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THE BAOSTEEL GROUP – A NATIONAL CHAMPION AMONGST NATIONAL CHAMPIONS

Jeffrey D. Wilson

Asia Research Centre, Murdoch University

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j.wilson@murdoch.edu.au

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INTRODUCTION

In comparison to 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. Created as a national steel champion by the Chinese government in the early years of the reform period, and benefiting from the industrial policy support this status has brought during the intervening three decades, Baosteel has earned the status of 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 amongst 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 amongst 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.

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 twenty-nine 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 & 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 was 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: a first to install an ‘integrated’ steel production line (combining both primary steel production and finishing mills) by 1985; a second to install additional high technology finishing equipment by 1993; and a third to expand its total capacity to 11 million tonnes per annum (mtpa) by 2001 (Sun 2005: 179-180).

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 & 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, which 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 designed to also 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 1).

Table 1 Growth in the Chinese steel industry, 1981-2009 (million tonnes per annum)

	Baoshan I&S	Baosteel Group	Chinese National Steel Indicators			
			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

Source: Author's calculations from (*China Steel Yearbook*, various years)

* Real RMB billions, calculated using Chinese GDP deflator (2000 = 100)

[^] Annual averages

[#] Inclusive of the years 1998-2000 only.

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 lacked 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 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 completion¹. 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).

¹ Author's calculations, from (Nolan 2007: 89; *China Steel Yearbook*, various years).

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 amongst 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 & Liu 2005). In the steel industry, the MES involved three distinct but interrelated elements. First, firms were devolved full operational autonomy, including financial responsibility for all profits and losses (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 & 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 & 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 & 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 & Liu 2005: 20-25). As steel was amongst 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 & 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 SOEs², and a rapid improvement in the technical sophistication of the industry's crude steel production³.

Corporatisation 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 the 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 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 & Chen 2007). Conversely, the NDRC's role was to act as a national planning body, setting broad industrial goals which 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 which 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

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 obsoleted 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).

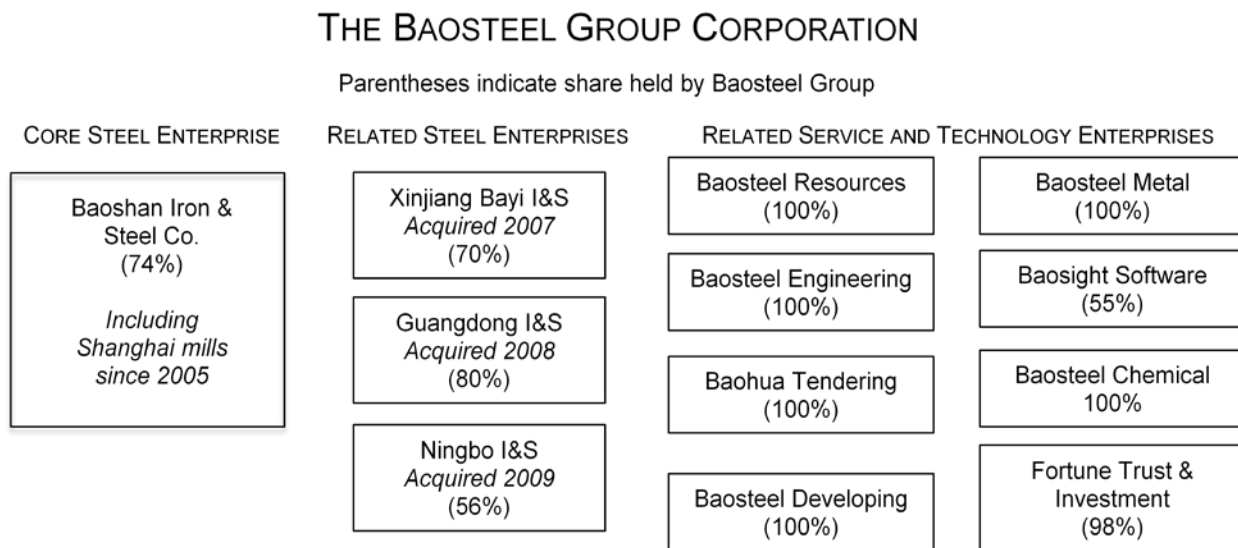
steel consumption had quadrupled, production increased five-fold, real investment increased six-fold, and the country shifted from being a net steel importer to a major exporter (Table 1). The boom also quickly catapulted the Chinese industry to a position of unprecedented global dominance – rising from 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 become a national champion *amongst* 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 received RMB 17 billion of concessionary loans from state banks to fund technology projects associated with this goal (Taube & in der Heiden 2009: 81). However, this discretionary policy support also came with 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 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 1 outlines the current ownership arrangements within the Baosteel Group.

