be shouldered by the Chinese government (Hoyos et al. 2004). Again, this is testament to the centre's authority in compelling state firms to undertake unprofitable projects.

At first glance, China may seem to adhere to the independent regulator model through nominal separation of government and enterprise, improving corporate governance of SOEs and establishing regulators as 'market referees' (Pearson 2007: 297). However, upon closer inspection it appears that regulatory independence is actually constrained

by the broader political-institutional context in which the new regulatory bodies are situated' (Pearson 2007: 297). Under current transitional arrangements in China, the government acts as both owner and regulator of state firms. Beijing's key interest in maintaining control over strategic assets also reduces the potential for regulatory independence to develop (Pearson 2007: 298). It is important to note that China currently lacks some of the institutional underpinnings that are necessary for regulatory and other corporate governance mechanisms to function, such as a well-developed legal system. The listed subsidiaries, PetroChina, Sinopec and CNOOC, are governed by four sets of regulations: Company Law, Securities Law, the China Securities Regulatory Commission (CSRC) and Stock Exchange Listings Rules. However, Jia and Tomasic note: 'because of weak legal enforcement in China and the strong administrative power of the government, the role of the more formal bodies of law in corporate governance in China has been rather limited. ...' (Jia and Tomasic 2010: 14).

The State-owned Assets Supervision and Administration Commission (SASAC) does not focus exclusively on exercising the state's ownership, management and supervisory functions. In addition, SASAC also has assumed substantial regulatory responsibilities that are significant in terms of their impact on the business operations of SOEs (Naughton 2006: 15; Mattlin 2007: 10). Just one example of SASAC's use of regulatory authority was its decision in April 2005 to forbid management buyouts in China's SOEs (*The Economist* 2005a). Hence, SASAC's mandate differs from that prescribed in the *OECD Code for Governance of State-Owned Enterprises* (2005), which advises against combining ownership and regulatory functions in order to establish regulatory independence (OECD 2009: 59). SASAC's ole as owner and regulator allows it to promulgate rules and policies according to the strategy adopted by the party-state. SASAC plays a major role in restructuring industrial organisation and determining the nature of domestic competition among state firms, specifically building some competition into the state-owned sectors of the Chinese economy (OECD 2009: 59).

The domestic market within which the NOCs operate is characterised as an oligopoly, where the three major firms – CNPC, Sinopec and CNOOC – participate in limited and managed competition. This oligopolistic structure was established by the 1998 oil industry reform, the impetus for which was the need to break the monopolies and establish limited competition in the domestic oil market in order to improve efficiency and prepare the NOCs for competition on the international stage, while at the same time maintaining profitability at high levels.

This domestic market structure provides China's NOCs with two distinctive characteristics. First, they do not rely on exposure to market discipline to improve performances. Rather they respond mainly to top-down policies and reform agendas that initiate corporate reorganisation. Second, their big profits are granted by monopolisation advantages instead of strategies to win in market competition, such as price competition, technical advantages, and so on.

4. Company leadership: executive and non-executive directors

In an attempt to ameliorate the in-built agency problems associated with China's state ownership system, which had resulted in monitoring problems, managerial slack and a lack of competent managers, in the mid-1990s the SOEs were converted into limited liability corporations (LLCs). Under China's Company Law these LLCs must 'establish modern governance institutions, including shareholder meetings, boards of directors, and boards of supervisors'. In other words, they should have appropriate institutional checks and balances (McNally 2002: 104). However, China's wholly state-owned LLCs possess corporate governance structures that, in practice, differ substantially from standard LLCs. This is reflected in company leadership, especially for state firms operating in the strategic industries. Executives in China's NOCs tend to be drawn from the bureaucracy and the CCP. Party secretaries continue to play a leading role in SOEs, also doubling as company chairmen. Both Christopher McNally and Hon Chan claim that the membership of the party committee, management team and board of directors is essentially fused in state holding corporations (McNally 2002: 105; Chan 2009: 49–50). The party core group forms the centre of decision-making power in the holding companies, and its members hold top positions in management and on the board. The predominant influence of party institutions gives primacy to adhering to 'national economic guidelines' and policy directives, over 'seeking innovative solutions to increase efficiency' (McNally 2002: 109).

The personnel appointment system for SOEs is administered through the Organisation Department of CCP (short for the Central Organisation Department, COD), which remains one of the most powerful and secretive institutions in China (McGregor 2010: 71). In addition to control, this personnel appointment, or nomenklatura system, is the 'main source of systemic coherence that strengthens central authority by creating incentives for party members to adhere to central edicts'

(Yeo 2009: 1021). Moreover, party core groups are established in SOEs to further ensure the application of enterprise nomenklatura as a control mechanism over SOEs. Chan claims: 'Party units in all SOEs are given full authority to make almost all fundamental decisions related to management, personnel, key projects and finance' (Chan 2009: 50). While SASAC is responsible for personnel appointments, promotions and dismissals as it has access to information about suitable candidates, in practice the COD is the 'ultimate nominator', which may take advice from SASAC (Yeo 2009: 1021). SASAC is also responsible for motivating the managers of SOEs in the absence of market-based managerial incentives. Its primary tool for providing effective managerial incentives has been through its three-year performance contracts (Naughton 2010: 453). These contracts outline annual and three-year targets, and performances are graded. Managerial salaries are tied to the grade, and the overall performances of firms are published (Naughton 2010: 453). This incentive structure appears to work reasonably well.

The boards of directors of the listed subsidiaries are generally comprised of executive and non-executive directors who are also executives or senior managers in the parent companies or drawn from their connected companies. See Table 4.2 for the board composition for PetroChina, Sinopec and CNOOC (Jia and Tomasic 2010: 48). Xinting Jia and Roman Tomasic suggest that this pattern indicates 'the management of a listed company was very much intertwined with the management of its mother company' (Jia and Tomasic 2010: 68). A smaller number of directors on the boards of the listed companies are nominally independent (the extent of independence is difficult to assess). Furthermore, the same person usually occupies the company positions of chairman and CEO. For instance, Fu Chengyu acted as chairman of CNOOC Group, and as both chairman and CEO of CNOOC Ltd up until

Table 4.2 Composition of the board of directors in China's NOCs

Company	Board members	Executive directors	Non-executive directors	Independent directors
Sinopec Ltd	15	10	0*	5*
PetroChina Ltd	14	3	6	5
CNOOC Ltd	11	3	3	5

Note: * Sinopec non-executive directors are classified as independent directors by the company, despite the government and party affiliations of each.
Source: Official company websites.

last year, when he resigned from the role of CEO. In addition Fu was also Party Secretary, reinforcing the CCP's influence on the company.

Since it is the majority shareholder, the government selects board members of the listed oil companies. Often, some board members hold various senior management roles within the listed company as well. The chairman of the board of the listed company is also usually the chairman of the board of the parent company, again indicating that there is little practical separation between the two entities. While independent directors comprise 30–45% of the boards of the NOCs, they are typically drawn from the government and party elite, except in the case of CNOOC Ltd. By their association with the major shareholder these directors are not independent according to classic corporate governance definitions. For instance, Sinopec's independent non-executive directors all worked for the government and are party members. This leads Jia and Tomasic to conclude that, 'Superficially, board composition is an indication of the company's new governance structure; however, a close look at the board's composition suggests that the old management team of the state-owned enterprise remains in place; this might be referred to as "filling a new bottle with old wine" ' (Jia and Tomasic, 2010: 115).

CNOOC is widely considered to be one of the best-managed and most profitable Chinese companies. As a Western-trained manager with extensive experience dealing with Western firms, the company's former chairman and CEO, Fu Chengyu, has played an important role in the company's success. Fu seemingly espoused free market rhetoric, and has been quoted as saying, 'Transparency makes shareholders love you' (*The Economist* 2005b). The incorporation of four foreign independent directors – Evert Henkes, formerly of Royal Dutch/Shell; Kenneth Courtis, vice-chairman of Goldman Sachs in Asia; Erwin Schurtenberger, a former Swiss ambassador to China; and Chiu Sung Hong, an Australian lawyer – further increased the company's credibility. However, the CNOOC-Unocal debacle of 2005 raised questions concerning whether CNOOC is 'really a commercially driven firm, with corporate governance able to protect all its shareholders from Chinese political pressure' (*The Economist* 2005b).

It was commented that Fu pursued the purchase of Unocal (the ninth-largest American oil company), as 'pulling off the deal would bring huge political influence and secure his future' (*The Economist* 2005b). CNOOC's senior management did not inform the board, let alone seek their approval, about the proposed bid for Unocal until a very late stage, leaving the board feeling pressured to rush the deal through due to time constraints. This led to accusations of 'questionable corporate

governance and scant regard for minority shareholders' (Guerrera et al. 2005). Schurtenberger resigned, ostensibly for health reasons, soon after the board was finally informed. The remaining independent directors hired their own team of advisors, led by the U.K. investment bank N.M. Rothschild, to investigate whether the bid for Unocal was in the interest of all shareholders. Courtis abstained from approving the US$18.5 billion bid, to avoid a conflict of interest. While the board, with the exception of Courtis, eventually granted approval, the deal was thwarted by the United States Congress, citing 'national security' concerns. This case shows that boards may be kept out of the loop when it comes to strategically significant issues, and also that top executives such as Fu may be prepared to flout good corporate governance practices and engage in commercially high-risk behaviour in order to enhance their chances of political promotion. The fact that CNOOC failed to comply with these corporate governance requirements in relation to the role of the board of directors confirmed in the eyes of U.S. regulators the perception that the Chinese state controls and directs the NOCs.

Evidence of party-state interference in the business operations of Chinese NOCs can be found in the way in which the COD tends to treat the heads of SOEs as 'apparatchiks' who can be 'shifted around at will' (McGregor, 2010: 84). In recent years the government has reshuffled senior management in the telecommunications, airline and banking industries. In April 2011, a major reshuffle of oil industry leaders occurred when a sudden announcement was made that top executives of the holding companies would swap jobs with their rivals. On 3 April, state media reported that Su Shulin, chairman of Sinopec Group would depart to a prestigious government position as Fujian province's party head, further indicating the lack of separation between government and enterprise in China. This was followed by a COD announcement on 8 April that Fu Chengyu, chairman of CNOOC, had replaced Su at Sinopec, and Wang Yilin, vice-president of CNPC, had filled Fu's seat at CNOOC. These reshuffles reveal that the government 'views managers as much as state bureaucrats as business executives', all of whom serve the same master (Dickie 2007). The government's aim is to discourage head-to-head competition among state-owned firms and remind the top executives of these companies that the party-state is ultimately in control. With specific reference to this reshuffle it appears that Fu's extensive international business experience would help Sinopec increase global acquisition to secure energy supply for China (Ren 2011). Again, this shows how non-commercial objectives can impact the NOCs.

While these job swaps occurred at the parent level, conflicts of interest arose as the top oil executives kept their old positions at the listed subsidiaries (Yam 2011). For example, Fu became the head of Sinopec, but remained chairman of CNOOC Ltd, and Wang was still director of PetroChina after he became chairman of CNOOC Group. There was also a substantial delay until the listed subsidiaries announced leadership changes in the parent companies. Once the conflict of interest became publicly recognised the relevant executives resigned from their positions in the listed companies. As these changes played out, the independent directors on the boards of CNOOC, Sinopec and PetroChina remained silent. With reference to the independent directors of these companies, the independent director of one listed Chinese state-owned bank claimed, 'There is a good chance that the independent directors [did not] have a clue. ... They probably read about the change on the same day as you and me' (Yam 2011).

The rotation system of top executives and the business-government cadre swap does, indeed, 'raise issues of career incentives' (Gore 2011: ii). Since many of these executives are evidently focused on furthering their political careers, then the interests of the enterprise may not always be prioritised. Certainly it would seem to provide compelling incentives for state policy objectives to be incorporated into business operations (Gore 2011: ii). That said, political promotion for top executives of SOEs in China is tied to some extent to a firm's performance. Cao et al. argue that state control and political incentives for career advancement among top executives may in fact indirectly align their interests with the company's commercial interests, further claiming, 'the likelihood that a CEO receives a political promotion exhibits a strong positive relationship with firm performance indicating that political career concerns are consistent with incentives for value maximisation in Chinese SOEs' (Cao et al. 2009). However, incentives for political promotion may interfere with incentives to 'maximise firm value' on occasions when Beijing expressly privileges non-commercial concerns such as energy security and social stability. This occurred in the case of Sinopec's refining losses. Pursuit of political promotion may sometimes encourage top executives to undermine good corporate governance, which was seen in the case of Fu's handling of CNOOC's unsuccessful bid for Unocal. While such instances of interference in the NOCs' business strategy and operations occur infrequently, they reveal that state control of the oil industry and the NOCs in China continues to be maintained, and has arguably strengthened during the second era of reform as a result of the party-state's extensive efforts

both to defragment and recentralise the state's governing apparatus and strengthen the party's ruling capacity.

5. Conclusion

This discussion of the corporate governance institutions and practices of China's NOCs, within both the holding companies and their listed subsidiaries, shows that they are indeed subject to interference by the central party-state. However, to date the extent of this interference has been limited as, on the whole, Beijing encourages the NOCs to be internationally competitive and profit-driven. When the NOCs are required to sacrifice commercial interests for national interests, as in the case of maintaining refining output in the face of significant financial losses, it is regarding issues of fundamental importance to the security and stability of the Chinese state. Aspects of the enterprise nomenklatura system also influence the behaviour of the NOCs, as top executives also aim to secure political promotions in addition to fulfilling their management roles. While this generally has a positive impact on firm performance, there are instances in which performance and corporate governance practices have been compromised by these top executives' desire to increase their probability for political career advancement.

I have shown that there are several mechanisms through which the Chinese leadership is able to control the strategic direction of the NOCs. Central authority is exerted effectively through majority share ownership, which also grants the party-state the capacity to determine the composition of the board of directors and the management of the company. SASAC's role as both SOE owner and regulator reinforces the ability of the central party-state to control the strategic direction of the NOCs. The nomenklatura system and the establishment of party groups and committees in SOEs is probably the most significant mechanism used by the central party-state to solicit compliance from the NOCs.

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5

Old Jewels in New Boxes? India's Major Public Sector Petroleum and Natural Gas Exploration and Production Enterprises

Supriyo De[1]

1. Introduction

State-owned petroleum and natural gas companies are quite prevalent in many emerging economies. Besides companies in China and India, Petronas of Malaysia and Petrobras of Brazil are prominent examples. These companies are often large and dominate the economic landscape, not just within their national economies but also in the international arena. This chapter deals with the major Indian public sector petroleum and natural gas exploration and production (E&P) enterprises, namely, the Oil and Natural Gas Corporation Limited (ONGC) and Oil India Limited (OIL). The objective is to analyse the nature of these enterprises with particular reference to their position in the domestic political economy, the extent and characteristics of their relationship with the government, the impact of the domestic economy on the companies' profitability and viability and the future prospects of these companies. As far as possible, no attempt is made to impose a normative structure on the analysis. Rather, the companies are analysed in light of their evolution within a changing global and domestic socio-political and economic milieu. Therefore, issues such as the desirability or otherwise of privatisation or disinvestments are not the primary concern of this chapter. Rather, the attempt is to hold up a mirror to past and present structures and systems surrounding these entities. Nevertheless, it is necessary to analyse the companies from the standpoints of efficiency and effectiveness. This is carried out by examining the role of the companies with regard to certain professed social, political and economic goals, and also to examine their performance in terms of conventional profitability and financial indicators.

Broadly, it is seen that public sector enterprises serve a wide range of functions. This includes acting as champions of domestic industrial policy, as tools for the strategic quest for resources in foreign countries, and as devices for the implementation of socio-economic policies and instruments for the conduct of state economic interventions. These roles are further accentuated in the case of the Indian petroleum and natural gas companies. ONGC is classified as a *Maharatna* (great jewel) Central Public Sector Enterprise (CPSE), and OIL is designated as a *Navratna* (nine jewels) CPSE (Department of Public Enterprises 2011).[2] This quasi-historical, quasi-nationalistic nomenclature clearly underlines the conception of these companies as vanguards of national industrial and economic progress in the policy discourse as conceived by the government. This, in turn, reflects on questions of viability and sustainability, since companies purportedly endowed with such epic nomenclatures can be expected to be 'fail-proof' or would not be allowed to fail. Paradoxically, as our analysis reveals, the oil and gas E&P companies also bear a large burden in terms of having to carry the weight of the government's fuel subsidies. Nevertheless, in terms of technical and financial performance, their outcomes remain commendable. Furthermore, both companies have a fairly large footprint in the national energy security scenario. In terms of global positioning, ONGC in particular has been a frontrunner among Indian companies. In 2009, it was placed on the Fortune Global 500 list, ranked at 402 on the basis of revenues, profits, assets and shareholders' equity. ONGC ranks third among the world's oil and gas exploration and production companies and is twenty-third among international energy companies as per the Plattes 250 Global Energy Companies List for 2009 (ONGC website). ONGC and OIL endow the government with considerable leverage in the international energy stakes. Therefore, it is unlikely that these companies would be privatised in the near future, but disinvestment of shares of these entities remains a possibility.

This chapter is organised into nine sections. Following this introductory section, Section 2 discusses the literature and the prevalent perspectives. Section 3 provides the analytical framework while Section 4 gives a historical overview of the companies and describes the industry structure. Section 5 delineates the institutional matrix in terms of the relationship between these companies and the government, with Section 6 going on to reveal the impact of this relationship on key operational aspects, such as the exploration and production policy, pricing and the distribution of the energy subsidy burden. Profitability and financial sustainability issues are discussed in Section 7, while Section 8

delves into strategic aspects such as energy security and international imperatives. The concluding section takes a peek into possible future trajectories in light of the political economy aspects revealed in the course of the analyses.

2. The literature and prevalent perspectives

The literature on public sector enterprises is inseparable from the issues of efficiency, privatisation and disinvestment. However, a more fundamental issue relates to the reasons for the very existence of the public sector. The usual theoretical explanations arise from the need to correct for various market failures, including the case of a natural monopoly – the possibility of monopoly power due to decreasing average costs in the vicinity of the demand (Nayak 2007). The transactions costs approach perceives that government faces high monitoring and transactions costs with regard to delegated production activities. These costs are less in the case of public ownership. However, incentive alignment and imperfect information remain two separate issues in both public and private provisioning (Sappington and Stiglitz 1987). In the circumstances, it is the degree of competition and not the type of ownership that determines the efficiency of production outcomes.

The inefficiency of public sector production activities has remained a dominant concern. One view holds that poor monitoring and lack of incentives lead to managerial inefficiency in public firms (Vickers and Yarrow 1988). Another perspective attributes the inefficiency of the public sector to political interference and soft budget constraints. The political downside of closing a public firm is seen to be greater than the cost of using public funds for a bailout (Shleifer and Vishny 1994).

R.A. Bettis and C.K. Prahalad (1983) examine the issue of financial resource allocation for the industrial sector. They find that firms have varying dependence on external capital, and this divides the providers of capital into different categories: the individual stockholder, the institutional investor and the state. They posit three different models of resource allocation: the economic model based on capital market efficiency and shareholder wealth maximisation, where the firm is dependent on external sources of capital; the administrative model, where the firm is relatively independent, the key management allocate internal funds and there are informational asymmetries between top management and shareholders; and the political-ideological model, where the firm is dependent on external sources, namely the state, which in turn uses the firm for implementation of policy. The last model is of interest,

since it provides a perspective to the interaction between the state and the public sector.

J.G. Frynas and M. Paulo (2007) view the historical, political and business aspects of the 'new scramble for African oil'. While concentrating on the role of the United States and China, they also note that emerging economies like Malaysia, Brazil and India are also engaged in the pursuit of vital petroleum resources in Africa.

M.M. Shirley (1999) examines the role of privatisation – the direct sale of public assets to private hands – against the alternative of corporatisation – the effort to operate the public firm as if it were a private one facing competitive or efficiently regulated monopolistic markets. Analysing the experiences of developing countries, she finds that corporatisation works better with ownership reforms. N. Gupta (2005) hypothesises that even with partial privatisation, the monitoring role of the stock market may improve the performance of PSEs. She finds evidence of this in the case of Indian PSEs.

K. Ramaswamy (2001) studies the relationship between organisational ownership, competition and firm performance in the Indian manufacturing sector. He finds that publicly owned firms do not perform as well as private ones, and that competitive intensity enhances this impact of ownership on performance.

S. Lioukas, D. Bourantas and V. Papadakis (1993) discuss the factors underlying the managerial autonomy of SOEs with reference to Greek SOEs. Control is viewed from the angles of strategic business-boundary aspects, pricing decisions, resource acquisition and mobilisation. They find that the intensity of control is positively related to dependence on the state for resources, enterprise size and 'political visibility', but negatively related to market competition and demand unpredictability.

Ramamurti (1987) explores the performance of public enterprises in India in the context of professed goals like 'public interest'. The research design captures the subjective evaluations of key actors, bureaucrats and journalists, against their espoused and actual norms. The results reveal that commercial profitability was important to bureaucrats.

Y. Aharoni (1981) discusses the performance evaluation of SOEs in the context of their economic, social and political goals. J. Zif (1983) posits that the managers of SOEs face two distinct roles: managing the business in markets and garnering public support in the political process. In the circumstances, strategic goals and performance evaluations are affected. Sales are more important than profits, prices are low relative to costs, goals are unstable and vague, public support is sought before action and managers are generally recruited from the public sector.

R. Vernon (1979) delves into the international aspects of SOEs. He examines patterns of their activity and their roles as fiscal agents, national champions, mobilisers of monopoly or monopsony power, agents of bilateral trade and industrial policy agents. He finds that SOEs are characterised by a multiplicity of goals and ambiguities to which their managers are responsive.

J.Y. Lin, F. Cai and Z. Li (1998) explore the issues of competition and policy burdens of SOEs with particular reference to China. They posit that socialist economies are characterised by capital scarcity and high interest rates, limited exportable goods coupled with expensive foreign exchange and difficulties in mobilising funds for large projects. To counter this, a distorted macroeconomic policy environment evolved in which interest rates, wage rates and other prices were artificially suppressed. Since, priority sectors were competing with non-priority sectors for low-priced resources, the state had to plan and allocate these resources. The SOEs also had to bear the burdens of social welfare costs, excessively high capital intensity and distorted output prices. C. Bai, J. Lu and Z. Tao (2006) analyse the multitask nature of Chinese state-owned enterprises (SOEs). They see the role of SOEs in terms of their social functions, including alternative social security and employment-generation roles.

G. Ahuja and S.K. Majumdar (1998) assess the performance of Indian SOEs in the period 1987–91. They use data-envelopment analysis together with regression analysis. They find that these SOEs are characterised by low performance and variations in performance parameters. Liberalisation and reforms are seen to improve efficiency. Majumdar (1998) compares the relative efficiency of government-owned, mixed and private sector enterprises in India. The results run contrary to other studies by finding that there are no significant performance differences between publicly and privately owned firms.

3. Analytical framework

There is broad agreement in the literature as well as explicit policy statements that SOEs across the world serve multiple functions and have heterogeneous goals. Therefore, judging their functions and performance on the basis of profitability or some other criterion of market-linked efficiency is futile. That is not to say that their roles and effectiveness should not be evaluated. Judging the functions and performance of SOEs requires a broader matrix that analyses their economic, political and social roles across domestic and international spheres of activity.

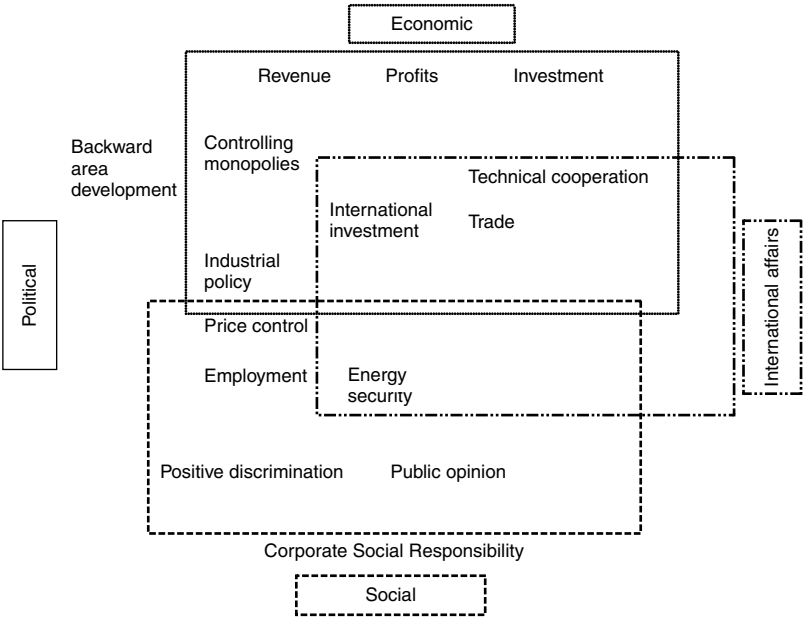

Figure 5.1 Multiplicity of goals and functions of petroleum and natural gas PSEs

Hence, the analytical framework for this essay takes into account these aspects and their linkages (Figure 5.1).

The framework depicts the complex multiplicity of functions and roles performed by petroleum and natural gas PSEs. These broadly fall into four areas: the domestic economic, political and social scenarios, plus the international affairs arena. These define the goals and objectives of the PSEs and their managers, either explicitly or in a less obvious manner. Some aspects encompass more than one area. For instance, ensuring price stability and employment is important for economic, political and social reasons. Controlling monopolies and industrial policy are key elements of the economic and political stage. Managing international inward and outward investments straddles the domestic political and economic arenas but also has international ramifications. Both the domestic economic field and international affairs coincide in matters of technical cooperation and trade. Perhaps the most important aspect relates to energy security. This has implications for all areas of policy importance. It is perhaps the most compelling justification for public sector involvement in the oil and natural gas

sector. It is apparent that government would find it rather difficult to persuade the private sector to carry out all these functions, and even if it did, there would be high costs of agency, monitoring and contractual implementation (Sappington and Stiglitz 1987). Since the government utilises the public sector for these diverse activities that are difficult to carry out, either directly by government or through private agents, it provides assistance to PSEs in the form of softer budget constraints, exclusive areas of operation and resources at subsidised prices (Lin, Cai and Li 1998).

In the circumstances, it is inappropriate to judge the performance of PSEs only through lenses of profit maximisation, shareholder value creation and economic efficiency. That is not to say that their performance defies evaluation. Rather, their performance needs to be analysed by a different set of criteria. Given that governments often provide additional benefits to PSEs, it is essential to see whether the costs and benefits to government and society at large justify the continuance of PSEs in a particular industry in a specific form. This includes finding answers to the question as to whether privatisation or corporatisation should be carried out. A natural corollary to this is the issue of governance and monitoring. In case of pure government ownership, the reports of the government's independent audit bodies and parliamentary control prevail. In the case of private corporate structures, statutory audits and shareholder control are the norm. In the case of mixed ownership both would hold, and its desirability or otherwise is a moot question.

4. Historical overview and industry structure

The oil industry in India emerged during colonial times in serendipitous circumstances. A group of Italian engineers commissioned by the Assam Railways and Trading Company (AR&T Co.), a company with interests in tea, coal mines and timber, to set up a railway line, accidentally discovered oil in the dense jungles at Digboi (Tinsukia District website). The decision to drill was approved by the directors of the company in 1888. The first well started in September 1889. This became the first commercially viable oil well in India (referred to as well no. 1). This was followed by further commercial drilling activities, carried out by AR&T Co. Subsequently, a new firm – the Assam Oil Company (AOC) – was established under the chairmanship of Lord Ribblesdale in 1889 to carry on the petroleum related activities of AR&T Co. The company expanded its concessional area almost immediately by acquiring the

rights of the Assam Oil Syndicate. Production increased rapidly, from 43 barrels per day (bpd) in 1901 to 247 bpd in 1911. Output peaked at 435 bpd in 1917. The AOC had 80 wells by 1920 with a total average production of 350 bpd (OIL website).

New oil fields were subsequently discovered in the l950s. Confident of further expansion capabilities the AOC announced production targets of around 2.5 million tonnes of oil per year together with 45 million cubic feet of gas per day. Assured of these capacities, a public sector refinery was commissioned in 1962 with Romanian assistance. Further, the Government of India and Burma Oil Company (BOC) signed a promotion agreement in 1958 to form Oil India Private Limited (OIL) to take over the AOC-discovered fields. OIL was incorporated in February 1959 with two-thirds of the shares held by BOC and the rest by the government. Thus, India's initial joint venture oil company arose out of what was originally a colonial enterprise. The company became a Central Public Sector Enterprise (CPSE) in 1981 (OIL website).

The government's interest in oil and gas for industrial development and strategic considerations emerged soon after independence. The Industrial Policy Statement of 1948 placed importance on development of the petroleum industry in the country. At that time hydrocarbon exploration was largely being carried out by private companies. Besides AOC in Assam, in West Bengal, a joint venture between the Indian government and the American Standard Vacuum Oil Company, Indo-Stanvac Petroleum, was engaged in exploration. In 1955, the government decided to develop oil and natural gas resources in various parts of the country under the aegis of the public sector. For this, the Oil and Natural Gas Directorate was set up the same year as a subordinate office of the then Ministry of Natural Resources and Scientific Research. The government studied international practices in the oil industry and invited foreign technical experts from the United States, West Germany, Romania and the Soviet Union. The Soviet experts provided detailed plans for geological and geophysical surveys together with drilling operations for the Second Five Year Plan (1956–57 to 1960–61). In the Industrial Policy Resolution of 1956, the mineral oil industry was declared a Schedule 'A' industry, with its future development entrusted exclusively to the state (ONGC website). While the focus of the government on the oil industry was part of the overall framework of the government's industrial policy stance whereby the 'commanding heights' of the economy were to be dominated by the public sector, one can see other reasons for the nationalisation process. In the post-colonial era, since the oil industry

was controlled by companies formerly associated with the British Raj, nationalisation was an assertion of the independent patriotic identity of the nascent Indian government. Furthermore, being an industry of strategic significance and immense economic importance, it was natural for the government to seek some control over it. There was also a need for greater exploratory activities and investment that the government was able to provide in a larger scale.

This exclusivity granted to the state also resulted in the Oil and Natural Gas Directorate being raised from a subordinate office to a commission with additional powers. It was named the Oil and Natural Gas Commission (ONGC). In October 1959, through legislation the commission was converted into a statutory body with even greater powers. As per the legislation its main function was to 'plan, promote, organise and implement programmes for development of Petroleum Resources and the sale of petroleum and petroleum products produced by it…'. In subsequent years, ONGC expanded the upstream oil sector through exploitation of new resources in Assam, Gujarat and the east coast basins. Its most significant breakthrough was the discovery of offshore oil fields in Bombay High in the early 1970s. Further discoveries in the western offshore region dramatically altered the country's oil production. In due course, more than 5 billion tonnes of hydrocarbons were discovered by ONGC (ONGC website).

With liberalisation in 1991, the government moved to deregulate and delicense core sectors, including petroleum, with partial disinvestments of government equity in PSEs. ONGC was remodelled as a limited company under the Companies Act, 1956, in February 1994 and renamed the Oil and Natural Gas Corporation Limited (ONGC). Once again, the process of disinvestments was a part of the overall policy changes but had industry-specific imperatives. As would be discussed later, the oil industry was suffering from major inefficiencies, misplaced incentive structures, technological obsolescence and financial inconsistencies (Rangarajan Committee 2006). Through a process of competitive bidding, 2% of the government's shares was disinvested and a further 2% offered to its employees after expansion of its equity. In March 1999, ONGC, the downstream company Indian Oil Corporation (IOC) and the government gas marketing monopoly company Gas Authority of India Limited (GAIL), decided to cross-hold each other's stock. As a result, the government sold off 10% of its ONGC shares to IOC and 2.5% to GAIL. This created a strategic alliance for exploiting domestic and overseas business opportunities. In 2002–03, ONGC took over MRPL from the private sector AV Birla Group. It also decided to enter

the retailing business (ONGC website). It is interesting to note that while the government attempted to use corporatisation as a method for infusing greater efficiencies, it still remained wary of losing effective control of the PSE oil companies. Therefore, in a manner not dissimilar to the Korean 'chaebols', it created a complex cross-holding architecture whereby various public sector oil companies divested their shares, which were to be bought by other public sector oil companies.

Given historical factors related to mineral oil exploration and the subsequent primacy of the public sector, the oil sector PSEs ONGC and OIL have a dominant role in the oil and gas exploration and production space. In 2003–04, ONGC contributed to 78.72% of crude oil production (26.04 million metric tonnes (MMT)), OIL had an 8.92% (2.95 MMT) share, while only 12.36% (4.09 MMT) came from private and joint venture (JV) companies. However, by 2005–06 (first three quarters), ONGC's share had shrunk slightly to 75.79% (18.22 MMT), OIL had increased to 10.23% (2.46 MMT) and private/JV share was up slightly to 13.98% (3.36 MMT) (see Table 5.1).

In the area of gas production, the story is similar. ONGC had a share of 77.22% (66.42 million standard cubic meters per day [MCuM/day]), OIL accounted for 5.56% (4.78 MCuM/day) and the private/JV firms contributed 17.22% (14.81 MCuM/day). By 2005–06, (first three quarters), ONGC's contribution was slightly diminished at 70.11% (46.28 MCuM/day), OIL's share had grown to 7.07% (4.67 MCuM/day) while the private/JV firms accounted for an increased output share of 22.81% (15.06 MCuM/day) (see Table 5.2).

In the field of crude oil production the dominance of the public sector continues with the two national oil companies, ONGC and OIL, producing around 81.6% (29.334 MMT) of total crude oil production (35.954 MMT) in 2009–10. However, in the field of gas production, the private/JV companies have a slight edge by producing about 50.6%

Table 5.1 Crude oil production (in million metric tonnes)

	2002–03	**2003–04**	**2004–05**	**2005–06 (Q1–Q3)**
Pvt./JV	4.09	4.31	4.3	3.36
OIL	2.95	3.03	3.21	2.46
ONGC	26.04	26.03	26.63	18.22

Source: Report of the Committee on Pricing and Taxation of Petroleum Products (Rangarajan Committee 2006).

Table 5.2 Natural gas production (in million standard cubic meters per day)

	2002–03	2003–04	2004–05	2005–06 (Q1–Q3)
Pvt./JV	14.81	17.78	18.58	15.06
OIL	4.78	5.17	5.49	4.67
ONGC	66.42	64.61	62.97	46.28

Source: Report of the Committee on Pricing and Taxation of Petroleum Products (Rangarajan Committee 2006).

(25.43 BCM) of total natural gas production (50.237 BCM) (Ministry of Petroleum and Natural Gas 2010).

5. The institutional matrix

The institutional structure relevant to oil and natural gas PSEs in India is probably best understood by first appreciating the overarching structure of the Indian government's PSE governance architecture. In general, the overall policies and guidelines relevant to the PSEs are managed by the Department of Public Enterprises (DPE) with the Public Enterprises Selection Board (PESB) handling the personnel management and recruitment of senior executives. Furthermore, for each specific area of activity, like steel, mines, oil and civil aviation, certain nodal ministries act as the controlling bodies for the PSEs. Thus, the DPE and PESB provide broad directions while industry-specific activities are the purview of the nodal ministries.

The government has strong control over the oil and natural gas policy framework. This is required since the government is involved in a whole range of functions related to the oil and natural gas industry, which in other economies are often carried out by private institutions. This includes exploration, prospecting, marketing, distribution and research. It also leads to upstream production units giving discounts to downstream firms as a means of price control and stabilisation. At the apex of this structure is the Ministry of Petroleum and Natural Gas (MoPNG). The ministry's vision is 'to address India's energy security needs in the hydrocarbon sector and to ensure availability of petroleum products at reasonable prices'. It is thus easy to see that energy security and price management of petroleum products are the keystones of its policy thrust. Its mission includes: (a) acceleration of exploration and production; (b) development of the hydrocarbon sector through

technology upgrades and capacity building; (c) development of supply and distribution infrastructure for petroleum products; (d) enhancement of service standards with maximisation of customer satisfaction and; (e) promotion of fuel conservation and green fuels and development of alternative sources of energy (Ministry of Petroleum and Natural Gas 2011). It is not difficult to see that this list includes certain areas that could easily be carried out by private sector firms. At the same time, they are not all areas of activity that are typically carried out by a government ministry. It is here that the oil sector PSEs come into the picture. They serve as operational extensions of the ministry to carry out various market and non-market operations that would be too unwieldy for the ministry to carry out itself. In fact, the functions of the ministry explicitly include 'supervision and monitoring of public sector undertakings' (Ministry of Petroleum and Natural Gas 2011). Given this responsibility of the ministry and the policy hysteresis continuing from the era of central planning and government control, it is reasonable to expect that the ministry and other wings of the government maintain substantial direct and indirect controls on the oil sector PSEs. Energy security and price management appear to now be the centrepiece of the government's oil sector policy. Given these imperatives, it is unlikely that the government will retreat from active participation in the oil industry in the near future.

The MoPNG acts as a policy maker as well as a regulator. So far there appears to have been little conflict between these two roles, perhaps because private participation has been a small part of the overall industry activity leading to the ministry striving to support the PSEs while pursuing policy goals. Rather, the conflict appears to arise from a dichotomy between the envisaged policy goals: namely, the need to make the oil PSEs globally competitive corporations pursuing profits together with the international quest for energy resources, and the domestic need for price management to prevent further financial drains on the government and the oil PSEs. Price management involves channelling government's planned expenditure to the oil sector PSEs to meet objectives of planned development.

At the time of preparing this chapter, the ONGC board of directors comprised the chairman and managing director, who held positions, respectively, of director, onshore, and director of human resources; four functional directors handling Finance, Technology and Field Services, Offshore and Exploration. The managing director of ONGC's wholly owned subsidiary, ONGC Videsh Limited (OVL), is a special invitee. The government has two nominees, those being civil servants of the

rank of special secretary/additional secretary of the MoPNG and the Ministry of Finance (ONGC website). OIL has a chairman and managing director, four functional directors handling Finance, Exploration and Development, Human Resources and Business Development, and Operations. It, too, has two government nominees, one being a joint secretary, and another an economic advisor in the MoPNG. Further, there are six independent directors: the president of the National Cooperative Union of India; a faculty member of the Indian Institute of Management, Calcutta; a retired railway official; two retired civil servants; and a practicing chartered accountant (OIL website). The boards take operational decisions but do not have powers to appoint or dismiss the chairman.

It appears that the OIL board is larger and more broad-based than that of ONGC. This may partly be attributed to its historical roots as a partnership venture between the government and a private entity. ONGC, having arisen from a government commission, and given its pivotal role in spearheading the national quest for crude oil and natural gas, continues to remain more closely tied to government – at least in terms of the corporate governance structure. It is also a larger entity in terms of output, capital and number of employees. Moreover, its subsidiary, OVL, performs the crucial role of international oil exploration and production. Therefore, this large PSE and its subsidiary have tremendous strategic and energy security significance.

The Department of Public Enterprises (DPE) handles the overall administrative and policy matters of Indian CPSEs. The CPSEs are classified into four Schedules, 'A', 'B', 'C' and 'D', depending on certain quantitative and qualitative aspects. The emoluments of the chief executives and full-time directors are determined on the basis of these schedules. The various administrative ministries put forward proposals for classification of the CPSEs, personnel promotion and creation of posts to the Department of Public Enterprises; these proposals are considered in consultation with the Public Enterprises Selection Board (PESB) (Department of Public Enterprises 2011a). The PESB is a key body operating under the Department of Personnel and Training. It 'has been set up with the objective of evolving a sound managerial policy for the Central Public Sector Enterprises and, in particular, to advise Government on appointments to their top management posts'. It was set up by the government in 1987 (Public Enterprises Selection Board website). The roles of the DPE, PESB and MoPNG are clearly defined, and there appears to be no conflict among the three. The Indian system has clear-cut organisational functions, responsibilities and powers governed

by established processes like the 'Allocation of Business Rules'. There are also mechanisms for policy coordination through groups, such as the Empowered Group of Ministers and the Committee of Secretaries.

Following the reforms of 1991, attempts have been made to induct external professionals in CPSE boards. DPE guidelines of 1992 provide that, in the case of listed CPSEs with an executive chairman, such independent directors should constitute at least one-third of the actual strength of the board, while government directors should not be more than one-sixth and functional directors should not exceed 50% of the total board (Department of Public Enterprises 2011). Thus, the government's overall policy guidelines play a crucial role in the governance of the CPSEs. It is envisaged that government directors would represent the interests of the government and the public at large, including 'national interests'; the functional directors would bring specialisation and domain knowledge, while the independent directors would contribute industry expertise, academic knowledge and an external perspective. The mixed types of directors, while a welcome move, raise some coordination challenges. It has been pointed out by a senior functionary of the apex body of the PSEs that functional directors posses domain expertise but fall short on interconnectivity; government nominees come from privileged positions and pursue their own agendas; and independent directors lack domain expertise. To better training and evaluation at the time of induction may bridge these disparities (*Financial Express* 2011).

With respect to wages and salaries of CPSEs, unionised employees, non-unionised supervisors and executives below board level, the DPE serves as the nodal body for wage settlements and revisions of pay. The CPSEs broadly follow the Industrial Dearness Allowance (IDA) system with a few adhering to the Central Dearness Allowance (CDA) pay pattern. Thus, in terms of pay and service conditions, the government has a major role (Public Enterprises Survey 2009–10).

As of June 2010, the shareholding patterns of ONGC and OIL are given in Tables 5.3 and 5.4, respectively. In the case of ONGC, the government held 74.14% of the shares, corporate bodies held 11.89%, banks and financial institutions held 5.69%, foreign institutional investors (FIIs) accounted for 4.23%, mutual funds owned another 2.33%, while the rest was owned by individuals and other entities. The major shareholder in OIL was also the government, with an overwhelming ownership of 78.43%, followed by corporate bodies with 12.4%, with mutual funds having 3.32%, FIIs 1.83% and banks and financial institutions 0.61%. The share of individuals and others in case of OIL is

Table 5.3 Shareholding pattern of ONGC

Government	**74.14%**
Mutual Funds / UTI	2.33%
Banks, FI's, Insurance Cos.	5.69%
Foreign Institutional Investors	4.23%
Corporate Bodies	11.89%
Individuals – nominal capital up to Rs 1 lakh	1.56%
Individuals – nominal capital over Rs 1 lakh	0.06%
Other non-institutions	0.1%

Source: CMIE *Prowess* database.

