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China's Iron and Steel Industry amid the Financial Crisis

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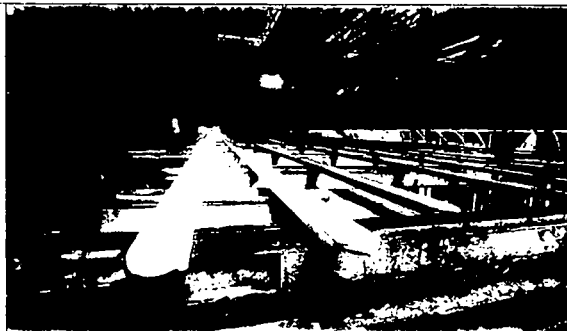
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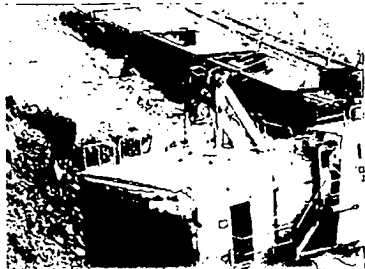


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Profile



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The iron and steel industry is a key pillar of China's economy. Since China introduced its reform and opening-up policy several decades ago, the domestic iron and steel industry has achieved exponential growth. In 1996, China's iron and steel output exceeded 100 million tonnes for the first time and it became the world's top producer. In 2008, its crude steel output of 500 million tonnes ranked China as the global largest steel producer for the thirteenth consecutive year.

China's iron and steel industry has also contributed industries such as iron ore, coke, mechanical manufacturing, household electrical products, auto manufacturing, shipbuilding, and construction.

However, the industry is now facing several challenges, notably continuous price hikes of raw materials such as iron ore, increasing competition from domestic market players, and the expanding presence of large foreign steel corporations. These have exposed some weaknesses, including the fact that the industry does not have much influence on international trades of raw materials while it suffers from excess capacity. The most crucial factor contributing to these weaknesses is the relatively low concentration of the industry. The remedy lies in self-adjustments of the industry structure in the near future and over the longer term a shift in focus from size to strength.

As an integral part of the industry structure adjustments, the mergers and acquisitions (M&As) of China's iron and steel industry have garnered much attention from the market since the country's first Development Policies for the Iron and Steel Industry were launched in 2005.



On 3 September 2008, Guangxi Iron and Steel Group Co., Ltd. was established in China. The group was formed through a reorganization of Huizhou Iron and Steel by Wuhan Iron and Steel (Group) Corporation and the investment of tens of billion of renminbi after the Zhanjiang project. This marked the emergence on the southern China coast of another modern, internationally competitive iron and steel base with a capacity of 10 million tonnes, whose products conformed to international standards.

Guangxi Iron and Steel Group has been one example in a spate of M&A activities in China's iron and steel industry since 2008. In preceding years, three other massive M&A projects had been completed, with a total investment of several hundred billion renminbi. Shandong Iron and Steel Group Co., Ltd. was formed out of the merger of Jinan Iron and Steel Group and Laiwu Steel Group. Hebei Iron and Steel Group was created out of the merger of Tangshan Iron and Steel and Handan Iron and Steel. Guangdong Iron and Steel Group Corporation was formed out of the Baosteel Group-led merger of Guangfeng's iron and steel industry and the Zhanjiang Steel Base. These projects aroused much public concern over the merging and restructuring of China's iron and steel industry in relation to their investment size, future development expectations, and considerable implications for industry chains.

However, the wave of M&A activity in China's iron and steel industry may only be in its infancy. The Chinese government has become a key player in supporting domestic M&A, while more private enterprises and foreign investors have been participating.

China's iron and steel industry has still not fully achieved the goals set out in the *Development Policies for the Iron and Steel Industry* of "creating two globally competitive super-large corporations, each with a 30 million tonne capacity, and several others, each with a 10 million tonne capacity by 2010." This also means a larger market and more cooperative opportunities for those enterprises with competitive strengths and investment insight amid the industry's M&A.

The goals remain on the horizon because the global financial crisis which has affected the real economies around the world has hit China and its iron and steel industry quite hard. However, following the launch of the Chinese government's RMB 4 trillion economic stimulus package in early November 2008, numerous domestic large-scale works projects are now ready to proceed. This is undoubtedly great news for China's iron and steel industry, and represents another rare growth opportunity for its market leaders. Given the challenges and opportunities ahead, increasing the leading steel makers' competitive edge, improving operating systems, and undertaking M&A are pressing needs.

Furthermore, prices of the world's metal products — including iron and steel, aluminium, and copper — have become highly volatile amid the global financial crisis, with global implications. Management of corporations have found it increasingly difficult to grasp a full picture of financial risks, while grappling with short-term survival. To address and mitigate risk exposure, corporate owners must therefore seek and study the best solutions to control them. The prevailing financial crisis has prompted Chinese steel producers to raise their consciousness of risk and to design more sophisticated systems for avoiding or mitigating risk.

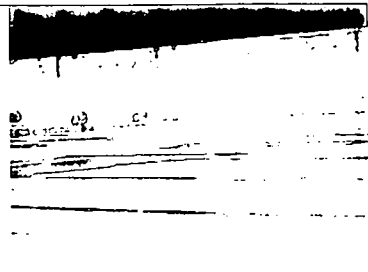
While writing a development report on China's mining equipment sector in June 2008, KPMG China's Industrial Markets team mentioned the restructuring of the domestic mining industry and the growing presence of foreign investors in China, factors which bear upon China's iron and steel industry. To learn more, KPMG China commissioned Beijing-based *China Metallurgical News* to provide data and write this report. The report aims to furnish investors and joint-venture partners with reference materials on the investment environment of China's iron and steel industry. This information though, is no alternative for thorough pre-investment due diligence.

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China's steel industry has achieved record-high production and profit due to stimulus policies and strong sales



Tough challenges

China's iron and steel industry had a dramatic year in 2008. In the first half of the year, the industry achieved record-high production and profit due to stimulus policies and strong sales. Under the influence of the international financial crisis as well as various external and domestic factors, market prices slid sharply from early August onwards. In particular, the industry entered a period of volatility evidenced by plummeting product prices, sharply reducing production, and dwindling exports.