Figure 1 Structure of the Baosteel Group, 2010



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

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 appointees⁴, Baosteel was one of fifty-three 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 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 to 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 hierarchy⁶; 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 amongst only three firms whose ownership remains with the central SASAC⁷. 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

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 which 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).

effectively controls decision-making within the firm by virtue of its near monopoly on management (Bai & 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 & 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 2). The source of this competitiveness is Baoshan's product mix, which due to longstanding state financial support for technology projects is concentrated in the high margin hot-rolled, cold-rolled and tube and pipe product lines. These three market segments currently account for 68% of Baoshan's sales, which compares very favourably to an average of 19% across the Chinese steel industry⁸. 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 longstanding pattern of state support for high-technology projects has ensured Baosteel has become both the Chinese industry's most competitive enterprise, and the most (if not only) firm capable of competing with steel multinationals in international markets for sophisticated and high value-added finished steel products (Nolan 2007; Sun 2007).

Table 2 Financial performance of Baoshan I&S and Chinese steel industry, 2003-2009 (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	10049	44460	22.6%	55762	713434	7.8%
2004	13442	58638	22.9%	93405	1104504	8.5%
2005	17451	98545	17.7%	80997	1316055	6.2%
2006	18984	117603	16.1%	103543	1554246	6.7%
2007	19477	136360	14.3%	164617	2069997	8.0%
2008	8304	150529	5.5%	88076	2703012	3.3%
2009	5887	116288	5.1%	53417	2418712	2.2%

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

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

⁸ Author's calculations, from (Baoshan Iron and Steel 2009: 28; *China Steel Yearbook* 2010).

amongst 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 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 seventy-three 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 in comparison to world technological standards. Above these, a second tier comprised of the 'top-10' firms produce another 40% of national production. These top-10 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 years⁹. As the largest firm and technological leader, Baosteel sits alone in a first tier of this institutional structure. In terms of output, however, Baosteel is only a small player within either the national champions group or 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 un-concentrated and competitive type of institutional structure, within which Baosteel plays only a minor (albeit technologically important) role.

Table 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 (2 nd – 10 th)	23.4	36.5%	Main recipients of industrial policy targeting; large-scale and technologically efficient enterprises; predominantly SOEs
Third Tier: Key enterprises	Top 73 (11 th – 73 rd)	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)

⁹ Industrial policy targeting of the top-ten firms began with the Tenth Plan (2001-2005), 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)

This fractured market structure has proven a major difficulty for the Chinese steel industry during its boom over the last decade, as the 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 international MNCs¹⁰); 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 Organisation accession in 2001. All forms of tariff protection, trade licensing and production and export subsidies for the industry were removed¹¹, for the first time directly exposing the industry to competition with international MNCs 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 amongst the key enterprises collapsed, falling from a peak of 8.5% of sales revenue in 2004 to 2.2% in 2009 (Table 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 amongst the national champion group of enterprises. Specifically, the 2005 Steel Policy called for:

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; IISI 2007).

¹¹ As per Sections 5, 6, 7, 8, 10 and Annex 2A of China's WTO accession protocol. See (WTO 2001).

- **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-10 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, 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 & 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 and 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 projects¹². 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 Group in 2005 (Baoshan Iron and Steel 2005).

Demonstrating the sensitivity of Baosteel's management 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 and 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 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 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 capacity¹³. 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.

Table 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	4.0	69.7%	48.5% share transfer; 21.2% 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 project
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 Mongolian government

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

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

¹² Author's compilation, from (*Steel Guru* 2009c, 2009f, 2010d; *Business Week* 2010).

¹³ Author's calculations, from (Baoshan Iron and Steel 2005, 2009).

have meant Baosteel's four acquisition-then-upgrading mergers have been sub-optimal 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 capital works 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 on repeated occasions blocked 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 agreement with provincial governments in such situations; and given many of Baosteel competitors have successfully executed cross-provincial mergers¹⁴ due to active support and brokerage from the NDRC suggests its support for the vetoed proposals were 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 to 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) 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 and 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 sub-optimal 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 the Chinese industry's top performer (both technologically and financially) despite the costs imposed by its third-tier acquisitions. Nonetheless, Baosteel's

¹⁴ Namely, Ansteel's 2009 acquisitions of Pangang and Benxi (*China Daily* 2010); and WISCO's 2008 merger with Luizhou (*Xinhua* 2008).

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 the firm itself (for competitiveness-enhancing growth) – and evidently 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.

CONCLUSIONS

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 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 amongst 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 absorbing 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 a *quid pro quo* obligation 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 – which was clearly sub-optimal 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 amongst 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- nor state-controlled position implies.

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