Table 5.4 Shareholding pattern of OIL

Government	**78.43%**
Mutual Funds / UTI	3.32%
Banks, FI's, Insurance Cos.	0.61%
Foreign Institutional Investors	1.83%
Corporate Bodies	12.40%
Individuals – nominal capital up to Rs 1 lakh	3.24%
Individuals – nominal capital over Rs 1 lakh	0.03%
Other non-institutions	0.14%

Source: CMIE *Prowess* database.

larger, with individuals having small nominal capital up to Rs. 100,000 accounting for 3.24% (Centre for Monitoring Indian Economy (CMIE), *Prowess* database).

It is evident that the government holds a substantial stake directly in both companies. Furthermore, given that the share of corporations would include cross-holdings of other PSEs and the fact that many of the banks and financial institutions would also be government- controlled, the result is that the government in practise exercises almost complete control over the major crude oil and natural gas exploration and production entities.

A sizeable literature indicates that corporatisation and commercialisation may induce greater efficiency and performance improvement, even when the government continues to be a majority shareholder

(Shirley 1999; Gupta 2005). The aspects of efficiency and performance are examined in section 7.

The structure of the public sector oil and natural gas industry is broadly divided between the following activities:

(a) Exploration and production.
(b) Refining, transportation and marketing.

Companies engaged in (a) – ONGC, OIL and GAIL – are often referred to as 'upstream companies', while those in (b) – Indian Oil Corporation Limited, Bharat Petroleum Corporation Limited, and Hindustan Petroleum Corporation Limited – are called 'downstream companies' and also referred to as 'Oil Marketing Companies (OMCs)' in the case of the oil sector. While the distinction recently has become blurred as the relative autonomy and market orientation has encouraged upstream companies to slowly spread into the downstream space, the traditional segregation continues for all practical purposes. For instance, as on 1 February 2006, of the total PSEs oil-refining capacity of 99.47 MMT per annum, ONGC had a share of 9.77 MMT per annum (Rangarajan Committee 2006).

6. Operational aspects

As professed in the analytical framework, the petroleum and natural gas PSEs have multiple goals and functions. This makes it somewhat difficult for them as well as for the government given that there may be dichotomies and inconsistencies between some of these aims and roles. This is perhaps best demonstrated in the pricing policy, since this has an impact on the rather diverse goals of making the PSEs efficient, profitable, global corporations spearheading the country's quest for energy security and the need to provide price stability and protect the domestic consumer from oil-price shocks. It is difficult to reconcile the international economic and political need for developing the oil PSEs as potent representatives of the nation's energy needs with the domestic socio-economic and political imperative of providing fuels to the masses at reasonable prices.

The exploration and production arrangements before 1991 were completely controlled by the state with the two national oil companies being granted petroleum exploration licences (PEL) on nomination basis. Following liberalisation in 1991, the government encouraged private and foreign participation in exploration and development activities.

This was carried out to close the supply–demand gap, and to encourage greater competition and efficiency. The government invited several rounds of bidding before the New Exploration Licencing Policy (NELP) was put in place from 1999. According to this policy the national oil companies had to compete with Indian and foreign companies for PELs.[3] The other features of the NELP include:

(1) ONGC/OIL were not required to participate.
(2) Freedom was given to contractors for marketing crude oil and gas in the domestic market.
(3) Royalty payments were given, 12.5% for crude oil from on-land areas and 10% for offshore crude oil and natural gas.
(4) Royalty was charged at half the rate for the first seven years after commercial production commences for exploration in deep water and frontier areas with a view to encouraging such activities.
(5) Abolition of a special tax earlier levied on crude oil production for blocks offered under NELP.

With the introduction of NELP, ONGC and OIL were on the one hand forced to compete for new exploration licences, but on the other hand free to not bid for these licences if they so decided.

The government's control of PSEs across the production and marketing chain allow it to control the final price available to the consumer through various instruments of price setting, taxation, subsidies and financing. Indeed, the issue of pricing is probably the raison d'être for the inextricable linkage between the government and the oil and natural gas industry. The issue of oil pricing is a vexing one with no easy solutions. After all the oil industry offers significant scale economies resulting in the dominance of monopolies. There is no such thing as a competitive market price for oil. The international oil price is itself subject to the actions of a cartel comprising oil-producing nations, namely the Organization of Petroleum Exporting Countries (OPEC). Furthermore, the oil price has a wide and deep impact on the economy, affecting various aspects such as output, inflation and productivity. It also has strategic implications and socio-political impacts. It is, therefore, not surprising that many countries have a strong public sector presence in the oil sector and price regulation has been practiced or is being adhered to.[4]

Oil price regulation has a long history in India and continues to be a subject of great debate in the public policy domain. It was first attempted in 1948 when the Valued Stock Account system was arrived

at between the government and Burmah Shell. In the 1960s, various committees appointed by the government to recommend methods for petroleum product pricing supported the idea of import parity pricing. It was also recommended that various petroleum products should have ceiling selling prices. The Oil Prices Committee of 1974, headed by K.S. Krishnaswamy, recommended a shift from import parity to 'cost plus basis'. This became known as the Administered Pricing Mechanism (APM). The Oil Cost Review Committee of 1984, led by J.S. Iyer, modified the system by replacing the compensating return basis from a flat rate on capital employed to 12% post-tax return on net worth and weighted borrowing costs. The APM was characterised by uniformity of prices at all refinery locations and equalisation of various costs such as that of crude oil, freight and oil company margins. The main features of the APM are given in Table 5.5 (Rangarajan Committee 2006 and Parikh Committee 2010).

Instituted in the wake of the first oil shock of 1973–74, the APM aimed to insulate the domestic economy from price volatility in the international markets. To achieve its objectives, the Oil Pool Account was set

Table 5.5 Main features of the Administered Pricing Mechanism (APM)

Economic agent/ Market participant	**Pricing/Compensating method**	**Pricing details**
Crude-oil producing companies (ONGC/OIL)	Operating cost plus 15% post-tax return on capital employed	Capital employed – sum total of net fixed assets (gross block of fixed assets less depreciation) and normative working capital.
Oil refineries, pipelines and marketing companies	Operating cost and return on capital employed	Capital employed bifurcated into net worth and borrowings. Net worth taken as sum total of equity capital and free reserves. Balance capital employed considered borrowings. On the net worth, return at 12% post-tax. On the borrowings, average actual rate of interest.
Consumers	Cross-subsidisation	Kerosene for public distribution and domestic LPG cross-subsidised by petrol, Aviation Turbine Fuel (ATF) etc., and indigenous crude oil.

Source: Rangarajan Committee 2006.

up to adjust variations in different cost elements. At the outset, it was meant to be self-balancing in nature with costs to be finally passed through to consumer prices. However, in the 1990s the government did not allow full pass-through, resulting in a substantial Oil Pool deficit and the weakening of the financials of the oil PSEs. The government also issued oil bonds to the oil PSEs, thereby placing itself under financial strains. Further, the APM had various other inefficiencies and incentive compatibility problems. For the producers, this included lack of incentives for technological upgrading, cost minimisation, investment profitability and customer orientation. Various subsidies and cross-subsidies that distorted prices and economic costs, encouraged consumers to use petroleum products indiscriminately and inefficiently (Rangarajan Committee 2006 and Parikh Committee 2010). It was obvious that in its attempt to stabilise prices and protect the domestic consumer, the government has eroded the competitiveness and financial health of the oil PSEs.

By 1995, when it was apparent that the situation was untenable, the government appointed the Strategic Planning Group on Restructuring of the Oil Industry ('R' Group) headed by Vijay Kelkar, with various experts drawn from the public sector, private sector and academia. Following its recommendations, subsequent to a resolution in 1997, the government decided to dismantle the APM in a phased manner in four years. A subsequent resolution in 2002 completed the process. The oil companies revised selling prices of petroleum products such as petrol, diesel and liquefied petroleum gas, but the kerosene price was not changed. However, sharp international crude oil price rises in 2004 once again brought up the need to insulate the end consumers. Initially, in August 2004 the government used the price band mechanism. This gave the OMCs limited freedom to revise retail prices within a price band of +/– 10% of the mean of the rolling average of the last 12 months and the last 3 months of international carriage and freight prices.

Following further sharp oil price increases in international markets this system was given up. To insulate end consumers, the burden of increasing prices was now to be shared equitably among the government, oil companies and consumers. As a consequence, a greater part of the losses of public sector OMCs was passed on to upstream companies like ONGC and OIL. By the time the 'Committee on Pricing and Taxation of Petroleum Products' (Rangarajan Committee) was set up in 2005, the 'under-recoveries' of the OMCs were substantial. It needs to be stressed that these 'under-recoveries' represent notional losses with regard to

the import parity formula used following the dismantling of the APM (Parikh Committee 2010).[5] In terms of the price regulatory framework, the logic of import parity pricing (IPP) is that if there is no domestic manufacture of a product its cost of supply in the domestic economy would be the landed cost. In case there is domestic production, the IPP represents the international competitive price. It takes into account the freight on board (FOB) price (based on single or multiple ports or prices in international markets depending on the formula adopted), customs duties, freight and other overheads. Export parity pricing is based on the rationale that some domestic production may be exported, indicating that domestic products are not disadvantaged in international markets, and the pricing policy should not distort this incentive structure (Rangarajan Committee 2006 and Parikh Committee 2010).

These 'under-recoveries' were estimated at Rs. 92.7 billion in 2003–04 and increased to Rs. 397 billion in the period April–March 2006. By the time the ONGC and OIL bore this burden through paying a tax at Rs. 1,800/MT, yielding a revenue of around Rs. 50 billion to the government and also providing an upstream discount to the OMCs of around Rs.130 billion (Rangarajan Committee 2006 and Parikh Committee 2010). The breakup of the loss sharing borne by the upstream companies is given in Table 5.6.[6] In 2003–04, ONGC bore Rs. 27 billion of the burden, while GAIL took up Rs. 4.3 billion and OIL did not have any burden. By the first three quarters of 2005–06 this increased to Rs. 8549 crore for ONGC, Rs. 676 crore for OIL and Rs. 526 crore for GAIL (Rangarajan Committee 2006 (2003–04 to 2005–06) and *Times of India* 2011 (2009–10, 2010–11).

Given this apparently unsustainable situation, the Rangarajan Committee was entrusted with the task of examining the pricing and taxation of petroleum products, given the need to stabilise prices and have transparency in the price adjustment mechanism for the oil

Table 5.6 Sharing of the fuel subsidy burden between the upstream companies (in Rs. billion)

	2003–04	2004–05	2005–06 (Q1-Q3)	2009–10	2010–11
ONGC	27	41	85.5	115.5	248.9
OIL		7	6.8	14.9	32.9
GAIL	4.3	11.4	5.3	13.3	21

Source: Rangarajan Committee 2006 (2003–04 to 2005–06) and *Times of India* 2011 (2009–10, 2010–11).

companies. The Committee recommended trade parity pricing (TPP) for petrol and diesel at refinery and retail level. TPP is a weighted average of import and export parity prices with the weights determined by the percentage share of import/export of these products. The export parity pricing weight of 20% was based on share of petroleum product exports in total consumption in 2004–05 with a corresponding weight of 80% for IPP. This was to serve as indicative ceilings, with the marketing companies given flexibility to arrive at the retail prices of petrol and diesel. Elimination of LPG subsidy and restriction of kerosene subsidy only to the poorest was recommended (Parikh Committee 2010).

The government implemented the switch over to TPP and adjusted taxes on crude oil, petrol and diesel but did not follow up on the subsidy withdrawals. Further, the OMCs continued pricing products below TPP-based cost, while the government prepared a burden-sharing mechanism for dealing with the under-recoveries of the OMCs. Under this system, the upstream companies gave heavy price discounts in crude oil sold to the OMCs, while the government issued bonds to finance the burden. This system was cumbersome, lacked transparency and was financially unsound, since it was transferring the problem to the future. Oil prices kept rising from June 2006 but the government did not raise retail prices of petrol and diesel until June 2008. Consequently, the under-recoveries became unmanageable and the government appointed the Chaturvedi Committee to review the under-recoveries and burden-sharing mechanism. It suggested that refinery gate prices should be freight on board export prices and not TPP. It recommended full price adjustment for petrol within a period of 9 months and diesel within 24 months. It reiterated the need to restrict subsidies. However, following the economic downturn and resulting fall in oil prices in 2008, the under-recovery burden came down. The government now had an integrated energy policy based on the advice of an expert group headed by Kirit Parikh. It recommended continuance of TPP. Subsequently, the 'Expert Group on a Viable and Sustainable System of Pricing of Petroleum Products', also headed by Kirit Parikh, submitted its report. Its major recommendations included:

(1) Market determined prices for both petrol and diesel at refinery gate and retail level.
(2) Equitable taxation for petrol and diesel for passenger cars to remove the distortion caused by lower excise duty on diesel.

(3) Effective distribution of domestic fuels (kerosene and liquefied petroleum gas) through smart cards.
(4) A financing mechanism for under-recoveries through a periodic increase in domestic fuel prices and mopping up part of the incremental revenue accruing to ONGC/OIL from production blocks given by government on nomination basis (Parikh Committee 2010).

Following these recommendations, on 25 June 2010 the government decontrolled petrol prices at both the refinery gate and retail level. Diesel prices were also left to market forces but with an initial increase of retail selling price of Rs. 2 per litre (at Delhi) with subsequent increases being left to a consultative decision between the OMCs and the MoPNG. However, domestic cooking fuels were left untouched (Press Information Bureau 2010). Despite these adjustments, the continuing rise in international crude prices has left the upstream companies subject to further increases in their share of bearing the subsidy burden of under-recoveries. By 2009–10, the under-recoveries burden rose to Rs. 115.5 billion for ONGC, Rs. 15 billion for OIL and Rs. 13.3 billion for GAIL. Between 2004–05 and 2010–11, the burden increased around 507% for ONGC and 366% for OIL (see Table 5.6). It has been reported that for the fiscal year 2010–11 ONGC would have to bear a burden of 38.8% as against the share of one-third borne in the preceding four years. Needless to say, this affected ONGC share prices and could impact the decision to further disinvest through pubic issue of shares (*Times News Network* 2011).

On 24 June 2011, the government decided to raise the prices of diesel by Rs. 3 per litre, Public Distribution System (PDS) kerosene by Rs. 2 per litre and LPG by Rs. 50 per cylinder (Press Information Bureau 2011). In view of the resistance to this move by political parties, as well as certain sections of the populace, the government justified its stand in the media through various means, including through newspaper advertisements. It revealed that for fiscal year 2010–11, the Government of India and the upstream companies (ONGC, OIL and GAIL) gave subsidies of Rs. 713 billion to the downstream companies. Despite the higher prices the government would still be arranging for a subsidy of Rs. 6.13 per litre of diesel, Rs. 354 per cylinder of domestic LPG and Rs. 25 per litre of PDS kerosene.[7] The impact of these pricing aspects and subsidy sharing arrangements on profitability, financial viability and sustainability prospects are discussed in the next section.

7. Profitability and sustainability

In judging the profitability and sustainability of the public sector, it is appropriate to compare the financial performance of the companies with not only the other similar public sector concerns but, also, private companies operating in the same industry. Private sector involvement in the Indian petroleum and natural gas sector is a comparatively recent phenomenon (barring, of course, the pioneer period). Therefore, most of the private companies are young and possess a smaller share of the market. Nevertheless, juxtaposing private sector performance with that of the public sector would provide useful benchmarks and give hints to possible future trajectories of the industry. For doing so, standardised data from the *Prowess* database of the Centre for Monitoring Indian Economy (CMIE) is used.

In terms of sheer sales turnover, ONGC continues to dominate the market. Its sales of Rs. 625 billion in 2009–10 is around 6.5 times greater than that of OIL (Rs. 96 billion) (Table 5.7) and roughly 425 times larger than the sales of the closest private sector comparator, for which comparable data is reported, Hindustan Oil Exploration Limited (Rs.1465 million) (Table 5.8). The sales growth trajectories of the private sector concerns also do not seem dramatic enough to prognosticate the

Table 5.7 Annual sales of ONGC, OIL and OVL (in Rs. billion), 1999–2010

	ONGC	OIL	OVL
1999–00	202.4	16.9	
2000–01	238.4	20.2	
2001–02	235	19.5	
2002–03	353	29.6	9.9
2003–04	331	31.8	157
2004–05	469	39.5	10.8
2005–06	498	56.9	11.9
2006–07	597	55.6	28.6
2007–08	622	62.5	69.1
2008–09	664	104.5	63.4
2009–10	625	96.4	49.2

Source: CMIE *Prowess* database.

Table 5.8 Annual sales of some major private petroleum and natural gas E&P companies (in Rs. million), 1999–2010

	Cairn (Pvt. Foreign)	Hind Oil Exp. (Foreign)	Selan Exp. Tech. (Pvt. Indian)	Tata Petrodyne (Pvt. Tata Gp.)
1999–00		497	58.4	475
2000–01		369	73.8	352
2001–02		419	64	417
2002–03		516	85	770
2003–04		383	73	1150
2004–05		855	104	1328
2005–06		1149	187	1820
2006–07		1412	262	2225
2007–08	1.27	1064	361	1412
2008–09	3.73	858	1059	1789
2009–10	3.20	1465	733	1256

Source: CMIE *Prowess* database.

decline of public sector dominance in the near future. Therefore, in terms of market share, there is little that would cause concern for the public sector E&P companies. This is probably predicated on the very nature of the petroleum and natural gas E&P sector. The processes of bidding, prospecting, exploratory activities, preliminary drilling and commercial production require substantial time and financial commitment. Barring catastrophic changes in industry structure, companies that already possess substantial production capabilities continue to exercise market power.

Since the PSE E&P companies may be exploiting advantages gained in the past to corner a large share of the market, it is also essential to judge their profitability profile. In terms of the ratio of the Profit after Tax (PAT) to Total Income, the main PSEs (ONGC/OIL) appear to be in the middle of the distribution with ratios between 20% and 30% (Figure 5.2). They have been maintaining this position for about a decade. Therefore, there is nothing in this metric to indicate that the public sector E&P companies are faring any worse than the private sector companies.

In terms of return on capital employed, by 2009–10 companies in the sector appear to have converged to two levels: one just above 20% and another around 5%. The public sector majors, ONGC and OIL, are

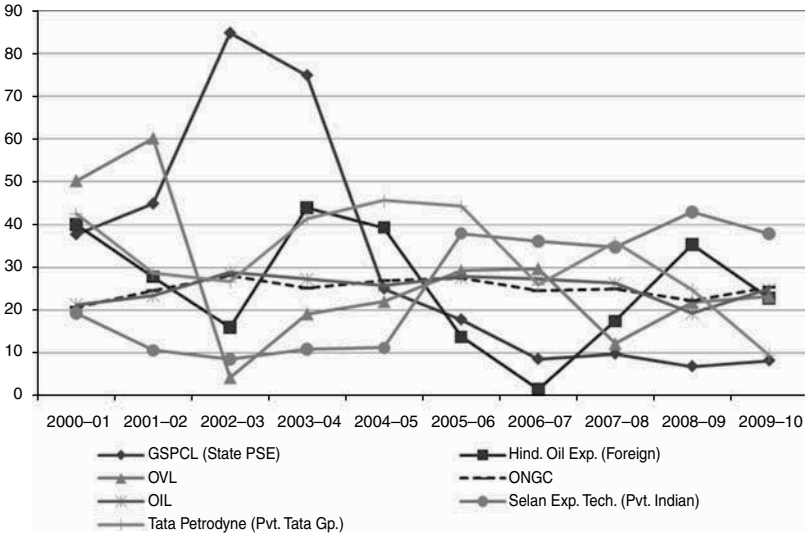

Figure 5.2 Profit after tax (PAT) to total income of various E&P companies in India

Source: CMIE *Prowess* database.

in the cluster showing a better return. Barring one, Selan Exploration Technologies, all the newer private sector concerns and the overseas arm of ONGC, OVL, show lower returns (Figure 5.3). This probably, again, points towards the advantages accruing to established entities in the petroleum sector due to the long gestation period and risks associated with new projects.

A further indicator of financial health is the extent of leverage a company has. In terms of debt to equity ratios, ONGC and OIL have very negligible debt to equity when compared with various private sector entities (Figure 5.4). This ratio has been falling in recent years and may indicate attempts by the government to reduce subsidy burdens and improve the financial position of the public sector oil majors.

Given the comparative indicators, it would be fair to say that, at first glance, the public sector oil companies are probably faring as well, if not better, than the private sector in terms of profitability and financial strength. The question then arises as to how much of this is due to the inherent strength of the public sector and how much is owed to government policies and the continuance of ring-fenced productive

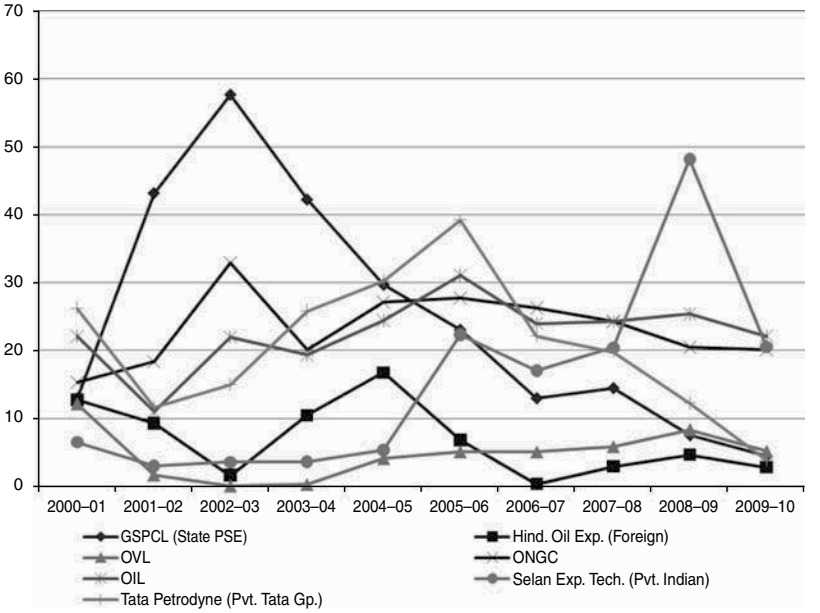

Figure 5.3 Return on capital employed for various E&P companies in India
Source: CMIE *Prowess* database.

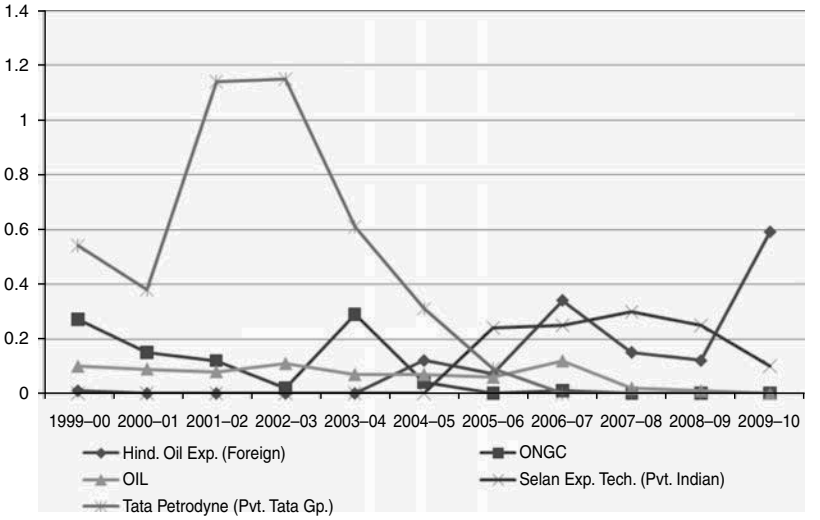

Figure 5.4 Debt to equity ratios for various E&P companies in India
Source: CMIE *Prowess* database.

assets available to the public sector. Recent attempts at a private deal between two foreign concerns (Vedanta and Cairn) indicate that the government continues to play a significant role in what is essentially an arm's-length transaction between two private entities. The private sector still has to interact with, and depend on, the government – both central and state – for numerous permits, land acquisition issues, labour matters, environmental clearances and other regulatory compliances. In that regard, given their closeness to government, the PSEs may be at an advantage. Furthermore, as is stressed later, the overall socio-political and governance regime makes government's interaction with the public sector procedurally simpler and less fraught with risks of accusations of malfeasance than are transactions with the private sector.

8. Strategic imperatives, energy security, international significance and domestic relevance

Oil is a resource with great strategic and macroeconomic implications. It has been estimated that petroleum products have an output multiplier effect of 2.09, a forward linkage of 3.6 and an employment multiplier effect of 2.3 persons per million rupees of value of output, as per the 1998–99 input-output tables (Singh 2007). For the year 2008, International Energy Agency (IEA) data shows that India produced around 33.5 million tonnes of crude oil but imported about 128.2 million tonnes (IEA 2011). Therefore, about 80% of India's crude oil is imported. With a rapidly growing economy, a nuclear sector until recently technology-embargoed, limited coal reserves and a comparatively nascent renewable energy scenario, India faces the reality that petroleum products are likely to remain a vital energy source for the foreseeable future. At the same time, besides the global petroleum multinationals, public sector corporations from rapidly growing emerging economies like, China, Brazil and Malaysia are engaged in the international exploration and production race. In the circumstances, the Indian oil sector PSEs play a crucial role in advancing India's energy security agenda in the international sphere by engaging in E&P activities, either independently or through joint ventures (JVs).

The wholly owned overseas arm of ONGC, OVL has 40 E&P projects in 15 countries (Table 5.9). Of these, OVL is the operator in 17, while it is the joint operator in 6 projects. The company has oil and gas production from nine projects spread across seven countries (Department of Public Enterprises 2011b). OIL also has various overseas projects in which

Table 5.9 Foreign projects and blocks of Indian petroleum and natural gas PSEs

	Number of projects	Number of blocks
Country	**OVL**	**OIL**
Vietnam	3	–
Russia	2	–
Sudan	3	–
Iran	1	1
Iraq	1	–
Libya	3	3
Myanmar	5	–
Syria	2	–
Egypt	2	2
Cuba	2	–
Nigeria Sao Tome Principe JDZ	1	–
Brazil	5	–
Nigeria	2	–
Columbia	6	–
Venezuela	2	1
Gabon	–	1
Niger	–	1
Yemen	–	2
East Timor	–	1

Source: Department of Public Enterprises, 2011, for OVL and OIL website for OIL.

it operates in consortia with domestic and foreign companies. This includes projects with OVL, IOC (the large domestic OMC, which now also operates in other spheres), and the domestic private sector Reliance Energy Limited. In December 2005, to facilitate the strategic task of exploration of oil and gas blocks in overseas areas, the Government of India extended the mechanism of the Empowered Committee of Secretaries for expeditious clearance of overseas proposals of public sector oil consortia (OIL website). Of course, the very existence of such a process indicates that the practice of public sector consortia engaging

in overseas oil exploration remains subject to certain aspects of government control and oversight.

It can be seen that, besides developing projects in the established Middle East and North Africa region, the oil exploration and production PSEs have their projects spread across various upcoming regions of oil production and exploration in Africa and South America. Given the financial and contractual risks involved in these projects, it is unlikely that a wholly private concern would have engaged in the vast majority of these activities. Besides the direct benefits from oil exploration, these activities also extend the country's strategic partnership with the economy in which the project is undertaken. This can result in future gains in terms of trade and investment opportunities. However, to what extent the government should control the process of selecting, bidding for and pursuing these projects remains open to debate.

9. Conclusion: the path ahead

There is nothing sacrosanct in the concept of privatisation. At the same time, there is no merit in adhering to a concept of public sector ring fencing for a certain business sector if the outcomes are inefficient and have high costs. Ultimately, the desirability, implementation and effectiveness of policy with regard to the private or public holding and operation of crucial industries are determined by the social, economic and political realities, which are different in every socio-politico-economic space. It is difficult to foresee that India's large public sector oil companies would give way to either domestic or foreign private sector players in the near future, because the Indian scenario has certain peculiarities that would perpetuate the existence of government control and public sector dominance in the field of petroleum and natural gas.

The goal of nurturing the large petroleum and natural gas E&P PSEs to continue as profitable, self-enhancing global corporations remains crucial for sustaining the vast energy requirements of the country. This also has a positive impact on India's global quest for oil resources in an intensely competitive international arena, in which there are not only various developed-country multinational corporations but also several large state-owned actors from emerging economies. However, India remains an economy with a large population of poor and vulnerable people who need to be provided fuels at reasonable prices. Despite recent changes in the fuel pricing policy, the subsidy burden for this is borne by the government, and the oil PSEs remain substantial. Reconciling

these diverse social, political and economic motives remains the greatest challenge for the oil sector PSEs.

Public-private interactions, governance and contractual issues: A whole range of micro-structural issues – including regulatory structures, contracting norms and procurement rules pertaining to India's government and public sector – appear to be loaded in favour of interactions between public- sector concerns. The whole policy matrix presupposes the validity and transparency of interactions between the government and the public sector, even if the outcomes are economically inefficient. In contrast, contracts given by government to the private sector are subject to stricter norms and are often viewed with suspicion by government audit bodies, the popular media and, possibly, also the public at large. For instance, for works contracts the procedure for execution through public sector organisations is much easier than that for execution through private sector organisations.[8] A corresponding asymmetry exists between purchases through rate contracts established by the government's procurement organisation and direct purchases.[9] While this may not directly apply to the case of private-public interactions in the petroleum and natural gas industry, it reveals the underlying philosophy and conservative dirigisme guiding policy issues. This inherent procedural bias, probably a vestige from the days of the 'licence raj', is unlikely to go away soon, especially in light of the recent public mood for improving governance. Furthermore, there exists the apprehension that allowing substantial participation of Indian private sector firms or foreign companies would create uncontrollable monopolies (Dutta 2007). This can, however, be controlled with an effective competition law and an appropriate regulatory mechanism. In this respect India now has a Competition Commission, and several sectors, like telecom, have evolved their regulatory bodies. Therefore, this concern alone cannot be an adequate reason for ring fencing an industry for the public sector.

There is also a broad opinion that PSEs constitute some kind of 'family silver', a sentimental coinage that tends to obfuscate rational decision making. It leads to a situation in which an apparently unviable or inefficient public sector entity continues to function and may even receive further infusions of government capital. In such a scenario, the possibility of privatising profit-making PSEs, especially in strategic sectors such as oil, seems remote. However, given the need to raise resources and instil greater efficiency, disinvestments of CPSE shares remains on the policy agenda.

Price management: The prices of petroleum products in the international or domestic markets are not determined by competitive markets.

The petroleum and natural gas industry is by its very nature oligopolistic with substantial room for price setting. Further, given the linkages with economic activity at large and the possible harm caused by volatile oil prices, governments in emerging economies are probably justified in engaging in some form of price management. Countries engaging in direct price management or subsidies include Chile, Argentina, Columbia, Ethiopia, Peru, Thailand, Kazakhstan, Bangladesh and Nepal. Various instruments are used, including price ceilings, price bands, price stabilisation funds and rationing. The process of price management across the petroleum product supply chain is obviously easier if the government controls a large part of this chain. However, an entirely private sector solution with government-provided subsidies is not outside the realm of possibility. Since January 2006, Nigeria has operated a Petroleum Support Fund which compensates private companies as well as PSEs for selling subsidised fuel. It reimburses the difference between fuel import costs and domestic prices (Parikh Committee 2010). Such systems, however, require their own mechanisms of regulation and monitoring.

The Indian private sector oil and gas E&P companies are slowly establishing a foothold in the national and global scene. It may be envisaged that, like Indian conglomerates in other sectors, they would eventually increase their global participation and domestic involvement. At that stage, it would be advisable to allow greater autonomy to public enterprises while providing them lesser support in financial terms. An appropriate mechanism for price regulation and ensuring competition across private and public sector concerns could then be established.

Energy security and strategic issues: Given this scenario, possibly, the best policy alternative and socio-economic outcomes could be ensured by focusing on the effectiveness and efficiency of the public sector while nurturing the private sector. If the domestic private sector E&P companies are strong enough, they may eventually participate, of their own will and volition, in the strategic quest for petroleum resources. This would be a desirable outcome, since it would harness the efficiencies of the private sector and, at the same time, provide greater competition to the state-owned companies. International exploration activities by the private companies can be encouraged by providing them with diplomatic support, financial backing and fiscal incentives. Given that examples of JVs and collaboration between the private sector and the public sector in the field of international oil exploration already exist, the best way forward is probably to encourage the development of the private sector while focusing on increasing the efficiency of the public sector.

Notes

1. Disclaimer: The views expressed in this chapter are purely personal and do not necessarily express the views of the institutions the author is associated with. This is a technical, academic and research output. The statements are not and should not be construed as comments on policy or policy prescriptions.

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2. The term *Navratna* refers to nine highly talented individuals, including the famous Sanskrit poet Kalidasa, who were at the court of the medieval King Chandragupta Vikramaditya. A group of nine key courtiers was also present in the court of the Mughal emperor, Akbar. The term appeared in the parlance of Indian CPSEs from 1997 with an initiative for granting greater autonomy to selected public-sector enterprises with a view to turning them into global giants (vide DPE/Guidelines/IX/I given in an office memorandum (O.M.) No. DPE/11(2)/97–Fin. dated 22 July 1997). This initiative delegated major decision making in terms of capital expenditure, technology joint ventures, organisational restructuring, human resource management, joint ventures and setting up of subsidiaries (subject to certain limits based on project value and enterprise net worth) to the boards of the PSEs. The enhanced *Maharatna* scheme was introduced in 2010 vide O.M. No. 22(1)/2009-GM dated 4 February, 2010. It was intended to grant further autonomy to the larger *Navratna* CPSEs, which had global potential and international linkages. As of 20 June 2011, there were 5 *Maharatna* CPSEs, 16 Navratna CPSEs, 65 Category I and Category II Miniratna CPSEs, Department of Public Enterprises website, http://dpe.nic.in (downloaded 10 December 2011).
3. The NELP was instituted vide Resolution No. O-19018/22/95-ONG.DO.VI.
4. See Parikh Committee (2010) for a brief overview on international practices and experience in petroleum products pricing and regulation.
5. This explains the rather paradoxical situation whereby, while facing notional losses, these companies record profits in their accounts.
6. While this essay deals with ONGC and OIL, given the importance of GAIL as the third pillar of the public-sector upstream system, its figures are also reported to give a more comprehensive picture.
7. Government of India, Ministry of Petroleum and Natural Gas, advertisement in *The Hindustan Times*, 26 June 2011, page 1.
8. Rules 126 and 132 of the General Financial Rules, 2005 (GFR 2005).
9. Rules 147 and 149 of GFR, 2005.

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6
The State Grid Corporation of China

Xu Yi-chong

Until the late 1980s, it had been accepted that network industries such as electricity, telecommunications, rail, water supply and natural gas were vertically and horizontally integrated, owned and managed by publicly-owned monopolies under ministerial control. The state ownership and vertically integrated structure were justified by: intensive investment in the industries with high financial risks; the requirement for public resources to support the investment; the significant economic importance of the infrastructure; the desire to protect the public interest in these industries that supplied essential services; and concerns about private monopoly power. State-owned monopolies in many developed countries might have guaranteed universal access to electricity, clean water supplies or other public utilities (Fare, Grosskopf and Logan 1985; Scherer 1980; World Bank 1992), but in many developing and transition economies, they had 'suffered from low labour productivity, deteriorating fixed facilities and equipment, poor service quality, chronic revenue shortages and inadequate investment, and serious problems of theft and non-payment' (Kessides 2004: 2). In the following decades, a great push was made in these countries to privatise, deregulate and unbundle the network industries (Newbery 1999). Privatisation and restructuring of the electricity industry were sold to more countries in a shorter period of time than any other industry (Hunt and Shuttleworth 1996; Joskow 1998; Hunt 2002; Xu 2004).

The reform of the electricity industry by unbundling its vertically integrated structure, introducing competition and privatising segments, was also adopted in China. 'This has been a long, drawn-out process of transition that began in the 1980s within the context of wider economic reforms to promote growth and economic development' (IEA 2006: 13). It was highlighted with the State Council's decision in December 2002

to unbundle the State Power Corporation of China (SPCC) and create two grid corporations – the State Grid Corporation of China (SG) and China Southern Power Grid Co. Ltd. – and five power-generation companies – China Huaneng Power Group, China Datang (Group) Corp., China Huadian Corp., China Guodian (Group) Corp. and China Power Investment Corp. – and all seven maintain their state ownership.

Restructuring the electricity industry, however, is a 'wicked problem' that is so complicated that any solution to it would inevitably lead to adverse and unforeseen consequences. Unbundling was seen as a progressive move, and China 'achieved' this much faster than most countries, according to the International Energy Agency (2006). In less than a decade, the SG has expanded significantly in assets (its total assets grew tenfold in that period) and in operations both in China and in other countries. The restructuring adopted in 2002 failed, however (as many in China claimed), to achieve its designed objectives: to develop a competitive, market-based, power sector as a means to ensure an efficient and reliable power supply at reasonable price, and to protect the environment. In many ways, the organisational restructuring and commercialisation and corporatisation of the industry made further reforms more difficult today as 'companies that have been "set free" quickly learnt how to benefit from a situation in which they are no longer part of "a plan" but are not yet under the effective supervision of a regulator' (IEA 2006: 77).

Having been created and fostered by the government, and having its 'umbilical cord' still attached to the government, the SG has developed a life of its own. As with its counterparts in other sectors, the SG is owned by the state, but is not run by the state. Indeed, it has developed 'a great deal of power vis-à-vis government', with its historical association with the government through the old ministry, the high ranking members of its management team, its sheer size, the importance of a stable and reliable power supply to the economy and the society at large, its advantage of accessing information and its human and financial capacity, compared to the fragmented and competitive government agencies that oversee it (IEA 2011: 25). As a virtual monopoly, the SG exhibits typical behaviour found in open markets – it is not so much interested in competition but rather in destroying its competitors, not just by cutting costs and becoming more efficient than other players but also in expanding its market presence in China as well as overseas. Driven largely by commercial incentives, it may exploit the fragmented and decentralised relationship among government agencies, but it does not openly oppose government policies, as its interests are tied to the survival of the regime.

This chapter examines the evolution, the governance structure and operation of the State Grid Corporation of China to show how reform has created many unanticipated consequences that have become stumbling blocks for a transfer to a rule-based market system. The SG in its current form is the creation of two sets of policies: an industrial organisation policy that is embedded in the *Guidelines on the 1990s National Industrial Policies* adopted by the State Council in 1994, and the ownership and structural reform that took place in the electricity sector in 1997 and 2002. With the industrial organisation policy, the central government aimed at creating and fostering national champions in key industrial sectors to increase their business capabilities, strengthen their presence in given geographical markets, expand their access to technologies they did not possess, acquire scarce human resources, add valuable brands to their portfolio and enable long-term savings through economies of scale and scope in procurement, research and development and marketing (Nolan 2001; Nolan et al. 2007).

Electricity reforms were aimed at commercialising and corporatizing SOEs while introducing competition to the sector under a regulatory regime. While the SG remains state-owned and continues to benefit from its ties with the government, government supervision and regulation are simply not in place to rein in this hybrid creature when the SG decides to exercise its monopoly power and influence. As the relationship between ownership (the state) and management (the SG) shifted, it is important to understand 'the outcome of political processes – a broad political bargain among the majority players contesting a variety of policies that influence incentives, which in turn produce corporate governance outcomes' (Gourevitch and Shinn 2005: 8).

1. From ministry to corporation

Reforms in the electricity industry in China have gone through several stages: the first set of reforms was adopted in the mid-1980s when, in addition to the central government, other parties were permitted to invest in building new generation capacities. They were primarily provincial and local governments, large state enterprises and some joint ventures with foreign companies. Accompanying this diversified investment was the introduction of the dual-pricing system by which electricity generated from new power plants was sold at the cost of investment plus some profit. These measures brought investment to the badly needed electricity sector. While to a certain extent they also introduced competition into the sector, they were not meant to change

the structure or the behaviour of the power industry, which continued to be controlled through national planning and the ministry. A second stage of reforms took place in October 1996 when the State Council gave permission for the Ministry of Electric Power (MEP) to start the process of converting itself into a corporation. On 16 January 1997, the State Power Corporation of China (SPCC) was created by the State Council with the anticipation that the MEP would be disbanded once the transfer of assets between the two was completed. This marks the first step towards separation of market and government functions.

The SPCC was created as a 100% state-owned, vertically integrated electricity utility corporation, accountable directly to the State Council. In the original document issued by the State Council on 7 December 1996, the SPCC was given the responsibility to protect and increase the value of the state assets, which had been transferred from the MEP – assets from the central budget allocation, investment by the central government in other forms, bonds issued by the ministry, foreign investment guaranteed by the central government and bank borrowing allocated by the central government to the provinces. The SPCC was also authorised to determine the operational guidelines for its subsidiaries, appoint managers and supervisors and send its representatives to these subsidiaries, make long-term plans and strategies for the power industry as a whole and tap into funds from other sources in order to expand the industry. The purpose of the reform at the time was twofold: (a) to disaggregate the government and business functions; and (b) to start building large industrial groups (Chow 1997; Tam 1999). Meanwhile, it meant more to change the behaviour of production units than the top governing structure, as the SPCC inherited all the officials and departments of the MEP.

At its inception, the SPCC had a registered capital of 160 billion yuan, managed more than 80% of the assets of China's electricity industry (nearly all of the grid and more than 40% of generation capacity) and had 1.64 million employees. It took almost two years for the MEP to transfer the assets to the SPCC and to separate the functions, leaving those of non-production units in the ministry and those of a business nature to the SPCC, and to create separate accounts for the activities that would be financed by the SPCC and those activities that would remain financed by the government budget under the ministry. Consequently, the SPCC co-existed with the MEP until March 1998, when the ministry was finally disbanded as part of the general institutional restructuring of the central government. As the government and regulatory functions of the MEP were transferred to the newly

expanded State Economic and Trade Commission, the SPCC started operating as a corporation. Nonetheless, it was not a corporation as we normally understand because some non-production units under the MEP, such as universities and research institutions, were placed under the SPCC, which continued to accept the government budget allocation as their funding. Meanwhile, the SPCC could retain most profits while the government continued to pay for nearly all infrastructure investment through direct budget allocation or allotted bank lending, and also pay for all losses, as power tariffs were set by the government and investments were approved by the government.