Many steel makers reliant on exports incurred losses, while the industry generally suffered in light of a quick contraction of demand. Taken were unprecedented changes for this industry during the year. Coupled with the fact that there were still no apparent changes in the control of upstream raw material resources, we should give serious thought to the industry's growth direction after several years of prosperity.

Dramatic changes in export markets

The global financial crisis triggered by the US subprime mortgage crisis has severely affected China's real economy, resulting in a substantial decline in its exports and foreign trade. Among directly and indirectly exported iron and steel products, China's crude steel accounts for about 23 percent of its total steel production, so the drastic changes in the export situation has caused a considerable shrink in demand for Chinese steel. According to China Customs, the total value of imports and exports in foreign trade for January 2009 was USD 141.8 billion, down by 29 percent over the same period of last year, with exports of USD 80.45 billion, down by 17.6 percent. Due to slackening demand coupled with the impact of Spring Festival holidays in January, China's direct and indirect iron and steel export volumes fell against the same period of last year. Chinese steel exports for the same month reached 1.91 million tonnes, down by 53.8 percent. China's export value in foreign trade shrank for the third consecutive month since November 2008. Though the Chinese government had raised export rebate rates for the fourth time since August 2008, exports of steel-consuming products still dropped.

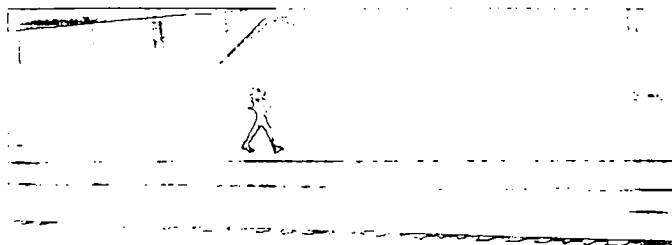
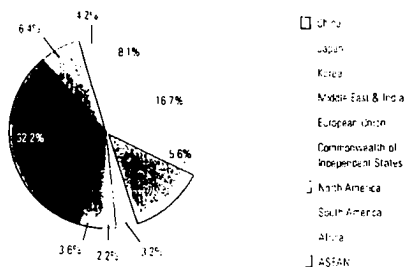


Chart 1. Percentages of crude steel consumption for the world's major steel-producing countries and regions in 2008



Source: China Metallurgical News database

China's iron and steel industry is becoming increasingly export-oriented. In 2007, 10.9 percent of crude steel production was directly exported, increasing to 11.5 percent in 2008. In line with China's wider economic development, steel exports in foreign trade as well as indirect steel exports grew continuously.

In 2007, indirect crude steel exports accounted for 14.9 percent of the domestic crude steel production, lessening to 12.9 percent in 2008. Direct and indirect steel exports added up to 25.8 percent and 24.4 percent for 2007 and 2008, respectively, without taking into account the implications of China's steel-consuming product exports. In general, about one-fourth of steel was produced for overseas demand. With the onset of the financial crisis, China's export growth has slowed, posing a greater threat to steel markets reliant on export products.³

³ China Metallurgical News, 21 February 2009.

Addressing the risk of increasing international trade conflicts, the Chinese government lowered steel export rebate rates and even increased tariffs several times in the three years before the financial crisis to suppress the iron and steel sector's excessive export expectations. Despite these disincentives, the sector was still lured towards overseas markets, achieving an annual export growth rate of about 10 percent in consecutive years.

However, the current financial crisis has adversely affected China's iron and steel exports, leading to downward adjustments to all analytical data such as economic comparative figures. A drastic reduction of overseas demand for iron and steel is seen as a key contributor to poor steel export results.

Falling domestic markets

China's major steel-consuming sectors (automobiles, property, and shipbuilding) have also shrunk significantly. In the fourth quarter of 2008, some key steel-consuming segments reported negative growth, resulting in shrinking demand for domestic steel in both the third and fourth quarters.

According to a research study, 54-55 percent of China's steel was consumed by construction and transportation, 38-39 percent by industrial production, and around 8 percent by agriculture, forestry, animal husbandry, and related industries, as well as national defence and military industries. For industrial production, about 66 percent of steel was consumed in manufacturing machinery, automobiles, and agricultural vehicles, with about 34 percent being used in industries of ships, household electrical appliances, metal products, metal packaging, oil and petrochemicals, power, and containers. According to an initial estimation, China's steel consumption level has, under the financial crisis, dropped by approximately 20 million tonnes over the same period of last year, and about two-thirds of the reduction is attributable to falling demand for steel in industrial production.⁴

Sector profiles

In 2008, China's established machinery sector expanded by +7.1 percent year-on-year in terms of industrial value-added, while its growth rate and delivery value of exports slowed by 7 percent and 15.2 percent respectively.⁵ Except for power generation, cement equipment and concrete machinery for use in construction, many key machinery products have suffered growth slowdown in monthly production to varying degrees. If the Chinese government had not introduced an incentive policy for promoting its use in rural areas, agricultural machinery production might have dropped even more sharply.

Automobile manufacturing has become a key industry in China's economy, with growing influence over steel consumption. In 2008, domestic automobile production reached 9.62 million vehicles, up 6.5 percent, but its year-on-year

⁴ China Materials News, 27 February 2009.

⁵ Ministry of Industry and Information Technology website, 1 February 2009.

growth slowed by 18.4 percent. Luxury auto production stood at 5.35 million, up 7.8 percent, but its year-on-year growth slowed by 17.2 percent.

China's automobile exports have been on the rise in recent years. In 2008, exports surged by 11.1 percent, but grew slower than 2007, down by 87.85 percent. Finished automobile exports dropped between August and December 2008 on a comparative basis.⁶

The container sector is most vulnerable to foreign trade. In November 2008, container production growth slowed by 60.1 percent over the comparable period, greatly decreasing the sector's demand for steel.

Type and course of steel prices

In the first half of 2008, China's steel prices rose in consecutive months to a record high by the end of June, when China's composite steel price index soared by 26.35 or 29.05 percent to 161.47, against the 125.12 recorded in early 2005. However, overall domestic steel prices gradually fell after June, and became subject to much larger, more rapid and extensive downward adjustments in October. By the end of November, the composite steel price index had slid by 59.17 or 36.64 percent to 102.3, a 14.93 percent decrease compared to 118.99 for the same period a year prior.⁷

Due to the sharp decline in steel prices, domestic steel producers incurred losses towards the end of the year, a surprising turnaround from previous profits. They had realised profits of RMB 17.83 billion and RMB 3.221 billion in June and September of 2008 respectively, but suffered losses of RMB 5.835 billion and RMB 12.78 billion in October and November of 2008, respectively. Though prices went up slightly in December 2008, steel producers still faced a deficit of RMB 29.122 billion for the month. Altogether, 44 steel producers were in the red, accounting for 61.97 percent of the sector.⁸

Unlike fluctuations and adjustments in China's steel market prior to 2008, the overall sector had, in consecutive months, incurred losses attributable to the sharp fall in steel prices on this occasion. The general corporate loss over the month had been unprecedented in recent years.

Superficially, it seems that both exports and internal demand are to blame for the industry downturn. However, the sector's internal structural constraints have exacerbated the effects of the crisis. These constraints have created inconsistent industry structures, a low industrial concentration, an absence of effective market adjustment mechanisms, and corporate management limitations. Though the industry achieved growth and prosperity in recent years, some of its structural or critical problems went unnoticed and have only now surfaced.

6. Ministry of Industry and Information Technology website, 1 February 2009.

7. Ministry of Industry and Information Technology website, 1 February 2009.

8. Ministry of Industry and Information Technology website, 1 February 2009.

China's iron and steel industry: a declining



Lack of influence on upstream resources

The upstream sector of the world's iron and steel industry is characterised by unique mineral reserve sites and earlier-achieved high industry concentration arising from M&A among quarry companies. In contrast, this has resulted in very low industry concentrations for the world's iron and steel industry, and producers have little say on raw materials and related products for China's iron and steel industry.

Currently, Australia's BHP Billiton and Rio Tinto, and Brazil's Vale (the three global largest iron ore suppliers) account for over 75 percent of the world's yearly iron ore trading.⁹ As the world's largest steel producer and iron ore consumer, China's iron and steel industry has been left out of iron-ore pricing negotiations because of low industry concentrations and disordered iron-ore imports. Since 2005, the industry has incurred heavy losses due to its passive stance, subjecting all large steel makers to high iron ores prices. The China Iron and Steel Association has been organising and coordinating imported iron-ore pricing negotiations for long-term agreements in conjunction with competent authorities and enterprises. Judging from the negotiation results for the past few years, there is still room for improvement in giving Chinese steel producers more power in iron-ore negotiations. These industry-wide coordination efforts have been undermined to a certain extent by a lack of further regulations over import trading of iron ores.

Prompted by the current drastic reduction in steel consumption, global quarry companies have resorted to limiting production to maintain price stability. Moreover, they are attempting to further increase concentration through M&A activity. Unless such problems affecting them are resolved, Chinese steel producers will not be well-positioned to take advantage of these negotiations.

⁹ China Iron and Steel News, 20 November 2003.

through effective market adjustment mechanisms. Conversely, the market is gradually undermining the pursuit of an active role for steel production in negotiations by means of market price adjustments.

To address these issues, Chinese steel producers have to strengthen the industry concentration and continue M&A activity to bolster their bargaining power in negotiations for iron-ore imports.

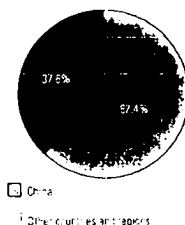
Downstream sector's supply and demand dilemma

Faced with declining market demand, China's steel makers and their downstream industries are now taking chances in an attempt to survive the current difficulties. On one hand, steel mills have shifted a heavy cost burden to downstream consumers (including manufacturers of automobiles and household electrical appliances) when market demand has not weakened. On the other hand, diminished orders from downstream consumers have in turn developed an adverse situation (as illustrated by high cost and low demand) for steel makers.

Prior to the financial crisis, some domestic steel producers began intensive cooperation with downstream consumers, for example, the cooperation between Baosteel and automobile manufacturers and between Angang and shipbuilders. However, this model, based on balanced development of industry chains, has not been effectively promoted among domestic steel producers. A number of them are trying to upset the balance in industry chains. The lack of a mechanism for cooperating with downstream consumers means that China's iron and steel industry possesses weaker competitive capabilities than their counterparts in Japan, Korea, Europe and the Americas.

In response, China's steel makers are gradually changing their operating concepts under the intensifying impact of the financial crisis. More new models are coming up for cooperation between steel makers and automobile makers, shipbuilders and machinery producers. In other words, the current financial crisis may bring a few positive developments for China's iron and steel industry as a result.

Chart 2: China's share of the world's steel production in 2008



Source: China Metallurgical News

The iron and steel industry: China's overcapacity



China's iron and steel industry has been overcome with the unprecedented challenges brought about by the financial crisis. While external factors have contributed to the decline in the industry, the most important and unusual problems still lie in defective internal industry structures as demonstrated by a low industry concentration, unreasonable industry disposition, and ineffective resource control.

In need of higher industry concentration

In 2008, global crude steel output reached 1.33 billion tonnes while China's iron and steel industry produced a total of 500 million tonnes of crude steel, accounting for 37.57 percent of the world's output¹⁰. In that year the concentration of China's iron and steel industry increased after undergoing a spate of reorganisation. According to released data, the top ten domestic steel makers by output produced a total of 212 million tonnes of crude steel in 2008, accounting for 42.5 percent of the national aggregate output and representing a year-on-year increase of 5.71 percent.¹¹

Chart 3: China's top ten steel makers by crude steel output in 2008

Ranking	Company name	Output (in 10,000 tonnes)
1	Baosteel Group Corporation Limited	3,544
2	Hebei Iron & Steel Group	3,378
3	Wuhan Iron and Steel (Group) Corporation	2,773
4	Anben Iron & Steel Group Co. Ltd.	2,344
5	Jiangsu Shagang Group	2,330
6	Shandong Iron and Steel Group Co. Ltd.	2,184
7	Magang (Group) Holding Company Limited	1,504
8	Shougang Corporation	1,215
9	Hunan Huating Iron & Steel Group Co. Ltd.	1,126
10	Baotou Iron and Steel (Group) Co. Ltd.	984

Source: China Metallurgical News

¹⁰ China Metallurgical News, 17 June 2009

¹¹ China Iron and Steel Association Press release, 23 February 2009



Currently, Anshan Iron and Steel Group Corporation, Baosteel Group Corporation Limited, Wuhan Iron and Steel (Group) Corporation and Panzhihua Iron and Steel (Group) Co. are central state-owned enterprises among the domestic steel makers.