In the segment of power generation, 'the 1990s were marked by three additional trends: the progressive involvement of a wider range of enterprises in power generation; the creation of power financing companies such as Huaneng and China Power International; and the increasing use of domestic and foreign stock markets' (IEA 2006: 36). The transmission and distribution segments were not only integrated but also strictly controlled by the government. This control was further centralised and strengthened with the coming Asian financial crisis, which slowed down economic growth in China. The State Council injected 300 billion yuan into the SPCC to retrofit and expand urban and rural transmission and distribution networks to stimulate the whole economy. This allowed the SPCC quickly to gain control of all upstream and downstream activities, strengthen its control over investment resources, centralise the management of the country's cross-region and cross-provincial transmission networks and, more importantly, to fundamentally change the relationship between the central and local governments in the power industry (Xu 2002). By 2001, the SPCC had gained control of 46% of the country's generation capacity and 90% of the transmission capacity and had developed into one of the world's largest public utility companies. The rising economic power and growing political weight of the SPCC made some officials at the National Development and Reform Commission (NDRC) more determined to push forward the restructuring of the industry by 'unbundling' the SPCC. In April 2002, the State Council issued a document, outlining the plan to restructure the electricity industry.

2. State Grid Corporation of China

The restructuring plan outlined in the Electricity Reform Plan (Document 5) issued by the State Council aimed to 'break the monopoly, introduce competition, improve efficiency, reduce costs, improve

the pricing mechanism, optimise the allocation of resources, promote electricity development, construct and strengthen national unified transmission networks, and build a governance structure under the supervision of an independent regulatory agency to ensure open and fair competition and orderly development of the electricity market system'. To achieve this bundle of objectives, the State Council decided to unbundle the SPCC into two grid companies – the State Grid Corporation (SG) and the China Southern Power Grid Co. Ltd (CSG) – five generation companies, each allocated about 20% of the country's generation capacity across regions, and four power service companies (China Power Engineering Consulting Group, China Hydropower Engineering Consulting Group, China Water Resources and Hydropower Construction Group and China Gezhouba Group).

This restructuring did not take place in conjunction with ownership reform. All 11 power companies remain state-owned by the central government, and are known as the central SOEs. The SG is the largest of all in terms of assets and service coverage. Upon its inception, the SG supplied electricity to over one billion people in 26 provinces and managed transmission and distribution facilities in 88% of China's territory. It had 1.5 million employees. In comparison, the CSG is much smaller, covering five southern provinces, which historically had separate transmission networks from the rest of the country.

In theory as well as practice, the restructuring of the power sector in 2002 did not change the nature of the SG, which remains governed by the Enterprise Law of 1988 rather than the Corporate Law of 1993. There are fundamental differences between the two. The Enterprise Law was designed to grant certain autonomy to enterprises and require enterprises to be responsible for their profits and losses, and it operates on the principle of a market system, without changing the old state ownership. This law was adopted at a time when the planning system was still in place and SOEs needed incentives to become more efficient. By the early 2000s, most enterprises in China were governed by the Company Law, 'which was enacted with great fanfare in 1993 as a solution to the problems long troubling China's stagnant state sector' (Chow 1997: 383). While the Company Law allows restructuring of state-owned companies as stock corporations, the SG cannot divest its assets. As it had emerged from the decision made by the State Council that evolved from the old Ministry of Electric Power, the SG was the product of a transition from a government undertaking to the equivalent of a 'statutory corporation' with more operating flexibility required for a commercial venture' (Basu 2008: 11).

In practice, this means that, from time to time, the SG is required to undertake projects for political and social reasons and is funded by the government budget. For example, it was government policy to ensure universal access to electricity, and the SG would be allocated government funding to connect people to the grid no matter how remote they might be. It was also government policy that power-generation plants were required to reduce their SO_2 emissions, but the SG was asked not to pass on the costs to end-users. In 2008, following the global financial crisis, the central government put together a stimulus package of 4 trillion yuan to boost the slowing economy by spurring domestic spending and demand. On 5 November 2008, the State Council decided to increase the central investment by 100 billion yuan for the fourth quarter of the year and 4 billion yuan of it was designated to improve transmission and distribution networks. The SG was also allotted 15 billion yuan in bank loans for the project for the same period. In December 2008, the SG was 'given' another 1.85 billion yuan to improve the transmission and distribution networks in Sichuan alone. The rationale was that projects such as these could quickly be translated into jobs and this in turn would lead to more consumption of materials. It was calculated that every 1,000 metres of 220 kv line would require 26 tonnes of steel, 6 tonnes of aluminium, and 26m^3 of cement. This meant 60–70% of the investment would go to upstream industries – steel, copper, aluminium and construction industries. The SG was asked to undertake the project because, even though centralised, its operation reached into every corner of the country. This entangled relationship has enabled the SG to expand so quickly and become so powerful vis-à-vis the fragmented and weak regulatory regime in China.

For those who had been advocating reform, unbundling in 2002 was pursued not only as a way to force power companies to commercialise and corporatise, but also as an opportunity to change the old-style utility industry into a market-driven one. It was argued that once transmission and generation were disaggregated, distribution could be gradually spun off from the SG and it would be then possible for the industry to create power markets. While the idea of selling and buying electricity among multiple suppliers and distributors/large end-users might sound simple (World Bank 1997), its implementation turned out not only to be difficult but also controversial for technical, economic and political reasons.

Technically, despite major grid investment in the late 1990s, transmission and distribution networks remained weak and the bottleneck grids remained 'the main cause of power shortages' (IEA 2006: 42).

While there was a power surplus in some provinces, neighbouring provinces suffered from power shortages. Disconnected networks made it difficult for a market to function. Economically, it has been long acknowledged that public utilities are natural monopolies and 'a natural monopoly situation presents a public policy dilemma: we want firms to produce output at minimum cost, but in a natural monopoly situation this implies having a single firm, which in turn implies that we are unlikely to get competitive prices and may get inefficient entry if we allow markets with pervasive natural monopoly characteristics to operate without price and entry control' (Joskow and Schmalebsee 1983: 30). Given that 'governments cannot rely only on the operation of competitive markets to police behaviour and prevent the abuse of monopoly power' (Stern and Holder 1999: 35), a regulator with independence from the government and industry is needed to protect the public from the utility's exploitative power while ensuring the utilities their future profitability to cover their large sunk investment (Newbery 1999: 140). Politically, creating an independent regulatory agency turned out to be very difficult in China.

The State Council in the Electricity Sector Reform Plan (Document 5) clearly stated it would pursue a transition from the planned to a market system in the electricity sector. To make this possible, the State Council created the State Electricity Regulatory Commission (SERC), along the 'roadmap' provided by the World Bank (2002). Its responsibilities include, among others, to be involved in the formulation of the national plan for the sector development; regulate the operation of the electricity market; standardise market order; ensure a level-playing field; and regulate transmission, distribution and non-competitive generation business (SERC). None of these responsibilities has much meaning because China has yet to create a power market system while, as part of the energy sector, the SG is under the purview of the National Development and Reform Commission (NDRC), the National Energy Administration (NEA) and, occasionally, the State Council.

Power markets were experimented with in several provinces but for practical reasons never became a reality. There is a consensus in the electricity sector that four conditions must exist for any successful restructuring to take place: (a) there must be sufficient generation capacity and power generation; (b) retail price must be higher than cost-plus; (c) there must be well-spread and well-connected transmission and distribution networks; and (d) there must be an experienced and operational regulatory regime with sufficient credibility. None of these conditions existed in China in 2002 as power shortages reappeared and started spreading

quickly. The rate of growth of electricity demand rose to 11% in 2002 from an average of 9% in the previous two years, and power shortages spread to 12 out of 31 provinces. Demand rose by 15–16% in each of the succeeding years, 2003 and 2004. The number of provinces suffering from sustained power shortages rose to 24 in 2004 and 25 in 2005. The power shortages were uneven across the country, with the East China Grid accounting for more than 50% of the national total deficit. With the shortage and a weak interconnected grid system, even those who had advocated power markets admitted that further reform was impossible until the bottleneck problems were resolved.

Furthermore, problems emerged in regions where experiments in power markets were undertaken. In the Northeastregion, for example, there was in general a surplus generation capacity in late 2003. About 40% of the electricity was generated there by units smaller than 100 MW, which were financed and owned by local governments. The region also had two of the largest generation units in the country (600 MW each), which were owned by two of the five national generation companies. One controversial issue was concerned with whose power the SG's regional subsidiary should and could purchase. Under pressure from the provincial governments, the regional grid subsidiary 'purchased' power from small and dirty power plants at the expense of larger units, which were forced to operate only 3,400–3,800 hours a year (less than 40% rather than at 70–75% of capacity), while small ones operated between 4,000–5,000 hours a year (Xu 2004: 202). To complicate the situation, three provinces in the Northeast had uneven generation capacities.

Conflicts among three provinces and power companies in the region led to a serious power outage in August 2003, and that put a halt to the reform. In other regions, power shortages stopped any serious attempt to create power markets. In October 2003, the State Council called for increasing investment in the power sector and improving central coordination and planning rather than unbundling or marketisation. This was what many at the SG really preferred. The SG quickly gave up any attempt to disaggregate distribution from transmission and started strengthening its control by announcing its ambitious plan to build the country's unified high-voltage transmission grid – three channels connecting East and West and three connecting North and South.

One of the main objectives of restructuring the electricity industry in 2002 was to introduce and promote competition where feasible, and to regulate where unavoidable. Regulation was necessary to constrain a monopoly from manipulating power tariffs and from controlling market entry. The authority to regulate power tariff setting and investment

approval was never given to the SERC. It had been in the hands of the State Planning Commission (SPC) under the planning system and was then inherited by its successor, the NDRC, which had refused to give up its control as it argued that these were the only instruments left to monitor macroeconomic situations.

Rising electricity prices often trigger inflation, which is something the Chinese Communist Party and the government have been wary about. Since the reform started in late 1970s, all major political instability (1984–85, 1989, 1994–95) has been triggered by inflation. Given that 'Chinese leaders act as if their hold on power is always somewhat tenuous' (Naughton 2010: 445), it was no surprise that the central government insisted on tight control over pricing for key commodities. As long as the pricing is set and investment approved by the NDRC to meet political and social objectives, it is difficult for the power industry to have real reform and/or for the country to create a real operational regulatory regime. Consequently, 'much of the power sector remains trapped in a governance system that consists of an uneasy mix of socialist style planning and more market-based regulation' (IEA 2006: 16).

SERC's independence and capacity also come into question because it was not even given sufficient resources to do its job. When it went into operation in October 2002, it was housed by the SG, occupying two floors in the same building as the SG. According to some officials, SERC from time to time had to 'borrow' people from the SG to do some of the work. In sum, SERC's independence vis-à-vis both the government and the regulated companies is, at best, questionable.

SERC is not the only agency that does not function as a regulatory agency. SASAC faced even more serious challenges, as it had been struggling with the question of how to exercise its ownership rights, since all the central SOEs are politically and economically powerful players in China, the SG in particular. The SASAC went into operation in 2003 with the delegated authority from the State Council 'to exercise ownership rights in a centralised and unified manner' (OECD 2005: 305). It was asked to guide and push forward the reform and restructuring of state-owned enterprises; dispatch supervisory panels; appoint or remove the responsible persons of the invested enterprises and evaluate their performance; and supervise and administer the preservation of, and increase in, the value of state-owned assets (State Council 2003). With these mandates, the SASAC adopted two priorities: (a) reforming and improving the governance of central SOEs by creating boards of special inspectors and boards of directors; and (b) restructuring the

central SOEs into internationally competitive corporations. Neither was an easy battle for the SASAC to win vis-à-vis the large SOEs.

P.A. Gourevitch and J.J. Shinn argue that the players (owners, managers and workers) must take their issues to the public arena to win politically in order to obtain their preferred corporate governance outcome (2005: 9). Given that all central SOEs share a single owner – the state, on whose behalf the SASAC acts – the battle to settle the corporate governance is between the SASAC and these SOEs. The central government realised that it was necessary to establish a system of supervision so that it could exercise its ownership right in a meaningful way. In the late 1990s, as some large SOEs were corporatised into industrial groups and the scope of their independent decision making significantly expanded, it became very difficult to 'curtail continued managerial abuse of power, which could challenge the political legitimacy of the reform programme' (OECD 2005: 308). The premier, Zhu Rongji, then proposed to send 'special inspectors' to these newly corporatised SOEs. On 3 July 1998, the State Council issued its rules for special inspectors to 'supervise the finance and assess the performance of the managers' of these large SOEs without interfering in their daily operation. The special inspectors would be selected and sent out by the State Council. These inspectors were often former ministers or deputy ministers, familiar with laws, rules and government policies, as well as possessing the basic knowledge of management. The funding then came directly from the government budget so that the inspectors were able to maintain some independence when they went to inspect and monitor the large SOEs. This system was clearly insufficient to ensure the SASAC as a fiduciary for the Chinese people as the ultimate owner of these SOEs.

When the SASAC set as its priority the establishment of boards of supervisors and directors so it could act as a meaningful owner of state assets, it immediately met strong resistance from large SOEs, which had no intention to have others looking over their shoulder. At the time, all 189 SOEs under the SASAC were under the 'management responsibility system', which had been adopted in the mid-1980s to provide incentives for enterprises to become more efficient. The 'management responsibility system' meant that the manager would be responsible for the entire firm and its performance. The State Council did grant the SASAC the power to 'appoint and remove the responsible persons' of the central SOEs. In practice, however, the managers of these large SOEs are selected and appointed by the Party Personnel Department after consultation with the SASAC. The chief officers of some key SOEs are even selected by the Politburo and sometimes can be the products of political

bargaining of factional groups. The ability of the SASAC to exercise its ownership role clearly came into question.

Soon after being appointed as chairman of SASAC in 2003, Li Rongrong told managers of the central SOEs that they would have to improve performance and build internationally competitive corporations – fail to do so, and they would be replaced. This was clearly an empty threat, and few seriously believed that he would be able to carry it out, especially as these chief managers are of the same rank as the chairman of the SASAC and many of them tend to be young and can be later appointed to other positions, such as provincial governors, head of commissions or ministers. For example, Li Xiaopeng, the son of Li Peng, had worked for the Huaneng Group for many years before being appointed as the vice-president of the SPCC. Upon its unbundling, Li Xiaopeng took over the Huaneng Group as its chief manager. In 2009, he was appointed as the executive deputy governor of Shanxi province. Wei Liucheng, a trained petroleum engineer, had worked at the CNOOC for many years before being appointed as general manager of the CNOOC in 1999. Four years later, he was sent by the Politburo to become the governor of Hainan province. The most recent example is when the former chief manager of Sinopec became the governor of Fujian in 2011. Even though Chinese politics have transformed from 'the "hierarchical game" of life and death struggles' dominated by Mao and Deng to 'a more formal "game of competitive coexistence", with the emphasis on compromise making and consensus building' (Huang 2008: 80), institutionalising politics has not changed 'the oligarchy of leaders' (Miller 2008: 77). The system would remain stable, it is argued, as long as the major constituencies of the oligarchy of leaders are represented (Li 2008). Heads of the key large SOEs are part of this oligarchy of leaders and part of the political bargaining and compromises. Their appointment is much beyond the power of the SASAC.

Without being able to control the selection of management teams, the SASAC announced that it would focus on transforming the 198 SOEs under its control to modern corporations with modern management structures – that is, with boards of directors and individuals coming from outside corporations serving as board members. Commonly, boards of directors carry out two main functions: to decide strategic directions for the company and to select and monitor management teams. Even without the power to select and appoint the manager, the board of directors, once in place, could be empowered with the full responsibility for setting strategic guidelines for the SOEs and monitoring their performance, argued Li Rongrong, the chairman of the SASAC. For him, 'it would be

very difficult to keep sustained and fast development without modern corporate governance'. On 26 July 2005, Baosteel became the first SOE to create a board of directors of nine people, five of them from outside the company. Development nonetheless was very slow. Five years later, only 19 out of 121 central SOEs established boards of directors. At the end of 2008, the SASAC issued a document stating that it would allow the board of directors to appoint management teams. It also stated that for the 58 key SOEs, the Party Personnel Department and the SASAC would retain their appointment power.

The SG is one of the key strategic SOEs and it normally works under the principle whereby chief officers take full responsibility for the corporation. In 2004, current president Liu Zhengya was appointed as both president and Party secretary of the organisation. If the Party still maintains some control over the large SOEs this arrangement does not work when both positions are occupied by the same person. Depending on the situation, Liu sometimes behaves like a politician and sometimes like a business manager. A management team is in place, but it is the president/Party secretary whose decisions matter the most. Like his predecessor, Liu came from within the electricity industry; unlike his predecessor – who had served as the deputy minister of the MEP – Liu had worked in Shandong between 1971 and 2000 before coming to Beijing. Liu and his counterparts in other key SOEs have the knowledge, experience and connections, while their direct access to information makes it difficult for the government to supervise or regulate their activities (Joskow and Schmalensee 1986; Blackman and Zeckhauser 1992). As a shrewd political operator, Liu has manoeuvred his way through the competing objectives of different government agencies to maximise the opportunity for the SG's expansion. Not all decisions adopted by the SG had the endorsement of all government agencies, but every single one had its political supporter. This may be the fundamental answer to the question of how the SG has managed to maintain and strengthen its control despite widespread criticism.

3. SG in operation

The SG operates in an environment in which government agencies seek quite diverse objectives. As de jure owner of all central SOEs, the SASAC from its inception has been demanding they consolidate and build internationally competitive companies. The Ministry of Finance wanted more profitable SOEs and high remission of their dividends. As a macroeconomic planner, the NDRC wanted to ensure sufficient electricity

supplies at an affordable price, while the Ministry of Environmental Protection demanded all energy companies reduce their greenhouse gas emissions; but there was hardly any coherent effort in prioritising these objectives. With a high degree of independence, the SG first chose to build its profitability, expand its control over the operation of its subsidiaries and raise its international profile. To achieve these objectives, it has been gaming the system and taking advantage of the diverse interests of government agencies.

Two main controversial projects are the interconnected high-voltage grids and the acquisition of upstream manufacturing enterprises. Both met the objectives of some government agencies while being in direct contradiction to the objectives of others. They both have helped the SG build its empire and centralise its control of the electricity industry in China.

When the unbundling took place in 2002, the SG inherited the assets of 90% of China's transmission and distribution networks and about 30 GW generation capacity, which was then expected to be divested soon. The Electricity Reform Plan stated that 'since the SPCC owns a large proportion of the regional transmission and distribution assets, the SG would be in charge of restructuring the regional networks'. One of the immediate tasks facing the SG in the early 2000s was to 'strengthen the grid and develop interconnection that will allow power, which is largely generated in the west, to reach demand centres, largely located in the east' (IEA 2006: 42). Building interconnected transmission networks is a massive challenge around the world because of the extremely high initial investment required, their nature as public goods and the technical challenges they present. Projects of this type are traditionally undertaken by governments with public spending and, today, this remains the case in most countries. While an interconnected high-voltage transmission system is necessary to support developing competitive wholesale and retail electricity generation service markets, such a transmission system, once in place, also carries tremendous market control that needs to be regulated (Joskow 2004; Joskow and Tirole 2000; Griffith and Puller 2005).

As the entry barrier in the power industry was lowered in China between 1985 and 1995, about 80% of the fixed investment in the power sector went to generation. It became apparent that without sufficient investment in grids, the country could not ensure universal access to electricity and prevent power shortages along the coastal regions, where the economy was growing so rapidly. The share of investment in grids then rose from 20% to 44% from 1995 to 2000. Following the Asian

financial crisis, the central government invested US$47 billion in 1998–2002 for construction and retrofitting urban and rural distribution networks. These investments not only significantly reduced the number of non-connected grids (from 19 in 1980 to 10 in 1997) and helped to build six regional grids, but also allowed the SPCC to centralise its control and management of regional and local distribution companies.

In Document 5, the State Council stated that the SG would be in charge of investing, constructing and managing cross-region transmission networks while its regional subsidiaries would manage their own networks and prepare for the creation of power markets. However, power shortages that emerged right after the unbundling called for immediate action. While the five generation companies invested heavily in expanding their generation capacities, especially coal-fired thermal generation capacities in 2004–07, there was an apparent imbalance between where the resources were and the location of end-users. The regional supply–demand imbalance was exacerbated by weak inter-grid transmission and distribution connectivity. Given that nearly 80% of the total generation capacity was from coal-fired plants, two proposals were on the table: 'coal by rail' or 'coal by wire'. The SG argued for both, yet with apparent emphasis on the latter – 'coal by wire'.

In 2005, with the support of the vice-premier, Zeng Peiyuan, who was in charge of energy, the SG proposed to build long-distance transmission channels from large scale thermal, hydro and wind power bases to the load centres. The proposal was approved by the NDRC. Also, at the first meeting of the Energy Leading Group (Downs 2006), the State Council included the high-voltage projects as the energy priority projects in the country (Li 2006). This would involve building an ultra–high-voltage (UHV) alternating current (AC) and UHV direct current (DC) hybrid grid, with three west-east main channels (northern, central and southern channels), connecting three north-south main lines. The first 1,000 kv UHV AC transmission line of 640 kilometres connecting Shanxi, Henan and Hubei was a pilot project. It was completed on 6 January 2009 and has been operating since then. The second project, a ±800 kv UHV DC line, was completed on 20 July 2010, between Sichuan and Shanghai, stretching 1,907 kilometres.

These UHV grid projects may have helped the balance of power surpluses, but they have triggered serious debates in China, one of which concerns the cost. The total estimated cost was around 500 billion yuan, double the cost of building the Three Gorges Dam. Huge investment in the UHV projects would undoubtedly mean limited resources would be available for regional subsidiaries and provincial power companies

to invest in local transmission and distribution lines. The cost of the UHV grid projects was not the only reason for debate in China; their reliability was questioned as well. The question was asked: why was China still pursuing large transmission networks with high-voltage lines while Japan, Russia and the United States had already abandoned their projects because of reliability concerns? The SERC also raised its concerns about the safety and reliability of the high-voltage grid system built with the combination of DC and AC lines (SERC 2011). So long as there is no power outage, such as the one that occurred in Northeast United States and Southeast Canada in 2003, the SG would be in a position to continue the project.

A more sensitive issue, however, was the growing market control and market power of the SG. Promoting and strengthening national interconnected grids was one of the objectives of the restructuring, and this was stated in the Electricity Reform Program of 2002. High-voltage grid systems have the advantage of balancing power surpluses and shortages. Yet, as cross-regional grids were connected the SG also took over much of the control of its regional subsidiaries. This led to opposition from provincial and local governments, which partially explains the slow progress made by the NDRC in giving its approval for each UHV project. The political implication behind these projects makes people at the NDRC cautious in supporting them.

Despite the opposition, these UHV grid projects continued because of the 'success' they brought to the country, tangible as well as intangible. The president of the SG repeatedly argued that ultra–high-voltage AC or DC lines would be able to connect provinces with power-generation surpluses and those with large demand loads, and thereby make the industry more efficient. More importantly, successful construction and operation of ultra–high-voltage transmission grids would allow Chinese companies and their technology to lead the world in this field. The SG can now claim to be the first company that has successfully built and operated a 1,000 kv UHV AC line, which at the same time set the world standard. Its president claimed that the company's success in constructing the UHV transmission lines was the reason the International Electrotechnical Commission (IEC) decided to set up the secretariat of HVDC in Beijing. For the government, an international reputation was of considerable importance. It could overlook how the company achieved this reputation as long as it would not cause serious domestic opposition and political challenges. This may change, as the opposition in provincial and local governments has the ability to cause serious political headaches for the central government.

While strengthening its control over its subsidiaries, the SG has also been making inroads into other fields, such as manufacturing, insurance and even futures markets. This expansion has become a target of recent criticism, with the government's policy of promoting and protecting large monopolies coming under fire. The most controversial of these expansions was SG's plan to move into manufacturing electrical equipment industries by acquiring several successful manufacturers in China. One of the difficulties in constructing UHV grids was the technology required. China did not have the manufacturers able to produce the equipment for the project, so the SG sought help from the Swiss company ABB, Japan's Mitsubishi and Germany's Siemens. Impressed by these international companies, the SG decided to use its influence and resources to create a 'China's Siemens'.

On 17 July 2009, two agreements were signed: the SASAC branch at Ping Ding Shan would transfer all its stakes of the Pinggao Group, without charge, to the SG, making the SG the largest shareholder of the Pinggao Group; and two of SG's subsidiaries signed a cooperation agreement with Xuji Group, making the SG the 100% shareholder of the Xuji Group (Long 2009). The Pinggao Group specialises in manufacturing high-voltage equipment, switch gears, circuit breakers and other electrical equipment. In 2001, it floated on the Shanghai Stock Exchange, raising 740 million yuan, and then developed China's first enclosed switchgear for the ±800 kv UHV DC line. Xuji Group Corporation specialises in designing and producing electric power systems; automation, relay-protection and control equipment; and transmitters. In the 2000s, it started manufacturing electromechanical equipment of the UHV AC and AD lines. Not only did these two companies produce critical equipment for the construction and expansion of ultra–high-voltage transmission channels, they were also very successful in many other areas of business. Given the credentials and track record of the two companies, the SG – already the largest consumer of electronic equipment in China and occupying about 70% of the market – decided to acquire the two manufacturers. As part of the deal, the SG promised the Henan provincial government, where the two companies were located, that it would invest 35 billion yuan in the transmission and distribution networks. This finally convinced the provincial government to agree to transfer its stake in Pinggao to the SG and to allow the SG's subsidiaries to acquire Xuji.

In addition to Xuji and Pinggao, the SG absorbed several other local electrical equipment, cable and automation control equipment companies. There was strong opposition to these acquisitions and mergers

from machinery industries, which accused the SG of killing the competition in the electrical equipment industry and of making it very difficult for other manufacturers to get fair deals from this giant consumer. There was also public outrage, because the Electricity Reform Plan of 2002 clearly stated that all auxiliary segments should be separated from the main business of the SG. Both acquisitions, however, were approved by the SASAC, yet without the support of the National Energy Administration or the SERC. The SASAC defended its approval for the merger because it had encouraged all central SOEs to move up the ladder of the Global Fortune 500. The chairman of the SASAC told the media, 'I do not understand why I was criticised when these SOEs were loss-making and I am criticised again when they are so successful'.

For the SASAC, these acquisitions would make the SG larger and more profitable because all the companies the SG acquired were successful and owned partially by local governments. This was part of the mandate the SASAC was given – to protect and expand state-assets. The SERC and the National Energy Administration held quite different views. The SERC re-emphasised the principle of the Electricity Reform Plan of 2002: along with the unbundling of generation from transmission and distribution, there should be a separation between core and auxiliary business; in the case of the grid, all supporting and auxiliary businesses, such as electrical equipment manufacturers, hospitals and education institutes, should be decoupled from the SG and become independent business units. The acquisitions clearly contradicted this policy. Meanwhile, the chairman of the NEA declared, 'It was not me; I did not approve or support the merger', no doubt because the NEA wanted to see more coherent energy policies and actions among multiple players, as well as more competition. The diverse views and positions held by key government agencies in many ways created opportunities for the SOEs to pursue their own interests, which may or may not have been in the broader interest of the industry at large or in the interest of some sections of society.

The justification provided by the SG was that it had the resources to nurture 'China's Siemens', and the merger would also help reduce the cost of constructing the national unified HV grids. The SG had promised Pinggao that it would invest one billion yuan in 2009 and another 5 billion yuan in the following three years in order to build a strong electrical equipment manufacturing capacity, not only for the national grid construction but also for its overseas expansion. Negotiations were soon underway between the SG and the National Grid Corporation of the Philippines (NGCP) and between the SG and several regional grid

companies in Brazil. The first dialogue led to an agreement for the SG to take over NGCP and operate the Philippines' grid system with a 25-year franchise at a price of US$3.95 billion. The second led to the purchase by the SG of seven regional grid companies in Brazil at a price of US$989 million (Winning and Yap 2010). Both projects would involve extensive construction of integrated grid systems, as one SG official explained:

> Power transmission will become the main entry point for our business. ... Priority will be given to power transmission, distribution and transformation projects. ... There is no other option because power distribution is uneven in Brazil, where power is transmitted over long distances. (Anonymous 2010)

Using its resources to build a strong electrical equipment manufacturing industry under its wing would assist the SG in its efforts to expand into global markets. While critics raised concerns about the danger of monopolistic control, the reality is that less than a decade after the unbundling, in addition to the five regional network subsidiaries, the SG has 27 corporations and institutes under its direct control. These encompass research, construction, property insurance, life insurance, futures market trading, renewable development, stock trading, media and many other areas. This expansion can partially explain the steady increase in the SG's ranking in the Global Fortune 500 – from number 40 in 2005 to number 15 in 2009 and number 7 in 2011 (Table 6.1). Its total assets expanded from 200 billion yuan in 2003 to 2 trillion yuan

Table 6.1 Ranking of the State Grid at Global Fortune 500

Year	Rank	Revenue $ million	Profits $ million
2005	40	71 290	N/A
2006	32	86 984	N/A
2007	29	107 185	N/A
2008	24	132 885	4423
2009	15	164 136	664
2010	8	184 496	–343
2011	7	226 294	4556

Source: 'Global 500' at http://money.cnn.com/magazines/fortune/global500/2011/full_list/ (downloaded 21 July 2011).

Table 6.2 Data of the State Grid Corporation of China

	2006	2007	2008	2009	2010
Electricity sale (TWh)	1710	1974	2134	2275	2689
Transmission lines (km)	413,219	457,104	496,332	561,456	618,837
Revenue (billion yuan)	855	1011	1141	1258	1543
Total assets (billion yuan)	1213	1362	1644	1842	2119
Line losses (%)	6.4	6.3	6.1	6.1	6.0

Source: State Grid, 'The Introduction to the State Grid', at http://www.sgcc.com.cn/gsjs/gsjj/default.shtml (downloaded 22 July 2011).

by 2009. Its revenue also expanded – from US$71 billion in 2005 to US$174 billion in 2009 and US$226 billion in 2011 (Table 6.2).

Some opponents have described the SG as a 'Frankenstein's monster' with extensive tentacles stretching in all directions, eventually terrorising its own creator, with not only growing political influence but also a great deal of resources at its disposal. An official at the SERC explained this development in frustration:

> We are supposed to issue licences for these power companies to get into certain businesses. Now we often have to ask them to come in and get their licences. It does not matter what we say or do or even if we oppose it, they seem to be able to get permissions from higher authorities and do what they want.

Without a board of directors, the SASAC has to 'supervise and monitor' the central SOEs with its limited human and financial resources. The lack of coordination among multiple government agencies only exacerbates the difficulty in regulating these SOEs.

4. Conclusion

The SG maintains a virtue monopoly in China's electricity industry. This state of affairs can be justified by its technical and social importance. In a sense, transmission is monopolised because it provides a public good, but once the transmission network is ready, everyone can use it to get electricity to end-users and, consequently, there is little incentive for private sectors to invest in the infrastructure. Furthermore, its intensive and sunk capital investment deters private investors in the sector. Socially, the provision of electricity is a necessary input to the country's

economy, and access to electricity is a basic condition for social and economic development.

This combination of technical and social importance also explains the close ties between China's top political leaders and the SG. Since SG's creation, every top leader – including the president of the country, the Chinese Communist Party leaders, the premier, others in the Politburo and the State Council in both the current team under Hu and Wen and its predecessor under Jiang and Zhu – visited the company's headquarters building, which is situated in the centre of Beijing. These close links also explain the difficulties in changing the old-style governing structure to a modern corporation.

The SG may no longer receive its operational capital from the government budget, but it has ready access to lending from policy banks as well as commercial banks. By itself, this situation is not unique given that intensive capital investment in infrastructure around the world often receives help from governments, but it is the team that manages the assets that seems to be problematic. The question is: should the managers behave as government officials or as business managers?

In theory, the SG should be accountable to the SASAC in terms of managing its assets and to the SERC in terms of its operation. In practice, it has been operating as a virtual monopoly, pitting one institution against another, exercising its political and economic muscle when it has the opportunity, and is accountable only to the very top of the Chinese political hierarchy. This was made possible by its control over almost 90% of the country's transmission networks, its combined political, economic and social importance, and the differences among government agencies.

Around the SG and its expansion, serious debates have developed on the role of the government in the economy and in regulating industries, and also on the role of SOEs, the structure of their corporate governance, their operations and management. The uneven development of the power of large SOEs, and their fragmented state, is the most serious concern.

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7

National Thermal Power Corporation: Power in Public Enterprises

S. Narayan

As in most countries before deregulation and unbundling became fashionable in the 1990s, India's electricity supply industry was dominated by public sectors, and it has remained so ever since. Unlike most countries, however, especially China where the electricity sector has always been centralised, electricity under the Indian constitution is on the 'concurrent' list, which means that the states, rather than the central government, are primarily responsible for developing the power sector and setting electricity tariffs. The states have the largest share of generation and transmission assets and almost all distribution in their control, all of which are owned and operated by state electricity boards (SEBs). The dominant position of SEBs means that there has been a constant struggle between the government of India (GOI) and state governments to reform the electricity supply industry and improve the performance of SEBs, which by 2000 had threatened the survival of the central public sector utilities (CPSUs).

Central public sector utilities include the National Thermal Power Corporation (NTPC), the National Hydro Power Corporation (NHPC), the North Eastern Electric Power Corporation, Neyveli Lignite Corporation and the Nuclear Power Corporation of India Ltd (NPCIL). Historically, GOI tried various ways to use CPSUs, especially NTPC, to lead the industry and 'force' SEBs to adopt reforms. Indeed, CPSUs have already expanded from owning and operating one third of the country's total installed generation capacity in 2000–01 to 37% by 2010–11 (IEA 2002;CEA 2011). NTPC is the largest of all CPSUs, owning 19% of the country's generation capacity and generating 27.4% of total electricity. It also has a better record of performance than state utilities. The real issue of the electricity supply industry, therefore, may not lie with public ownership; rather, it is the entrenched interests of a coalition

of players that have been the main impediments to the expansion of electricity supplies and an improvement in the performance of public utilities.

1. Power industry

In 2009, India was the world's fourth-largest energy producer and the third-largest primary energy consumer. It had the fifth-largest generation capacity in the world, with an installed capacity of 177 GW at the end of 2011, behind the United States, Japan, China and Russia. Electricity production in India rose from 291 TWh in 1990 to 900 TWh in 2009, an average annual growth rate of 6.1% (IEA 2010: 606). This was not enough to provide electricity to the entire population (IEA 2011b: 389). Indeed, India has one of the lowest electricity consumption levels in the world. In 2009, electricity consumption per capita in India was 597 kWh, compared with the world average of 2,930 kWh, 2,631 kWh in China, 2,201 kWh in Brazil, and 12,884 kWh in the United States (IEA 2011a). According to IEA estimates, more than 350 million people in India had no access to electricity in 2009 (IEA 2010). Those who have access to electricity have long experienced chronic shortages, with many brownouts or blackouts. In the past five years, the average shortage of electricity has reached 10% and peak hour shortage was 13% (Table 7.1).

The combination of a rising population and economic growth in India will put great pressure on electricity supplies, which are expected to quadruple between 2008 and 2035. 'Around 2015, India will become the world's third-largest consumer of electricity, behind China and the United States' (IEA 2011b: 388). Building extra generation capacity and delivering power to its vast population are necessary to sustain its high economic growth, industrialisation and urbanisation.

The Indian Planning Commission predicted that 'to sustain GDP growth at 9%, the demand for grid power will grow by 6% annum' during the 12th Five Year Plan (2012–16). This means an additional 100 GW generating capacity will have to be online, yet it remains to be seen whether and how the target can be met (Table 7.2). The 11th Five Year Plan (2007–12) targeted 78 GW additional capacity, but only 50 GW capacity was added. This followed a failure to meet the target in the 10th Five Year Plan (2002–07) – against an expectation of 40 GW, only 24 GW capacity was completed. In the past, lags in additions to generating capacity have aggravated issues of power shortages. Various reasons can explain this shortfall in achieving the target, such as 'poor

Table 7.1 Electricity balance, 2001–10

	Electricity demand	**Electricity supply**	**Electricity shortage**		**Peak demand**	**Peak supply**	**Peak shortage**	
	(MU)	*(MU)*	*(MU)*	*(%)*	*(MU)*	*(MU)*	*(MU)*	*(%)*
2001–2002	522 537	483 350	39 187	7.5	78 441	69 189	9252	11.8
2002–2003	545 983	497 890	48 093	8.8	81 492	71 574	9945	12.2
2003–2004	559 264	519 398	39 866	7.1	84 574	75 066	9508	11.2
2004–2005	591 373	548 115	43 258	7.3	87 906	77 652	10 254	11.7
2005–2006	631 554	578 819	52 735	8.4	93 255	81 792	11 463	12.3
2006–2007	690 587	624 495	66 092	9.6	100 715	86 818	13 897	13.8
2007–2008	737 052	664 660	72 392	9.8	108 866	90 793	18 073	16.6
2008–2009	777 039	691 038	86 001	11.1	109 809	96 785	13 024	11.9
2009–2010	617 907	557 308	60 599	9.8	116 281	101 609	14 672	12.6
2010–2011	638 067	582 163	55 904	8.8	119 437	107 286	12 151	10.2

Source: Ministry of Power, India, *Annual Report*, 2011, Delhi: Ministry of Power, 7.

Table 7. 2 Electricity demand projection at GDP growth of 8% and 9%

	Projected peak demand (GW)		**Installed capacity required (GW)**	
Year	**8%**	**9%**	**8%**	**9%**
2011–2012	158	168	220	233
2016–2017	226	250	306	337
2021–2022	323	373	425	488
2026–2027	437	522	575	685
2031–2032	592	733	778	960

Source: Planning Commission, 'Integrated Energy Policy', Delhi: Government of India, 2006.

project implementation, inadequate domestic manufacturing capacity, shortage of power equipment, and a slow-down due to lack of fuel, in particular coal.' The main reason, however, was 'slippages in public sector projects' (Planning Commission 2011: 46).

In addition to the shortage of generation capacity, the Indian power sector has long suffered poor reliability and quality of electricity (voltage fluctuation, and so forth), frequent blackouts, and inadequate transmission and distribution network infrastructure. Many have argued that the root of these problems is public ownership and the lack of competition. This applies particularly to the domination and performance of SEBs, which are also responsible for buying electricity from other generation companies – state as well as central-generation companies – and distributing and selling it to end-users, 'accounting for 95% of retail electricity sales' in India (IEA 2007: 310). In many states over the years, a small number of politicians, bureaucrats, SEB staff, consumers, and especially operators of large farms, succeeded in taking control of the sector (Dixit et al. 1998). This coalition of interests exploited the sector at the expense of the long-term health of SEBs and the public interest in general.

The government started reforming the electricity sector in the 1990s, and the reforms introduced private participation in electricity supplies. Nonetheless, public sector institutions continue to play a dominant role in the generation and supply of electricity in India (Table 7.3).

The central public sector utilities owned and operated 37% of the total generating capacity in India as of 2011. NTPC, NHPC and NPCIL have their focus on thermal, hydro and nuclear, while Damodar Valley Corporation has both thermal and hydro capacities. NTPC is the single largest generation company in India, with a total installed capacity of

Table 7.3 Generation capacity of various sectors, 2009–10 (GW)

	Thermal	**Hydro**	**Nuclear**	**Total**
Central sector	38.1	11.4	4.3	53.8
State sector	48.7	25.3		74
Independent power producers	11.1	0.9		12
Private utilities	3.9	0.5		4.4
Total	101.8	38.1	4.3	144.2

Source: Central Electricity Authority (CEA), 'Operation Performance of Generating Stations in the Country During the Year 2009–10: An Overview, April 2010, Annex-VII.

29 GW as of 2009–10, accounting for about 20% of the country's total installed generation capacity. By 2011, NTPC's capacity had gone up to 35 GW, 19% of the country's total generating capacity of 185 GW.

A diverse and often bewildering set of agencies plays a role in deciding electricity policies. They include the Ministry of Power, the Ministry of Coal, the Ministry of Environment and Forests, the Department of Atomic Energy and the Ministry of Non-Conventional Energy Sources. Within the Ministry of Power, the Central Electricity Regulatory Commission (CERC) works closely with state electricity regulatory commissions, SEBs and utilities in power generation, transmission and distribution of electricity. The Ministry of Power is in charge of policy making for the power sector, processing project investment and monitoring the implementation of power projects. It is also responsible for administering the Electricity Act of 2003, the major legislation regarding electricity reform, and the Energy Conservation Act of 2001. The ministry can play a key role in providing the necessary legal and financial incentives for the states to implement reform. The Ministry of Power developed into its current form only in 1992 when it split from the Ministry of Energy Resources at a time when electricity reform swept the world.

2. NTPC – history

Operating under the Electricity Act of 1910, private companies or local authorities supplied more than 80% of the total generation capacity prior to independence in 1947 (World Bank 1993). In 1948, the Electricity Supply Act brought all generation, transmission and distribution facilities within the state's purview. Each state subsequently established its own vertically integrated state electricity boards. SEBs were financed through state government loans and run as extensions of state energy ministries. They were the backbone of the electricity infrastructure, controlling 70% of electricity generation and almost all distribution when the reform started in 1991 (World Bank 1991). Under the Indian constitution, the electricity sector is a 'concurrent' subject, allowing both the central and state governments some authority in the sector.

Demands for electricity rose dramatically at the end of the 1960s, when the government of India (GOI) launched the 'green revolution', which 'involved the widespread use of high-yielding crop varieties along with significant increases in inputs of water and fertiliser in fields that had hitherto been almost solely dependent on rainfall' (Dubash and Rajan (2001: 3369). This brought about an increasing demand for electricity

and created new clients – 'kulaks' or landed farmers who demanded free or subsidised electricity. In many states, a flat rate tariff was offered and meters were no longer monitored or simply removed. In 1975, to meet the rising demand for electricity, GOI created the National Thermal Power Corporation (NTPC) under the Indian Company Act. This took place at a particular period in the economic history of the country, one that saw the strident revival of state-owned industry.