In 2008, China's iron and steel industry reached a milestone in M&A activities. Guangdong Iron and Steel Group was created after Baosteel had restructured Shaoguan Iron and Steel Group and Guangzhou Iron and Steel Co. Ltd. Guangxi Iron and Steel Group Co., Ltd. was formed after Wuhan Iron and Steel (Group) Corporation had reorganised Luzhou Iron and Steel. Hefei Iron and Steel Group was created out of the merger of Tangshan Iron and Steel and Handan Iron and Steel, and Shandong Iron and Steel Group Co. Ltd. was formed out of the merger of Jinan Iron and Steel Group and Laiwu Steel Group.

In 2008, some large steel makers also underwent technological renovation, resulting in significant progress in plant disposition adjustment and optimisation of the iron and steel sector. For example, Angang's production base in Bayuquan, Yingkou, began operations after the completion of phase one of its construction. Shougang Jingting completed phase one of construction of its production base in Gaofeiidian. Handan's hot-rolled steel mill commenced operation of its Hanbao base. Advanced works of the coastal Zhanjiang and Fangcheng Port steel projects were completed as well.

The level of concentration mentioned above compares favourably with those of other industries, but is far behind those of oil and coal sectors. Internationally, Japan, Korea, Europe and America have higher concentration in their iron and steel industry, with just a few steel makers. Overseas iron ore suppliers also have similar high concentrations.

Problems arising from low industry concentration

Control over overall capacity is another issue for China's industry. At the end of 2008, China had a crude steel production capacity of 810 million tonnes. An intended capacity of 86 million tonnes for mills under construction will raise the overall capacity to 890 million tonnes. This iron-smelting and steel-smelting capacities for plants not compliant with the industry's entry standards are about 160 million tonnes and 180 million tonnes, respectively¹², and quite a lot of these plants were built and commissioned a few years ago.

China's industry needs to improve its ability to innovate. Though approaching the world's leading standards in overall equipment, China's large steel makers have lagged behind overseas competitors in autonomous innovation, commercialisation of technological achievements, software development, and system integration, as well as energy saving and emission reduction technology.

Domestically, some high-end key steel products remain in short supply and China imports about 7 million tonnes of these annually. China is still not up to the international standards in advanced steel production technology, or in the research and development (R&D) of high-end steel products and their applications. Some of the Chinese common steel products are also of lower quality, catering to medium- to low-end consumers. Moreover, owing to low industry concentration, China's steel makers are mostly engaged in autonomous innovation.

Consequently, the ability for China's individual steel makers to innovate technologically is not representative of the industry's R&D strength. This explains why more M&A activities are needed for China's iron and steel industry. Currently, only Baosteel has cutting edge research institutes, whereas Nippon Steel Corporation in Japan and Pohang Iron and Steel Co. Ltd. in Korea are representative of their respective country's overall R&D strength, though they have not received too many government grants.

China's industry needs to upgrade its distribution network. More and more steel makers have emerged in China, and a geographically dispersed distribution network has resulted in 60 percent of domestic steel products being sold through over 150,000 speculative distributors. Taking advantage of the prevailing financial crisis, these distributors have exacerbated the imbalance between supply and demand by selling-off steel products in the market. This has not only affected the normal distribution of steel products, but also caused over-reaction in the market.

The need for a new industry model

In recent years, some domestic steel makers reaped more profits by increasing production to meet the rapidly growing market demand. Some regional entities rich in iron ore and coal resources have also invested in lucrative steel enterprises. This has resulted in a lower regional allowable emission level, over-exploitation of resources, and a shortage of water resources.

An important element in the iron and steel industry development, water resources are very unevenly distributed in China. While Hebei has been the

¹² China Metallurgical News, 5 February 2009.

largest steel-producing Chinese province for consecutive years — producing over 100 million tonnes of raw iron, crude steel and steel products in 2007 — its water resource volume per capita is only 205 cubic metres and its annual provincial water resource volume resulted in 10,000 million cubic metres. This left short of its demand for water resources, which stands at 22,000 million cubic metres.¹³ With the good Aise hold by underground water supplies, water resources have already become a significant barrier for the sustenance and development of the iron and steel industry in Hubei, and a key factor in mineral resource sustainability for the sustainable development of China's iron and steel industry.

Swimming in the sea, the sea is made by Beijing and Chongmen. The Shougang Group serves as a good example. This large factory, with a steel production capacity of 10 million tonnes, was moved to improve Beijing's air quality and provide environmental protection during the Beijing 2008 Olympic Games.

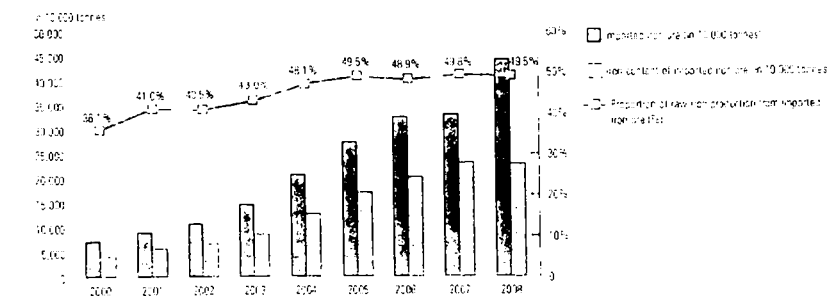
Moreover, some domestic steel makers suffer falling profits as they have to bear high logistics costs for raw material imports and steel production. At present, some steel makers in China's inland regions (especially in central China) pay RMB 100 per tonne for transportation of imported iron ore, far more than coastal steel mills, such as Baosteel.

In view of this, building a new industry model will become pivotal to the future development of China's iron and steel industry.

The need for strengthened control over resources

The biggest bottleneck in the development of China's iron and steel industry lies with iron ore resources. The world is abundant in iron ore; according to statistics, total deposits stand at 160,000 million tonnes, including 79,000 million tonnes with iron content, while its reserve base has 370,000 million tonnes, including 130,000 million tonnes with iron content. Current proven iron ore deposits can meet the demand for the next 100 years.¹⁴ China is also rich in iron ore deposits, but they are of a lower grade, with proven deposits of about 60,700 million (80 percent of which is coking ore). Given a lower grade, a longer mining cycle and a lack of investment, during the mining, as well as an explosive growth of steel production, China's

Chart 4: Ratio of reliance of China's iron and steel industry on imported iron ore between 2000-2008



Source: China Metallurgical News

¹³ China Metallurgical News, 9 July 2007.
¹⁴ China Metallurgical News, 9 July 2007.

iron and steel industry has suffered a shortage of iron ore resources and become increasingly reliant on imported iron ore for the last five years.

Since 2000, China's iron ore consumption has grown at an average annual compound rate of 20.4 percent. In 2007, China imported 383 million tonnes of iron ore, accounting for 37.3 percent of its global steel production made by volume. China's degree of reliance on imported iron ore rose from 24 percent in 2000 to 53 percent in 2007.¹⁵

Iron ore distribution is concentrated by concentration, with its fields and production are relatively dispersed due to the transport radius factor. In 2000, the world's ten largest suppliers commanded a market share of 78 percent, and the four leading volumes of BHP Billiton, Rio Tinto and Vale together accounted for 71 percent of the global iron ore supply volume.¹⁶

China's 11th world's three largest producers share of the world's iron ore supply volume in 2006.



Source: China Metallurgical News

In addition to abundant iron ore in Brazil, Australia, and India, other countries such as Russia, Kazakhstan, Ukraine, and South Africa are committed to increasing their iron ore production. China's steel makers must therefore work to strengthen their control over overseas iron ore resources.

Excess capacity

In 1996, China's steel production reached 100 million tonnes for the first time. Between 1998 and 2000, it produced an additional several million tonnes of steel annually. By 2001, the growth of China's iron and steel industry garnered momentum, with an output of 151 million tonnes, up 23.13 million tonnes or 19.0 percent. By 2005, its output increased at an annual rate of over 20 percent, with a record growth of 60.50 million tonnes, or 27.2 percent, in 2004.¹⁷

On 20 July 2005, China's National Development and Reform Commission (NDRC) issued the *Development Policies for the Iron and Steel Industry*, with the view to managing the disjointed development of the industry on a macro level. To support these initiatives, various government departments later introduced

¹⁵ China Metallurgical News, 10 June 2007.

¹⁶ China Metallurgical News, 19 July 2006.

¹⁷ China Metallurgical News, 1 December 2005.

respective land, environment, capital, and tax policies in an attempt to dampen the overheated iron and steel industry. However, they could not achieve their intended results. China's crude steel production growth dropped by 18.7 percent in 2006, and 15.2 percent in 2007, and the outputs nevertheless increased by 52.56 million tonnes in 2006, and 57 million tonnes in 2007.¹³

Hebei serves again as a good example of the problem of excess capacity. It is the largest steel-producing province in China, and has the largest number of private steel makers. In 2007, Hebei had 26 steel makers with an annual capacity of over one million tonnes, while its private steel makers altogether produced 71.859 million tonnes of crude steel, accounting for 67.12 percent of the provincial output,¹⁴ or 36 percent of the national output (197 million tonnes) from private steel makers across the country.¹⁵ The majority of Hebei's private steel makers expanded rapidly over the last ten years without going through the required reviews or approval procedures for many of their infrastructural or technological innovation projects. To date, these non-compliance practices are found not only in Hebei, but also in other Chinese provinces to varying degrees. Having been unresolved for many years, this issue has troubled steel makers (in areas of local environmental protection, management of energy savings and emission reduction, as well as bank loans), with direct implications for their subsequent growth in a more organised and effective manner.

Apart from excessive expansion of capacity and disorderly development, China's iron and steel industry has also witnessed intensified competition between similar products among large steel makers.

For example, China's overall capacity for cold-rolling and steel-strip machinery soared from 13 million tonnes in 2001 to 75 million tonnes by the end of 2008.¹⁶ The domestic iron and steel industry (which rapidly expanded at the base level) failed to compete with other market players in a differential manner through adjustments to product mix. Instead, the industry was threatened with the worsening problem of product homogenisation (as demonstrated by the similar products and marketing approaches). In these circumstances, many others were attracted to enter the market amid competition between similar products. As a result, the market supply subsequently exceeded demand along with an excess capacity.

According to industry development cycles, product demand will not remain at a peak level for an unlimited period, and building up production capacity will take some time. Therefore, the demand peak will subside and even reach the bottom level when a plant commences operation, missing the optimum moment for commissioning. This can be best demonstrated by the development of the shipbuilding and ship-plate manufacturing sectors.

Japan's iron and steel industry provides an effective direct comparison. As one of the world's major steel-producing countries, Japan dominated Asia's steel production and sale for much of the twentieth century. With the emergence of China's iron and steel industry, Japan's sector has maintained a leading position in industry structures, product grading, and technological know-how, despite no changes in output.

13. *China Metallurgical News*, 4 December 2008.

14. *China Metallurgical News*, 3 April 2008.

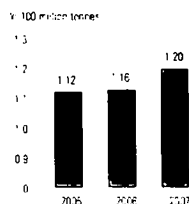
15. *China Metallurgical News*, 3 April 2008.

16. *China Metallurgical News*, 4 December 2008.