In 1971, the Congress government led by Indira Gandhi swept to power in Delhi with an unprecedented majority. The central plank of her victory was the slogan *garibi hatao* (remove poverty). The euphoria that followed this victory enabled Gandhi to consolidate her hold over the Congress Party and to choose a centre-left agenda for implementing economic and social schemes. Following the earlier socialist tenets of the decades of the 1950s and 1960s, the policy makers believed in public ownership of all vital assets. The year 1971 also saw developments that led to the creation of Bangladesh, with India providing armed assistance for its formation. In the ensuing war with Pakistan, India found itself isolated from the United States and the West and turned to the Soviet Union for support. A high point of that year was the inking of a mutual defence treaty with Moscow, putting India squarely in the Soviet camp in the cold war. Soviet thinking and influence was also visible in public policy making during these years.

In 1973, GOI nationalised all coal-mining activities in the country, with little compensation paid to the erstwhile owners. Multinational and private sector oil-marketing companies were also brought under government control between 1970 and 1974. Earlier, there had been nationalisation of commercial banks, with more than 90% of the banking sector coming under government control. Nationalisation was pursued by a government with a strong leftist ideology and an insistence on redistribution of incomes from the rich to the poor.

The energy sector also had a leftist minister. Parliament was easily persuaded to nationalise energy assets: the oil and natural gas sector had already come under public management, and so had the coal mines. Thus, it was only an extension of policy that resulted in the thermal power generation and distribution activities across states also coming under government purview. It was also only an extension of this policy to establish a power-generating company as a central public sector utility to develop generation capacities and to provide electricity to regions where it was needed.

Initially, NTPC was a small company. It was given the responsibilities for the design, construction and operation of large thermal power

stations and high-voltage transmission lines, and for the sale of bulk power to SEBs. The initial capital was Rs. 5,000 million, to be subscribed in tranches and provided for from the central budget. The idea of establishing a central public utility was to supplement the efforts of the state electricity utilities by building generation capacity in the central sector so that electricity could be dispatched across states. GOI had several advantages: (a) it had already nationalised coal mines, coal marketing and distribution, and coal prices; (b) it had the control of rail transport; (c) the nationalised banking sector would allow GOI to allocate financial resources to its preferred choices; (d) it could also channel external funding from multilateral and bilateral sources to its preferred sectors and players. The power industry is an investment-intensive sector and state utilities lacked the capital to construct new power plants. A centrally owned power company would allow the government to focus on least-cost regional development, emphasising construction of central power stations close to indigenous fuel sources while benefiting from centrally administered coal prices, which would also help keep electricity prices low.

The period of national emergency imposed by the government in 1975 ended in 1977, and the elections saw a change in the government to a more centre-right political combination. Even though there was no move to dismantle the earlier public sector emphasis, the new government did not actively support CPSUs. Consequently, there was little activity in the NTPC, as the policies of the earlier government were not pursued with the same vigour. In 1978, when an electricity crisis broke out in Delhi, the capital, GOI decided to hand over to NTPC the management of the Badarpur thermal power station in Delhi, which was being run poorly. This became the first generating capacity of NTPC. Initially, it was shown in the balance sheets as a leasing arrangement, and the asset transfer took place after many years, between 1983 and 1987.

With Indira Gandhi's return to power in 1980, the period of public sector activity in the energy sector was revived. Gas pipelines were nationalised, and all gas was to be distributed by the Gas Authority of India Limited (GAIL), a public utility created in 1984. Capital outlay for coal projects was increased, and a number of thermal power stations based on pit head coal were approved. There was a regional focus on Uttar Pradesh and Madhya Pradesh, two states that the ruling party considered as vital for its electoral future. The Singarauli coalfields, at the junction of Uttar Pradesh and Madhya Pradesh, became the focus of thermal power development. These was a general belief that 'by controlling a large proportion of the generation investments, the centre

would be better able to coordinate the development of the sector, establish a framework for least-cost power development programming, and create a long-range transmission planning system' (World Bank 1999: 2). NTPC was a beneficiary of government policies as GOI directed multilateral financial flows to NTPC to enable it to expand capacity. Three loans and credits provided by the World Bank (1977, 1978, 1982) helped NTPC commission its first 200 MW power station in 1982, followed by several more in 1985 and 1986.

The World Bank had always supported the development of the electricity sector in India. Between 1948 and 1982, more than US$3 billion (20% of its lending to the country) went to the electricity sector. Initially, it had provided four loans to the Damodar Valley Corporation (DVC), modelled after the Tennessee Valley Authority (TVA), for hydro and irrigation development. This was followed by the financing of four transmission projects. As rural electrification benefited from these developments, SEBs had to bear the costs of operation and maintenance of the program by providing concessional electricity to support the 'green revolution'. Losses became inevitable.

The World Bank then shifted its focus to NTPC, providing the financing of a number of very large thermal projects (units of 500 MW capacity) close to sources of coal and to be built by NTPC (Collier 1984: 49–52; Guhan 1995). It was believed at the time that an integrated system would be needed for electricity development – the better the connected system, the better the economies of scale that could be achieved, along with increased economic efficiency. Furthermore, the bank had increasingly realised that its financial and technical assistance to large power-project construction had to be matched by the borrowing countries' organisation, management and experienced manpower, which would require 'substantial institutional changes in the organisation of the sector, the handling of its financial problems, and the planning and implementation of investment' (Collier 1984: 13). NTPC was in a position to facilitate the establishment of a countrywide integrated network, as it was designed to help develop cross-state generation and transmission capacities. It was also in a position to lead the sector in the necessary 'institution building'. Consequently, 'close to half of the more than 7 billion dollars approved by the World Bank for power sector projects in India between 1970 and 1991 were for large thermal power plants built by NTPC' (Dubash and Rajan 2001: 3370).

GOI allocated scarce foreign capital to NTPC, not only to meet its project finance needs and add badly needed extra generation capacities the country but, more importantly, to promote 'improvements in the

operation and maintenance of existing plants and introduce long-range system planning on a nationwide basis' (World Bank 1999: 2; Guhan 1995), and to build NTPC into a model of modern of public corporations. These efforts were successful to help NTPC become a technically strong, financially viable public sector utility. By 1990, NTPC had a total installed capacity of 10 GW. The next decade witnessed significant growth in NTPC. In 1992, NTPC took over the Unchahar Power Station (2×210 MW) from the Uttar Pradesh government, and by 1994, NTPC had 15 GW installed capacity. By 1997, NTPC operated 20% of India's total generation capacity and supplied 25% of its total commercial electricity. Its average plant loan factor was 77%, compared with the country's average of 64%.

Nonetheless, these efforts and resources did not turn NTPC into a modern efficient and profitable corporation with self-financing. NTPC kept its easy access to: government directly allocated financial resources; cheap international funds from, for example, bilateral and multilateral agencies; a guaranteed supply of coal at the government-administered price; cheap land for power stations; and low railway freight rates. The situation clearly could not be sustained. In addition, the country faced serious problems with electricity shortages. In 1991, GOI adopted a policy to 'encourage greater participation by privately owned enterprises in the electricity generation, supply and distribution field' (IEA 2002: 50). This was the first attempt to bring private players into this sector. This change of policy was also the consequence of the changing policies of the World Bank, which by then had abandoned state utilities, started supporting private investment in the electricity sector and encouraged unbundling the vertically and horizontally integrated central public sector utilities. In 1993, NTPC spun off its transmission segment and transferred its assets and responsibilities for transmission to POWERGRID. This was the beginning of serious reforms in the power sector in India.

3. Reforms

As the demand for power continued to increase in line with economic growth, it was impossible for the central government alone to keep investing and subsidising power plants. Starting in October 1991, the Ministry of Power issued 'a series of notifications seeking to encourage the entry of privately owned generating companies into the electricity sector' (Dubash and Rajan 2001: 3372). Parliament, meanwhile, adopted the Electricity Law (Amendment) Act of 1991, which indicated

a fundamental shift by allowing private entities to construct and operate power-generation plants and enter into long-term power-purchasing agreements with SEBs. Incentives were provided to private investors, such as a guaranteed minimum 16% rate of return for plant operation with a load factor of no less than 68%. Other incentives included a five-year tax holiday, a low equity requirement at 20% and selective government guarantees to cover non-payment by SEBs. While private investors showed great interest in the Indian power-supply industry, few promises were fulfilled. 'The central government introduced another set of carrots, granting 'fast-track' status to eight of the most promising projects and agreeing to offer them counter-guarantees' (Dubash and Rajan 2001: 3372).

Despite the efforts of the central government to reform the power-supply sector, the period 1990 to 2000 was a dismal decade in terms of capacity additions to power generation. Since distribution, tariff fixation and collection was still in the hands of GOI, the initial attempts to encourage private investment did not succeed. Not only were the private sectors unwilling to take tariff and distribution risks, but the public sector was also short of capital to invest. The few private sector plants, such as Enron, took the challenge only to fail miserably and end up bankrupt. In the 1990s, only 17 GW installed generation capacity was added against the expected 40 GW. Reliance on the existing public utilities rose in this period, and NTPC remained a major player in the power sector.

The government policy of lowering the entry barriers to the power-supply sector undoubtedly introduced some competition, as some private investors did enter the field. NTPC did change some of its behaviour, trying to operate more as a corporation than an instrument of public policy. It, however, also demanded 'a level playing field', asking for similar incentives to be given to private sectors. It was granted most of these incentives, such as high rates of return and additional bonuses for improved capacity utilisation. To encourage NTPC to operate as a market player, in 1997 GOI granted NTPC the status of *Navratna*. NTPC, in turn, became one of the nine "jewels" of India, with strengthened independent decision-making powers. The capacity of central-generation companies, especially NTPC, has expanded much faster than both private (independent power providers, IPPs and captive providers) and state sectors. By 2000, with the commissioning of the Dadri and Talcher projects, the company achieved a generation capacity of 20 GW. NTPC generation was far more efficient due to better management, technology and location, and therefore the costs of power generated compared favourably with those of most SEBs.

4. Pricing

Prior to the 1990s, the generation of electricity was considered a public good. There were state electricity utilities that were responsible for generation, transmission and sale of power, funded by state budgets and central grants. There were a few generation stations under the central government, including the Neyveli Lignite Corporation in the South, which had mandates to sell the output to the electricity boards. The power-purchase rates for electricity generated by CPSUs were often finalised between the central and the state governments at the policy levels, and did not necessarily take into account the open-market prices of fuel and transmission. The private sector power plants were often captive plants catering to their own needs. After the nationalisation of the coal sector, coal prices were administered by the government and did not reflect the supply and demand. This can also be said about power tariffs. In addition to underpricing, high technical and commercial losses along with non-payment of end-users were the main contributors to the heavy losses of SEBs.

Underpricing and non-payment were the main reasons for GOI's initiative to push forward the reform in the 1990s. Yet, 'the problem of underpricing worsened progressively through the early 1990s, to the degree that average revenues covered less than 76% of average costs by 1995–96' (IEA 2002: 43), as underpricing encouraged over-consumption by those beneficiaries of large farm operators and those who were of electorate importance. Electricity consumption, for example by agriculture, had gone up 19 times in the period 1971–98, while overall consumption went up only 7 times (IEA 2002: 44). Then, in the period 1996–97, the share of domestic and agricultural consumers in total electricity sales rose from 49% to 52% in 2000–01 and the subsidies to these consumers rose by 75% (Godbole 2002: 622). In addition, in 2000–01 SEBs ran about 45% transmission and distribution line losses; only 55% of electricity sales were billed and less than 80% of those billed actually paid. In other words, less than half of the electricity generated was bought and paid for. SEBs were in serious trouble; according to the Electricity (Supply) Act of 1938, SEVs were required to earn a minimum rate of return of 3% on their fixed assets. In the 1990s there was a sharp deterioration of their performance. The rate of return for SEBs on average dropped from –12.7% in 1992–93 to –35.1% in 2000–01 (Godbole 2002: 623). In turn, the deteriorating financial situation of SEBs affected the financial situation of NTPC. By 2001, 'unpaid dues of the Central Public Sector Units mounted and by 2001 had crossed

the Rs. 40,000 crore mark' (Planning Commission 2006: 109). This was equivalent to more than US$8 billion. Underpricing and unpaid bills to NTPC from SEBs had become unsustainable, and something had to be done. Vested interests made reform necessary, albeit extremely difficult, for the government.

In 1998, GOI created the Central Electricity Regulatory Commission (CERC) to introduce competition and efficiency in the electricity sector. Together with its equivalents at the state level, CERC was responsible for rationalising retail power tariffs. Yet, it was neither easy to rationalise tariffs (given the political and economic conditions) nor to deal with the non-payment problems by SEBs to CPSUs. CPSUs, especially NTPC, CIL and Railways had agreed to meet their payment obligations among each other, but they all had problems with the state public sector units.

It was only after the enactment of the Electricity Act of 2003, which permitted open access in distribution and did away with mandatory sale to the SEBs, that there was a fresh revival in investment activity. In the last five years, there have been close to 20 GW additional capacity added to generation from private developers alone, and coupled with improved transmission networks and a power trading platform, the power sector is witnessing a major developmental change.

Power tariff setting remains a major impediment for electricity development. For the central public sector utilities, such as NTPC, tariff 'is determined on the basis of costs and norms with a guaranteed 14–16% post tax return on equity' (Planning Commission 2006: 112). There is little incentive for private power providers to invest in the electricity sector, as they would not be able to obtain guaranteed rates of returns. While power tariff setting remains to be done through the regulatory bodies in the states and the centre, and the process has evolved into more a rule-based, transparent one, GOI also plans to create electricity markets where price can be decided based on supply and demand. Power-purchasing agreements have been adopted by NTPC with several SEBs. The market is far from operating perfectly, but it is the direction in which the Indian electricity sector is moving.

A central government committee was set up to study the matter and proposed a one-time settlement: the debt would be converted to state-guaranteed bonds, and NTPC would enjoy claw-back rights on any funds moving from the federal government to the state government to protect payment on those bonds. This approach worked for a few years, but as of 2011, several electricity boards have not cleared their dues with NTPC. The only improvement over the 2003–04 position is that

there has been a significant improvement in transmission capacity and, hence, NTPC can direct a part of its generation towards better-paying customers.

5. Operation of NTPC

NTPC has been a profit-making undertaking since 1992, when it declared the first maiden dividend. The early years saw sound management and project-execution practices put in place that helped the organisation to emerge as a forerunner among public sector undertakings in India. Its core business is engineering, construction and operation of power-generating plants and providing consultancy to power utilities in India and abroad. NTPC has adopted a multi-pronged growth strategy that includes capacity addition through green field projects, expansion of existing stations, joint ventures, subsidiaries and takeover of stations. Today, it is the largest power-generation company in India – as of 31 March 2011, NTPC's share of the country's total installed capacity is 17.75% and it generated 27.4% of the power generation of the country in 2010–11. The current installed capacity is 34,194 MW (Table 7.4).

The company has formulated its business plan of capacity addition of about 1,000 MW through renewable resources by 2017. In addition, capacity addition of 301 MW through Solar PV and Thermal by March 2014 has been envisaged in line with the National Solar Mission. It has plans to expand its installed capacity to 75,000 MW by 2017, and 128 GW by 2032, with a well-diversified fuel mix comprising 56% coal, 16% gas, 11% nuclear energy, 9% renewable energy and 8% hydropower-based

Table 7.4 Total installed generation capacity of NTPC, 2011

NTPC owned	Number of plants	Capacity (MW)
Coal	15	26,875
Gas/Liquid fuel	7	3955
Total	22	30,830
Owned by joint ventures		
Coal and gas	6	3364
Total capacity (JV+owned)	28	34,194

Source: NTPC website, http://www.ntpc.co.in/index.php?option=com_content&view=article&id=96&Itemid=175&lang=en.

capacity. Consequently, by 2032, it hopes to build 28% of its capacity as carbon-free energy sources and its coal-based capacity will increasingly be based on high-efficient, low-emission technologies such as super-critical and ultra–super-critical units.

To achieve its designed objectives, NTPC has developed strategic alliances and joint ventures with leading national and international companies:

- Hydropower: in order to give impetus to hydropower growth in the country and to have a balanced portfolio of power generation, NTPC entered the hydropower business with the 800 MW Koldam hydro projects in Himachal Pradesh. Two more projects have also been taken up in Uttarakhand. A wholly owned subsidiary, NTPC Hydro Ltd, is setting up hydro projects of capacities up to 250 MW.
- Renewable energy: in order to broad-base its fuel mix, NTPC plans a capacity addition of about 1,000 MW through renewable resources by 2017.
- Nuclear power: a joint venture company, Anushakti Vidhyut Nigam Ltd, has been formed (with a 51% stake in NPCIL and a 49% stake in NTPC) for development of nuclear power projects in the country.
- Coal mining: in a major backward-integration move to create fuel security, NTPC has ventured into the coal-mining business with an aim to meet about 20% of its coal requirement from its captive mines by 2017. Government of India has so far allotted seven coal blocks to NTPC, including two blocks to be developed through a joint venture route.
- Power trading: NTPC Vidyut Vyapar Nigam Ltd (NVVN), a wholly owned subsidiary, was created for trading power leading to optimal utilisation of NTPC's assets. It is the second-largest power trading company in the country. In order to facilitate power trading in the country, National Power Exchange Ltd, a JV of NTPC, NHPC, PFC and TCS, has been formed for operating a power exchange.
- Ash business: NTPC has focused on the utilisation of ash generated by its power stations to convert the challenge of ash disposal into an opportunity. Ash is being used as a raw material input by cement companies and brick manufacturers. NVVN is engaged in the business of fly ash export and sales to domestic customers. Joint ventures with cement companies are being planned to set up cement-grinding units in the vicinity of NTPC stations.
- Power distribution: NTPC Electric Supply Company Ltd (NESCL), a wholly owned subsidiary of NTPC, was set up for distribution

of power. NESCL is actively engaged in the Rajiv Gandhi Gramin Vidyutikaran Yojana program for rural electrification.

- Equipment manufacturing: the enormous growth in the power sector necessitates augmentation of power equipment manufacturing capacity. NTPC has formed JVs with BHEL and Bharat Forge Ltd for power plant equipment manufacturing. NTPC has also acquired a stake in Transformers and Electricals Kerala Ltd (TELK) for manufacturing and repair of transformers.

One simple rationale behind these agreements was to build a vertically and horizontally integrated conglomerate. Things, however, do not always work as planned. For example, NTPC was awarded a hydro project in Uttarakhand in 2006, and the construction started in 2009. After sinking Rs. 600 crore (an equivalent of US$134 million) capital into the project, GOI cancelled it a year later, after 'a large number of religious leaders protested against the projected dam, claiming that it will threaten the existence of the river and block flow of Ganga, which is considered holy by Hindus'(Anonymous 2011). GOI had to compensate NTPC to cover some of the losses. More than in other sectors, NTPC was particularly keen to get access to coal supplies. It formed a joint venture with Coal India Limited to develop coal mines. How this will work still remains to be seen.

New agreements ensure that NTPC's power plants earn a regulated return on equity of 15.5%, along with efficiency incentives for operations above normative parameters. This regulated model provides stable earnings visibility. NTPC has signed power-purchase agreements (PPAs) for more than 100MW (including an existing capacity of ~33 GW) before the expiry of the January 2011 deadline, after which a competitive bidding-based tariff regime became applicable. These PPAs would ensure that the current cost-plus model continues during and beyond the 12th Five Year Plan.

The strategy, therefore, is towards diversification of fuel mix into hydro, nuclear and renewable energy; business mix into distribution and trading, taking up equipment manufacturing as well as forays into international business.

6. Corporate structure

The overwhelming shareholding of the government in NTPC has ensured that all strategic and policy decisions are taken by the government, as it is the largest shareholder. It is clearly a case where the views

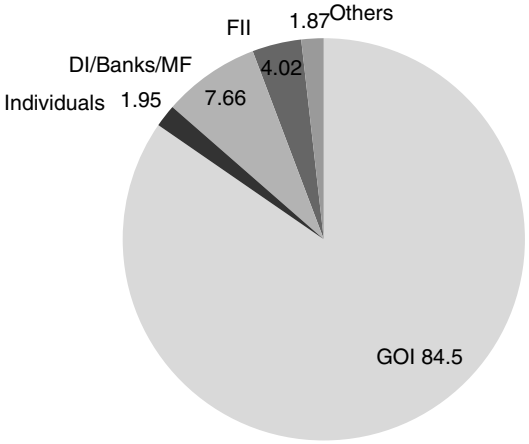

Figure 7.1 Shareholding pattern of NTPC as of 30 September 2011

Source: NTPC website at http://www.ntpc.co.in/index.php?option=com_content&view=article&id=49&Itemid=63&lang=en.

of the minority of shareholders are not respected. NTPC is able to access capital requirements from public sector banks, retained earnings and budgetary support. Therefore, its accountability to the market and to shareholders other than the government is diluted (Figure 7.1).

NTPC's 11-member board currently comprises 5 full-time executive directors, two part-time and four independent directors (Figure 7.2). Government of India appoints the chairperson and managing director for a five-year tenure and appoints the directors in consultation with the chairperson and managing director. Full-time directors are appointed for five-year terms, whereas independent directors are appointed for three years. The two part-time directors are from the Ministry of Power (MOP) and remain directors as long as they concurrently serve in MOP. Although the government has the power to direct NTPC activities, it has allowed the company to operate as an independent, commercial entity. NTPC's board of directors has established several board committees including, for example, an audit committee, a shareholder/investor grievance committee, an investment committee and a committee on management controls. The audit committee, established with two independent directors and the two part-time directors (i.e., from MOP), is chaired by an independent director.

No remuneration committee has been established because the board does not determine the salaries and tenure of its directors. Like other public enterprises, salaries, directors' sitting fees and tenures are

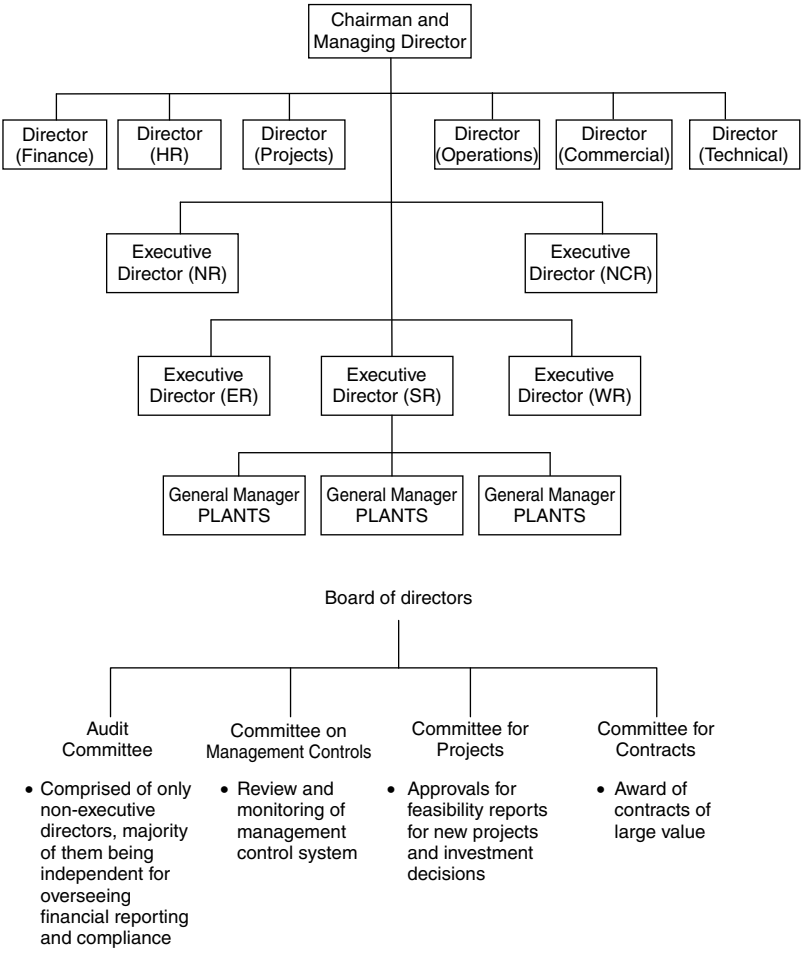

Figure 7.2 Corporate structure of NTPC

determined by the government. However, NTPC does disclose the salary, benefits, performance-based incentives and independent sitting fees for its directors in its annual report.

The performance of the board and the directors is evaluated by the Ministry of Power, which is the administrative ministry for the company. For evaluating the performance of the company, the government has instituted a system of target setting that is agreed to between the company and the government through a memorandum of understanding

(MOU). The MOU system defines the evaluation criteria in advance on parameters such as financial performance, productivity, human resource development activities, project implementation and operation performance, in order to have objective evaluation from the Central Public Sector Enterprise (CPSE).

The performance of functional directors on the board is also evaluated through a performance evaluation system at two levels – the first evaluation at the level of chairman and managing director, and the second at the level of the ministry. The performance reports of all directors are reviewed by the chairman and managing director and forwarded to the ministry for evaluation.

GOI retains the power to select and appoint the managing director as well as full-time directors. This is done through the Public Enterprises Selection Board, which evaluates the credentials of eligible aspirants and recommends suitable candidates to the administrative ministry. Appointments are finally approved by the prime minister, through the appointments committee of the cabinet. In short, the process of managerial selection is still very much in the hands of the government. There are also government directors on the board. The system of quarterly review by the administrative ministry also ensures close monitoring and control over the strategic decisions of the company. The selection of independent directors is also a non-transparent process by the ministry. NTPC enters into a memorandum of understanding with GOI, setting yearly targets in financial and operational areas. The assessment of performance vis-à-vis the targets set by the Ministry of Power and the Department of Public Enterprises seeks to ensure the fulfilment of governmental development goals rather than corporate performance goals.

While there is considerable operational flexibility in day-to-day operations, and even capital decisions, the company is still very much remote-controlled by the Ministry of Power. This happens through several mechanisms. There is a quarterly performance review by the ministry that sets and reviews performance targets. The nominees of the ministry are on the board of NTPC and submit a report on the workings to the ministry. Approvals for capital investment above the delegated levels have to go to GOI, sometimes to the cabinet level, headed by the prime minister. There is little enthusiasm for corporate-governance reform in the absence of directions by the government. This is a feature that is common to most public sector undertakings of the Government of India, except those undertakings in the financial sector. In that area, the banks and insurance companies have very little accountability to government even in their strategic decisions.

Dominant government control structurally limits minority shareholder rights. By virtue of an 84.5% stake, GOI, as the majority shareholder, enjoys rights that always place the minority shareholders at a potential disadvantage with regard to having a say in broader corporate affairs. This is an inherent structural limitation compared with the rights enjoyed by non-owner shareholders in a more widely held corporation. While NTPC's public sector character introduces such things as procedures and audits, which are theoretically designed to assist good corporate governance and greater accountability, in practice it still exposes the company to the relatively greater risk of influence from the majority owner.

NTPC was awarded *Navratna* status back in 1997, which gave the board of directors autonomy to make most of the company's expenditure and investment decisions. The decision for equity investment in joint ventures (JV) or special-purpose vehicles (SPV), or for acquisition of stakes by the board without any approvals, was restricted to Rs. 1,000 crore per acquisition/investment. With the *Maharatna* status accorded in 2010, the scope of autonomy was widened, with the upper cap on investments enhanced to Rs. 5,000 crore per acquisition/investment without any approvals. This would enable NTPC to acquire coal mines and/or stakes in coal mines as well as the option to invest in power projects of much higher capacities with much more flexibility in strategic decision-making. The board is also empowered to create and wind up all below board-level posts, which gives operational flexibility.

7. Prospects

While privatisation of SOEs in India remains a sensitive and politically difficult task for any coalition government, strong corporate governance reform can often provide significant results toward improving performance and efficiency of the enterprise. A World Bank study recommends the following measures to improve corporate governance:

(1) Subject the utility to company law and other laws that apply to private sector companies;
(2) appoint independent directors to the board and ensure that independent directors constitute at least 50% of directors;
(3) require NTPC to borrow from commercial lenders without the benefit of a government guarantee, bringing to bear the benefits of scrutiny by commercial lenders and international credit-rating agencies;
(4) list a minority of the company's shares on public stock exchanges to create market information on commercial performance and create

performance monitoring by shareholders other than the government (because shareholders have a residual rather than priority claim on the firm's assets, and the value of minority shareholders' investments in the utility depends more strongly on performance of the utility compared with the lenders);

(5) structure the audit committee so it consists of a minimum of three members, a majority of non-executive independent directors; and the committee chairperson cannot be the chairperson of the board.

Some of these measures have been implemented.

In 2004, GOI approved NTPC to be listed on the Indian stock exchange and divested 10.5% of its stock. In 2010, GOI divested another 5% NTPC's stake. This 15.5% stake was then held by institutional investors and the public. NTPC had the third-largest capitalisation of listed companies, and it could also operate as a real shareholding company with the government as a majority shareholder, and it thereby acted as a corporation rather than an old-style public sector unit.

During this time, NTPC and other public sector generators were performing satisfactorily, and it could be said that, with the lack of competition, NTPC proved to be the best generator of them all. It consistently made profits and was the preferred recipient of coal supplies as well as payments from the electricity board. Its unique status as the preferred state-owned enterprise in power generation enabled NTPC to earn laurels in generation, efficiency and profits.

It is expected that capacity addition close to 100 GW will take place in India by 2017. While there is emphasis on hydropower as well as renewable sources of energy, it is unlikely that the emphasis on coal-based generation will go away. For NTPC, this translates into three areas of risk – financing, fuel availability, and changes in technology. In this proposed capacity, the major portion is expected to come through super-critical technology. In order to achieve the 12th Five Year Plan target, and in order to augment the domestic manufacturing base of main plant equipment, bulk-tendering of super-critical units was approved by the Cabinet Committee on Infrastructure in August 2009, with emphasis on a phased manufacturing program, so that domestic manufacturing capacity of super-critical units is established in the country through new manufacturers, apart from Bharat Heavy Electricals Ltd (BHEL).

Among the most important risks is the availability of fuel. The company has taken several steps to mitigate these risks. Fuel-security strategy is a judicious mix of domestic and international long-term coal

agreements/contracts, purchase of coal from spot markets, developing captive coal mines and acquiring stakes in mining companies. For gas, the company is exploring long-term agreements/contracts and opportunities for participation in LNG value-chain.

The early advantages of locating power plants close to coal mines helped leverage the logistical advantages towards better efficiency and profits. The company has also been focusing on strategies to insulate itself against fuel risks in the future. These include: (a) ensuring proximity to fuel sources – most of NTPC's coal-fired stations are located close to the mines that supply coal; the proximity of its plants to fuel sources will help it generate electricity at competitive rates; (b) better fuel security – the company entered into fuel-supply agreements (FSA) for 90% of its normative requirements of plants commissioned before 2009, and 70% of all plants commissioned thereafter. NTPC is also developing captive mines in Jharkhand that would produce around 7% of its coal requirement by 2016. Finally, it is looking at alternatives that include accessing long-term coal from international producers. It is the largest client of Coal India Ltd, another public sector entity, and the governmental linkages would ensure priority allocation of coal by Coal India to NTPC. This is a key advantage as Coal India's prices are significantly lower than prices for imported coal.

In the long-term, NTPC is likely to follow a multi-pronged fuel-security strategy consisting of:

- Domestic long-term coal supply agreements.
- Import of coal to bridge the gap between total demand and domestic supply, focusing on importing coal directly and, to this end, developing in-house expertise to deal with the entire spectrum of international coal trading and supply.
- Purchase of coal from domestic spot market through e-auctions for meeting the balance requirement after domestic supply and coal imports.
- Development of captive coal mines with a target of mining 47 MTPA by 2017.
- Acquisition of coal mines abroad in countries such as Indonesia, Mozambique and Australia.

Ir is estimated that NTPC's (stand-alone) coal requirement will grow at 8.4% CAGR from 135 mt in FY2010 to 237 mt in FY2017. India's production is expected to lag behind the expected rise in demand, resulting in the necessity of coal imports. The company has been making provision

for 15–20% blending of imported coal for all the new project equipment that it has ordered.

Recently, GOI has also made several policy changes to encourage energy conservation and improve energy efficiency, both of which would change the behaviour of NTPC. It has scheduled to spend US$14 billion on energy saving, improving energy efficiency and reducing CO_2 emissions. Under the scheme of the 'Perform, Achieve and Trade' (PAT) mechanism, industrial units that achieve savings in excess of their target will be provided the excess savings as Energy Savings Certificates. Units that underperform can buy these certificates to meet their target compliance requirements. This will ensure that the total desired savings are achieved in the most cost-effective manner.

Performance of NTPC is dependent upon the tariff regime prescribed by the CERC, which has issued the Tariff Regulations for generation and transmission projects for the period 2009–14. These regulations have been finalised after detailed consultation with the stakeholders and would also be the guiding principles for the Central Electricity Regulatory Commissions. The regulations aim at attracting much-desired investment in power infrastructure in the country while ensuring that the consumers obtain electricity at a reasonable cost. The CERC will prescribe, at a later date, new regulations for the period after 2014. India may soon have exchange-based futures trading in power, a move that would curb price volatility in the electricity market, help state electricity boards reduce their losses and encourage investments in the sector.

NTPC has planned to finance the capital-addition programs with a debt-to-equity ratio of 70:30. A combination of bank financing, with a heavy reliance on public sector banks, coupled with debt raised from the domestic bond markets, would help in meeting the total debt commitments. It is confident about meeting its capital requirement, given its operational and financial performance.

8. Conclusion

It is clear that NTPC was a child of the political economy of that time, and that blunders in the power policy until the late 1990s enabled it to occupy a pride of place that would have been denied if market forces had been operating in this sector. It is also clear that it now faces competition from several large players that include the Tata Group, Adani and Reliance, which together would have generating capacity of around 60 GW by 2018. The question is whether NTPC would continue to function as effectively as in the past in a competitive environment.

It is pointless to examine its financial success in the past, since it was working in a controlled environment, with preset prices of fuel and a regulated tariff environment. Now there are myriad competitors for the fuel, access to transmission and supply to consumers. It is true that current GDP growth as well as the past lags in generation capacity would result in a supply shortage for some more years; yet it is also true that NTPC has to compete for tariff with the regulators in competition with the private players, and in fuel costs with the international market. In many ways, it has been thrown into a market-operated mechanism by the Electricity Act of 2003: for some more time, the existing momentum would enable it to perform, but it is not clear whether this would continue. It remains shackled by government bureaucracy and slow decision-making processes, and if the protectionist environment is denied in the future, its ability to perform would be seriously compromised.

At the same time, it is possible to argue that as the largest generator of power, its relevance will not go away. While private sector players increasingly look to sources of imported coal, NTPC would continue to leverage its public sector advantages with state and central governments alike, to access locations at the pit head or with better rail connectivity. Since tariffs would be set by the regulator, there would be competition in terms of production efficiency, yet there would continue to be an important role for NTPC.

Appendix I

(a) Performance of NTPC

	Unit	**2008–09**	**2009–10**	**% of change**
Gross generation	Million units	206 939	218 840	5.75
Sale of electricity	Rs. million	417 913	461 687	10.5
Value added	Rs. million	140 548	173 313	23.3
Net worth	Rs. million	573 701	624 375	8.8
Net fixed assets	Rs. million	329 377	347 613	5.5
Earnings per share	Rs.	9.95	10.59	10.7
Dividend per share	Rs.	3.60	3.80	5.6
Book value per share	Rs.	69.58	75.72	8.8
Return on capital	%	9.95	10.59	6.4

(b) Operational performance of coal-fired NTPC plants

	Generation (million units)	Plant load factor (%)	Availability factor (%)
1992–1993	66 113	70.00	83.34
1993–1994	76 478	78.07	86.48
1994–1995	79 091	76.57	85.97
1995–1996	93 467	78.80	85.32
1996–1997	97 609	77.00	84.10
1997–1998	106 288	75.20	85.03
1998–1999	109 505	76.60	89.36
1999–2000	118 676	80.39	90.06
2000–2001	130 110	81.80	88.54
2001–2002	133 200	81.10	81.80
2002–2003	140 860	83.60	88.70
2003–2004	149 160	84.40	88.80
2004–2005	159 110	87.50	91.20
2005–2006	170 880	87.50	89.91
2006–2007	188 670	89.40	90.09
2007–2008	200 860	92.20	92.12
2008–2009	206 940	91.14	91.12
2009–2010	218 840	90.81	91.76
2010–2011	220 540	88.29	91.62

Appendix II

Flexibility in adopting new process and technologies

NTPC has been aggressive in incorporating new technologies and in making efficiency improvements to old units. There is also increased focus on the reduction of emissions and introduction of green technologies.

Important technologies introduced in the last five years

Technology	Year
Super-critical technology with 256 kg/cm² steam pressure and 568/595 C MS/RH steam temperature is being adopted for improvement in thermal efficiency and reduced emission of greenhouse gasses.	2010
Feasibility of IGCC (Integrated Gasification Combined Cycle) established for high ash Indian coal. Further efforts are being made to move ahead with the work already done to implement an IGCC technology demonstration plant of about 100 MW capacity.	2009
Robotic mechanism for boiler inspection developed, patent filed. 100 TR air conditioning plant, based on waste heat recovery from flue gas, being established. Artificial Neural Network (ANN) based advisory systems developed and deployed for enhancing power plant efficiency and optimising water chemistry. International patent filed on CO^2 absorption based on pressure swing adsorption technology. MOU signed with KfW, Germany for undertaking research studies on solar and setting up a solar research station at NETRA. Setting up of solar thermal R&D test platform for demonstration and validation of solar thermal power generation technologies.	2010

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8

The Baosteel Group: A National Champion Among National Champions

Jeffrey D. Wilson

1. Introduction

Compared with many of the Chinese and Indian state-owned enterprises examined in this volume, the institutional and competitive position of the Baosteel Group is somewhat unique. First, Baosteel stands out as one of the major success stories of recent Chinese state-owned enterprise (SOE) reform. It was created by the Chinese government in the early years of the reform period as a national steel champion – a corporation expected to not only pursue profit but also national economic goals. Having benefited from the industrial policy support this status has brought during the intervening three decades, Baosteel has now earned the status as one of China's most internationally competitive SOEs. However, Baosteel is also unique in that it does not dominate the Chinese steel sector. Accounting for only a small share of Chinese steel production, Baosteel's position is one of a technological leader within a competitive market structure populated by a large 'national champions group' of SOEs. Moreover, Baosteel has also faced special obligations to implement national industrial policies by acting as a technological leader tasked with the role of acquiring and upgrading ailing steelmakers. Understanding Baosteel's position within the Chinese steel sector as a 'national champion among national champions' is critical to explaining its operational characteristics, its special relationship with the Chinese government, and the benefits and costs this has carried for the firm.

This chapter examines how Baosteel's position as a national champion among national champions has structured the institutional and operational characteristics of the firm, and how these have influenced the sustainability of its growth trajectory. It begins by reviewing the

firm's origins – as China's first modern steel enterprise and national steel champion – during the early years of the Deng economic reforms. It then examines the development of Baosteel's current system of corporate governance during a period of liberalising reforms in the 1990s – under which the firm gained significant operational autonomy, albeit reliant upon discretionary industrial policy support and circumscribed by close state supervision. It finally considers Baosteel's role during a period of crisis in the Chinese steel sector in the 2000s, which has seen a reversal of state policy for the industry back towards a more interventionist stance. During this period, Baosteel has benefited from state financial support to rapidly expand its operations, but has also been tasked with a special (and sometimes onerous) policy role to upgrade ailing steel firms. Through this analysis, it is argued that while Baosteel has achieved operational independence from the Chinese government, industrial policy constraints associated with its institutional status as a national champion mean its autonomy remains circumscribed. As a result, Baosteel remains somewhere between the position of being a market-oriented economic actor and policy-oriented state actor – a role that has brought both benefits and costs for the firm's development and sustainability.

2. Creating a modern national champion – 1980s

Like most of China's contemporary state-owned enterprises, Baosteel's origins lie at the beginning of the country's post-socialist economic reform period. Following the replacement of command administration with the liberalising 'open door' and 'market socialism' reform policies from December 1978, the Chinese economy began what has become a three-decade period of industrialisation and high-speed growth. Similar to the experience of other newly industrialising economies, such as Taiwan and Korea, the role of steel as a critical upstream input for the industrialisation process meant the industry would necessarily come to play a major part in China's post-1978 economic miracle. Initially, however, the steel industry proved a major difficulty for the Chinese reformers, who inherited from the planning period a small-scale and technologically backward industry. Having been constructed with Soviet aid during the 1950s, all of China's major steelworks were decades old; and the industry's technological development was then retarded by the withdrawal of Soviet technical assistance following the Sino-Soviet rift of 1960. Subsequent attempts at modernising the industry during the Cultural Revolution were hampered by Mao's national

security-motivated 'Third Front' construction program, which called for a decentralised industry and saw small-scale (and relatively inefficient) steel mills built in each of China's 29 provinces (Sugimoto 1993).

This fractured and technologically backward industry was unable to provide the mass quantities of steel required for China's industrialisation program, but in the early years of reform the state lacked the financial resources to itself launch an expansion and modernisation program in full. Nonetheless, as industrialisation began to take off in labour-intensive industries due to the open door reforms, domestic demand for steel quickly rose. In the absence of local production expansion this produced a massive surge in steel imports – from 11% to 35% of consumption between 1980 and 1985 – which became a major drain on China's then-limited foreign exchange reserves (Sugimoto 1993: 264). Unable to ignore steel in its reform program for balance of payments reasons, the Chinese state was forced to quickly modernise the industry and increase steel production.

It was within this context of a pressing need for import-substituting steel development that Baosteel was created to function as China's first 'modern' steel mill. The initial proposal to establish the enterprise – at the time called the *Baoshan Iron and Steel Works* – was approved by the State Council in March 1978. Unlike China's other dated steel mills, the Baoshan project was a large-scale and modern works from the outset and designed to function as a technological model for the rest of the industry. Modelled on the state-of-the-art Kimitsu works of Japan's Nippon Steel, the mill was built using Japanese engineers and imported equipment at a coastal site in the Baoshan district of North Shanghai (Cohen 2005). The project was initially planned in three stages: first to install an 'integrated' steel production line (combining both primary steel production and finishing mills) by 1985; second to install additional high-technology finishing equipment by 1993; and third to expand its total capacity to 11 million tonnes per annum (mtpa) by 2001 (Sun 2005: 179–80).