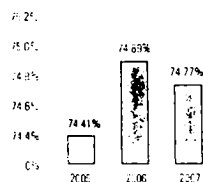
In 1961, Japan's six largest steel makers (Yawata Iron and Steel Co., Ltd., Fuji Iron and Steel Co., Ltd., IHI Co., Ltd., Kawasaki Steel, Sumitomo Metal Industries, and Kobe Steel) had an aggregate production that accounted for 38.40 percent of the national output. This high industry concentration persisted in Japan. Between 2005 and 2007, Japan's crude steel production rose year-on-year (with output of 112 million tonnes in 2005, 116 million tonnes in 2006, and 120 million tonnes in 2007), along with increased industry concentration. Nippon Steel Corp., JFE, Sumitomo Metal Industries and Kobe Steel had an aggregate production that accounted for 74.41 percent of the national output in 2005, 74.69 percent in 2006, and 74.77 percent in 2007. Coupled with Hisin Steel and Tokyo Steel, they had an aggregate production that accounted for 80.89 percent of the national output in 2005, 80.94 percent in 2006, and 81.06 percent in 2007.²²

Chart 8:

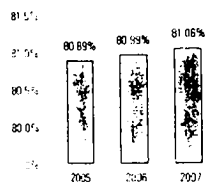
(a) Japan's crude steel production between 2005 and 2007



(b) Production of Japan's four largest steel makers as a percentage of the national output



(c) Production of Japan's six largest steel makers as a percentage of the national output



Source: China Metallurgical News

Japan's iron and steel industry disposition is characterised by coastal concentrations of large steel mills. Most of these steel conglomerates are centred around the five largest industrial regions (Tokyo-Yokohama, Osaka-Kobe, Chukyo, Seto Haikai, and North Kyushu regions). These clusters formed the world's highest concentrated iron and steel industry region. Built on coastal areas reclaimed from the sea, with a water depth of over 15 metres, these steel mills enjoy great logistical convenience.

Another feature is a dispersed distribution of small and medium-sized steel plants across the country. Clustering together to a certain degree, they can also achieve benefits of industry concentration. Their subsistence is a result of the following: many small plants are annexed to large steel mills, large steel enterprises have directly invested in small firms or controlled the latter's shares, and small and medium-sized plants act as contractors for large mills. Complementing these large mills, a lot of small and medium-sized steel plants also enjoy good reputations in Japan.

²² China Metallurgical News, 28 August 2008

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IRON AND STEEL INDUSTRY RESTRUCTURING INITIATIVES



Government Initiatives

Historically, China's iron and steel industry was dominated by state-owned enterprises. However, with the development of the market economy in China, these state-controlled steel makers, like their peers in other industries, have come under increasing competition from private and foreign-owned steel makers, which have gradually grown to a sizable scale within a few years. For example, Shagang in Jiangsu and Jianlong in Hebei, which are leaders in regional markets, have employed more flexible tactics, posing a threat to some small and medium and even large state-owned steel enterprises. Yet China's state-owned steel mills remain constricted by inflexible operating mechanisms and low competitiveness. In these circumstances, as the manager of these state-owned assets, the Chinese government should expedite reforms to safeguard asset growth. It should encourage large-scale M&A activity among state-owned steel mills through policies to enhance their competitiveness and market presence.

On 3 July 2005, the NDRC issued the *Development Policies for the Iron and Steel Industry*, which specifies that "there is a need for higher industry concentration by means of structural adjustments, M&As, and expansions of key market players with competitive strengths. By 2010, the number of iron and steel smelting plants will be significantly reduced, while the combined production of the ten largest domestic steel makers will account for over 50 percent of the national output, and over 70 percent by 2020."

In particular, the following is set out in Chapter 5 "Structure Adjustments of Enterprises" of the *Development Policies for the Iron and Steel Industry*:

"The government will support steel makers to implement structural adjustments and industry upgrades by grouping them as conglomerates through strategic restructuring in the form of partnerships, M&As and cross-holding of shares. Many other market players will be eliminated. In addition, it will support and promote cross-regional M&As for capable large steel makers, aiming to create two market heavyweights each with a production capacity of 30 million tonnes and several other giant players, each with a production capacity of 10 million tonnes, that can compete against overseas players by 2010."

The government will require large iron and steel enterprises to consolidate into joint stock companies and support them in seeking public listing. It will also encourage existing steel makers to undergo restructuring and M&As including capital realignments and mechanisms between us through equity participation by private investors (including abroad)."

"The government will encourage capable large steel makers formed by M&As to properly increase their operating scale and intensive production activities by way of structural adjustments and industry upgrades. Moreover, it will provide them with policy incentives in the following areas: primary and secondary business separation, personnel redeployment, and social security benefits."

The development policies also spell out specific requirements for the following regions:

"Anshan, Benxi region in northeast China is relatively rich in iron ore in addition to water resources and stands close to coast lines. According to development strategies for consolidating traditional industrial bases in northeast China, regional steel makers should undergo M&As and develop quality machine bases to form internationally competitive conglomerates, while eliminating those with backward capacity."

"North China suffers a shortage of water resources and a low capacity. The region should consider environmental and ecological factors for its promised restructuring and M&A activities, and stringently control an expansion of production facilities and capacity. Furthermore, it should relocate the Shougang plants and proceed with M&As for Hebei iron and steel industry."

"East China has great market potential for steel products, but its iron and steel industry disposition is too concentrated. In response, its key players with competitive strengths may increase their production concentration and international competitiveness by adjusting its structure and product mix."

A win-win M&A story

"After merging Jigang with Langang, Shandong Iron and Steel Group will then restructure Baohao Iron and Steel Group, moderately downsize Jigang and Langang, and finally move to coastal locations. Having reduced capacities, Jigang and Langang will no longer expand their production, but will instead focus on quality and variety. They will subsequently engage in different operations. Shandong Iron and Steel Group targets to achieve production capacities which will represent 80%-90% for the entire group, and about 55% for its coastal plants, of the provincial output. These initiatives can help the group save considerable logistics costs, and are also conducive to adjusting its product mix and eliminating plants with a backward capacity."²¹

Zou Zhongchen, Chairman of Shandong Iron and Steel Group

"Central South China has rich water resources and convenient water transportation, with deep-water ports in south-eastern coastal areas. Capitalising on these advantages, its steel makers should form conglomerates through M&As and relocations of iron mills."

"Southern China has abundant water resources as well as large iron ore and coal deposits around the Panzhihua-Xichang area, which is not readily accessible. In this respect, its key players should upgrade plant equipment, improve their productivity, and develop high value-added products. They should determine output based on the sustainable level of ore supply, rather than simply seeking volume growth."

"Northwest China is deficient in iron ore and water resources. Its key players should therefore focus on meeting regional needs rather than seeking expansion, and use mineral resources in neighbouring countries."

Chart 7: M&As for China's iron and steel sector between 2004 and 2009

Mergers and acquisitions in China's iron and steel sector between 2004 and 2009				
Group	Transaction	Year	Value (RMB million)	Value (USD million)
Northeast Special Steel Group	Founding of the group	2004	140.28	
	1 Restructuring of Erqiang	1 2005		2,733.35
	2 Restructuring of Kangang	2 2007		
	3 Restructuring of Huguang to form Guangxi Iron and Steel Group	3 2008		
	4 Fangcheng Port Project	4 2008 (approved)		
Baosteel Group	1 Acquisition of Xinjiang Bayi Iron and Steel	1 2007	3,544.3	
	2 Hangang New Zone	2 2007		
	3 Guangdong Iron and steel Group	3 2008		
	4 Zhanjiang Base	4 2008 (approved)		
	5 Restructuring of Ningbo Iron and Steel	5 2009		
Anben Group	1 Joint venture with Tinggang to form a new base	2 2007	2,343.93	
	2 Bayuquan Base	1 2008 (in operation)		
	3 Equity participation in Tianjie Group	3 2008		
Huailong Iron & Steel	Control over Jiangsu Xiqiang Group	2007	1,175.69	
Taigang Group	Joint venture between Taiyuan Iron and Steel (Group) Co., Ltd. and Tianjin Steel Tube (Group) Co., Ltd. to form Tianjin Taigang Tianguan Stainless Steel Co., Ltd.	2007	970.17	
Magang Group	Merging with Anhui Hefei Iron and Steel Group, and 71% interested in Magang (Hefei) Iron and Steel Co., Ltd.	2007	1,503.9	
Pangang Group	Restructuring of Xichang New Steel (Group) Co., Ltd.	2007	751.01	
Shagang Group	Merging with Jiangsu Huagang, Yenggang, Henan Yongxin Steel Plant	2007	2,330.45	
Jiangxi Group	Equity participation in Honggang Group	2007	654.25	
Hefei Iron and Steel Group	Founded by a joint venture between Tanggang Group and Hangang Group	2008	3,328.39	
Shandong Iron and Steel Group	Founded by a joint venture among Jinhui Iron and Steel Group, Laifu Iron and Steel Group, and Shandong Province Metallurgy Co.	2008	2,184.78	
Shougang Corporation	Construction iron and steel base project	Completed in Apr. 2009	1,219.29	

Source: China Metallurgical News

Since 2005, China's steel makers (including central state-owned enterprises and local and private entities) have been consolidating. By 2008, crude steel production by restructured steel groups accounted for 53.6 percent of the national output, representing significant progress. Baosteel was still the largest steel producer in China, with a 7.1 percent share of the national output, followed by Hesteel Iron and Steel Group (5.7 percent), Wugang Group (5.5 percent), Anben Group (4.66 percent), and Shagang Group (4.58 percent). Their combined production represented a 28.01 percent share.²⁴

The adjustments and Restructuring Planning for the Iron and Steel Industry (announced earlier in China) has also set out corresponding requirements for increased industry concentration:

Efforts should be made in the following areas:

1. further strengthening the leading roles of Baosteel, Anben, and Wugang;
2. pushing Anben, Guangdong Iron and Steel, Guangxi Iron and Steel, Hebei Iron and Steel, and Shandong Iron and Steel to complete substantive reorganizations for unified management of production, supply and marketing, as well as human and financial resources and physical assets;
3. promoting cross-regional restructuring activities among Anben, Fangang, and Northeast Special Steel, as well as among Baosteel, Baogang and Ningbo Iron and Steel; and
4. supporting regional restructuring activities among Tianjin Steel Tube, Tianjie, Tiangang, and Tianjin Metallurgy Co., as well as between Taigang and other iron and steel enterprises in Shanxi province.

China aims to create several internationally competitive market giants such as Baosteel, Anben and Wugang, each with a production capacity of over 50 million tonnes, and some other large steel makers, each with a production capacity of 10-30 million tonnes, across the country by 2011."

Corporate development needs

In the face of intense market competition and increasingly stringent environmental requirements, some large steel makers in China are realizing that they cannot remain competitive without changes to their strategy encompassing M&A, market positioning, or control of upstream, strategic resources.

There is a general industry view that M&A can help boost industry concentration for more reasonable industry structures and increase the size of some enterprises with enhanced competitiveness. This translates into improved resource allocation, continued technological upgrading, massive environmental investment, stable industry chains, and ultimately, sustainable development of the iron and steel industry.

Policy rules on foreign direct investments in China's iron and steel sector

In accordance with the "Catalogue Guiding Foreign Direct Investment in Industry (2004 Revised)", effective 1 January 2005, the Chinese government will exempt foreign direct investments in the following designated projects from customs duties on imported equipment and import VAT: mining and dressing (limited to equity and cooperative joint ventures) of low-grade, difficult-to-dress mineral ore, iron and manganese exploration, mining, and dressing; as well as direct reduced and fusion-reduced iron production.

Article 23 of the *Development Policies for the Iron and Steel Industry* (released by the Chinese government on 20 July 2005) also sets out the following requirements for foreign investment in China's iron and steel industry:

- For iron or steel-smelting or steel-rolling projects, the proportion of an enterprise's own capital should reach 40 percent or above.
- Overseas steel makers intending to invest in China's industry must have proprietary intellectual property and technology, with the common steel output for the prior year exceeding 10 million tonnes or their special alloy steel output exceeding one million tonnes.
- Foreign non-steel makers intending to invest in China's industry must have capital strength and high credibility, and be able to provide capital verification reports and performance proof issued by accounting firms or banks.
- Foreign investors must comply with national plans for the industry's upgrades or facility relocation without opening new sites. In principle, they are forbidden to take a controlling stake in a domestic iron and steel enterprise.

²⁴ China Metallurgical News, 4 December 2008.

Sound industry disposition, and a reasonable industry concentration in particular, is a precondition that enables continued upgrading, convergence, dissemination and sharing of technology. Continued technological development and innovation for resource applications, the environment, conventional products and craftsmanship requires considerable investment and accumulated experience and capabilities.

Enterprises can enjoy economies of scale with energy savings and reduction of consumption by expanding through M&A. By using large facilities, sizable enterprises may enjoy greater energy efficiency than their small and medium market peers. Large steel makers have a competitive edge in R&D and applying advanced energy-saving and environmental technologies. By being more socially responsible, they have greater R&D abilities and capacities for producing energy-saving steel products to meet users' needs. Through internal adjustments, they can also achieve reasonable industry dispositions, resulting in energy savings for distributions of raw materials and steel products.