Baoshan's size and sophistication made it an ambitious project requiring large state financial outlays, and it was the only new steel project supported by the state at the time. Given scarcities of capital, the Chinese government largely ignored steel in the first of its reform period economic plans (the Sixth Plan, 1981–85), which prioritised light export industries for which high levels of state financing would not be necessary (Xin and Findlay 1985: 22). In fact, the Baoshan project was actually suspended by the State Council due to cost blowouts in 1980, and was only recommenced in 1981 when it became apparent

that abandoning the project would prove more expensive than continuing (Etienne et al. 1992: 124). The state's commitment to Baoshan as a 'national champion' enterprise would finally be cemented in the Seventh Plan (1986–90) – in which national policy changed direction to reprioritise heavy industries, and saw Baoshan's high technology second stage earmarked as the flagship project for the steel sector (Department of Trade 1985).

The importance of the Chinese government's financial commitment to Baoshan as a technological model in the early 1980s is brought into sharp relief when compared to policy for the rest of the steel industry. Unable to directly fund any other new steel projects due to capital shortages, the Chinese state instead sought to increase production through a program of 'renovating' existing works. This was achieved by partial marketisation under the 'contract responsibility system' (CRS) for SOE management, first trialled for Shougang Steel in 1981, and extended to the rest of the Chinese steel industry in 1984–85 (Steinfeld 1998). Under the CRS, autonomy over operational production decisions was for the first time devolved to enterprise managers, who in turn 'contracted' with the Ministry of Metallurgy (MMI) over production goals. These contracts translated national-level planning targets to the firm level by specifying output and profit-remittance targets, which would increase at a set rate (usually 5–8%) each year (Byrd 1992). However, the CRS was also designed to encourage growth beyond the plan targets – by allowing firms to sell any above-plan output onto newly established steel markets separate to the planning system, and retain all associated profits with such open-market sales which could then be reinvested into capacity expansions (Chen 1995). As an import-substitution policy, the CRS was also backed by the extension of trade protection, with a 33% tariff and a trade licensing system deployed during the mid-1980s as a means to protect the nascent steel industry from foreign imports (Nolan 1998: 45). In terms of expanding output and substituting imports at low cost to the state, the CRS program was a major success – with steel investment surging seven-fold by the early 1990s and production increasing to at least match burgeoning domestic demand (Table 8.1).

Though Baoshan was eventually moved onto the CRS – obtaining its first 'contract' in 1987 (Sugimoto 1993: 277) – its institutional status as a designated national champion offered it several advantages over the other enterprises included in the program. First, Baoshan was not burdened by the outdated facilities or extensive social-welfare burdens that other steel firms inherited from the planning period. Investment was also concentrated in equipment producing sophisticated steel products

Table 8.1 Growth in the Chinese steel industry, 1981–2009 (million tonnes per annum)

			Chinese National Steel Indicators			
	Baoshan I&S	**Baosteel Group**	**Production**	**Apparent consumption**	**Net trade balance**	**Investment**
1981–85^	NA		40.6	50.1	–9.5	18.1
1986–90^	NA		59.2	68.3	–9.1	30.2
1991–95^	7.3		85.9	98.2	–12.3	51.2
1996–00^	9.7	16.7#	115.4	125.5	–10.1	43.6
2001	10.6	19.1	151.6	164.1	–12.5	50.5
2002	11.6	19.5	182.2	201.2	–19.0	68.6
2003	11.5	19.9	222.3	252.5	–30.2	138.0
2004	11.9	21.4	272.8	287.9	–15.1	170.6
2005	18.4	22.7	355.8	361.1	–5.3	221.0
2006	18.9	22.5	421.0	396.5	24.5	218.1
2007	19.1	28.6	489.7	444.0	45.7	201.5
2008	19.6	35.4	512.3	468.5	43.8	232.8
2009	20.2	38.8	577.1	570.1	7.0	235.3

Notes: * Real RMB billions, calculated using Chinese GDP deflator (2000=100)
^ Annual averages.
# Inclusive of the years 1998–2000 only
Source: Author's calculations from (*China Steel Yearbook,* various years).

required by downstream industries (such as the automobile, machinery and packaging sectors), which at the time few other firms were capable of manufacturing (Nolan 2001a: 638). Second, as a state-supported project its expansion was not reliant on the low levels of retained earnings available through the CRS, but was instead directly financed through policy loans from state banks. Indeed, the state's financial commitment to Baoshan was extensive, and by 2001 some RMB 117 billion had been invested. This investment was equivalent to 52% of new capital works spending and 23% of all investment made in the industry during this period, despite Baoshan accounting for only a small share (7%) of national production by its completion.[1] Heavy state-financed investment in modern equipment allowed Baoshan to become dominant in Chinese markets for high-value finished products such as automotive sheet, with the result that by the early 1990s Baoshan had become the

first (and only) Chinese firm technologically capable of competing in global markets for advanced steel products (Sugimoto, 1993).

3. Corporatisation and autonomy under state supervision – 1990s

While state financial commitments guaranteed that Baoshan would become a modern and competitive enterprise, the performance of other Chinese steel SOEs during the CRS period was mixed at best. Notwithstanding its success in increasing production, regulatory weaknesses and poor incentive structures meant growth in the broader industry faced two major challenges. First, though the CRS provided firms with strong financial incentives to increase steel production, it offered none to upgrade technology or ensure products were of the correct mix required by consumers. This resulted in an excess of easily manufactured low-value steel alongside national shortages of higher-value finished products (Sugimoto 1993: 269). Second, while the CRS allowed firms to retain profits, it did not devolve responsibility for financial losses occurring as a result of the excess production of low-value products. These losses were automatically absorbed by the state banking system (Hassard et al. 1999: 65), and by the mid-1990s the debts owed by steel mills had grown to unsustainable levels several times larger than the nominal 'profits' being declared (Steinfeld 1998: 114).

In the 1990s, these problems became sufficiently acute that the Chinese state developed a new strategy for the steel industry. It abandoned the CRS in favour of a new set of liberalising SOE reforms, which included three interrelated and coordinated elements: corporate governance reforms to extend more autonomy to state-owned steel firms; industrial policy support to modernise the wider industry; and bureaucratic reform to the state's regulatory institutions for the industry. These reforms would prove significant for Baoshan, which developed a new relationship with the Chinese state as a preferentially supported technological leader among a newly formed and broader group of steel national champions.

The first element of the 1990s liberalising reforms involved the extension of greater autonomy to state-owned steel enterprises. Marketisation proper began in 1993 with the cancellation of the CRS and its replacement with a new 'modern enterprise system' (MES) for SOE management, which sought to resolve the problems associated with partial enterprise autonomy (Green and Liu 2005). In the steel industry, the MES involved three distinct but interrelated elements. First, full operational

autonomy, including financial responsibility for all profits and losses, was devolved to the firms (Hassard et al. 1999: 78). Some RMB 62 billion of non-performing loans run up during the CRS period were then absorbed into the state banking system through a series of debt-to-equity swaps in the late 1990s to put the industry on a secure financial basis (Taube and in der Heiden 2009: 82). Second, national steel planning was terminated when the last of the CRS contracts expired in 1997 (Tse 1997: 17), with all steel sales, from that point on, occurring on open markets and for the first time fully exposing steelmakers to market disciplines. Third, enterprise management was corporatised through a series of corporate governance reforms adopted from 1992. Under these reforms, SOEs were reorganised as 'group companies' – with a parent company holding shares in a series of subsidiaries organised around the enterprise's main activities – and independent boards of directors were established to exercise management functions separate from the state. Nonetheless, associated personnel rules which mandated that CCP officials should hold all top management positions ensured that state oversight of the enterprises was maintained (if indirectly) following corporatisation (Bai and Bennington 2007). As a result of the MES, by 2000 the Chinese steel industry had become fully independent of the national planning system, both financially and operationally, albeit still subject to 'oversight' by the Party through personnel linkages.

The second component of the 1990s reforms sought to address the industry's technological deficiencies by extending preferential industrial policy support to a larger group of national champions than just Baoshan. This began under the Ninth Plan of 1996, when the Chinese government abandoned its prior policy of decentralised industrial development in favour of a new program referred to as 'grasp the large, let go of the small' (Zheng and Chen 2007). The policy involved a commitment to a process of consolidation under ongoing state ownership for heavy industries considered a strategic part of the national economy, and the privatisation of all remaining non-strategic sectors and small-scale firms (Green and Liu 2005: 20–25). As steel was among the industries to be 'grasped' by the state, its privatisation was explicitly ruled out, and the MMI instead announced a policy to create large-scale steel conglomerates that would act as a 'group of national champions' in 1997. These steel conglomerates were initially formed by preferentially extending finance through the state banking system to large SOEs for the purpose of acquiring smaller firms (Sutherland 2001: 39–66), following which their technical modernisation was assisted by the extension of RMB 75 billion of concessionary loans from state-owned banks

for technology-upgrading projects (Taube and in der Heiden 2009: 81). The result of these state-financed consolidation and upgrading efforts was a doubling in the size of the ten largest steel SOEs,[2] and a rapid improvement in the technical sophistication of the industry's crude steel production.[3]

Corporatization and rationalisation efforts were followed by a third set of bureaucratic reforms that sought to clarify the role of the state as both owner and regulator of the industry. The process began in 1998, when ownership of the steel firms was clarified by removing them from the national MMI and awarding ownership of all but four steel firms to either their local or provincial governments (Tse 1997: 13). Regulatory authority was also streamlined in 2003, when the various Chinese planning bodies were abolished and replaced by two newly formed organisations with a clear division of regulatory labour: the state-owned Assets Supervision and Administration Commission (SASAC) and the National Development and Reform Commission (NDRC). The SASAC's role was to exercise direct 'ownership' functions on behalf of the state, and it took over issues relating to SOE financing, mergers and managerial appointments. It also possessed a somewhat devolved structure, with provincial SASAC branches formed to exercise ownership for firms devolved to local governments, and a 'central' branch performing this role for the firms retained by the national government (Zheng and Chen 2007). Conversely, the NDRC's role was to act as a national planning body, setting broad industrial goals that were then to be implemented at a firm level at the discretion of the various SASAC branches, though it also retained powers covering the loan activities of state banks (Voss et al. 2008: 4). The effect of these bureaucratic reforms was to achieve a separation between the state's ownership (SASAC) and regulatory (NDRC) functions over the steel industry, notwithstanding the ongoing dominance of state ownership and Party control of managerial appointments.

Following the completion of the liberalising reforms in the early 2000s, the Chinese steel industry entered a period of extremely rapid growth. While in part the result of liberalising reforms that devolved operational autonomy to now-independent firm managers, this growth was also associated with China entering a second 'heavy' phase of industrial development, which saw rapidly increasing demand for steel from the construction, machinery and automobile industries (Rothman 2005). The industry began booming from 2000, and by the end of the decade Chinese steel consumption had quadrupled, production increased five-fold, real investment increased six-fold, and the country shifted from

being a net steel importer to a major exporter (Table 8.1). The boom also quickly catapulted the Chinese industry to a position of unprecedented global dominance – rising from a 15% share of world steel production in 2000 to 47% by 2009 (WSA 2010).

However, due to the expansion of state industrial policy support to the broader group of steel SOEs during the 1990s reforms, Baoshan acquired a new status and role within the industry. Baoshan went from being a state-supported technological model to now being a national champion *among* national champions – a change in status that ushered in a new relationship between the firm and the state. Under this new relationship, the state retained particularly close control of Baoshan's management; and while it continued to extend discretionary policy support, now also required Baoshan to undertake special industrial policy functions reflective of its leading technological position within the industry.

First, from the mid-1990s state financial assistance to Baoshan became conditional upon the firm assisting technology-related industrial policy efforts in the industry. Baoshan was among the first firms to be corporatised under the MES, when it was selected in 1994 as a trial enterprise for corporate governance reform. Baoshan was also the sole steel firm included in a 1997 policy that named six SOEs (across a range of strategic industrial sectors) selected for industrial policy support to become world standard (Hassard et al. 2007: 97); and in 1999 Baoshan received RMB 17 billion of concessionary loans from state banks to fund technology projects associated with this goal (Taube and in der Heiden 2009: 81). However, this discretionary policy support also came with

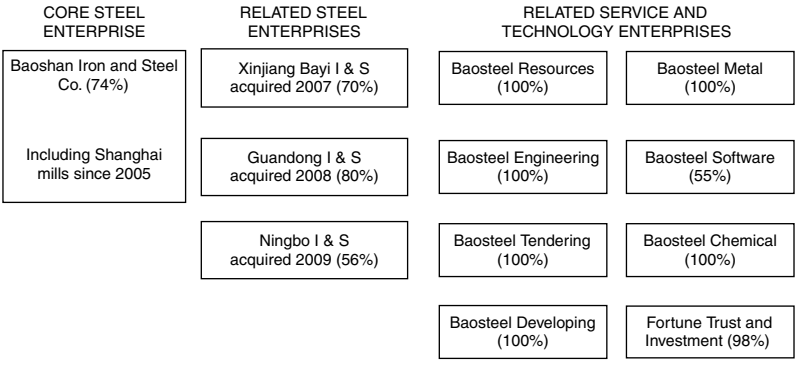

Figure 8.1 Structure of the Baosteel Group, 2010

Source: Author's compilation from (Baosteel Group 2011b).

obligations to assist the state's consolidation and technical upgrading efforts. In 1998, the MMI arranged for Baoshan to merge with, and then upgrade, two smaller Shanghai steel mills – Shanghai Metallurgical and Meishan I&S (Hogan 1999: 15). Both firms were ailing, with outmoded technology and heavy social-welfare obligations, which placed burdens on Baoshan to cover their welfare costs and to finance technical modernisations. However (and despite misgivings from Baoshan's management), given the attendant financial largesse from the state, the firm had little choice but to undertake the merger (Sun 2005: 181). Importantly, no other steel firm was forced to absorb ailing mills during this period, making this technology-upgrading function a role uniquely required of Baoshan.

Following its 1998 mergers, the full corporatisation of the firm was then undertaken when the Baosteel Group Corporation was formed in 2000. The Baosteel Group was designed to act as a 100% state-owned parent company, which would facilitate the reorganisation of the group's assets as separate subsidiaries: Baoshan, the two smaller Shanghai mills, and a range of related service and technology enterprises. This facilitated a capital raising through the privatisation of a 15% stake in Baoshan – the most profitable part of the group – in December 2000 (Sun 2005: 181). From this point on, Baosteel's internal organisation has effectively been partitioned in three: between its Baoshan subsidiary (in which the group's best steel assets are placed), other less-competitive steel enterprises that have been acquired through successive mergers, and its related downstream service and technology businesses. The group subsequently: reduced its holding in Baoshan to 74% through a series of share issuances designed to raise capital; upgraded the Shanghai mills before transferring their facilities into Baoshan in 2005; and then began acquiring majority stakes in a further set of smaller steel firms from 2007. Figure 8.1 outlines the current ownership arrangements within the Baosteel Group.

Given Baosteel's critical technological role within the industry, the state also retained especially close control of the firm's management during the corporatisation reforms. In terms of ownership, Baosteel was among the four nationally strategic steel firms whose ownership was retained by the central government in 1998, before passing to the central SASAC in 2003. At the regulatory level, while an autonomous board of directors was established during the group restructure of 2000, the autonomy of the board with respect to the interests of the Party and state has remained somewhat circumscribed. First, while a majority of board members are now external appointees,[4] Baosteel

was one of 53 central SOEs for which appointment power over the top two management positions was retained by the Central Organisation Department (COD) of the CCP – giving the Party control over the firm's top managerial appointments (Sun 2005: 181). Second, as the sole owner of the Baosteel Group, the central SASAC retains authority over 'major matters of enterprises' (including mergers, capital raisings, and senior managerial appointments),[5] which acts to limit the board's autonomy for decision-making within the broad strategic parameters determined by the SASAC. Third, the majority of directors are not only Party members but also hold ranking positions within the Party hierarchy;[6] and since 2007 the current chairman (Xu Lejiang) has been a member of the CCP's Central Committee (Baosteel Group 2011a).

Importantly, this tight control over Baosteel's management means that the firm is subject to a higher degree of state and Party control than its competitors in the Chinese steel industry. Baosteel is the only steel firm whose managerial appointments remain controlled by the COD; and as of 2010 is among only three firms whose ownership remains with the central SASAC.[7] Indeed, due to the ongoing Party control of appointments and SASAC supervision of the firm's management, recent studies of corporate governance in the Baosteel Group have concluded that: (a) the Party effectively controls decision-making within the firm by virtue of its near monopoly on management (Bai and Bennington 2007); and (b) its board of directors is unable to exercise meaningful influence on the firm's operations independent of the industrial policy priorities of the state (Jia and Tomasic 2010: 127). The result is that Baosteel's management can be best described as possessing 'circumscribed autonomy', capable of independent decision-making though only within the broad parameters laid down by state industrial policies.

While circumscribed autonomy and requirements to assist industrial policy imperatives were the cost of Baosteel's national champion status, concomitant state financial assistance acted as a major source of the firm's steadily increasing international competitiveness. During the last decade, Baosteel has consistently been the industry's top financial performer, with the gross profit margins in its Baoshan subsidiary (in which its modern facilities are concentrated) two to three times higher than the average for other large and medium Chinese steel firms (Table 8.2). The source of this competitiveness is Baoshan's product mix which, due to long-standing state financial support for technology projects, is concentrated in the high-margin hot-rolled, cold-rolled and tube and

Table 8.2 Financial performance of Baoshan I&S and Chinese steel industry, 2003–09 (RMB millions)

	Baoshan Iron and Steel Co.			Key Large and Medium Steel Mills		
	Operating profit	Total sales	Profit/sales (%)	Operating profit	Total sales	Profit/sales (%)
2003	10 049	4 4460	22.6	55 762	713 434	7.8
2004	13 442	5 8638	22.9	93 405	1 104 504	8.5
2005	17 451	9 8545	17.7	80 997	1 316 055	6.2
2006	18 984	11 7603	16.1	103 543	1 554 246	6.7
2007	19 477	13 6360	14.3	164 617	2 069 997	8.0
2008	8 304	15 0529	5.5	88 076	2 703 012	3.3
2009	5 887	11 6288	5.1	53 417	2 418 712	2.2

Source: Author's calculations, from (Baoshan Iron & Steel, *Annual Reports 2003–2009; China Steel Yearbook*, various years).

pipe product lines. These three market segments currently account for 68% of Baoshan's sales, which compares favourably to an average of 19% across the Chinese steel industry.[8] Technological advantages also allowed Baosteel to become an aggressive exporter, with foreign markets accounting for 9.3% of its sales by value in 2009 – well ahead of the national average of 3.3% (*China Steel Yearbook* 2010), and one of the few Chinese steel firms export-active in high- rather than low-value product lines. Finally, Baosteel's rapid growth – with the corporation doubling in size over the last ten years – has also seen it become one of the world's largest steel firms, in 2009 edging out both of its main foreign rivals (Japan's Nippon Steel and Korea's POSCO) to become the world's second-largest producer by output (WSA 2009). Thus, a long-standing pattern of state support for high-technology projects has ensured Baosteel has become both the Chinese industry's most competitive enterprise, and the firm most capable of competing with steel multinationals in international markets for sophisticated and high value-added finished steel products (Nolan 2007; Sun 2007).

4. Steel crisis, activist intervention and special policy functions for Baosteel – 2000s

While the liberalising reforms of the 1990s laid the regulatory groundwork for rapid steel growth, emerging problems for the industry have in

fact characterised the latter half of the 2000s as a period of crisis rather than success. Chief among these is the industry's technical capacity to compete with foreign steelmakers in a newly deregulated trade environment, which has threatened the ongoing sustainability of the industry's recent high-speed growth. From 2005, this challenge catalysed a third phase of steel reform policies by the Chinese government, this time designed to improve the industry's competitive position in world markets by consolidating the relatively competitive steel market into a more oligopolistic form. The state's policy responses since 2005 have also reversed the prior trend of gradual liberalisation in favour of a reassertion of state leadership through aggressive industrial policy interventions. Importantly, given Baosteel's institutional status as the industry's national champion and technological leader, the firm has again been anointed to play a special policy function as an agent of technical upgrading during this period of heightened state involvement in the industry.

The primary difficulty for the Chinese steel industry during the 2000s boom has been its poorly concentrated market structure. Despite the objectives of the 'grasp the large' policy, the industry has remained poorly consolidated, and is presently characterised by a four-tier structure (outlined in Table 8.3). Its bottom tier – comprised of several thousand former township and village enterprises – is very small in scale, uses outdated technologies and is largely economically unviable. Growth has instead been driven by two other groups of firms. A third tier of 73 medium-sized 'key enterprises', which account for around 40% of national production, and are of a sufficient size for economic viability but face ongoing deficiencies compared with world technological standards. Above these, a second tier comprised of the 'top-ten' accounts for 40% of national production. These top-ten firms are the largest and most technologically sophisticated enterprises and comprise the national champions group that has been the major recipient of state policy assistance in recent years.[9] As the largest firm and technological leader, Baosteel sits alone in the first tier of this institutional structure. In terms of output, however, Baosteel is only a small player, either among the national champions or in the industry as a whole, accounting for only 6.7% of national and 15.6% of top-ten crude steel production in 2009. Thus, the Chinese steel sector is currently characterised by a relatively unconcentrated and competitive type of institutional structure, within which Baosteel plays only a minor (albeit technologically important) role.

This fractured market structure has proven a major difficulty for the Chinese steel industry during its boom over the last decade, as the

Table 8.3 Structure of Chinese steel industry, 2009

	Number of firms	Average size (mtpa)	Share of national production (%)	Description
First Tier: Baosteel Group	1	38.8	6.7	Designated national champion; technological leader in high-value finished products
Second Tier: National champions	Top 10 (2nd-10th)	23.4	36.5	Main recipients of industrial policy targeting; large-scale and technologically efficient enterprises; predominantly SOEs
Third Tier: Key enterprises	Top 73 (11th-73rd)	3.6	39.0	Medium size upwards; sufficient scale for viability but some ongoing technical deficiencies; mix of SOEs and private firms
Fourth Tier: Small firms	Approx. 11800	Very small	17.8	Ex-TVEs; small-scale backyard operations; most economically unviable

Source: Author's summary, from *China Steel Yearbook 2010*; OECD 2006; Sun 2007.

industry lacks the levels of consolidation and enterprise-level scales necessary to compete effectively in global steel markets. As late as 2004, even the national champions group was comparatively small by international standards (at about one third the average size of leading multinational steel firms);[10] and only five Chinese firms had achieved the 'minimum efficient scale' for integrated steel production, estimated to be around 8 mtpa (Sun 2007: 603). As a result (and with the exception of Baosteel), the industry lacked the capabilities to cost-effectively produce the high-value speciality steel products increasingly in demand from its automobile and machinery sectors. Its low technology levels also mean that despite rapidly growing exports, it has only proven competitive in world markets for low-value, semi-finished bulk steel lines (OECD 2006: 14). Thus, and despite the success implied by rapidly expanding production, weak consolidation means the international competitiveness of the Chinese steel industry remains laggard.

These low levels of international competitiveness proved doubly problematic due to the dismantling of import-substituting trade protections, which began in the 1990s and culminated in China's World Trade Organization accession in 2001. All forms of tariff protection, trade licensing and production and export subsidies for the industry were removed,[11] for the first time directly exposing the industry to competition with international steel firms in its home market. While booming demand compensated for poor international competitiveness in the early years of the decade, the industry's frailty was fully exposed when world steel demand and prices slumped during the 2008–09 global financial crisis. By late 2008, 60% of Chinese steelmakers were declaring losses (*Steel Guru* 2008a); and profitability among the key enterprises collapsed, falling from a peak of 8.5% of sales revenue in 2004 to 2.2% in 2009 (Table 8.2). Despite its focus on high value-added product lines, even Baosteel was affected, with Baoshan's gross profit margins collapsing from 14.3% in 2007 to 5.1% by 2009 – albeit a rate still relatively healthy when compared to the rest of the industry. In early 2009, the industry was officially declared to be in crisis, which both the government and industry officials publicly attributed to the combined effects of the financial crisis and the firms' low international competitiveness (*Steel Guru* 2009d).

Somewhat unsurprisingly given the strategic importance of steel to China's development program, the state responded by abandoning its previous strategy of gradual liberal reform in favour of a reassertion of governmental control over the industry. Recognition that the unconcentrated market structure was problematic first occurred in 2003, when the NDRC issued a report that argued steel production was rising too quickly in too many firms, and proposed bringing the investment approval process back under central government control (NDRC 2003). This proposal was then adopted in July 2005, when the State Council officially endorsed the NDRC's *Iron and Steel Industry Development Policy* (NDRC 2005). This policy outlined a strategy of coordinated interventions in the steel industry, which aimed to transform the structure of the industry from a competitive to an oligopolistic form, so as to promote consolidation and technical upgrading among the national champion group of enterprises. Specifically, the 2005 Steel Policy called for:

- Consolidation – through planning targets that called for the top-ten firms to produce 50% of national steel output by 2010 and 70% by 2020 (article 3). To achieve this, the NDRC reassumed investment

approval powers from the central and provincial SASACs, which would be used to prohibit expansion of small and medium firms by only approving new projects meeting certain size thresholds (articles 12 and 22).
- Technical upgrading – by using investment approval powers to require steel firms to shift investment patterns away from production expansion in favour of the 'scrap-and-rebuild' replacement of old equipment with new facilities (article 10).
- Mergers – by encouraging the large firms to pursue 'concentration through coalition, cross-share holding, merger and restructuring'. To support mergers, the NDRC would use its approval powers over the activities of state-owned banks to withhold credit for capacity expansions to the industry. Instead, credit would be rationed toward the large industry leaders for the purpose of acquiring medium-sized firms (i.e., those in the third-tier key enterprise group) (articles 20 and 25).

The NDRC's 2005 Steel Policy was critically significant for the steel industry as a whole. It laid out plans to shift the industry from a competitive to oligopolistic market structure, and reversed the previous trend of a gradually reducing role for the state in favour of activist industrial policy interventions. Taken together, the initiatives called for a state-orchestrated *acquisition-then-upgrading* process, under which the more efficient top-ten national champions would first merge with, and then technologically upgrade, medium-sized firms from the key enterprises group. Its goals were reinforced when the NDRC's 'Steel Revitalisation Plan' was approved by the State Council as an emergency measure following the 2009 financial crisis – which awarded the industry a further RMB 15 billion of subsidised loans for technology upgrading projects and saw the NDRC commit to undertake a brokering function with provincial government owners that was aimed to smooth the way for cross-provincial steel mergers (*Steel Guru* 2009a; *Xinhua* 2009).

The shift toward activist policy intervention to foster oligopoly also proved significant for Baosteel, as the firm was again delegated a special policy implementation role by the NDRC reflective of its leading technological position within the industry. First, Baosteel was implicitly named as a merger leader in the 2005 Steel Policy, which called for the creation of two 30 mtpa firms by 2010 through state-orchestrated mergers (NDRC 2005: article 20). This state-anointed policy role was then formalised in the Steel Revitalisation Plan of 2009, under which Baosteel was explicitly named as a firm that should lead the acquisition-then-

upgrading process that was being intensified in the wake of the financial crisis (*Steel Guru* 2009a). The State Council and NDRC's joint decision to delegate this function to Baosteel demonstrates a reprising of the firm's policy role of the late 1990s, under which its status as a national champion carried concomitant obligations to act as an agent promoting industrial policy goals for the broader industry. Importantly, an analysis of Baosteel's record in performing this acquisition-then-upgrading function shows that this obligated role has carried both benefits and costs for the firm's growth pattern.

Associated with its new policy role, Baosteel enjoyed a new round of discretionary state financial support to undertake a set of merger-driven expansions from 2005. Financial support was offered to the firm by channelling concessionary loan finance through the state-owned banking system – either through state-owned policy banks that provide 'policy finance' on concessionary rates for state-targeted investments (Bonin and Huang 2001), or through state-owned commercial banks whose purpose is to finance SOE activities in line with state-mandated industrial plans (Cousin 2007; Podpiera 2006). First, in the immediate wake of the 2005 Steel Policy, Baoshan enjoyed a tripling of its loan finance from state-owned banks, from RMB 4.7 to 12.5 billion (Baoshan Iron & Steel 2005). These loans were augmented in 2009–10 when the Baosteel Group was extended lines of credit with a combined value of RMB 140 billion by three state-owned banks, earmarked to fund acquisitions and technology projects.[12] Baosteel also benefited from a de facto capital infusion of RMB 15 billion from the state, occurring as a result of the central SASAC purchasing 60% of a Baoshan stock issuance made by the Baosteel Group in 2005 (Baoshan Iron & Steel 2005).

Demonstrating Baosteel management's sensitivity to state imperatives (given personnel linkages between its board and the Party), the firm quickly responded to its new policy role. First, Baoshan doubled the value of its new project investment spending (largely concentrated in new technology projects) in 2005 (Baoshan Iron & Steel 2005); and the group announced a new rapid-growth strategy that called for a tripling of Baosteel size to 80 mtpa by 2012 (Baosteel Group 2007). The Group also launched a series of merger initiatives from 2006, which resulted in the acquisition and upgrading of four medium-sized SOEs – 70% of Xinjiang Bayi in 2007, 80% of a joint venture combining two Guangzhou mills in 2008, and 56% of Zhejiang Ningbo in 2009 (see Table 8.4). This quick succession of state-financed mergers ushered in a period of unprecedented growth for Baosteel, which almost doubled in size from 22.5 to 38.8 mtpa in the three years to 2009 alone. Baoshan's

Table 8.4 Merger initiatives of Baosteel Group, 1998–2010

Merger target	Year	Size (mtpa)	Share acquired (%)	Process/outcome
Shanghai Metallurgical / Meishan I&S	1998	5.9	100	Administrative transfer
Handan I&S	2006	9.5	Failed	Blocked by Hebei government
Xinjiang Bayi	2007	9.5	69.7	48.5% share transfer; 21.1% acquired for RMB 3 billion
Guangzhou Steel/ Shaoguan Steel	2008	7.2	80	Share transfer in exchange for Baosteel contributing RMB 28 billion to new projects
Pangang	2008	7.5	Failed	Central SASAC awards merger rights to Ansteel
Zhejiang Ningbo	2009	4.0	56	Cost of RMB 2 billion
Magang	2009	14.8	Failed	Blocked by Anhui government
Baotou	2010	10.0	Failed	Blocked by Inner Mongolia government

Source: Author's compilation, from (*American Metals Market* 2007; *Caijing* 2006; *China Economic Net* 2008; *Financial Time*s 2008; *Steel Guru* 2008b, 2009b, 2009e, 2010a).

new technology projects also allowed for continued improvement in its product mix after 2005, largely exiting the low-value billet market while increasing its production of hot- and cold-rolled products by 35% and doubling its stainless steel capacity.[13] Finally, rapid merger-led growth also allowed Baosteel to quickly jump up the ranking of international steel producers, climbing from the world's sixth-largest firm by output in 2005 to second by 2009.

However, while state-financed mergers allowed Baosteel to expand rapidly, its policy obligations have precluded other expansion initiatives that would have resulted in a more amenable growth trajectory. First, policy restrictions have meant Baosteel's four acquisition-then-upgrading mergers have been suboptimal from the perspective of the firm itself. The firms Baosteel was able to acquire were all comparatively small, third-tier enterprises that were financially underperforming. These firms were also in need of extensive technological upgrading, requiring Baosteel to commit to major infrastructure and engineering investments to improve the acquired plants. However, independent initiatives

launched by Baosteel's management to merge with larger and more efficient steel mills – which would not impose such upgrading costs – were blocked on repeated occasions by state regulators. Three attempts by Baosteel to merge with large 'technological peers' were vetoed by provincial governments concerned with the impact that losing ownership (and hence firm profits) would have on government finances. These vetoes occurred despite the NDRC's public commitment to broker agreements with provincial governments in such situations; and, given that many of Baosteel competitors have successfully executed cross-provincial mergers[14] due to active support and brokerage from the NDRC, this suggests its support for the vetoed proposals was relatively weak. In a fourth case, a Baosteel initiative to merge with Pangang (a firm with highly developed capacity in tube steel products) was scuttled when the central SASAC instead appointed acquisition rights to Ansteel, Baosteel's major domestic competitor (*Steel Guru* 2008b). While no official explanation was provided for this decision, it was understood to be motivated by the goal of strengthening Ansteel's competitiveness to levels comparable with Baosteel (*Bloomberg* 2009). Importantly, the vetoing of mergers has been specific to Baosteel (as no other Chinese steel firm has had a merger blocked since the 2005 Steel Policy), and reflects the fact that Baosteel's industrial policy function since 2005 has been to acquire ailing third-tier enterprises rather than its second-tier technological peers.

Second, since reassuming investment approval powers the NDRC has also prohibited Baosteel from using its concessionary state finance for either internal expansion or the development of new projects. Very little capacity expansion (only 1.8 mtpa) has occurred in its Baoshan subsidiary since 2005, which the firm itself has explained was due to the provisions in the Steel Policy prohibiting the expansion of existing steel works (Baoshan Iron & Steel 2008: 34). Additionally, in 2009 the NDRC refused Baosteel permission to develop a new 10 mtpa plant at Zhanjiang, which the group had intended to act as a second high-technology project to complement its Baoshan works (*Steel Guru* 2009g). Again, such vetoes were related to policy imperatives that it focus on the upgrading of ailing competitors rather than internal expansion, and appear to be somewhat specific to Baosteel – as only one other steel firm (WISCO) has had an investment project cancelled by the NDRC since the 2005 Steel Policy was announced.

Thus, while Baosteel's post-2005 growth has been extremely rapid due to state financial support, the trajectory has nonetheless been suboptimal from the perspective of the firm itself. The firm's policy role as

an acquisition-then-upgrading leader has resulted in regulatory vetoes for management initiatives to expand either internally, or via merger with technological peers, and has forced Baosteel to grow by merger with underperforming third-tier firms. Indeed, the fact that Baosteel's management attempted to grow the firm through a combination of internal expansion and merger with peers demonstrates that the resulting growth trajectory was not the management's desired outcome, but a compromise necessitated to conform to the state's industrial policy prerogatives. Of course, Baosteel did receive discretionary financial support to assist with this role and remains Chinese industry's top performer (both technologically and financially) despite the costs imposed by its third-tier acquisitions. Nonetheless, Baosteel's resulting growth trajectory has clearly been more consistent with the interests of the state and the broader industry (for further dissemination of Baoshan's technical capabilities) than with development of the firm itself – and evidently was not the management's first choice in light of its several vetoed growth initiatives. However, it has been a necessary quid pro quo, given the firm's policy function as a technology and merger leader and the concomitant financial benefits this role has brought.

5. Conclusion

Baosteel's evolution illustrates a unique trajectory, under which its national champion status has resulted in specific features for the firm's development and relationship with the Chinese state. Baosteel has grown to the position of being the leading steel firm in China and enjoys the status of being one of the few Chinese firms technologically capable of competing with global steel giants. However, in large part it owes this position to long-standing patterns of governmental support. Baosteel was established as a national champion from the outset, built at high cost by the Chinese state as a modern enterprise with world standard equipment. Since that time it has consistently enjoyed the benefits of its national champion status – particularly in the form of access to preferential financing from state banks – which has allowed the firm to grow rapidly, dominate high value-added niches within the Chinese steel market, and financially outperform its SOE peers. Furthermore, Baosteel was corporatised and granted managerial autonomy during the corporate governance reforms beginning in the late 1990s. As a result, the formal role for the state in the management of the firm has been reduced to that of owner (through the central SASAC) and regulator (the NDRC). The Baosteel Group's board of directors now exercises

independent control of the productive and financial operations of the enterprise, which now operates within a steel market that is both competitive and international in character.

However, Baosteel's institutional status as a 'national champion among national champions' resulted in tight government control of the firm. Unlike the experience of other Chinese steel SOEs, Baosteel's critically important role as a technological leader within a poorly concentrated steel sector has seen it: (a) subject to particularly tight Party supervision and penetration of management; and (b) face obligations to absorb smaller and underperforming SOEs. Moreover, since the crisis-induced and heavily interventionist Steel Policy of 2005, the state has again required that Baosteel perform policy functions, mandating a growth strategy based on mergers with ailing third-tier firms rather than with its technological peers or through internal expansion. This technology-upgrading policy function, selectively applied by the state to Baosteel (and only to Baosteel), has taken the form of an obligatory quid pro quo under which the support enjoyed by the firm has carried concomitant requirements to implement the state's industrial policies. Furthermore, it demonstrates that while Baosteel's management has largely achieved operational autonomy from the state, institutional constraints mean the firm's autonomy is at best circumscribed and subject to special governmental control over higher-level strategic decision-making.

Ultimately, this mix of policy-related advantages and obligations has carried both benefits and costs for Baosteel's development. On the one hand, state financial assistance has cemented Baosteel's position as a world-leading steel enterprise, and the company's financial performance remains sustainable (if nonetheless reduced) since the 2008 global financial crisis. However, performing a policy role has also carried costs. These costs are particularly evident in Baosteel's recent growth trajectory – clearly suboptimal from the perspective of the company itself – and demonstrates that national champion status has carried a mix of both positive and negative effects. Moreover, it reveals that while corporatisation has delivered Baosteel significant levels of managerial and operational autonomy, ongoing regulatory supervision by the state and managerial penetration by the Party has limited the degree to which the company can be considered a genuine market actor. Rather, as a national champion among national champions, Baosteel remains somewhere between the position of being a market-responsive economic actor and a policy-responsive political actor, and continues to bear both the benefits and costs that this neither fully market-controlled nor state-controlled position implies.

Notes

1. Author's calculations, from (Nolan 2007: 89; *China Steel Yearbook*, various years).
2. During the 1990s, the average size of the top-ten Chinese steelmakers doubled from 3.7 to 6.3 mtpa, and by 2000 the group accounted for some 50% of national production. Author's calculations, from (*China Steel Yearbook*, various years).
3. During the 1990s, the industry made obsolete open-hearth steelmaking technology in favour of the modern basic-oxygen furnace, and achieved almost universal adoption of continuous casting process technology (Movshuk 2005: 68–69).
4. Following Baosteel's inclusion in a 2005 SASAC pilot project to trial boards comprised mostly of non-company directors (Qin 2007).
5. As per Chapter IV of the *Interim Regulations on the Supervision and Management State-owned Assets of Enterprises* (State Council of the People's Republic of China 2003).
6. Of Baosteel's ten current directors, seven (including three of its six 'external' directors) are Party members, all of whom hold formal positions within the CCP apparatus. See (Baosteel Group 2011a).
7. The others being Ansteel and WISCO, the second- and third-largest Chinese steel firms (SASAC 2009).
8. Author's calculations, from (Baoshan Iron and Steel 2009: 28; *China Steel Yearbook* 2010).
9. Industrial policy targeting of the top-ten firms began with the Tenth Plan (2001–05), which called for the group to produce 80% of national output by 2005 (Sun 2007: 605), and was subsequently reinforced by similar targeting in national steel industry policies issued in 2005 (NDRC 2005) and 2010 (*Steel Guru* 2010b).
10. In 2004, the average size of the top-ten Chinese mills was 11.9 mtpa, compared to 30.7 mtpa for the world's ten largest non-Chinese firms. Author's calculations, from (*China Steel Yearbook* 2006; International Iron and Steel Institute 2007).
11. As per sections 5, 6, 7, 8, 10 and Annex 2A of China's WTO accession protocol. See (WTO 2001).
12. Author's compilation, from (*Steel Guru* 2009c, 2009f, 2010c; *Business Week* 2010).
13. Author's calculations, from (Baoshan Iron and Steel 2005, 2009).
14. Namely, Ansteel's 2009 acquisitions of Pangang and Benxi (*China Daily* 2010); and WISCO's 2008 merger with Luizhou (*Xinhua* 2008).

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9
SAIL: Sailing or Stumbling?

Amitendu Palit[1]

1. There is a little bit of SAIL in everybody's life

The motto of the Steel Authority of India Limited (SAIL) – *There is a little bit of SAIL in everybody's life* – is one of the catchiest to dominate advertising space in India's print and audio-visual media for several years. And the claim is reasonably correct. As India's largest steel manufacturer with five integrated steel plants (Bhilai, Bokaro, Durgapur, Rourkela, Burnpur), special (alloy) steel plants (Durgapur), a subsidiary (Maharashtra Electrosmelt Ltd) and various other specialised centres and units (e.g., a research and development centre, a management training institute, a centre for engineering and technology, a central coal supply organisation and a central power training institute) SAIL is India's largest steel conglomerate. For decades, its plants have been supplying steel to India's defence establishments, railways, telecommunications companies, oil and gas sectors and other key infrastructure and strategic sectors.

SAIL was born in 1973 as a holding company in the heyday of the public sector and state domination of economic production in India. Today, after almost forty years, it stands at a crossroads as India's steel sector gears up to meet domestic demand that is rising at an exponential pace fuelled by massive infrastructure projects (e.g., the Delhi-Mumbai Industrial Corridor) and the real estate boom. Steel products will continue to be much sought-after items in the foreseeable future, as they have been during India's high-growth phase of the recent past. SAIL, which has been central to India's industrial strategy and capacity expansion plans for several years, now faces the distinct possibility of becoming a less significant player in the supply-side economics of India's steel industry, as other private producers gradually occupy larger spaces.

Will SAIL – one of the most precious possessions in the Indian state's family silver – fade out by succumbing to competition? Would the state continue to back it on strategic considerations in the future even if it performs inefficiently? Is privatisation the best option for SAIL if it is to respond effectively to emerging challenges? The answers to these and many more questions are intricately linked to the political economy priorities governing India's industrial development. This chapter attempts to address some of these queries by examining SAIL's growth and transformation over the last four decades.

2. The journey

Sweeping economic reforms unleashed in India's industrial and external sectors in 1991 brought far-reaching changes to the steel industry. Indeed, the remarkable difference in the nature and quality of emphasis on the role of the public sector in organising and sustaining industrial production between India's two landmark industrial policy resolutions adopted in 1956 and 1991, respectively, can hardly escape attention.

The 1956 industrial policy: beginning to build steel

The 1956 resolution made the public sector and state-owned enterprises key players in the creation of new industrial capacity. Steel, along with sixteen other industries, was earmarked as a sector in which creation of fresh capacity will be reserved for the public sector.[2] While existing private enterprises – such as the Tata Iron and Steel Company (TISCO) in steel manufacturing – were allowed to continue and expand, barriers were imposed on new private entry. Incidentally, steel also featured as a 'high priority' industry in the industrial policy statement of 1991. This time, however, it was identified as a sector where not only foreign technology collaborations were allowed, but foreign financial collaborations were also permitted with majority foreign ownership (up to 51%).

It is interesting to note the nature of the political economies prevailing at the points in time when the two policies were announced. The 1956 policy bore the Nehru-Mahalanobis stamp of the 'mixed' economy, in which a capital-scarce country, with less than a decade's independence, optimal and careful allocation of resources was imperative. Foreign exchange reserves were scant, forcing planners to ration imports and focus on expanding domestic production of items that would substitute for imports. Large chunks of the scarce resources were deployed in building basic and heavy industries that were strongly capital-intensive in nature; private profit motives could hardly be allowed room in an

industrial strategy that attempted to lay the foundation of the country's industrial growth with limited resources. The Soviet strategy of industrial development led by an overarching state-sector propelling heavy industries clearly influenced the architects of the Indian strategy.

Hindustan Steel Ltd, the first state-owned steel maker in India, was born in 1954 – towards the end of India's first Five Year Plan and around two years before the 1956 policy – to manage the Rourkela steel plant established in the eastern coastal state of Orissa. Within three years of the policy and before the end of the second Five Year Plan (1956–61), the state created more capacity in the industry by building plants at Bhilai in Madhya Pradesh and Durgapur in West Bengal. In another five years, in 1964, the eastern state of Bihar in India had another plant at Bokaro. All these were eventually put under SAIL's authority in 1973. All SAIL plants, individually since their establishment, and later under the SAIL umbrella, fulfilled the objectives of import substitution by producing finished steel and selling the same to domestic consumers at regulated prices. Their sway over the domestic market was significant as steel imports were not only subjected to high tariffs, but were also quantitatively restricted by an industrial regulator[3] and canalised through SAIL itself.

1970s: state supreme

However, from 1956 to 1973 – from the announcement of the landmark industrial policy to the creation of SAIL – the political economy experienced some changes. Most notable among them was the urge to 'elevate' the public sector from playing the lead role in the growth of basic and heavy industries for achieving import substitution and self-reliance in industrial production to that of the controller of industrial investment, output and employment through direct participation of state-owned enterprises, not only in capital, but also intermediate and consumer goods, and expanding in size by engulfing sick private units (Sengupta 2004). The controlling urge manifested itself through several actions: the nationalisation of commercial banks and insurance firms (1969); the introduction of the 1970 Monopolies and Restrictive Trade Practices Act (MRTP); the extension of state control over coal mines in 1972; and the Foreign Exchange Regulation Act of 1974. In the case of the steel industry, the actions resulted in a clear segmentation of the industry between nationalised, state-owned steel plants belonging to the SAIL (e.g., major production facilities at Bhilai, Durgapur, Bokaro and Rourkela) on the one hand and the lone private integrated steel facility belonging to Tata. The 'state' stamp on the industry became

conspicuous with the government announcement that all new capacity creations in the industry henceforth would be carried out only by the state-owned enterprises and not by private firms.

The formation of SAIL as a single holding company for operating and managing all existing state-owned steel producing facilities was clearly not an exogenous development, and should be visualised in the context of the overpowering urge for extending the writ of the state to all industries, particularly the core and strategic sectors of the economy. India's public sector became far more visible in the domestic economic sphere from the late 1960s; indeed, the 1956 policy and the importance that it bestowed upon the public sector in creating new capacities in industrial production seemed insignificant compared with the dimensions the state sector had assumed since the late 1960s. The emergence of SAIL as a corporate entity in India's steel industry marked the intention of the Indian state to centralise decision-making and operations for all state-owned steel facilities. More than profit-maximisation, the creation of SAIL was motivated by state efforts to consolidate operations and ensure that future growth and expansion of the industry was entirely fashioned for fulfilling state objectives, as opposed to private motives.

The urge to control most segments of economic production, ironically, had adverse ramifications for several state-owned enterprises, particularly SAIL. As part of a select core earlier, steel plants benefited from the discriminatory allocation of scarce resources from the state exchequer. With public sector enterprises spreading far and wide across the national production spectrum, aggregate state resources were required to be spread across a larger number of activities and enterprises. This resulted in lower public capital expenditure on the steel industry, and SAIL suffered from the decline. The share of iron and steel in the total capital stock of central government-owned enterprises declined from 39.2% in 1973–74, throughout the seventies and thereafter, to only 18% in 1992–93 (Raghavan 1994; Sengupta 2004).

The steel industry and SAIL reflected the downside of the state taking over production of several activities where hitherto the state was not present. Though the state now became the dominant producer in several areas by restricting expansion of the private sector, its larger role as a producer was not matched by a commensurate increase in its financial resources, since the Indian economy did not move on to a noticeable high-growth trajectory. The situation would have been different had consolidation and nationalisation been confined to only a few industries. The limited state resources could then have been deployed entirely

on these. Instead, with the state having moved into practically all major manufacturing and service industries, it now became imperative for the government to deploy funds everywhere. Since the government was unable to raise funds at a rate that would have allowed an equitable distribution to all sectors, some industries (including steel) experienced a relative decline in capital formation.

From an enterprise-specific sense, the plants belonging to SAIL's predecessor, Hindustan Steel – Rourkela, Bhilai and Durgapur, as well as the one set up at Bokaro – left strong impressions upon India's industrial economy during the 1950s and 1960s, largely on account of the discriminatory strategic importance they enjoyed. All the plants are first-generation integrated steel plants encompassing all aspects of the steel supply chain, beginning from the production of pig iron from iron ore to the making of crude steel and rolled products. As is typical of first-generation integrated steel plants, these were heavily capital-intensive projects, located deep in hinterlands close to iron ore and coal reserves (Sato 2009). All the plants were in close proximity to mineral reserves in Eastern and Central India. Locational advantages apart, all were developed during the 1950s and 1960s with foreign technical assistance and aid (from Germany, the Soviet Union and Britain) and were models of industrial excellence as visualised in the Mahalanobis strategy. While SAIL and its operations remained central to India's industrial development plans during the 1970s and thereafter, there are doubts over whether it continued to enjoy the same pride of place as it did earlier. This was perhaps inevitable given that the Nehru-Mahalanobis strategy of 'unbalanced' development favouring a discriminatory resource and technology push towards heavy and capital-intensive industries such as steel was replaced from the early 1970s by a more 'balanced' but markedly socialist strategy envisaging practically all public enterprises being leaders on their respective turfs, compared with a few in the 1950s and 1960s.

SAIL's performance in the 1980s was not satisfactory, as it kept falling short of planned production targets and accumulating losses. The main impediments to higher production and efficiency were the growing obsolescence of plant and equipment. The modernisation of operations was a crying need that remained largely unaddressed, with government attention focusing less on improving efficiency in individual enterprises and much more on the broad-basing of industrial development leading to policies encouraging decentralisation of the industrial sector with emphasis on small-scale, tiny and cottage industries.[4] The latter half of the 1980s and the seventh Five Year Plan (1985–90) did pay attention to

technological and managerial modernisations and focused on improving productivity and efficiency in public enterprises. This was probably as a result of the growing realisation that state-owned enterprises were beginning to become fiscal drags by piling up losses both from low-administered prices of final products as well as from the large work forces they nursed for fulfilling socio-political objectives of employment. Like other large state-owned enterprises, SAIL had to adhere to both the pricing and labour policies and absorb the adverse outcomes. Indeed, SAIL was not only one of the largest employment providers in the public sector, but it also had to bear the occasional brunt of disruptive organised trade union activities,[5] which affected production, as did irregular supplies of electricity and rising raw material costs.

1991 reforms: competing with constraints

India's reforms in 1991 were more the result of a serious external sector crisis rather than outcomes of a planned and prepared exercise. It was not only the macro economy that was under stress following the accumulation of large fiscal and current account deficits financed by internal and external borrowings; the political environment in India, too, was somewhat fragile and unstable. Following the ousting of the Congress government in the 1989 Parliament elections, India had two short-lived, unstable coalition governments under two different prime ministers – V.P. Singh and Chandra Shekhar – neither of whom would last in office for even a year. In a fresh round of elections for the parliament, held within less than two years, the Congress came back to form the government under Prime Minister Narasimha Rao in June 1991. The political environment was hardly conducive for announcing the kind of reforms that the government did within weeks of assuming office. The Industrial Policy Statement issued on 24 July 1991 removed entry barriers by reducing the scope of industrial licensing, allowed foreign investment and blunted the MRTP Act of 1970. But for public sector enterprises, particularly for prominent ones like SAIL, the main impact of the policy was in the radically different role it proposed for the public sector.

The policy made no bones about submitting that the public sector had accumulated several inefficiencies – low productivity, poor management, insufficient technological upgradation and low returns on capital investment – which made most public enterprises burdens for the state, rather than assets. In particular, the policy was unambiguous in criticising two aspects of the expansion of the public sector from the 1970s: that it was growing horizontally by taking over sick private

units and that it was moving into 'inessential' areas of production such as consumer goods.[6] The role of state-owned enterprises was henceforth proposed to be limited to essential infrastructure, oil and mineral resources, building manufacturing capabilities in areas crucial for long-term industrial development, and strategic sectors such as defence. The policy also suggested managerial autonomy for public enterprises, exposure to greater competition and divestment of partial government stakes in the enterprises for increasing accountability.

The policy aroused considerable attention in terms of its efforts to curb the overarching dominance of the state sector in the Indian economy. Given the spread of the public sector in investment and production over the last couple of decades, the policy marked a role reversal by ensuring that the state concentrated primarily on essential and strategic production. In this respect, the policy could be interpreted as a step towards corrective withdrawal of the public sector from a well spread-out presence to defined and niche existences. This was again a discriminatory approach and probably not fundamentally different from a similar role envisaged for public enterprises in the industrial policy of 1956, except for two major exceptions: the removal of entry barriers for encouraging competition and reorganising ownership structures of state enterprises. The new policy urged state enterprises to reorient for adjusting to the new rules of the game, which encouraged competition and determined allocation of resources on the basis of market principles, rather than through state-driven diktats.

The policy had mixed implications for SAIL. There was little doubt that SAIL met the 'necessary' criteria put down for public sector enterprises in the policy. Steel production and infrastructure development are inseparable, and steel enjoys strategic importance, particularly in supplying to railways and defence. In these respects, SAIL would continue to enjoy state patronage, particularly since it accounted for the largest share of finished steel in the country. But it had to accept the new rules of the game, which created a remarkably different environment to those in which its plants had been accustomed to performing. A critical part of the changes related to prices. Soon after the announcement of the new policy, domestic steel prices were deregulated and tariff walls on imports began coming down. With distribution controls also being withdrawn, the onset of competition was the foremost challenge to SAIL's command over the market. Furthermore, the process of infusion of private ownership began taking root in SAIL with the partial offloading of government equity.[7] SAIL not only had to contend with a domestic market increasingly assuming different proportions from what

it used to, it also had to accept the prospect of far-reaching ownership changes. Indeed, during the subsequent years, India's steel industry has become considerably market-oriented and integrated with the global steel industry, largely due to the emergence of private secondary steel producers such as Essar Steel Ltd., Ispat Industries Ltd and JSW Steel Ltd. that have also been creating new capacity aggressively, in addition to TISCO.

SAIL's main response to the emerging challenges was to embark on an ambitious modernisation program for expanding capacity. In December 1990, SAIL announced plans to increase output from 11 million to 19 million tonnes.[8] Economic liberalisation encouraged it to modernise further for upgrading existing capacities. In the process, however, it ran into difficulties. These were not evident during the first few years after economic reforms when the lifting of entry barriers and import restrictions led to a sharp increase in manufacturing growth and high demand for steel. From the mid-1990s, however, as the initial burst of economic growth driven by manufacturing slowly subsided, the domestic steel industry realised that it had grossly overestimated domestic demand. The realisation, though, came much later, since by then a scale-intensive organisation like SAIL had already invested heavily in additional capacities and was saddled with excess capacities.

It was evident that SAIL had stepped far beyond its means for investing in new capacity and had run into financial distress. Borrowings from the domestic market, primarily banks, were the main sources of SAIL's capacity expansion leading to the accumulation of high debt-equity ratios (USDOC 2000). From 1997–98 onward, SAIL slipped into the red, as losses mounted pushing the debt-equity ratio to as high as 300%, as servicing debt became more onerous on account of rising interest rates, declining sales and profitability. Matters were not helped by cheap imports, particularly from Russia, which forced major producers of finished steel to keep domestic prices low. Not only did SAIL find itself being pushed deeply into financial losses, it noted with considerable alarm the growing threat from new private producers such as Essar Steel and Jindal Steel, which were well-placed to respond more quickly to market developments, particularly in pricing decisions, than was a large bureaucracy-ridden state behemoth like SAIL. The year 1998–99 saw SAIL posting unusually high net losses of US$360 million. It survived the only way in which it could have: a state bailout. A financial package of approximately US$2.2 billion from the government handed SAIL a new lease on life amidst loud protests from private producers.[9]

The bailout extended by the Government of India did not entail provision of direct cash assistance, but it included several features that helped in improving SAIL's financial solvency. These included: guaranteeing resources for financing voluntary retirement schemes that would help in shedding some excess labour; extending new government loans; writing off some of SAIL's existing loans; providing additional guarantees for servicing its current debt and also guaranteeing new resources that SAIL could mobilise from the market. The important message coming from the restructuring package was that the government was keen on salvaging SAIL and was willing to be a guarantor for doing so. Clearly, SAIL was an organisation that the government was willing to support, and it did so by becoming a lender of last resort.

The first decade after economic reforms drove home a few hard lessons for SAIL. First, years of protected existence and scant attention to market mechanics had heavily impaired its ability to sense market prospects, particularly future demand. SAIL over-anticipated the demand for its products and created additional capacity that turned idle towards the end of the 1990s when the Indian economy went into deceleration. Second, capacity expansion through borrowing was not a feasible proposition, since lending rates in India were far higher than those prevailing elsewhere. Indeed, the financial story of SAIL during these years could have been different had it mobilised finance at cheaper rates from overseas markets. SAIL had not been reformed sufficiently to be able to raise resources from the equity market. And finally, the organisation's economic prospects were inextricably linked to the industrial revival of the economy. As the Indian economy entered a cyclical phase of economic contraction, with economic activity slowing and investments falling, SAIL, like other major producers in the industry, found its economic prospects turning decidedly gloomy.

While the government rescue package did come as a major relief, it was evident that the intervention was only meant for providing a short-term reprieve, since it did not address any fundamental structural imbalances in the organisation, such as shedding excess labour. As one of the largest employers among state enterprises, organisational restructuring of SAIL without consulting the labour unions is inconceivable. Radical restructuring encountered a major stumbling block in this respect. Efforts to introduce privatisation in the Durgapur and Salem plants were stoutly resisted by the trade unions (Pandhe 2006). The acute financial distress could have been used by the government as an excuse for introducing 'painful' and 'unpopular' restructuring measures such as retrenchments. But the bailout obliterated such possibilities, underscoring the

government's inability to overlook trade union demands for maintaining status quo in employment levels. In this respect, the political significance of large state enterprises such as SAIL was undisputed, even after almost a decade of market-based reforms.

The last decade, however, turned out to be a much better period for SAIL compared to the earlier one, and for several reasons. The first and obvious reason was the domestic economic recovery from 2003–04 that put India's GDP growth back on a fast track. Industry, led by manufacturing, spurred the growth, leading to a sharp increase in the demand for steel. Major infrastructure projects involving expansion of highway networks, building new airports and upgrading old ones, as well as the construction boom encouraged by cheap housing loans, contributed to the high demand and led to robust growth for SAIL and other domestic steel producers. The second reason was the official identification of SAIL as one of the country's top-five public sector enterprises. As early as in 1997, SAIL was recognised as *Navratna*, along with eight other state enterprises.[10] The classification imparted considerable autonomy to the enterprise boards for entering into strategic ventures and alliances; mobilising resources from domestic and international capital markets; and establishing financial collaborations. More and more enterprises were added to the list, and in 2009 five *Navratna*s were designated *Maharatnas*.[11] These were Coal India Limited, Indian Oil Company, Oil and Natural Gas Corporation, National Thermal Power Corporation and SAIL. The elevation, which was achieved upon satisfaction of advanced performance criteria in turnover, net worth and profit after tax (PAT), gave greater authority to the boards of the selected enterprises for making equity investments in financial joint ventures, setting up wholly owned subsidiaries, and in mergers and acquisitions. The underlying objective, as mentioned in the official statement explaining the structure of *Maharatna*s, was to grant the higher-end *Navratna*s sufficient autonomy to facilitate their growth as Indian multinationals.[12] However, it must be noted that the classification has essentially ensured that the organisations are able to access and mobilise larger chunks of resources, particularly from overseas markets, without waiting for government or departmental approval. While this will probably reduce the possibility of SAIL (and other *Maharatnas*) facing the kind of financial hardship it faced in the late 1990s, it does not allow them to act independently in several other critical matters, particularly in retrenching labour or selecting its management through an independent process.

By the end of the first decade of this century, SAIL was a much-relieved organisation, not only because it was a *Maharatna*, but also because of

the financial turnaround it recorded. Compared with 1998–99, the year when it was hit by record losses (US$360 million) necessitating a bailout soon after, in 2008–09 it recorded a net profit of US$570 million in the first half of the financial year, making it the highest profit earner among steel producers in the world (Dasgupta 2009). It showed a higher profit-after-tax (PAT) in 2009–10 despite the global recession and the depression in global steel prices.[13] Not only has its profitability improved during the last decade, it has also been able to bring down its debt-equity ratio to as low as 27% during 2008–09 from a high of 300% a decade ago.[14] The change reflects a substantial improvement in its debt profile underlining the strength of its financial fundamentals.

Though the latter half of the first decade, after economic reforms saw SAIL in a fairly precarious financial position, it was never really in danger of outright privatisation. The *Navratna* status conferred in 1997 insured against such an eventuality. Nonetheless, a fairly aggressive pursuit of the strategic sale of government equity in several state enterprises involving the transfer of management control – for example, Bharat Aluminium Company Ltd (BALCO) and Computer Maintenance Corporation (CMC) – could have created apprehensions about SAIL being put on the strategic sale radar in the foreseeable future. Whatever remote fears there were in this respect were quashed following the announcement of the United Progressive Alliance (UPA) government in its National Common Minimum Programme (NCMP) in 2004 that profitable public enterprises would not be privatised, although minority sales of equity were likely to continue. As a profitable *Navratna*, SAIL was clearly not a candidate for privatisation. Indeed, no strategic sales of government equity in state-owned enterprises have occurred since the incumbent Congress-led UPA has assumed office. Minority equity sales were also very limited until 2008–09 and have picked up only since 2009–10.

The safeguarding of the public sector from 2004 onwards has partly been on account of the left-wing Communist Party of India (Marxist) (CPI-M) being a supporter of the ruling coalition. The CPI-M's role in determining the coalition's economic policies probably ensured validation of some of their key agendas, including preservation of the state sector. It is noticeable that minority sales picked up from 2009–10, from which time the UPA coalition did not include any left-wing parties. For SAIL, too, minority sale is back on the agenda with the government deciding to raise more equity for the organisation for expanding its capital base and also disinvesting a part of the current government equity.[15]

3. Sail or stumble?

It is almost four decades since SAIL came into existence as a holding company and began consolidating operations of India's state-owned integrated steel plants. The journey since then has been somewhat tumultuous with the organisation having to adjust and reposition itself significantly following changes in India's industrial policy, the role of the public sector in economic production and resource allocation, and the rapidly changing domestic and global economic circumstances.

Privatisation?

The challenges faced by SAIL in a rapidly transforming Indian economy are somewhat similar to those faced by South Korea's state-owned steel giant, Pohang Iron and Steel Company (POSCO), which was privatised after more than three decades of state ownership. The similarities lie in both organisations having to adapt to domestic markets that underwent rapid transformation following deregulation of investment and withdrawal of entry barriers. The main difference, of course, is in POSCO becoming a fully private entity and SAIL remaining a state-owned organisation with 86% equity with the Government of India. POSCO's incredibly rapid expansion since privatisation has led to it becoming the fifth-largest steel producer in the world (by volume). With several subsidiaries, POSCO has spread far and wide beyond Asia, primarily to China, and also to India, Vietnam and Mexico. Ironically, POSCO might well become one of the biggest challengers for SAIL in the Indian domestic market in the years to come, provided it is able to overcome the hurdles over land acquisition facing its project in Orissa. POSCO is one of the best examples of erstwhile state-owned Asian manufacturing enterprises turning multinational. Whether SAIL's remaining a state-owned enterprise, despite earning considerable decision-making autonomy as a *Maharatna*, proves a decisive factor in thwarting its ambitions, and performance remains to be seen. For the time being, though, it appears that SAIL is getting stuck in crucial areas such as technological upgrading and institutional reforms (Sato 2009). Modernisation in SAIL plants has been proceeding at a disturbingly slow pace and this has irked the Indian steel minister.[16] Would matters have improved had SAIL been privatised? The POSCO experience does seem to suggest so.

Dwindling market share

India's steel industry has experienced large additions to capacity since economic reforms in 1991. The additional capacity has been put to

full use and more capacity has been created following the sharp rise in demand for steel during the last decade. Economic growth and infrastructure development are expected to push annual steel demand in India to 200 million metric tonnes (MMT) by 2015 (Indicus 2009). Annual demand for steel in India is growing at 10%. Can the country create enough capacity for meeting this rising demand? Projections point to total capacity reaching 120 MMT by 2013.[17] Though this would make India the second-largest steel producer in the world, capacity shortfalls might still force the country to resort to imports. From SAIL's perspective, it is important to assess how much of the total steel supply it will cater for in the future. The largest additions to capacity after economic reforms have come from the secondary producers of iron and steel, particularly new private entrants like Essar Steel, Ispat Industries and Jindal Steel, which have been using modern technologies, making more efficient use of raw materials and also pushing hard on exports (Sato 2009). The ongoing modernisation at SAIL is expected to stretch its annual production capacity to 24 MMT. Assuming a total capacity of 120 MMT in India's steel industry in a couple of years, SAIL would account for roughly a fifth of total steel production in the country. This is a far cry from the days when SAIL would account for around two thirds of the steel produced in the country. Clearly, SAIL is no longer the market leader in Indian steel. It is also not even the largest integrated steel producer in the country. TISCO, with an output of 23.2 million metric tonnes, and the world's seventh largest steel producer, is far ahead of SAIL's output of 13.6 million metric tonnes.

In a sense, it is ironic that the structure of the Indian steel industry has changed so much over the last five decades that it has nearly turned a full circle. During the 1950s, and at the time when the industrial policy of 1956 was announced, a state presence in India's steel was limited. After the 1956 policy, the state became a major player in India's steel industry as public investment aided by foreign support created new facilities. The industry still remained essentially 'mixed' as TISCO, the largest integrated private producer, kept functioning. Consolidation of production and larger state control over all major decisions under a single umbrella led to the creation of SAIL in the 1970s, at a time when the Indian state was nationalising various sectors of the economy. Despite stronger control and command of the state on the industry, it still remained 'mixed', as TISCO was never nationalised and continued to remain a large integrated producer. From the 1990s, however, the industry has seen much greater entry and growth of private players. Even then, it still remains 'mixed', particularly in the

composition of the dominant players, where SAIL, in spite of losing the status of the market leader, does remain one of the largest integrated producers of steel in India. The steel industry in independent India has always witnessed the cohabitation of state and private. However, the quality of the cohabitation has been distinctly different at various points in time.

Falling behind peers

In terms of medium-term prospects, SAIL would be worried if it compared its performance with that of its Asian peers (Figure 9.1). With an output of 9.9 million metric tonnes (MMT), SAIL was the twelfth-largest producer in 1992 (the ninth-largest in 1993 with 10 MMT) and was far ahead of both Baoshan Steel and China Steel, from the People's Republic of China (PRC) and Taiwan, respectively. Since then, however, SAIL's output has increased by only another 37% – roughly at an average of 2% per year – to reach 13.6 MMT in 2010. The corresponding growth in Baoshan's output has been striking. Baoshan's production has increased by almost 470%, from 6.5 MMT to 37 MMT during 1992–2010, at an annual average rate of around 26% per year. During this period, China Steel has also caught up with SAIL; SAIL's output gaps vis-à-vis the other two large Asian producers – Nippon Steel and POSCO – have continued to widen. In fact, SAIL's output shows the slowest rate of growth among all the five captured in Figure 9.1, underlining the obstacles it is facing in expanding its production frontiers.

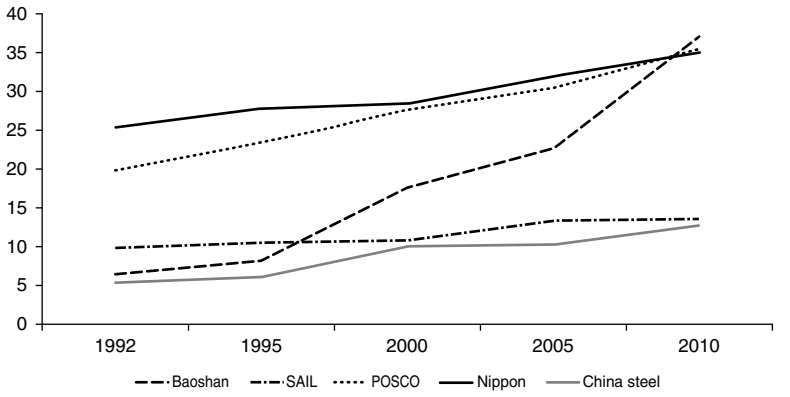

Figure 9.1 Major steel producers in Asia: production trends (1992–2010)
Source: http://worldsteel.org (downloaded 30 July 2011).

As Figure 9.1 demonstrates, the last decade has seen a far more robust period of growth for all five producers compared with the 1990s. All producers, particularly Baosteel, SAIL and POSCO, have benefited from the growth and expansion in Asia and the high demand for steel in their respective home economies. The latter part of the last decade has been a particularly favourable period for SAIL, with profits increasing rapidly. However, its performance has been laggard as far as expanding output is concerned. The high profits could have been mostly on account of high steel prices – both at home and abroad – rather than efficiency or output improvements.

4. Future thoughts

With its share in the domestic market having dropped significantly, and with mounting concerns over its ability to expand, what ails SAIL? The company is still the largest integrated steelworks in India, apart from being the second-largest producer of iron ore, and owning the second-largest captive mines network. These advantages, acquired by virtue of the special attention given by GOI to the 'commanding height' firms, should have allowed SAIL to take the lead in the industry over all new entrants. Unfortunately, the gap between SAIL and the new generation of steel producers is narrowing because SAIL failed to modernise and upgrade. Restructuring SAIL would not only require installation of new machines, but also adopt new techniques, adjust shop-floor practices, change employee cultures and improve managerial dynamism. Most of these are difficult to achieve in an organisation that, at heart, still remains a dedicated state enterprise, administered by regressive bureaucracy and saddled by an excessively large workforce.

While the public sector in India has been urged to retreat and confine itself to the 'basic and essential' and encouraged to compete, an organisation like SAIL – large, profitable and yet not politically as strategic as its counterpart energy and resource enterprises – is hemmed in between conflicting objectives. As a *Maharatna* company, it is authorised to take steps to become a home-grown multinational. But how autonomous are *Maharatnas*? Can they take difficult decisions such as retrenching labour without approval from the government? Are they always free to determine their prices? Can they refuse mandatory procurement from the domestic market? And most important, can they accommodate all these apparently non-efficient objectives and yet perform efficiently in a market that encourages competition?

The political economy of non-confrontation characterising India's industrial sector refuses to accommodate painful restructuring. While emphasising competition, it is unwilling to change the existing structures fundamentally– which is necessary to introduce and facilitate competition. This unwillingness has been a main deterrence for corporations, such as SAIL, from becoming competitive and modern economic entities. These organisations remain victims of both their past and their present. India's industrial policies have changed substantially to allow competition in product markets, but unfortunately they have hardly changed in factor markets such as labour and land. SAIL's big leap forward in responding to new opportunities needs to overcome constraints created by large work forces that are impossible to shed even if they are liabilities, and by managements dominated by bureaucrats and bound by departmental rules and procedures. Token minority sales of government equity, much as they enthuse market actors about the government's purported intention to privatise state firms, are actually intended more to supplement depleted government treasuries. Such sales for mobilising revenues are expected to continue, given the government's inability to implement politically sensitive measures like cutting food subsidies, reducing expenditure and curbing budget deficits and borrowings. However, the government's fiscal difficulties might also stand in the way of future bailouts for an organisation like SAIL, particularly if its market share continues to shrink, and it ceases to remain as much a part of everybody's life as its motto states.

While other inefficiencies exist, such as problems in land acquisition and mining rights, SAIL can hope to benefit from less competition as private producers like POSCO fail to take off. But, if and when these inefficiencies are resolved, SAIL is likely to become increasingly cornered in a market in which supply-side considerations force greater reliance on expansion of capacity through private producers. Even being a *Maharatna* may not provide the wherewithal for survival.

Notes

1. Dr Amitendu Palit is Head (Development and Programmes) and Visiting Senior Research Fellow at the Institute of South Asian Studies in the National University of Singapore (NUS). The views expressed in the paper are personal. The author can be contacted at isasap@nus.edu.sg or amitendu@gmail.com.
2. The Industrial Policy Resolution of 30 April 1956 grouped industries into three categories. These were those in which the state had the exclusive responsibility of development (Schedule A), those in which both state enterprises

and private initiative would be involved (Schedule B) and finally those in which the private sector would be the key player (Schedule C). Schedule A industries included: (1) Arms and ammunition and allied items of defence equipment; (2) Atomic energy; (3) Iron and steel; (4) Heavy castings and forgings of iron and steel; (5) Heavy plant and machinery required for iron and steel production, for mining, for machine tool manufacture and for such other basic industries as may be specified by the central government; (6) Heavy electrical plant including large hydraulic and steam turbines; (7) Coal and lignite; (8). Mineral oils; (9) Mining of iron ore, manganese ore, chrome-ore, gypsum, sulphur, gold and diamond; (10) Mining and processing of copper, lead, zinc, tin, molybdenum and wolfram; (11) Minerals specified in the Schedule to the Atomic Energy (Control of Production and Use) Order, 1953; (12) Aircraft; (13) Air transport; (14) Railway transport; (15) Ship building; (16) Telephones and telephone cables, telegraph and wireless apparatus (excluding radio receiving sets); (17) Generation and distribution of electricity. *Handbook of Industrial Policy and Statistics*, chapter 1, page 5. Ministry of Industry, Government of India; See http://eaindustry.nic.in/handbk/chap001.pdf (downloaded 18 July 2011).

3. The Controller of Iron and Steel was the regulator for the industry. The agency no longer exists.
4. The Industrial Policy Statement of 1977 spelt out the special role of small enterprises in industrial development.
5. During the late 1980s, output in the Rourkela steel plant suffered from unrest resulting from tussles between two rival unions. See Steel Authority of India Ltd, Company History; International Directory of Company Histories; vol. 66; St James Press, 2004; available at http://www.fundinguniverse.com/companyhistories/Steel-Authority-of-India-Ltd-Com (downloaded 16 July 2011).
6. Statement on Industrial Policy, Government of India, Ministry of Industry, 24 July 1991; http://siadipp.nic.in/publicat/nip0791.htm (downloaded 23 July 2011).
7. During 1992–93 to 1995–96, equity proceeds amounting to Rs 736.06 crore were obtained from the sale of government equity in SAIL. See http://www.divest.nic.in/MinoritySale.asp (downloaded 29 July 2011) for more details.
8. Source as in 5 earlier.
9. The move was heavily criticised by Indofer – an association of private steel manufacturers including Essar Steel, Jindal Steel, Lloyds Steel and Ispat (USDOC 2000).
10. Other state enterprises declared *Navratnas* were: Bharat Heavy Electricals Ltd (BHEL), Bharat Petroleum Corporation Ltd. (BPCL), Hindustan Petroleum Corporation Ltd (HPCL), Indian Oil Corporation (IOC), Indian Pharmaceutical Corporation Ltd (IPCL), National Thermal Power Corporation (NTPC), Oil and Natural Gas Corporation (ONGC) and Videsh Sanchar Nigam Limited (VSNL). See 'Turning Selected Public Sector Enterprises into Global Giants – Grant of Autonomy', Department of Public Enterprises (DPE), 22 July, 1997; http://dpe.nic.in/nm1.htm (downloaded 29 July 2011).
11. *Navratna* means 'nine jewels' and *Maharatna* means 'big/great jewel'. The *Maharatna* declaration clearly has much to do with the size of the enterprise in contrast to the *Navratna*s, which are size neutral.

12. 'Introduction of the *Maharatna* category for Central Public Sector Enterprises', Press Information Bureau, Government of India; 24 December 2009; http://pib.nic.in/newsite/erelease.aspx?relid=56449 (downloaded 29 July 2011).
13. Profit after tax (PAT) increased to Rs 6754.37 crore in 2009–10 from Rs 6170.40 crore in 2008–09. http://www.moneycontrol.com/annual-report/steelauthorityindia/directors-report/SAIL (downloaded 29 July 20110. (1 crore = 0.1 billion).
14. Source is same as 12.
15. Press Information Bureau (PIB) Press Release, 8 April 2010; Department of Disinvestment, Ministry of Finance, Government of India; http://www.divest.nic.in/MediaCentre-SAIL.asp (downloaded 29 July 2011).
16. 'Steel Minister unhappy with SAIL modernization pace', *Business Line*, 13 July 2011; http://www.thehindubusinessline.com/companies/article2224654.ece (downloaded 30 July 2011).
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10

A State Enterprise in China's Capitalist Transformation: The Bank of China

Leong H. Liew

1. Introduction

This chapter examines the role of a Chinese state-owned enterprise – the Bank of China (BOC) – in China's capitalist transformation. Although the barriers to entry into China's banking sector are being dismantled and state-owned commercial banks (SOCBs) now have non-state – including foreign – shareholders, the process is slow and BOC continues to enjoy state support and operate in an oligopolistic banking sector dominated by it and its three major competitors, which are also SOCBs. While BOC has to respond to the reality of majority state ownership, it is not a passive actor. It is a rational actor that actively seeks to maximise profit subject to the rules of the game. Although the state regards banking as a strategic sector, official authority over SOCBs has fragmented. The end of central planning and reform to the governance of SOCBs has enlarged its feasible set of strategies and tactics. As a result, BOC's actions are no longer always consistent with the wishes of the central or local governments.

2. Origins of the Bank of China

BOC began as the Hupu Bank in 1905. It was established by the Qing Ministry of Imperial Revenues, which in 1908 changed the name of the bank to Da Qing Bank. The bank became the only authorised note-issuing authority until February 1912, when it was retitled the BOC. BOC served as China's international settlement and trading bank and was the country's central bank until 1928. With the establishment of the PRC, it was made a state-owned bank that specialised in foreign trade and foreign exchange. In 2004, it became a state-owned

commercial bank and, in 2006, was listed on both the Hong Kong and the Shanghai stock exchanges. It was the official bank for the 2008 Beijing Olympics and Paralympics and, in 2009, *Banker Magazine* ranked it 11th among the world's top 1,000 banks, based on value of capitalisation. It is the most international of all Chinese banks, with about 1,000 branches in Hong Kong and Macau alone, and branches in 29 countries overseas as well as approximately 10,000 branches in mainland China (BOC 2010: 1; CB 2008).

BOC currently holds a dominant position in China's banking sector. In 2010 its listed capital was CY10.5 trillion and reported profit CY104.4 billion, making it the third-largest SOCB in China after the Industrial and Commercial Bank of China (ICBC) and China Construction Bank (CCB), but ahead of the Agriculture Bank of China (ABC) and the Communication Bank of China (CBC) (Li and Wang 2011:92). BOC's capital was 11% and its profit 12.5% of the 2010 banking sector totals.[1]

3. Agent of the state from planning to market

The role of China's banks under central economic planning was limited. The economic plan dictated resource allocation and production. Prices (including interest rates) did not function as signals in determining how much of each good was produced or the volume of investments. The role of banks was to provide the necessary funds to meet the economic plan targets and monitor the monetary transactions of households and enterprises to ensure that their actions were compliant with the plan. Since BOC had the responsibility for foreign trade and foreign exchange, its principal role was to work with the central bank – the People's Bank of China (PBC) – to monitor foreign exchange and trade-related transactions in the economy to ensure that behaviours of producers and consumers were consistent with the foreign exchange and foreign trade targets in the plan.

The CCP Fourteenth Central Committee, at its Third Plenum on 14 November 1993, adopted the 'Decision of the CCP Central Committee on Some Issues Concerning the Establishment of a Socialist Market Structure', one of the most significant decisions taken by the CCP in the reform period. Instead of the plan, the market was 'to play the fundamental role in resource allocation under macroeconomic control by the state' (CCP Central Committee 1993: 12) and, significantly, the decision paved the way for the privatisation of state assets.[2]

The decision fundamentally changed the role of banks. BOC was no longer a mere cog in the state planning system to help achieve objectives

of the economic plan. The state's tethers that bound BOC and other banks were loosened to serve the expanding market economy. The banks still had to adhere to a credit plan, but they had greater discretion over their choice of borrowers and the size of loans they provided. BOC still had to operate within a very restricted environment; it could fly but only within a very small birdcage. The cage has since been progressively enlarged, but reform of the banking system is still underway. Although banks are corporatised, and even listed on international stock exchanges, the state remains the majority shareholder in the largest commercial banks, and it is still debatable how much of their behaviours are guided solely by commercial considerations and how much are guided by official policy.

Money plays a much more important role in the market than in the plan. Money alone can secure resources in the market, which it could not secure on its own in China's previous planned socialist economy. Money becomes an incentivising device in the market. It is therefore not surprising that, with market reform, China's government began to use banks to channel resources in the economy. It is clear that in the early years after the decision, although BOC was no longer a passive instrument of the state, it was nevertheless marshalled with other banks to support struggling state-owned enterprises (SOEs). Market reform and the growth of the non-state sector exerted enormous pressure on SOEs, and the losses of these enterprises were covered by the state budget. Direct fiscal subsidies to SOEs from 1994 to 1997 accounted for about 60% of government budget deficits (NBS 2006).

The tax system became increasingly ineffective in raising sufficient revenue for activities of the central government. Between 1978 and 1995, budgetary revenues fell from 35% to 11% of GDP and, as a consequence, overall expenditure in many vital areas such as health, education and the environment fell short by 4.6% of GDP (World Bank 1997: 24–25). In the face of reduced budget income, China's policymakers realised they could not continue indefinitely subsidising failing SOEs. They made the decision to reduce direct subsidises to SOEs and speed up their reform. Banks such as BOC were directed to provide loans to replace fiscal subsidies as incentive for SOEs to improve their performance. Unlike direct government subsidies, bank loans were, in theory at least, only to tide over temporary enterprise difficulties and of course they had to be repaid. But in reality many SOEs found it difficult to repay loans to state-owned banks and many of the loans became non-performing and ended up as de facto subsidies. As of October 1997, 46% of SOEs were in the red and their losses comprised 57% of losses of all enterprises (Lin 1998: 176).

Non-performing loans (NPLs) were already a serious problem in 1992 and only worsened in 1998 as a result of the monetary stimulus during the Asian financial crisis, when additional support (in addition to direct subsidies) was provided to SOEs in the form of bank loans. In March 1998, the governor of the People's Bank of China (PBC) estimated the share of NPLs of state-owned banks at 20% (Adams et al. 1998: 152). Some non-official estimates were as high as 40%. If 20% of these loans were non-performing in 1995, and if they were completely unrecoverable, BOC together with China's other three largest SOCBs would be technically insolvent, with debt–asset ratios over 100%. The cost to the nation would represent 14.3% of GDP (Table 10.1). BOC was often regarded as the doyen of the nation's banks in the PRC due to its history of being the central bank in the republican period after 1911 and the most internationalised. BOC was the only PRC bank with offices

Table 10.1 Estimates of 1995 debt–asset ratios (billion CY)

	Capital (C)	Debt	Assets (A)	Loans	NPL	Average Debt/Asset
Industrial & Commercial Bank of China	92.7	3014.8	3107.5	1482.1	296.2	107.2
Agricultural Bank of China	40.8	1190.2	1231	690.2	138.0	108.9
Bank of China	95.1	1900	1995.1	1014.3	202.9	106.0
China Construction Bank	40.0	1682.7	1722.7	1060.9	212.2	111.4
Subtotal of commercial banks	**268.6**	**7787.7**	**8056.3**	**4246.5**	**849.3**	**108.1**
China Development Bank	20.51	174.1	194.6	170.9	34.2	108.5
Agricultural Development Bank	11.9	530.6	542.5	465.2	93.0	118.1
Import-Export Bank	1.39	120.7	122.0	8.2	1.6	100.2
Subtotal of policy banks	**33.8**	**825.3**	**859.1**	**644.3**	**128.8**	**108.9**
Total	302.4	8613.0	8915.4	4890.8	97801	108.5
As % of GDP						
SOCB & policy banks					16.5	
SOCB					14.3	

Source: NBS (1997: 46), ZJX (1996) and author's estimates.

Table 10.2 Capital adequacy ratios (%) and capital injections 1995 (billion C¥)

		C/A Ratio (8%)		C/A Ratio (20%)	
	C/A Ratio	Capital	Capital injection	Capital	Capital injection
Industrial & Commercial Bank of China	3.0	262.2	169.5	753.7	331.0
Agricultural Bank of China	3.3	103.5	62.7	297.6	256.8
Bank of China	4.8	165.2	70.1	475.0	379.9
China Construction Bank	2.3	146.3	106.3	420.7	380.7
Total			302.3		1297.7
As % of GDP			5.1		21.8

* In addition to existing capital required to achieve 8% capital ratio.
**In addition to existing capital required to achieve 20% capital ratio.
Source: ZJX (1996: 472–3) and author's estimates.

overseas before PRC's market reform and re-engagement with the global economy. It was, therefore, not surprising that in 1995 its estimated debt–asset ratio was the lowest among the SOCBs, even though it was assumed to have an average proportion of loans that were considered to be non-performing.

BOC's capital–asset ratio was also the best among the SOCBs (Table 10.2). But despite having the highest capital–asset ratio, BOC would still have required a capital injection of C¥70.1 billion to clean up its NPLs and increase its capitalisation to achieve a capital–asset adequacy ratio of 8%, which was the benchmark recommended by the Bank of International Settlements (BIS). Cleaning up the NPLs and increasing the capitalisation of all the SOCBs to achieve a capital–asset adequacy ratio of 8% would require 5.1% of GDP in capital injection, while a capital adequacy requirement of 20% of GDP, which was recommended by the World Bank, would require a capital injection in the region of 21.8% of GDP (Table 10.2).

4. BOC and banking reform

The first step in China's banking reform was recapitalisation of the major SOCBs to increase their seriously undercapitalised capital base

so as to raise their capital–adequacy ratios to the BIS benchmark of 8%. In August 1998, the capital base of BOC and three other major SOCBs[3] – CCB, ICBC, and ABC – was more than doubled. PBC lowered the statutory reserve requirement ratio from 13 to 9% to free up liquidity to the banks for them to purchase C¥270 billion (US$32.5 billion) of bonds from the Ministry of Finance (MOF), which then injected proceeds from sale of the bonds into the banks as equity (Mo 1999: 93–4). The capital injection also allowed the banks to pay off C¥270 billion of the liabilities they owed to PBC and saved the banks about C¥4 to C¥5 billion (US$481–$602 million) in interest costs. This move increased the banks' combined annual income by about C¥24 billion (US$3 billion), which almost equalled the estimated C¥27 billion (US$3.2 billion) combined 1997 profit of all the state-owned banks (Mo 1999: 94).

Recapitalisation of the banks in and of itself was insufficient to make them sustainable in the future; there was also the issue with their non-performing loans (NPLs). In 1999, NPLs worth C¥1.4 trillion (US$173 billion) were transferred at par value from the banks to four state-owned asset management companies (AMCs) in exchange for AMCs bonds (55%) and AMCs taking over some of the debt owed by the banks to PBC (45%). It soon became increasingly clear to policymakers that they had vastly underestimated both the size of the banks' NPLs and the difficulty of reducing them. The amount of NPLs remained substantial after 1999, even after the transfer of NPLs to the AMCs. In 2000, BOC improved its 1999 NPL ratio of 39%, but it was still a significant 29%. It took until 2004 before the ratio fell to a single digit figure (Table 10.3).

Table 10.3 SOCBs and NPLs (%) (1999–2007)

	1999	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**
Industrial and Commercial Bank of China	N/A	34.4	29.8	25.7	21.5	21.1	4.7	3.8	2.7
Agricultural Bank of China	N/A	N/A	N/A	24.7	30.7	26.7	26.2	23.4	23.5
Bank of China	39.4	28.8	27.5	22.5	16.3	5.1	4.6	4.0	3.1
China Construction Bank	N/A	20.3	19.4	17.0	4.3	3.9	3.8	3.3	2.6

Source: Peng (2007: 38).

Resolving the issue of NPLs became more urgent with China's entry, in 2001, into the World Trade Organization (WTO). The Chinese government had agreed to lift restrictions on the entry of foreign banks into China, and BOC and other Chinese banks had to be strengthened quickly to meet this challenge. MOF was sole owner of the SCOBs, but could not easily recapitalise them on its own. The projected cost of cleansing the SOCBs of NPLs was as much as 30% of 2005 GDP (Ma 2006), which as a share of GDP would be as much as twice the cost of what it would have been to cleanse the NPLs ten years earlier. PBC, with its massive holdings of foreign exchange, was in a strong position to recapitalise the banks, but it had carried the burden of recapitalising the banks in 1997 and was not prepared to do so again unconditionally.

As a result, PBC replaced MOF as major shareholder of the SOCBs in exchange for its support of the banks (Liew and He 2010: 32). But first a shell company – Central Huijin Investment Corporation (*Zhongyang huijin touzi youxian gongsi*) – had to be established to bypass a Chinese law that prohibited PBC from owning any commercial banks. The State Administration of Foreign Exchange (SAFE), a vice-ministry under PBC, invested as initial registered capital in Huijin US$45 billion of foreign exchange reserves, which were then channelled as equity to BOC and CCB. MOF then wrote down completely all its investments in BOC and CCB, thus making Huijin, and hence PBC, the sole owner of these banks.

In 2003, restrictions on foreign ownership of banks were relaxed. This was a condition of China's WTO entry, but it suited Chinese policymakers who also wished to acquire advanced banking technology and learn Western styles of management and business governance from foreign banks to improve the performance of China's banks.[4] In 2005, several

Table 10.4 BOC Strategic foreign shareholders (31 December 2005)

Shareholder	**Share (%)**
RBS China Investments S.A.R.L.	10.0
Asia Financial Holdings, Temasek	5.0
Union Bank of Switzerland	1.61
Asian Development Bank	0.24

Source: BOC (2006: 62).

Table 10.5 Major BOC shareholders (31 December 2010)

Shareholder	Share (%)	Type of shareholder	Type of shares
Central Huijin Investment	67.55	State	A
HKSCC nominees	28.15	Foreign legal person	H
Li Ka Shing	1.01	Foreign legal person	H
Bank of Tokyo-Mitsubishi UFJ	0.19	Foreign legal person	H
Asian Development Bank	0.18	Foreign legal person	H
SOE Shareholders*	2.80	State-owned legal persons	A

Notes: *China Life Insurance, Aluminium Corporation of China, Shenhua Group and China Southern Power. HKSCC Nominees Ltd acts as the nominee for all institutional and individual investors that have an account with it. The shares it holds include those of domestic and foreign investors such as China's National Council for Social Security Fund (NCSSF) and one of Singapore's sovereign wealth funds, Temasek Holdings. NCSSF and Temasek, the two major BOC shareholders in HKSCC, held 3.81% and 4.06% shares of capital, respectively.
Source: BOC (2011: 80).

foreign institutions acquired shares in BOC (Table 10.4). By the end of 2005, BOC's capital–asset ratio had improved to 10.4%, as a result of the injection of new domestic and foreign capital and the cleansing of its NPLs.

In 2006, BOC shares were listed on stock exchanges in mainland China and Hong Kong. These shares have changed hands partly as a result of the global financial crisis, but they have remained overwhelmingly in the hands of the state and SOEs (Table 10.5). In 2007, control of Huijin was transferred to the newly established sovereign wealth fund, the China Investment Corporation (CIC) and its de facto owner, MOF. As expected, Party and state officials feature prominently on CIC's and BOC's boards of directors. The chairman of the CIC board is an ex-MOF official, Lou Jiwei, an official holding ministerial rank and an alternate member of the 17th CCP Central Committee. The chairman of the BOC board and BOC president, Xiao Gang, is another alternate member of the 17th CCP Central Committee and is a former deputy governor of PBC. BOC deputy chairman and president is Li Lihui, who served as vice-governor of Hainan Province and for eight years was executive vice-president of ICBC.[5]

The transfer of control of Huijin from PBC to CIC has significant implications for BOC. When Huijin was under PBC, the central bank

was both monetary policymaker and bank owner, with a perceived conflict of interest. PBC is now only a monetary policymaker and not a bank owner. It is also not a bank regulator, having lost its regulatory functions in 2003 to the newly established China Banking Regulatory Commission (CBRC).

5. Agent of the state or independent actor: pre-GFC

Has the injection of non-state and foreign capital into BOC and its listing on share markets made it an independent SOCB, or has it remained a de facto policy bank of the state? BOC and the other three large SOCBs are state-owned commercial, as opposed to policy, banks, and profit and share price are therefore important performance indicators for them. BOC has to consider its bottom line when making critical decisions. Yet, while BOC is a significant corporation in a strategic sector, profit maximisation cannot be its only consideration. BOC and other SOCBs follow a set of formal and informal loan assessment criteria, by which an enterprise owner, size and sector could influence lending decisions (Yeung 2009: 292).[6] Meanwhile, although it is state-owned, there is no omnipotent rational decision maker that controls BOC. Authority is fragmented and BOC has to meet objectives that are multidimensional and often inconsistent, and its decisions are inevitably the result of compromises and/or trade-offs.

Ownership and control

As de facto owner of BOC, MOF could exercise its 'ownership' rights over BOC. Moreover, as explained above, AMC bonds were swapped for the NPLs of SOCBs at par and for their PBC debt during their recapitalisation. Thus, part of BOC's capital consists of interest-bearing bonds with a value of CY160 billion issued by the China Orient Asset Management Corporation (Orient AMC), which was established to clean up the NPLs of BOC in 1999 (BOC 2011: 223). By their nature, the market value of NPLs is below their par value, but the Chinese authorities have so far not allowed this to impact adversely on the book value of Orient AMC assets, and the value of Orient AMC bonds in BOC's balance sheet remains undiscounted. This is possible because MOF is the guarantor of the value of AMC bonds, even though its guarantee is only implicit. Thus the MOF's role as guarantor of the value of BOC's assets is one lever that MOF has over BOC.

Despite its de facto owner status, MOF does not control the appointment and appraisal of BOC executives. When Zhu Rongji was premier,

the Central Finance Work Commission (CFWC) conducted checks and reviews on potential candidates for the most senior executives (vice-ministerial rank) of financial institutions (including PBC and other finance-sector agencies) before recommending a subset of them to the CCP Central Organization Department (COD) for formal appointment. CFWC alone was responsible for reviewing and appointing the second- and third-tier executives after consultations with the institutions concerned. After CFWC was abolished in 2003, COD took over completely the appointment and management of the senior executives of PBC and other regulatory agencies, and those senior officials of ten major commercial financial institutions, including BOC.[7] Party control is therefore exercised through COD, but the Party is divided into those who desire further economic reform and those who place greater emphasis on social stability. The division among top CCP officials leaves BOC ample discretion in its operations.[8]

Further complicating identification of who actually controls BOC, CBRC has a mandate to make sure banks conform to policies, a mandate that reaches beyond what would be considered the normal duties of a bank regulator in market economies. A recent speech of CBRC chairman, Liu Mingkang, to the influential *Lujiazui* Forum[9] confirmed this mandate. In his speech, Liu expressed satisfaction that for two successive years banks were able to achieve the growth target for loans extended to agro-related and small to medium enterprises (SMEs) at a rate no lower than the year before, and announced a target of opening banking outlets in 500 under-banked townships (Liu 2011). While it may not be unusual for banking authorities to want to improve disadvantaged groups' access to credit, it is unusual that specific targets are set and micromanaged, especially in this case by the bank regulator and not the central bank. Liu placed banking with education and housing in the same category of 'public services', whose delivery must be 'coordinated' and plans for improvement must be implemented 'in a consistent way' (Liu 2011).

Finally, there is PBC, BOC's previous owner. PBC is able to exert influence on BOC through its ability to treat individual banks in a discriminatory fashion. It has the discretion to impose differentiated statutory reserve requirement ratios on individual banks and require individual banks to purchase designated central bank bills at fixed prices. For example, China's news media reported that in 2011 PBC penalised 40 regional banks and SOCBs by raising their statutory reserve requirement ratios (Zheng and Zhang 2011) and forcing banks – including ICBC, CCB and ABC – to purchase CY¥20 billion

(US$3 billion) designated central bank bills (Wills 2011) for excess lending.[10]

BOC Flying in an enlarged cage

BOC and other SOCBs, through their sheer size, dominate commercial banking. Their combined capital accounts for half of the banking sector's value of capitalisation, and they earn more than half of the sector's profits. Furthermore, banking reform has not kept up with the significant expansion of private sectors and BOC functions in an 'illiberal' market system where the rules of the game continue to favour the state sector. As a result, even when a state policy is to support private sectors, BOC often acts in contradictory to the policy as it pursues profit maximisation and its dominance in the market. An example is BOC's response to the official policy of encouraging consumption and developing the service sector. This policy has been implicit for a few years, but was formalised in China's 12th Five-Year Plan (2011–15).[11] Development of the SME sector is part of the objectives of the 12th Five-Year Plan.

The health of SMEs is crucial to the national economy, because according to some estimates they produce more than half the country's output and provide 80% of its jobs (Wei 2011). However, SMEs face many obstacles, not least in obtaining finance. SMEs, even highly profitable ones, continue to encounter financing difficulties despite the 2003 SME Promotion Law. Two studies found that as recently as in 2011, 57% of SMEs in Wenzhou and Shenzhen encountered difficulties securing finance (Li and Zhu 2011). Terence Chong et al. (2010) used the distribution of loan sizes in a bank as a proxy measurement of the banks' support of SMEs. They reported that BOC and ICBC, the only other SOCB in a Deutsche Bank survey on six Chinese banks,[12] provided, as a share of each bank's total corporate loans, the lowest proportion of loans of C¥50 million or less. The two banks also provided the most loans over C¥100 million as a proportion of their total corporate loans. The Deutsche Bank survey is consistent with the general observation that state-owned banks prefer to lend to SOEs, and large banks favour large enterprises.

An obvious reason for this is that banks consider loans to large SOEs as low-risk compared to loans to SMEs. Some large SOEs earn above normal profits in oligopolistic markets and own significant assets that could be used as collateral for their loans. Most large SOEs also enjoy political backing. A less obvious reason is segmented and non-competitive financial markets. SOCBs' customers are largely urban enterprises

and households and large rural enterprises. SOCBs dominate financial markets, and competition is uneven across regions (Feyzioğlu 2009). Banks tend to choose customers when competition among banks is weak, but customers choose banks when competition among banks is intense. Competition affects the capacity of banks to lend as well as the terms under which they are willing to lend. Since PBC controls deposit rates, it is difficult for smaller and non-state banks to compete with SOCBs to attract deposits to enable them to lend. Official floor lending interest rates also prevent them from competing aggressively with the SOCBs for customers.

Evidence of adverse impact on SME financing due to weak bank competition is presented in an econometric investigation into the financing of 3,000 of China's SMEs. Chong et al. (2009) found the higher the concentration in the credit market, the more likely the SMEs would face credit constraints and the greater their financing gap. BOC has an SME division in line with a CBRC recommendation to promote SME lending, but there is no commercial pressure for BOC to lend to SMEs in concentrated financial markets where competition is weak when interest rate restrictions mean taking on additional risk that does not easily translate into higher profits for BOC. BOC is also subject to a lending quota set by PBC, which further discourages lending to SMEs. There is evidence that BOC could certainly lend more. The big four SOCBs make only 43% of the nation's loans, even though they have more than half of the nation's bank deposits (Feyzioğlu 2009: 21).

CBRC has raised the non-performing loan ratio allowed in SME lending, relaxed the requirements in SME loan applications, and proposed that banks be subsidised for the higher risk in their SME lending (World Bank 2009: 19). It is still unclear whether any of the CBRC initiatives have made any impact on lending to SMEs by BOC and other SOCBs, but available data on lending to small enterprises appear encouraging. In 2010, BOC's outstanding loans issued to small enterprises were up by 35.1% compared to the year before, but the total value of these loans was only CY239.4 billion, a minute 5% of BOC's total loans (BOC 2011: 43, 300). The fact that CBRC has proposed a subsidy to cover the risks of SOCB's lending to SMEs, to encourage SOCBs to lend more to the sector, is strong indication that SOCBs are discreet in their business practices. BOC shows it is able to deftly vary its behaviour according to the hand of cards it is dealt – in this example, the level of competition that it faces in SME lending – rather than slavishly follow official policy. This discretion in SME lending is a result of fragmented authority. CBRC has the official mandate to ensure that banks adhere to official policy in their

lending. But MOF does not have this direct responsibility; as 'owner' of the SOCBs and as the nation's treasurer, it prefers to minimise the risk of SOCBs' lending and to restrain public spending. It therefore does not favour providing subsidies to banks (including non-SOCBs) to encourage more lending to SMEs.

BOC and local governments

China's central government has increasingly centralised state revenues but delegated more of the responsibilities for funding public services to localities. As a result, localities have to face the enormous challenge of raising local revenues to fund public services. Many have made land-related taxes an important source of local revenues (Table 10.6). Real estate development is the principal source of local land-related taxes, but this alone does not explain fully the importance of real estate development to local governments. The data in Table 10.6 underestimate the importance of real estate to local infrastructure development, because they do not take into account the indirect contributions from real estate development. According to Liu (2010: 2), 80–90% of local governments' infrastructure financing comes from land leasing and bank loans with collateral that are dependent on land and property valuations. Local governments, therefore, have an interest in high land and property prices and are reluctant to control – on the contrary they encourage – overinvestment in real estate. The extent of BOC lending to real estate in comparison to a non-SOCB's lending is therefore one indication of how independent local branches of BOC are from local governments.

The share of real estate loans as a proportion of total loans of BOC is around 6%, which is about half the proportion of the majority privately owned China Minsheng Bank Corp. Ltd. (CMBC) (Tables 10.7 and 10.8). This suggests that non-SOCBs can better exploit investment opportunities in real estate offered by local governments, which control the use of land. BOC and other SOCBs have less freedom investing in real estate because MOF, their de facto owner, is conservative when it comes to real estate development. SOCBs compared to other commercial banks would demand higher quality collateralised assets when lending to real estate development, and SOCBs could have the pick of the choicest customers in other sectors. Local branches of SOCBs also have less incentive to provide loans for risky real estate development because past reform of the banking system has removed the influence of local governments on the appointment of local central bank and SOCB officials, who are now accountable to their head office. Loan officers are held responsible

Table 10.6 Land-related local taxes and fiscal revenue, 2006–10

	2006	2007	2008	2009	2010
Land-related local taxes (billion yuan)	194.4	275.5	365.7	445.2	
House Property Tax	51.5	57.6	68.0	80.4	
Urban Land Use Tax	17.7	38.6	81.7	92.1	
Land Appreciation Tax	21.4	40.3	53.7	72.0	
Farm Land Occupation Tax	17.1	18.5	31.4	63.3	
Deed Tax	86.8	120.6	130.8	137.5	
Local fiscal revenue (billion yuan)	1830.4	2357.3	2865.0	3260.3	4097.1
Land related local taxes as % of local fiscal revenue	10.6	11.7	12.8	13.7	
Land transferring fees (billion yuan)	71.2	1300.0	960.0	1591.0	2700.0
Land transferring fees as % of local fiscal revenue	38.9	55.1	33.5	48.8	65.9
Land transferring fees as % of local fiscal revenue (including land transferring fees)	28.0	35.5	25.1	32.8	39.7

Note: Land transferring fees are not reported in the local fiscal revenue data in the China Statistical Yearbook; hence they are often considered the second source of local fiscal income (*dier caizheng*).
Source: (a) 'Land-related local taxes' (including house property tax, urban land-use tax, land-appreciation tax, deed tax) and 'local fiscal revenue' (2006–09) are sourced from NBS (2007–10); 'local fiscal revenue' for 2010 is estimated from 'land transferring fees' and its 'percentage in local fiscal revenue'; (b) 'Land-related local taxes as a % of local fiscal revenue' for 2006–09 are calculated using 'land-related local taxes' and 'local fiscal revenue', land-related local taxes for 2010 are unavailable; (c) 'Land transferring fees' for 2006–10 are from Caijing (2011), with data for 2006 and 2009 cross-checked and adjusted according to the 'percentage of land transferring fees in local fiscal revenue'; (d) 'Land transferring fees as % of local fiscal revenue' for 2006, 2009 and 2010 are from Pan and Li (eds) (2011), the data for 2007 and 2008 are estimated from 'local fiscal revenue' and 'land transferring fees'.

for new NPLs if they are unable to demonstrate they have acted in accordance with official loan assessment procedures. SOCBs are known to have approved loans to local projects that do not meet the lending criteria when they 'need local [government] support', but these projects are forecast to at least break even (Yeung 2009: 289–99).

Table 10.7 Value and growth of loans by sector of BOC in Mainland China, 2007–10

	2007		2008		2009		2010	
	CY billion	%	CY billion	%	CY billion	%	CY billion	%
Corporate loans and advances								
Manufacturing	629.3		706.7	12.3	996.9	41.1	1092.5	9.6
Commerce and services	280.5		307.2	9.5	598.4	94.8	614.7	2.7
Transport and logistics	223.4		264.0	18.2	416.8	57.9	501.2	20.2
Real estate	143.6		154.4	7.5	241.8	56.6	296.7	22.7
Electric power, gas and water	215.7		297.1	37.8	339.9	14.4	393.8	15.9
Water, environment and public utility management	42.8		54.4	27.4	250.2	359.6	257.5	2.9
Mining	45.3		55.3	22.0	113.9	106.1	133.8	17.5
Financial services	33.9		53.2	56.8	86.4	62.7	68.1	–21.3
Public utilities	69.5		66.3	–4.6	81.6	23.1	87.6	7.3
Construction	38.6		42.3	9.6	49.7	17.6	74.9	50.8
Other	7.8		7.6	–2.1	10.5	37.8	19.8	88.6
Subtotal	1730.2		2008.6	16.1	3186.2	58.6	3540.7	11.1
Personal loans								
Mortgages	455.0	19.6	507.6	11.6	764.4	50.6	921.4	20.5
Credit cards	5.3	0.2	10.6	100.7	24.7	132.0	53.5	116.5
Other	125.2	5.4	136.0	8.6	190.4	40.0	243.0	27.6
Subtotal	585.5		654.2	11.7	979.5	49.7	1217.9	24.3
Total	2315.7		2662.8	15.0	4165.7	56.4	4758.6	14.2

Note: Data as of 31 December of each year.
Source: BOC (2011: 300).

Table 10.8 Value and growth of loans by sector of CMBC, 2007–10

	2007		2008		2009		2010	
	CY billion	%	CY billion	%	CY billion	%	CY billion	%
Corporate loans and advances								
Manufacturing	169.1		103.1	–39.0	121.9	18.2	143.0	17.3
Real estate	71.3		90.2	26.5	103.7	15.0	129.4	24.8
Lease and commercial services	24.6		51.0	107.6	94.6	85.4	107.7	13.8
Transport, warehousing and postal services	47.4		69.8	47.2	75.1	7.6	69.2	–7.8
Wholesaling and retailing	24.4		40.3	65.1	35.8	–11.2	62.0	73.4
Mining			46.8		41.7	–10.9	61.8	48.4
Water, environment and public			28.6		61.0	113.2	53.8	–11.8
utility management								
Public administration and social organisation	69.4		25.1	262.3	36.1	43.4	32.6	–9.7
Electric power, gas and water	37.2		13.9	–62.6	48.5	248.0	31.7	–34.6
Construction	24.6		25.8	4.8	26.1	1.3	26.2	0.4
Education and social services	16.5		25.3	53.0	22.1	–12.6	24.3	9.7
Financial services	12.3		14.3	16.2	37.8	164.8	18.1	–52.1
Info communication, computer service and software	4.3		5.0	15.9	3.8	–23.1	3.9	3.1
Comprehensive business*	9.1							

Continued

Table 10.8 Continued

	2007		2008		2009		2010	
	CY billion	%	CY billion	%	CY billion	%	CY billion	%
Other	7.7		10.5	36.4	10.8	2.0	14.5	34.3
Subtotal	455.5		549.8	20.7	719.1	30.8	778.4	8.2
Personal loans and advances	8.3		108.6	1212.8	163.9	50.9	279.2	70.3
Total	463.8		658.4	42.0	883.0	34.1	1057.6	19.8

Note: Data as of 31 December of each year.
Source: CMBC (2008: 37, 39), (2010: 28), (2011: 24).

6. The global financial crisis

BOC as filial son

While BOC is able to distance itself from local Party and government officials, it offers itself, as a filial son would do in a family emergency, to the service of the Party/state in a national crisis. After all, its senior officials are appointed by COD and it is owned by Huijin, a subsidiary of CIC, which is accountable to the state council. But, in return, BOC, as an SOCB, can also rely on state support during a crisis. At the height of the global financial crisis (GFC) in 2008, Huijin bought 2 million shares in BOC, as well as in CCB and ICBC, to support their share prices.[13] State support for their share price is also implicit compensation to foreign shareholders for their acquiescence at times when SOCBs act more in the interest of the state than in the interest of all shareholders.

Despite the GFC's severe impact on China's exports, falling from a peak of +21% annual growth in the months before the GFC to as low as –26% in the early months of 2009 (Vincelette et al. 2010:14), SOCBs lending to the manufacturing sector, especially to its SOEs, was uninterrupted during the GFC. BOC continued to lend to the sector, even registering a 12% growth in 2008, when export orders were falling and before the state had announced its stimulus package to support the economy to maintain economic growth at a level deemed necessary to maintain social harmony. By contrast, CMBC with a lower proportion of loan exposure to SOEs saw its lending to the sector fall by 39% in 2008 (Tables 10.7 and 10.8).

Beijing's major policy response to the GFC was to announce a massive two-year CY¥4 trillion (about 12.5% of 2009 GDP) (Vincelette et al. 2010: 19) stimulus package in November 2008, just before the G-20 leaders' meeting. The package contained significant plans for infrastructure projects targeted at rural areas and poverty alleviation. The many big-ticket items included plans for reconstruction of areas affected by the Sichuan earthquake and increases in investment in railway construction by CY¥800 billion under the then five-year plan. MOF funded only one-third of the stimulus, the remaining two-thirds were funded through borrowing, which enabled MOF to keep the budget deficit under its 3% of GDP target. In the first six months of 2009, new medium- and long-term lending to infrastructure investment increased by 42%, which was more than half of the increase in credit (World Bank 2009: 3, World Bank 2011: 11).

Table 10.7 shows how quickly BOC responded to the stimulus policy. In 2009, BOC's total loans were 56.4% more than they were the year before. In that year, its lending for infrastructure investments increased dramatically. For example, loans for investments in water, environment and public utility management increased by 360% and in transport and logistics by 58%. A 2011 Monetary Policy Analysis Group report showed how significant were the contributions of BOC and other SOCBs to the GFC stimulus. The Group reported that the country's real estate investment in 2010 reached CY¥4.8 trillion, an increase of 33% from the year before. It was the largest annual increase since 1998, but occurred when official monetary policy had switched from expansionary to steady and then tight.[14] This increase exceeded the increase in 2009 (MPASG 2011: 29), when official monetary policy was expansionary. In comparison, BOC lending to real estate increased by 57% in 2009 and by only 23% in 2010.

Monetary authorities often pay special attention to the banks' exposure to real estate investments, because these investments tend be speculative. Before the GFC, BOC appeared to be cautious in lending to the real estate sector, in 2008 increasing its lending to that sector by only 7.5%. Thus, BOC's reported rapid increase in 2009 and significant fall in the rate of increase in 2010 in its lending to real estate development is strong indication that it was responding to official policy.

Comparison of the real estate loans of BOC with those of CMBC, a non-state bank, shows that BOC was the more responsive to official fiscal policy (Tables 10.7 and 10.8). CMBC's lending to the real estate sector in 2009 increased by only 15%, which was only about a quarter of BOC's increase. CMBC's real estate lending increased by 24.8% in 2010, but by then BOC had slowed the growth of its lending to the sector to

23%, in line with official policy. In January 2010, for example, BOC acknowledged it had issued too many new loans during that month and ordered its low level branches to seek explicit approval from the bank's headquarters before they could lend to corporate customers (Anderlini and Tucker 2010).

The Party claimed control over executive appointments in CMBC, but because of previous frictions between its major shareholders and CFWC, since 2000 first CFWC and later CBRC entered into serious discussions with CMBC over the latter's senior executive appointments (Heilman 2005: 13). CMBC's executives, therefore, tend to be more independent of the authorities than BOC's, which explains the former's slower response to official fiscal policy.

The central government allocated to local governments the major responsibility for implementing the planned spending in the GFC package, but it did not fund them to do so. Local governments were also prevented by law from borrowing directly to fund the planned investments. However, local governments with provincial status are allowed for the first time to issue bonds, but with MOF as the issuing agency, to carry out the fiscal stimulus. Local governments also relied on local government financing vehicles (LGFVs), which they could establish with minimum capital, to raise funds for the stimulus. LGFVs can borrow from banks (platform loans), often using land as collateral and local government guarantees. Policymakers had hoped that platform loans would complement local government equity in LGFVs in local investment projects and rates of return from these investments would cover substantially the costs of LGFV borrowings. But there were fears that many of the investments were speculative and local governments and banks would end up with, respectively, large hidden fiscal deficits and massive NPLs (Caijing 2010, Feng 2010).

Local financial offices (*jinrongban*) were originally set up to assist local PBC offices and state bank branches to control NPLs. In 2002 and 2003, when the central government changed its economic policy from retrenchment to expansion, these offices began to pressure local banks to lend to local enterprises and projects (Shih 2008: 183–4). During the GFC these financial offices performed the same role, in some instances threatening the offending bank with withdrawal of local government (treasury) deposits if loans were not made. However, banks are not equally susceptible to this pressure from local officials; BOC and other SOCBs compared to regional commercial banks are better able to be more selective over the type of projects to which they lend. SOCBs often responded in the words of a local official 'positively in words, but

Table 10.9 Platform loans (mid-2010)

	Policy banks	Big state banks	Joint-stock banks and city commercial banks	Total
Platform loans (billion yuan)	2298.0	3370.0	1991.6	7660.0
Share (%)	30.0	44.0	26.0	100.0
Outstanding domestic loans (billion yuan)	8592.2	24,829.7	11,173.0	44,594.9
Share (%)	19.3	55.7	25.1	100.0
Platform loans/ outstanding loans (%)	26.7	13.6	17.8	17.2

Note: The big state banks include China's Postal bank.
Source: Table constructed from data in Zhong (2010) and PBC (2010 a,b,c).

stringently in action'. An indicator of how susceptible banks are to this pressure is the ratio of platform-to-total loans.

The function of policy banks is clearly to implement government policy, but we can compare the ratio of platform-to-total loans of the big state banks with the ratio of the other non-policy banks. Table 10.9 shows the big state banks have a ratio of platform loans that was below the average for the other non-policy banks. Being state-owned, they have the pick of the best and least risky projects. Leung (2011: 2) estimated that in 2009 BOC had a platform-to-total loan ratio of 6.2%. Using data in PWC (2011: 11) and Table 10.7, I estimate the BOC ratio in 2009–10 to be between 8 and 9.1%. Both estimates are lower than the ratio estimates in Table 10.9 for the non-policy banks.

Profit–risk trade-off

China's official controls on interest rates dampen competition in financial markets. In 2006, some banks began to repackage loans into credit-backed wealth management products (CWMPs) to circumvent these controls. The sale of these investment products took off when China's policymakers decided to rein in credit in 2010 to cool the economy that was in danger of overheating after the massive GFC credit boom in 2009. CWMPs, like the credit-equivalent trust products (CTPs) issued by trust companies, offer a higher return to investors than the controlled bank

deposit rates. They allow banks to transfer loans off their balance sheets and help disguise the fact that they have issued loans that exceeded their formal lending quotas. BOC would be more willing to lend to SMEs and provide loans to SOEs for economically marginal projects if it could transfer some of the risk of these loans to investors of their financial products. However, these products after changing hands are likely to remain as assets on the books of financial institutions.

Fitch Ratings estimated that by the end of June 2010, C¥2.3 trillion of outstanding bank loans had been moved off the banks' balance sheets into CWMPs and CTPs (Chu et al. 2010: 4). No data on CWMPs for individual banks are available, but the big five clearly dominate. In the first half of 2010, the average size of CWMPs issued by the big five SOCBs was about C¥2.4 billion, compared to C¥1.6 billion for the whole of 2009. This was a huge absolute amount, but in comparative terms was rather small when one considers that the total value of loans issued by BOC alone in 2010 was C¥4.8 trillion (Table 10.7). The exposure of BOC and other SOCBs to securitisation is relatively small, but CBRC is concerned about its rapid growth.

In December 2009, CBRC tightened the rules governing CWMPs (Chu et al. 2010: 2), but they proved insufficiently effective to stem the boom in credit, and in September 2011 CBRC banned banks from issuing CWMPS altogether (Wei 2011: 25). SOCBs are willing to engage in securitisation, repackaging loans into investment products, because profitability is one of their key performance indicators and securitisation offers an opportunity to circumvent, but not necessarily violate, regulatory controls that prevent them from taking full advantage of their privileged position in financial markets. BOC and other SOCBs do not always minimise risk; they will take risk if they regard the amount of risk is commensurate with expected profits. China regards banking as a strategic sector, with COD exercising control over the management of the most senior officials in SOCBs, who are Party members subject to Party discipline and often have political ambitions. Yet despite all these reasons, CBRC had to issue a direct and stern administrative directive to the SOCBs and other banks to rein in their securitisation activities. This proves that BOC enjoys a degree of independence larger than would be expected for an SOCB.

7. Conclusion

China's leaders' regard banking as a strategic sector and after more than thirty years of economic reform a significant part of the sector remains

state-owned. BOC, though listed on stock exchanges, has more than two-thirds of its shares in state hands. Hsueh (2011: 34) identifies two dimensions of the strategic value of a sector: political and economic. The former includes the sector's contribution to internal and external security and impact on intra-state/Party elite political bargaining. The latter includes the sector's contribution to the economic competitiveness of societal groups and the nation's economy. The analysis on BOC in this chapter illustrates how these political and economic dimensions work in practice.

BOC answered the state's call to help secure internal security and preserve 'harmony' during the GFC. BOC and the other SOCBs actively implemented the central government's stimulus package that included lending to high risk LGFVs. The relationship between BOC and LGFVs reflect the tensions inherent in central-local government relations in China. The centre depends on local governments to implement national policy but simultaneously seeks to manage actively the development of the local economy, and SOCBs as major providers of credit in the economy are often caught in the middle.

Authority over BOC is segmented. The Party is not always united in deciding how much and how fast the banking sector and SOCBs should be reformed, and BOC is answerable to several institutional stakeholders. MOF, BOC's de facto owner, has an interest in the performance of BOC. Its primary concern is BOC does not end up with significant NPLs, which might require it to recapitalise BOC. CBRC, the banking regulator, has a mandate that extends beyond ensuing stability of the banking system. It has, for example, been actively directing loans to the SME sector. CBRC's actions are consistent with what the state sees as an appropriate role for its strategic banking sector. PBC, BOC's previous owner, continues to be able to exert influence over BOC above that of a central bank through discretionary instruments at its disposal.

Most BOC senior officials are Party members, subject to Party discipline and answerable to COD, and often harbour political ambitions. Many senior officials in SOCBs aspire to enter the Party central committee. An example is Xiao Gang, chairman of the BOC board and BOC president, who is an alternate member. Hence it is unsurprising that BOC behaves on occasion almost like a policy bank. However, BOC has room to manoeuvre as national policies are multidimensional and often contradictory.

BOC itself is not homogenous. Not all its officials, especially those below the most senior ranks, aspire for high political office. These officials seek professional advancement like commercial bankers in matured

market economies, where profit is the primary objective. It must not be forgotten that profit is a key performance indicator of BOC as it is after all a commercial bank with non-state shareholders. As a member of the group of SOCBs, which dominate financial markets, it prefers to lend to large SOEs and other low-risk customers, as its decisions over financing for SMEs and LGFVs show, but its strategy of securitisation demonstrates it is also prepared to take on higher risk in exchange for higher returns. In sum, although BOC is majority state-owed and its most senior officials answer to the Party, it has to meet competing political and economic performance targets with a team of managers who are diverse in their career ambitions.

Notes

1. Calculated from data in Table 2 in Li and Wang (2011: 91–2). These five SOCBs had 48.7% of capital and 60% profits of the banking sector.
2. The report of CCP General Secretary Jiang Zemin to the Fourteenth Party Congress in 1992 discussed the establishment of a socialist market economy but did not nominate the market as the primary means for resource allocation nor did it address the issue of property rights. See Jiang (1992).
3. They then held 90% of all bank assets (Lau 1999: 73). At the end of 2004, they still held almost 60% of the assets (Podpiera 2006: 1).
4. Chinese authorities were forced to act to stop widespread bank graft. Then CCB president and BOC former president, Wang Xuebing, was dismissed and later jailed in China for corruption following investigation by U.S. and Chinese authorities (Gilley, Lawrence and Murphy 2002).
5. Of the 16 board members, 6 are independent directors. Among the 6 are Anthony Neoh, a QC who was a former deputy judge of HK high court and current chief adviser to China's Securities Regulation Commission; and Jackson Tai, a former CEO of DBS Group Holdings.
6. A large SOE, which has significant impact on the local economy, in a strategic sector would merit special treatment.
7. The agencies and institutions appoint and manage their lower level officials and executives. For example, the PBC Party Committee/Organization Department is responsible for officials at its regional branch offices (Heilman 2005: 9–11).
8. Large commercial banks with majority private ownership also came under centralised cadre management (Heilman 2005: 9–11, 17–18). For example, the CBRC Party Committee/Organization Department appoints and manages the senior executives at China Minsheng Banking Corporation (CMBC), the first national joint-stock commercial bank in China with majority private ownership. CMBC was established on 12 January 1996 in Beijing. In December 2000, CMBC was listed on the Shanghai Stock Exchange. Nine years later it was listed in Hong Kong.
9. Lujiazui is the name of the financial district in Shanghai. The forum was initiated in 2007 to bring together influential government officials, leading world

financial leaders and scholars to discuss global financial issues and foster international financial cooperation and promote economic reform in China.
10. BOC's president, Li Lihui denied that BOC was also targeted.
11. The Plan seeks to encourage consumption, develop the service sector, move up the value chain in manufacturing, conserve energy and clean the environment.
12. The other banks were joint-stock banks, China Citic Bank (CNCB), China Merchants Bank (CMB) and Industrial Bank (INDB), and a city commercial bank, Bank of Ningbo (NBCB). Chong et al. misidentified INDB as a city commercial bank.
13. Huijin bought more shares in 2009 to increase investor confidence. On 11 October 2009, it was announced that Huijin had bought additional shares in ICBC, CCB and BOC, increasing its stakes in these banks to 35.4%, 57.1% and 67.5% respectively (Bloomberg 2009).
14. PBC increased the statutory reserve requirement ratio six times in 2010. Between January 2010 and 14 June 2011, PBC raised the ratio 12 times to an unprecedented 21.5% (An and Wang 2011).

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11

State Bank of India: The Opportunities and Challenges of Being a State-Owned Bank in India

Rajesh Chakrabarti

The State Bank of India (SBI), India's largest and oldest surviving bank, accounts for a fifth of the country's banking sector by most measures. It has held on to its premier position in the teeth of serious competition from private players after the country opened up its banking sector in the mid-1990s. However, as with other state-owned banks, its public sector status continues to handicap SBI's competitiveness in important ways, while also bestowing certain advantages, particularly in turbulent times. This chapter attempts to understand how government ownership has hindered – and helped – SBI in an increasingly competitive banking environment in India.

1. A brief background of banking in India and SBI

Modern banking (i.e. in the form of joint-stock companies) may be said to have had its beginnings in India as far back as in 1786, with the establishment of the General Bank of India.

The Bank of Calcutta, the first public bank with East India Company participation, came into existence on 27 March 1806. It was renamed the Bank of Bengal in 1809 when it finally obtained the Governor-General's charter granting it official legitimacy and joint-stock company status. The Bank of Bengal was an early example of an international public-private partnership – a bank only partly owned by the government. The Charter of the Bank of Bengal had funded the bank with only 20% government support, the rest of the shareholding being in private hands with shareholders consisting of both Westerners and Indians. It mandated nine directors to manage the bank, a third of whom were to be appointees of the government. Unlike a flurry of private banks that had appeared in the last quarter of the eighteenth century and folded

quickly, the Bank of Bengal served as the model for the establishment of the Bank of Bombay in 1840 and the Bank of Madras three years later. The financial infrastructure of the company's and later the Crown's rule in India was largely built around these three banks. They were amalgamated in 1921 to form the behemoth for that age – the Imperial Bank. The Imperial Bank was the de facto central bank of India until the emergence of the Reserve Bank 14 years later, a bank that was created out of it. The Swadeshi movement witnessed the birth of several indigenous banks, including the Punjab National Bank, Bank of Baroda and Canara Bank.

In spite of all these developments, independent India inherited a rather weak banking and financial system marked by a multitude of small and unstable private banks whose failures frequently robbed their middle-class depositors of their life's savings. After independence, the Reserve Bank of India was nationalised in 1949 and given wide powers in the area of bank supervision through the Banking Companies Act (later renamed the Banking Regulations Act).

Upon independence, the Imperial Bank dominated commercial banking in India. As a measure to bring about rapid economic growth with social justice, the parliament enacted the State Bank of India Act, 1955. The Act created the State Bank of India (SBI), based on the nationalised Imperial Bank. The Act also specified that at least 55% of the shares of the SBI must be purchased by the Reserve Bank of India (RBI, which had been nationalised in 1949), and 'individuals were allowed to purchase shares, but the maximum number of shares per individual was restricted to 200 and the voting right to one per cent of the total voting power of the bank' (Agrawal 1980: 35). This ownership arrangement ensured that the SBI would act as an agent of RBI, which did not have branches in retailing banking, and the central government would be able to 'guide' its development with the consultation of the governor of the RBI and the chairman of the SBI.

At Independence, the Imperial Bank dominated over the Indian banking landscape, but it was then nationalised and renamed by an eponymous act of Parliament, the State Bank of India Act, 1955, following the nationalisation of the RBI in 1949.

The integration of the princely states into India left its footprints in SBI's structure when their leading banks joined the SBI family as its seven associate banks – Bikaner and Jaipur, Hyderabad, Indore, Mysore, Patiala, Saurashtra and Travancore – to form the SBI group in 1959. These subsidiaries were independent in their day-to-day operation, but they were guided by the SBI in matters of policy and acted

as an agent of the SBI, and thereby indirectly as agent of the GOI and the RBI.

Box 11.1 Milestones in SBI's history

- 1806: The Bank of Calcutta established.
- 1809: Redesigned as the Bank of Bengal.
- 1840: The Bank of Bombay established.
- 1843: The Bank of Madras established.
- 1861: The Paper Currency Act passed.
- 1921: All three banks amalgamated to form the Imperial Bank of India.
- 1955: The State Bank of India formed; becomes the first Indian bank to be nationalised.
- 1959: The State Bank of India (Subsidiary Banks) Act passed, enabling the State Bank of India to take over eight former State-associated banks as its subsidiaries.
- 1994: The State Bank of India partially privatised.
- 2008: The State Bank of Saurashtra merged into the SBI.
- 2010: The State Bank of Indore merged into the SBI.

In keeping with the increasingly socialistic leanings of the Indian government, 14 major private banks, each with deposits exceeding Rs. 500 million, were nationalised in 1969. This raised the proportion of scheduled bank branches in government control from 31% to about 84%. In 1980, six more private banks, each with deposits exceeding Rs. 2 billion, were privatised, further raising the proportion of government-controlled bank branches to about 90%.

As in other areas of economic policy making, the emphasis on government control began to weaken and even reverse in the mid-1980s and liberalisation set in firmly in the early 1990s. The poor performance of the public sector banks, which accounted for about 90% of all commercial banking, was rapidly becoming an area of concern. The continuous escalation in non-performing assets (NPAs) in the portfolio of banks posed a significant threat to the very stability of the financial system. Banking reforms, therefore, became an integral part of the liberalisation agenda. The first Narasimham Committee set the stage for financial and bank reforms in India. Interest rates, previously fixed by the Reserve Bank of India, were liberalised in the 1990s and directed lending through the use of instruments of the Statutory Liquidity Ratio was reduced. While several committees have looked into the ailments of commercial banking in India, three of them – the Narasimham Committee I (1992) and II (1998) and the Verma Committee – have aimed at major changes in the banking system. Nevertheless, after a

decade since the beginning of economic reforms, the banking sector was still struggling under the burden of considerable NPAs, and the poor performance of public sector banks continues to be a major issue.

The financial reform process is often thought of as comprising two stages – the first phase guided broadly by the Narasimham Committee I report, while the second based on the Narasimham Committee II recommendations. The aim of the former was to bring about 'operational flexibility' and 'functional autonomy' so as to enhance 'efficiency, productivity and profitability'. The latter focused on bringing about structural changes so as to strengthen the foundations of the banking system to make it more stable.

During the 1990s, several new private sector banks made their appearance, predominantly floated by public sector or quasi-public sector financial institutions. Among these, ICICI Bank quickly expanded its reach and became the second-largest bank in the country. Among the completely private sector banks that made their debut during this period, the Global Trust Bank ended in a major failure in 2004 and its depositors had to be bailed out through a merger with the Oriental Bank of Commerce. Several foreign banks also made their entry into the Indian banking scenario, while the existing foreign banks expanded their operations. Meanwhile, the performance of public sector banks continued to be saddled with operational and lending inefficiencies. The Verma Committee identified three public sector banks – Indian Bank, UCO Bank and United Bank of India – as the weakest of the 27 public sector banks, in terms of NPAs and accumulated losses.

2. Current structure of SBI

Today SBI continues to be by far the largest bank in India, spanning the length and breadth of the country with more than 21,500 branches for the SBI group – including its five 'associate' (subsidiary) banks. At the end of March 2009, almost one in every four commercial bank branches in India belonged to the SBI group (see Figure 11.1). Overseas, it had 137 offices in 32 countries including 5 foreign subsidiaries. The share of the group in terms of assets, deposits, advances and investments was also commensurate, just shy of a quarter of the entire commercial banking sector. In 2005, just over one in three bank employees in India worked for the SBI group, and just over one in four for SBI itself. By any measure, the SBI group is by far the biggest force in Indian banking. Its activities span most areas of finance: bread and butter commercial banking – accepting deposits and lending – to investment

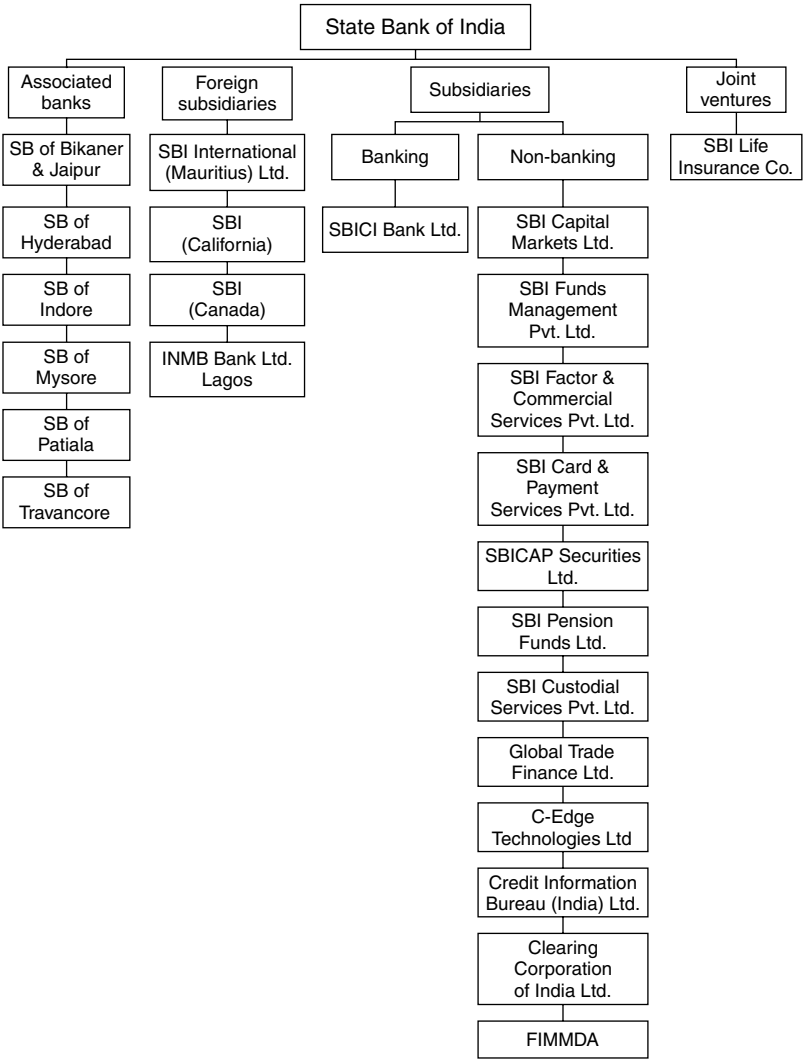

Figure 11.1 The SBI Group, 2009

banking, private equity, pension fund management, wealth advisory and insurance.

In 2009, SBI figured in Forbes's World's Most Reputed Companies list at the 29th spot, a notch above Microsoft. Only one Indian entity figured higher – the Tata group. Two banks, worldwide, did better – China

Merchants Bank and Sberbank of Russia. Its national pre-eminence notwithstanding, the SBI is hardly a global giant. In the world rankings – the *Banker* magazine provides one annually – it has not been able to break into the global top 50. It is, however, the only Indian bank in the top 100. China, by contrast has three banks in the top 20.

The SBI Act mandated government holding not to fall short of 55%. The government has recently amended this to bring down the floor to 51% as in other nationalised banks. As of now, the government holding stands just short of 60. Four of the nine outside directors (i.e., apart from the chairman and four managing directors) on the board are, however, nominated by the government.

3. Liberalisation and its challenges for public sector banks

The tide of economic policy turned in the early 1990s. Forced by a balance of payment crisis, and in sync with the post-Soviet global shift towards free-market capitalism, the socialistic model in India gave way to a process of greater market-orientation – market-oriented 'reforms' – that continues to this day. Broadly speaking, there are four elements to these reforms – liberalisation of international trade and capital flows, deregulation of industry, privatisation of public enterprises and development of financial markets.

To the incumbents in business – public and private sector alike – these changes were not easy to adjust to. The change was most palpable in three industries – aviation, telecommunications and finance. Complete and statutory state monopolies in the first two, and a near-monopoly in the third, have yielded to booming competitive markets in all three sectors. But the fates of the incumbents have been far from similar in the three industries. While the bleeding state player in aviation today gasps for survival, those in telecommunications have either been privatised or else compete under comparable terms with their private rivals. In banking and finance, liberalisation has been more cautious and, while the grip of the state players has most certainly loosened and the collective market share of public sector banks has steadily declined, state-owned banks still control close to three-quarters of deposits and assets.

The aggregate figures, however, do not tell the complete story. Each public sector bank has had to fight its own battle to hold its position. And slowly, but surely, the ground has been eroding under their feet. For decades, they were used to business coming to them, indeed waiting on them, rather than pursuing it in a competitive setting. Soon enough the better ones among the new private sector banks seemed to be snatching

business away from them with the ease of taking a toy from a child. The rich and the young hated waiting in line before the counters at public sector banks. The treasury managers at large corporations found the young, better-paid MBAs from private and foreign banks speaking their language much better than did the old, staid public sector bank executives. Tables 11.1 and 11.2 describe the size distribution, growth rates and profitability of banks by ownership categories in India.

SBI, the flag bearer of Indian banking, was feeling the heat, too. Apart from the legacy of a colonial past as well as hangovers from the pre-computer era and the lethargy and slack induced by decades of monopoly status, as for any other public sector bank, SBI's challenge comes from having to serve dual masters. As the flagship public sector bank, it has to serve the country and the government by providing financial access to millions in remote parts of the country, which requires large staff strength and the need to serve unprofitable segments, and at times even come to the government's aid. At the same time, it is a listed entity, and has to satisfy the stock market expectations about its performance. As always, the 'public service' and the 'profit maximising' roles, if not always in direct conflict, are usually not in sync either. The Planning Commission's Raghuram Rajan Report (Planning Commission 2008) captures the dilemma succinctly:

> [G]overnment ownership automatically confers benefits (government guaranteed support, favours by regulatory authorities, guaranteed public sector customers) as well as costs (politicisation of decisions, limitations on pay, unremunerated activities for the public or support for public sector entities, extra layers of oversight by government organisations and the resulting inflexibility, difficulties in raising capital). ... Indeed, it is increasingly evident that when asked to generate profits, public sector entities do exactly what private sector entities do, though less well because they have more constraints, a poorer skill pool, and poorer incentives.

The extent of the differences between the 'incumbent' and 'attackers' in the banking industry was underlined by a Benchmark Survey report prepared by McKinsey in 2007 at the behest of the Indian Bank Association. This comprised five surveys: the McKinsey Personal Financial Services Survey; the Excellence in Retail Banking Survey; the IT Benchmarking Survey; the Organisational Performance Profile Survey; and the Asset Liability Management Survey. In almost every area, it showed the attackers, that is, private and foreign banks, forging considerably ahead

Table 11:1 Structure of banking industry in India

Panel A: Group-wise consolidated balance sheets

	As at the end of March 2010 (In Rs. billion)					
	Public sector banks	**Private sector banks**	**Old private sector banks**	**New private sector banks**	**Foreign banks**	**All scheduled commercial banks**
Capital	135	45.5	12	33	306	486
Reserves and Surplus	2275	1154	189	966	386	3815
Deposits	36 918	8228	2299	5929	2379	47 525
Demand deposits	3685	1346	216	1130	679	5710
Savings and deposits	8873	1862	436	1427	364	11 099
Term deposits	24 360	5030	1647	3373	1335	30 715
Borrowings	3138	1488	81	1407	621	5248
Other liabilities and provisions	1944	592	108	484	641	3178
Total Liabilities/Assets	44 411	11 508	2690	8818	4332	60 251
Cash and balances with RBI	2705	755	169	589	191	3658

Balance with Banks and Money at call and short notice	1242	387	57	330	206	1835
Investments	12 057	3541	835	2706	1593	17 192
Government Securities (a+b)	10 083	2412	608	1804	1175	13 671
a) In India	10 000	2410	608	1802	1175	13 585
b) Outside India	83.6	1.7	–	1.7	–	85
Other Approved Securities	50	3	2.9	0.2	0.04	53
Non-Approved Securities	1924	1126	224	902	418	3468
Loans and Advances	27 013	6325	1541	4784	1633	34 971
Bills purchased and discounted	1408	275	81	185	213	1896
Cash credits, overdrafts, etc.	10 745	1587	681	906	659	12 991
Term loans	14 890	4463	770	3693	760	20 083
Fixed Assets	345	102	24	79	49	496
Other Assets	1045	394	64	330	662	2101

Note: These include 27 public sector banks (State Bank of India and its six associates, 19 nationalised banks and IDBI Bank Ltd.), 7 new private sector banks, 15 old private sector banks and 32 foreign banks.
Source: RBI (2010).

Panel B: Group-wise growth-rates in balance sheet items (%)

	Public sector banks		Private sector banks		Old private sector banks		New private sector banks		Foreign banks		All scheduled commercial banks	
	2008–09	2009–10	2008–09	2009–10	2008–09	2009–10	2008–09	2009–10	2008–09	2009–10	2008–09	2009–10
Capital	3.6	0.1	–8.1	7.3	8.2	8.7	–13.1	6.7	14.5	19.8	8.3	12.4
Reserves and Surplus	20.5	16.8	10.0	21.0	14.6	15.9	9.1	22.0	27.3	12.1	17.8	17.5
Deposits	26.9	18.6	9.1	11.7	20.3	15.4	5.4	10.4	12.0	11.1	22.4	17.0
Demand deposits	9.9	18.4	1.3	33.5	1.8	22.5	1.1	35.9	2.3	12.1	6.9	20.8
Savings and deposits	18.4	25.8	14.9	32.8	15.6	26.2	14.7	34.9	9.7	26.5	17.5	26.9
Term deposits	33.1	16.2	9.2	1.3	24.2	12.0	3.9	–3.1	18.0	7.0	27.3	13.1
Borrowings	65.3	21.4	56.6	8.1	77.4	31.8	55.7	6.9	32.9	–19.8	56.5	10.8
Other liabilities and provisions	–21.4	4.4	–37.0	9.7	–7.8	15.0	–41.0	8.5	43.4	–31.6	–13.9	–4.8
Total Liabilities/Assets	24.6	17.9	9.3	12.0	19.4	15.8	6.7	10.9	22.3	–2.7	21.1	15
Cash and balances with RBI	–2.4	20.8	–19.4	32.0	–14.6	27.7	–20.7	33.3	–28.9	22.1	–8.0	23.1

Balance with Banks and Money at call and short notice	106.5	−5.4	32.7	13.9	46.0	−43.3	27.8	38.0	56.8	−34.2	80.1	−6.6
Investments	26.6	19.1	10.0	15.5	33.9	15.3	4.3	15.6	31.8	22.2	23.1	18.6
Government Securities (a+b)	30.6	19.0	12.4	10.6	27.3	13.4	8.2	9.7	20.7	17.5	25.9	17.3
	30.8	18.8	12.4	10.6	27.3	13.4	8.3	9.7	20.7	17.5	26.0	17.2
a) In India	4.0	48.3	−32.0	72.6		–	−32.0	72.6	–	–	3.1	48.7
b) Outside India												
Other Approved Securities	−22.8	−36.8	−22.8	43.4	−24.3	56.2	−12.0	−31.7	−80.7	−41.7	−23.0	−34.6
Non–Approved Securities	11.9	22.2	4.7	27.6	58.8	20.5	−4.0	29.5	89.3	37.7	14.6	25.6
Loans and Advances	25.7	19.6	11.0	9.9	15.1	19.9	−9.9	7.1	2.6	−1.3	21.1	16.6
Bills purchased and discounted	18.3	10.4	−23.5	30.7	7.0	19.1	−33.9	37.2	−8.0	46.9	8.0	16.3
Cash credits, overdrafts, etc.	29.3	20.0	11.5	9.6	15.0	20.8	9.3	2.5	7.0	−7.5	25.1	16.9
Term loans	24.0	20.2	13.4	9.0	16.2	19.3	12.9	7.0	1.1	−4.5	20.1	16.4
Fixed Assets	17.2	2.1	2.6	3.6	8.0	8.0	1.2	2.4	19.4	2.6	14.1	2.5
Other Assets	2.0	−0.2	21.6	−11.6	35.1	7.8	19.8	−14.5	68.1	−32.3	25.1	−15.0

Source: RBI (2010).

Table 11.2 Group-wise return on assets and return on equity for Indian banks (%)

	Return on Assets		Return on equity	
	2008–09	**2009–10**	**2008–09**	**2009–10**
Public sector banks	1.02	0.97	17.94	17.47
Nationalised banks*	1.03	1.00	18.05	18.30
SBI Group	1.02	0.91	17.74	15.92
Private sector banks	1.13	1.28	11.38	11.94
Old private sector banks	1.15	0.95	14.69	12.29
New private sector banks	1.12	1.38	10.69	11.87
Foreign banks	1.99	1.26	13.75	7.35
All SCBs	1.13	1.05	15.44	14.31

Note: Return on Assets=Net profits/Average total assets; Return on equity=Net profits/Average total equity.
*Nationalised banks include IDBI Bank Ltd.
Source: RBI (2010).

of the incumbents or public sector banks. The attackers lead in wholesale banking while the incumbents rely on their retail advantage, an advantage that may disappear quickly in the future as the young and affluent shift to the attackers in droves. A lack of specialist and leadership skills in public sector banks is 'acute and crippling'. While attackers have leapfrogged to global standards in treasury and risk management, those of the incumbents are rudimentary. Attackers have successfully leveraged the India advantage in IT, but most incumbents have had no clear strategy to reap value out of their significant investments in technologies such as core-banking solutions.

Salary restrictions imposed by the government on public sector banks account for a considerable part of their human resource and managerial problems. The problem is acute at the top management levels. For instance, the ICICI Bank chairman's salary in 2008–09 was more than *13 times* that of the SBI chairman, who runs a much larger bank! And that was for an exceptionally bad year. In addition, for 2007–08 the former was awarded stock options for 270,000 shares. Most other new private sector banks pay more, not less. Foreign banks pay substantially more. On the other hand, at the lower end of the hierarchy, the public sector employees are comparably or even better compensated than their private sector counterparts.

Public sector banks like SBI maintain an egalitarian compensation structure while those in the private and foreign banks are very convex – that is, people at higher ranks get paid disproportionately more. While the public sector model may be more appropriate from a social equity point of view, the fact remains that all banks are competing for scarce skills, particularly at higher management and leadership levels, and that is where the public sector banks lose out.

All this is public knowledge, at least in government and banking circles. That creates its own problems for competitiveness. It rationalises the slide of a bank such as SBI from commanding heights and makes it acceptable to its own management as well as to the public at large. By the mid-2000s the 'private is better' mindset had struck deep among senior managers at SBI itself and a defeatist mentality had set in. Top managers had become resigned to the fact that SBI's days at the top were numbered. As long as business was growing, (and growing it was, at double-digit rates), no one should complain. The fact that the competition was growing at more than twice the rate was hardly discussed – they were considered a different class, playing by different rules. Convinced of its own handicaps, SBI was almost giving in without a fight.

4. The institutional structure of SBI and other public sector banks in India

Most public sector banks today are listed entities with majority shareholding by the government. All public sector banks have a statutory floor of at least 51% government shareholding – the SBI group used to have an even higher stake of government ownership of 55% that has recently been reduced by an amendment of the SBI Act. Table 11.3 provides a distribution of PSBs in terms of their proportion of private shareholding.

Each public sector bank has a board that has the chairman and one or more managing directors as executive members and several independent directors representing the finance ministry and eminent people selected by the government. As the majority owner, the government ensures that it has an ample majority on the board.

The SBI, being set up under the SBI Act rather than being nationalised, operates under a slightly different set of rules, but the nature of the relationship between the government, the board and its chairman are not vastly different from what occurs in other public sector banks. For SBI the board composition is governed by section 19 of the SBI Act (as amended in 2010), which reads as follows:

Table 11.3 Public sector banks classified by percentage of private shareholding

Class of shareholding	Total Private shareholding	Private resident shareholding	Private non-resident shareholding
Up to 10 per cent	1	2	10
More than 10 and up to 20 per cent	3	4	11
More than 20 and up to 30 per cent	2	7	–
More than 30 and up to 40 per cent	4	7	–
More than 40 and up to 49 per cent	11	1	–

Note: Including 19 nationalised banks, SBI and IDBI Bank Ltd
Source: Reserve Bank of India, 'Report on Trend and Progress of Banking in India 2010–11', Mumbai: Reserve Bank of India, 2011.

19. Composition of the Central Board. The Central Board shall consist of the following, namely:

(a) a chairman to be appointed by the Central Government in consultation with the Reserve Bank
(b) such number of managing directors not exceeding four, as may be appointed by the Central Government in consultation with the Reserve Bank
(c) if the total amount of the holdings of the shareholders, other than the Reserve Bank, whose names are on the register of shareholders three months before the date fixed for election of directors is:
  (i) not more than 10% of the total issued capital, two directors
  (ii) more than 10% but not more than 25%of such capital, three directors, and
  (iii) more than 25% of such capital, four directors, to be elected in the prescribed manner by such shareholders
(ca) one director, from among the employees of the State Bank, who are workmen, to be appointed by the Central Government in the manner provided in the rules made under this Act
(cb) one director, from among such of the employees of the State Bank, as are not workmen, to be appointed by the Central Government in the manner provided in the rules made under this Act

(d) not less than two and not more than six directors to be nominated by the Central Government, from among persons having special knowledge of the working of co- operative institutions and of rural economy or experience in commerce, industry, banking or finance
(e) one director to be nominated by the Central Government
(f) one director to be nominated by the Reserve Bank.

Currently the 12-member SBI board consists of a chairman and three managing directors, SBI, four directors in the category 19(c) above, an Officer's Association representative (19 (cb) above), and one each under clauses 19 (d), (e), and (f) above, of which the last two are a senior bureaucrat and a deputy governor of the RBI respectively. The four directors in the 19(c) category include a reputed chartered accountant, a banker formerly with Citibank, and two reputed multi-national executives. Consequently only 5 members out of 12 can be considered to be truly unaffiliated to the bank itself, or the government or the central bank.

What is also noteworthy in the statute is that the chairman of the bank is not appointed by the board, but by the central government in consultation with the central bank. Usually, as is the case now, the chairman and the managing directors are promoted from within the bank rather than brought in from elsewhere. As such, the centres of power in the disposition are very clear. The chairman needs to keep the government happy, and having the support of the RBI would be an added positive.

5. The operational challenges of being a public sector bank

The operational handicaps that the public sector banks face vis-à-vis their private rivals because of their government ownership are perhaps best articulated in the Rajan Committee report:

- Both the level of pay as well as its sensitivity to performance are limited, making it hard to attract new talented employees, retain superior old ones, or incentivise them to perform better.
- Promotion is typically on the basis of seniority, and it is hard to let go of employees for non-performance. The talented young are more attracted towards private banks where they can get significant responsibility quickly. Public sector banks used to be much larger than private banks, and thus be able to promise much greater influence and a broader range of experience eventually. As bank sizes

become more equal, even that is not possible. Public sector banks have a legacy of talent from their past, but that talent pool is ageing and is not being replenished.

- The most important corporate decision, appointment and dismissal of the bank's top management, is not taken by the board, but by the central government. This limited delegation of power to the bank board, despite the board consisting of a majority of government nominees, inhibits the board's ability to guide bank strategy and limits the responsibility it has to shoulder for bank performance. At the same time, the government's power to appoint and transfer management introduces political influence over day-to-day decision making. Governments have differed in the extent they have used influence, but this issue, with important economic consequences, should not be left to the ballot box.
- Unlike private companies, the bank's board is not considered an adequate trustee for the interests of its owner. Instead, additional layers, for example, the Central Vigilance Commission, second guess all important bank decisions. This induces delay as every decision has to be documented for a possible future enquiry, risk aversion, and an excessively bureaucratic decision process through all levels.
- Unions can be a very positive force in employer–employee relations, and indeed some public sector banks enjoy model management–union relations. To the extent, however, that public sector bank unions can use their proximity to political power to have an added influence over the management of some public sector banks (an influence that would be weaker in private sector banks), it creates an imbalance that can be detrimental to the bank as a whole.
- Because the government is strapped for resources, and because a number of PSBs are at the limit of their ability to issue shares to the private sector without altering majority government ownership, capital is increasingly constraining their growth.

The problems identified above have manifested themselves prominently for SBI, and the situation is likely to worsen in the times to come. The human resource management constraints at SBI hurt the most. In the mid to late 1990s, the new private sector banks had built up their businesses by largely hiring SBI staff who had often taken voluntary early retirement from SBI. The same problem persists today, even with the voluntary retirement door shut. The salary differences at senior levels are so large that an SBI staffer jokes about going to parties of 'ex-SBI and why-SBI' people. The problem is further aggravated as a large number of

retirements are likely to happen soon. A bank with more than 200,000 employees, that had a hiring freeze in the late 1990s and early 2000s, is now witnessing a talent crunch in the upper management levels that it does not have the wherewithal to meet since the lateral hiring route is closed. Pushed into a corner, it has started moving to hiring senior positions like the chief economist with near market salaries – more than the double that of the chairman's salary – and yet it finds it hard to recruit as the position has to be contractual.

The problem is particularly acute in two areas – attracting young talent in customer-facing corporate banking positions and in trading. The young MBAs that speak the language of corporate CFOs are increasingly proving to be too highly priced for SBI to hire. It is not that SBI cannot afford them or they are not worth the pay in the competitive markets – government rules will just not permit SBI to pay those salaries. Also, the trading desk at SBI – the biggest player in most asset markets in India – seems to provide a safe training ground for talent for the private sector. Three to four years of trading experience at SBI – a relatively risk-free environment as far as trading desks go – is the best qualification to attract private banks with a pay check that is several times that of SBI's.

There is a significant leadership problem looming large on the horizon as well. The current set of top leaders at SBI joined the bank in the 1970s when a career at the bank was comparable to joining the civil service. With not much of a private sector in the country, the best talent moved into the bank officers' jobs. As the market opened up in the 1990s, the private sector provided robust competition in the market for executives, and the quality of people going for these positions deteriorated. Unable to hire laterally, SBI is almost being set up for a leadership crisis in the years to come.

Continuity in leadership is another area. For instance the 2006–10 period saw a remarkable turnaround at SBI despite all its public sector type handicaps (something we discuss in a later section of this chapter), since a relatively young (at 55) chairman, O.P. Bhatt, led the bank continuously for about five years. This is a rare occurrence. Typically, chairmen have stints lasting less than three years before their mandatory retirement age of 60. Continuity of policy is another problem. For instance, after Bhatt retired in 2011, his successor took steps that reversed his initiatives in many areas. Without commenting on the appropriateness of these decisions, it just reveals the problems posed by a bank in which the leader is chosen by the government rather than the board of the bank.

Government ownership itself sometimes translates into competitive handicaps when it comes to raising capital for expansion. Global integration of the banking industry clearly implies a few things for SBI's competitiveness. First, in order to be competitive SBI itself has to be a global player, not just an Indian giant. In India, the demand for for banking services remains high, but there are not many with top credit rating. As the Indian-origin MNCs such as Tatas and the Bhartis scout the globe for acquisition targets, they are able to borrow in almost any market in the world, forcing domestic banks, like SBI, to be globally competitive. These companies might no longer be SBI's captive client simply because of the 'home country' effect. SBI cannot afford to lose out on its 'Indian MNC' clients. In that scenario, SBI will need to have the ability not only to provide significant funding but also critical advisory services like preliminary screening of global targets, making the necessary connections for the Indian player and facilitating deals. Once again, SBI needs to have a significant local presence in foreign markets to make that happen. The bank had set the goal of a 25% share of the bank's business coming from its International Business Group. The proportion is currently above 12%, about 50% higher than what it was in 2006.

Size will matter even more in the future than it does today. For SBI, expansion will not be a matter of choice, but about maintaining long-run industry relevance. Only a few global giants would compete for the most profitable of businesses, and SBI would either have to be counted in that league or be deprived of market share – around the world as well as at home. Scale, in turn, would depend upon consolidation and capitalisation. Inorganic growth at home would imply not just rapid consolidation of the associate banks in the years to come, but perhaps other acquisitions as well. Abroad, the growth strategy must necessarily involve inorganic growth through major acquisitions.

The other critical part of the growth would be capitalisation. The bank will have to maintain its capital adequacy and thus can grow in size at roughly the same rate as its capital base grows. This means either the government will have to continue pumping capital into the bank or be prepared to reduce its holding to below 51% – something not currently allowed by law, unless the bank is allowed to move to a holding company model to circumvent the legal barrier to further privatisation. This is essential to make sure that SBI can raise equity in the market and continue to serve its business needs through necessary growth. Therefore, the extent of government shareholding is also directly linked to SBI's competitiveness.

6. Advantages of public sector status

As the Rajan committee points out, the public sector status does not bestow only hindrances upon state-owned banks. Never, perhaps, were the benefits more obvious than at the bottom of the recent financial crisis, as confidence in banks around the world were shaken in the wake of the Lehman Brothers' collapse. If the financial crisis had a silver lining, India's public sector banks (PSBs) doubtlessly sparkled in it. The crisis helped them strengthen their competitive position vis-à-vis their private sector rivals, channelled large capital infusions from the exchequer without a murmur and burnished their image as the keepers of the nation's wealth. At a time when banks worldwide were starved of funds, the Indian Finance Minister publicly mandated India's public sector undertakings (PSUs) to bank exclusively with the public sector banks, shifting hundreds of millions of dollars worth of funds to these banks.

During 2008–09, PSBs grew its deposits by over 24%, more than a percentage point higher than in the previous year. Private sector bank deposits grew by a mere 8%, down from 20% the previous year. Credit grew at over 20% for PSBs, only a shade lower than the 22.5% in the previous year. For private banks it was less than 11%, down from almost 20%. The 54% fall in the SBI share value was far more palatable than the 73% decline in the ICICI Bank. At the same time, the government infused over Rs. 3,000 crore in Tier-I capital for four PSBs.

The contribution of conservative RBI policies and supervision, and the underdevelopment of credit derivative markets to the health of India's banking sector, are not in question here. The capital to risk-weighted assets ratio (CRAR) stood at a very decent 13%, well above the regulatory minimum of 9% which itself was a percentage point higher than the Basel minimum norm. Worldwide CRAR ranged from 8.2% to 17.7%. The provision for NPAs stood at over 52% with the global range being 25% to 184%. The sector was also profitable, with a 1% return on assets (ROA), comparable to the world figures and far higher than in most developed countries.

But these apply to banks across the public-private divide. The question is: Among the different bank categories in India, did the strength of PSBs lie in their efficiency and conservatism in operations or simply in their government guarantee? The credit default swap (CDS) spreads for SBI and ICICI Bank tell an interesting story. Until about January 2008 both hovered around the same level. And then, suddenly, ICICI Bank started looking much more risky than SBI. This may have more to

do with access to government funds rather than operational conservatism. It is reported that SBI started getting additional deposits at the rate of more than Rs. 100 billion a day in the post-Lehman period as depositors withdrew from foreign and private banks in India.

V. Acharya et al. (2010) compare the risk levels, just before the crisis, of several Indian banks and Non-Bank Finance Companies (NBFCs) – public and private – by looking at their Marginal Expected Shortfall (MES) or 'tail beta' – the sensitivity of a bank's stock return to an index return on the 5% *worst* market days. Next, they look at their actual performance during the crisis period and see if it is line with what the MES would predict.

The relationship between the MES and crisis performance seems to be very different for private and public sector banks. The riskier private banks and NBFCs expectedly fared worse when the crisis hit, but for the public sector banks there was no such pattern. As a group, the private sector banks had an average MES nearly a whole percentage point lower than the PSBs. Both SBI and ICICI Bank, their respective leaders, had comparable MES at 5% going into the crisis. And, yet, as a group the private banks suffered a fall that was a full 20% greater than for the PSBs.

Within categories, the difference is even starker in the deposit growth. Here, while the private banks show a statistically negative relationship between MES and crisis-period returns, the PSBs actually show a statistically significant *positive* association – the more risky the PSB going into the crisis, the greater is its deposit growth. Normal behaviour was evidently suspended.

If markets rewarded risky banks during a downturn, something other than conventional risk had to be the deciding factor. The insurance of a friendly government is the obvious answer. For the riskiest PSBs, the crisis may have actually enhanced their chances of a capital injection. Thriving on the back of government guarantee is not unique to India – Fannie Mae and Freddie Mac in the United States are obvious examples – but clearly the superior performance of public sector banks in India, vis-à-vis their private rivals, had little to do with efficiency or better risk management.

7. Not the end of the road for public sector banks

While the public sector status brings with it several handicaps, notwithstanding a few benefits, it is not impossible for public sector banks to be competitive, even against private sector rivals. Nothing drives this point home more emphatically than the spectacular transformation of

the SBI during 2006–10, from a lethargic, bureaucratic, old-fashioned bank with eroding market share to a customer-friendly, employee-sensitive organisation wresting market share from nimbler rivals in most areas of modern banking. While a full description of the turnaround is beyond the scope of this chapter (see Chakrabarti 2010), it is instructive to understand how SBI, in its transformation journey, negotiated the most difficult of the public sector handicaps – those in the area of human resource management.

Being a public sector bank, SBI could not reward its staff – particularly the high-performing staff members – with an employee stock option plan (ESOP), almost standard among private players. But when SBI succeeded in selling the idea of a 'rights issue' for the bank to the government, convincing it to invest in SBI, it was decided to award the staff with a slice of the SBI pie as well. Convincing the government of the 'rights issue' itself was an accomplishment. SBI was not in financial difficulty, and for the government to pump in Rs.10,000 crore in a healthy bank was a rare step. It would be at a 35% discount from the market on the day of the announcement in early 2008. Parallel to the rights issue, SBI announced an employee stock purchase scheme, the first time for a public sector bank. Every employee, from the chairman down to the messenger, was eligible and they would get the same discount as the government. A personal loan made available to the staff at the same time (a direct loan to purchase shares would have been against the rules) made financing the purchase easier, as well. The staff responded in an overwhelmingly positive way. There was no demand on the bank to implement this measure; it was the management's voluntary idea of rewarding the staff. This created tremendous goodwill at the bank.

Then, a set of small steps – staff benefits, some of which simply made life easier for employees and some that were almost symbolic –went a big way in signalling to the staff that the management cared more about their lives and comforts than about its rules and processes. For instance, sometimes upon transfer an SBI employee would want to retain his old accommodation – for factors such as children's schooling – but this was against the bank norms. It was now made possible as long as the accommodation was a leased one for the bank, not an owned premise. An improved post-retirement medical benefits plan was put in place for executives above a certain rank. Travel reimbursements, previously needing copies of bills, were now allowed on a self-certification basis, thus easing life in a significant way.

The last Leave Fare Concession (LFC) a staff member could use had to be on or before his retirement day. With the last day usually being

hectic and crowded with farewells, and so forth, this made life difficult for most. The choice was to forego it. In hindsight, extending the deadline by just three months after retirement seemed like a 'no-brainer' solution to the problem, but this had never happened before. An education loan for the staff's children with exceptional academic performance was yet another new benefit. In several small ways, top management was continuously trying to reward the staff and make their lives as easy as it possibly could while staying within government stipulations. The effort showed, and the cumulative result was a considerable rise in gratitude and reciprocity. The top management looked like it cared about the staff and appreciated its role in the bank, and staff alienation was reduced significantly. SBI was looking, more than ever before, like a caring environment, a nurturing family.

As in most government organisations, at the bank recognition and appreciation was in short supply. The motivating power of a simple act of appreciation could have tremendous benefits. The bank started the practice of all the 54 module heads (a sub-category within circles) to recognise the top performers, which took place at a family event held every month. The module heads were urged to write 30–40 appreciation letters every month. For the first time, the staff were being appreciated for what they were doing for the bank. It cost almost nothing to the bank and yet made a significant impact in terms of motivation.

Direct face-to-face dialogue had somehow been buried under the staircase of hierarchy at the bank. This was often a key reason for the accumulation of employee grievances. Often, upper management was just not aware of the situation with an employee simply because the communication channels were blocked. The bank started the practice of having an 'open house hour' every week for the CGMs and GMs at the circles when any employee could walk into the officer's office and discuss any matter. The time or day of the week of this practice would be decided by the executive, but the implementation of the initiative was monitored by the chairman's office itself. An outlet was provided for employee concerns, thus opening a channel for healthier staff relationships.

Communication opened up at higher levels as well. In an organisation given to 'notes' and 'memos', SBI opened up unofficial channels among the top management. SMSes among top management became common and was encouraged. The sharing of best practices at the different circles through SMSes among all of the circle heads, as well as top management at the corporate centre, became a norm. The walls of procedure that isolated people at the bank were finally being shaken and, sometimes, brought down altogether.

The practice of customer meetings at the branches, sometimes with the regional manager present, had existed in the bank and served as an important channel for feedback and monitoring. Now the bank encouraged branch managers to invite the Union and Officer's Association representatives to these meetings as well. Now the Union and Association members could hear first-hand, rather than from the management, what their real bosses, the customers, wanted or thought about their performance, punctuality, and service. Several issues were cleared up right away and a measure of transparency was ushered into the system. Here, too, the chairman's office monitored the initiative on a monthly basis.

Small, but important, innovations started to take place in the workplace as well. As in all large organisations, writing performance reports describing a department's achievements and reporting on an individual's performance was an onerous part of an SBI executive's job. Converting the reports to a scoring exercise dramatically reduced delays in filing reports and the feedback and the evaluation process accelerated several times over.

The new focus on customer service was also reflected in the changed employee roles across the bank, particularly at the lowest levels. Because of its colonial past, as well as its policies during the socialistic period of independent India that stressed the employment maximising role of public sector organisations, SBI had a large subordinate staff cadre, making up more than 20% of its massive workforce. This category was largely made up of three segments – security personnel, messengers and general attendants. They have relatively low educational levels and are not, generally speaking, suitable for desk jobs, but carry out important labour-intensive functions within the bank, whether it be moving files or even cash, or taking care of refreshments and cleaning.

With the rapid adoption of technology and the changing business environment and work processes, the responsibilities of those in this category had actually declined over time, but there had been little conscious effort in redeploying them in other, higher value-added roles. Without doubt, the major stumbling block is their low educational achievement and the resulting perception of their unsuitability for any other roles. It is common to see liveried messengers walking behind SBI executives and carrying their briefcases as the executives get out of their cars to go to their offices, or else these messengers sit at stools outside offices doing practically nothing. This is an unforgiveable waste of human time and effort and, yet, it is something so common in many large public sector businesses that some company insiders simply overlook their existence. Apart from the organisation not getting value for

the salary being paid, an idle workforce leads to a demoralising work environment and presents an image of unprofessionalism and inefficiency to the outside world. In turn, the sense of redundancy crept in among these employees, leading to further alienation and, in extreme cases, even an adversarial and disruptive attitude towards the bank on their part. Without proper meaningful roles, they were not of *zero* value, but possibly of *negative* value in some ways. And, yet, it was not their fault; they were just not being used optimally by the bank.

As part of the Business Process Reengineering (BPR) efforts, the subordinate staff was now asked to perform several new functions. For instance the security personnel, in addition to keeping watch over safety were now charged with welcoming and greeting customers, ensuring there is no crowding at any counter, helping customers in generating tokens for waiting. General attendants were tasked with keeping the premises clean and tidy at all times starting well before the customers arrived, periodically cleaning up the customer area, ensuring that newspapers and magazines in the customer lounge were current, maintaining plants inside and outside the premises to create a pleasant atmosphere, and offering drinking water in clean glasses placed on a tray to all customers, especially in summer. Messengers were supposed to be neatly dressed and present in the banking hall to provide quick service, ensure that brochures and vouchers were available at all counters and in the customer area, deliver drafts to customers at their residence or offices, assist the customers to drop their instruments in the drop box, guide customers to write their account number and contact number on the back of the instruments, assist in clearing contents of the drop box at regular intervals and help in pass book printing. All subordinate staff was to participate in the bank's marketing efforts by being ambassadors of the bank among their friends and relatives and market its products in their social circles. They were also supposed to play a key role in the recovery of non-performing loans by repeatedly meeting the defaulters and reminding them of their loans.

The changed duties made an enormous difference to the role of the sub-staff. In some sense they ceased to be 'second-class employees' and joined the bank in its collective effort to serve the customer. This meant more work but also much higher esteem for the sub-staff. It initiated a culture of empowerment to directly fulfil the one and only purpose of the bank – serving the customer.

Another key element in the empowerment effort was the revival of the moribund Staff Suggestion Scheme. It was revived in a very simple manner. A Rs.500 reward was announced for any staff suggestion made,

regardless of its perceived merit or whether it was accepted or not. The payment was made immediately on making the suggestion – which was as simple as clicking a link on the bank intranet site and typing the suggestion. On the one hand, it meant an easy incentive for all, on the other it signalled how valuable the bank thought the staff suggestions were. A second reward would be given if the suggestion was actually accepted by management. Suggestions started pouring in after this plan was put into place. Participation as well as thinking about the bank as an organisation became far more commonplace and widespread than before. For the first time, two-way communication became a reality at the bank.

Every year, SBI celebrated exceptional achievements by its staff members and congratulated them by inducting them into the 'Chairman's Club', SBI's own Hall of Fame. A select group of high-achievers from across the country were congratulated in a function at the Corporate Center in Mumbai by the Chairman himself. While entry into the 'Chairman's Club' was truly reserved for super-achievers, the function itself, at the officer's dining hall, was far from glittering.

A simple change scaled up the event by several notches. The awardees would now be invited with their families instead of by themselves and, most important, the awards would be given not at the corporate centre but at the gardens of the Chairman's sprawling bungalow in one of the most expensive parts of Mumbai. The bungalow and its lawns were thrown open to the guests and naturally the Chairman's family participated in the glittering evening garden party, complete with music.

The motivational effects of these simple changes were tremendous. It became the high point of most SBI executive's work-life balance in that highly hierarchical organisation. Family photos clicked with the chairman and his wife invariably adorned the sitting rooms of most Chairman's Club members.

At one level, this was almost purely symbolic. It did not cost SBI much to hold the parties, nor were the awardees given a huge bonus for their extraordinary performance. But the motivation boost it created within the bank could not have been generated by any reasonable amount of bonus.

8. Conclusion

State ownership has brought with it several competitive handicaps to SBI but in tumultuous times it has also provided a much needed advantage to all public sector banks. However, going forward the operational

constraints imposed by public sector status is likely to create an additional challenge for these banks.

Nevertheless, as the recent transformation at SBI shows, this is not a debilitating disadvantage. A 'public sector culture' was not a *sine qua non* in a public sector organisation and shedding it contributed handsomely to competitiveness, employee motivation and customer friendliness. There is evidently considerable room for competitive improvement within the bounds set by state ownership.

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