The need to compete against overseas players

China's rapidly growing and low concentrated iron and steel industry has helped foreign steel makers with competitive strengths and great M&A experience to undertake M&A activities in China. Foreign investors' M&A activities targeting domestic steel makers gathered momentum in recent years. For instance, ArcelorMittal bought a stake in Huailong Iron & Steel Group in 2005 and Luogang in February 2006. Other foreign entities such as Pohang are proactively increasing their presence in China through equity and cooperative joint ventures and M&A. Market competition in China's industry is increasing intensely.

Current status of foreign steel makers' investments in China

ArcelorMittal

Prior to consolidation, ArcelorMittal was highly interested in establishing presence in China's iron and steel industry. It once approached Luogang, Dayu Iron and Steel and Bangxing on separate occasions for proposed M&A transactions. The move failed due to the barrier for foreign investors acquiring a controlling stake in domestic entities under the *Development Policies for the Iron and Steel Industry*. In January 2005, ArcelorMittal became Huailong Iron & Steel Group's second largest shareholder by buying a 36.67 per cent interest in Huailong Vail in Steel Tube and Wire at a consideration of USD 338 million. In November 2007, ArcelorMittal became China Oriental Group's second largest shareholder by buying a 28 per cent interest from Ning Ning (the latter's second largest shareholder) and others for a consideration of USD 647 million.²⁵

In addition, ArcelorMittal has a 12 per cent interest in Baosteel NSC/A-Grade Automotive Steel Sheets Co., Ltd. (BNA), a joint venture among Baosteel, Nippon Steel Corp. and ArcelorMittal.

Nippon Steel Corp.

Nippon Steel Corp. established its relationship with China's steel makers as early as at the time of Baosteel's construction, which was based on Nippon Steel Corp.'s design. By virtue of this relationship, Nippon Steel Corp., Baosteel and ArcelorMittal jointly set up BNA, with shares distributed at 38 per cent, 50 per cent, and 12 per cent, respectively.²⁶

JFE Group

JFE made investments in China in response to competition from Nippon Steel Corp. In October 2010, JFE and Guangzhou Iron and Steel Group agreed to jointly set up Guangzhou JFE Steel Plate Co., Ltd. in the Nansha Development Zone with a total investment of RMB1.3 billion and a registered capital of RMB 677 million. JFE has a 51 per cent interest in the joint venture.²⁷ In light of its similar plant investments and timing of other operations, as well as product specifications and applications against those of BNA, the joint venture represents, to a greater extent, a move to compete against Nippon Steel Corp.

Evozar Group

Evozar Group entered China's market in 2008. On 19 February 2008, the Group agreed to purchase a 10 per cent interest in Singapore-listed DeLong Holdings Ltd., with a conditional option to increase its shareholding to 51 per cent within a six-month period at the same consideration. The maximum capital contribution reached about USD 1.4 billion.²⁸

25 China's Financial News, 3 December 2008.

26 China's Financial News, 31 July 2005.

27 China's Financial News, 6 November 2010.

28 China's Financial News, 6 March 2008.

Japan Iron and Steel Federation's views on M&A in China's iron and steel industry

Mr. Hitoshi Ito, Chief Representative of the Japan Iron and Steel Federation Representative Office in Beijing, shared the following views during an interview in September 2008:

In 2008, China's spate of M&A activities attracted much attention from Japan's iron and steel industry. In particular, the establishment of Hebei Iron and Steel Group, Shandong Iron and Steel Group, and Guangong Iron and Steel Group, as well as Guangxi Iron and Steel Group, marked the large progress of M&A activities in China's iron and steel industry. Furthermore, the construction of four coastal steel production bases in Bayuquan, Caofeidian, Zhanjiang, and Fangcheng Port have been in the limelight because of their great implications for the disposition of China's industry.

Japan's steel makers have varied opinions towards China's M&A activities. Some still believe that the current developments in China are not real M&A activities due to the fact that entities involved are allied without consolidation. Others have opined that the M&A activities conducted by some large domestic steel makers such as Baosteel have not only complied with the Development Policies for the Iron and Steel Industry, but also represented a choice of increased market saturation under practical circumstances. The second viewpoint has now become mainstream in the market. Recently, certain cases have illustrated that China's iron and steel industry is proactively and pragmatically undergoing M&A.

At present, Japan's steel makers as prospective investors focus on the steel consumption market in China. Unlike ArcelorMittal, Japan's key players have made overseas investments mostly in response to local actual market needs, but without investing in construction of production bases since they are inexperienced in these projects. Japan's market peers believe that ArcelorMittal's current investments in China (targeting large, small, and medium steel makers) have not only evaded China's policy restrictions, but also conformed with its long-term development interests.

In line with Japanese investment patterns, Japan's steel makers will not invest until there is a local demand from customers such as Toyota, Honda, and Panasonic. Moreover, their investments are made mainly in the form of equity participation in joint ventures instead of M&A, which are not readily undertaken.

Consequently, Japanese steel makers' investments in the near future will depend on China's market demand and especially that of Japanese automobile and manufacturing industries arising from the Chinese market. Take, for example, the current investments of JFE and Nippon Steel Corp. in China; the level of changes in Japanese steel makers' investments in China is subject to the demands of downstream users.¹²

For the time being, foreign control of China's steel makers will not be allowed, mainly because of the restrictive measures under the *Development Policies for the Iron and Steel Industry*. Amid economic globalisation and China's opening up in the world, Chinese entities should endeavour to avoid becoming the target of foreign competitors' M&A initiatives by increased competitiveness and M&A efforts through effective restructuring of domestic market players.

On the other hand, China's steel makers can gain management experience and acquire technologies, R&D capabilities by cooperating with international players, while intensively adopting the latter's marketing approaches and networks to realise global expansion strategies.

The need for control over resources

China's steel makers (as part of the industry chain) indisputably need to have a say on price negotiations with foreign leading players. Given the limited resources in China, domestic key players have also attempted to gain control over international resources through M&A strategies.

Mr. Samy Chinn, Chairman of the Century Iron Ore Group and Angwa Mining Resources Inc., gave these comments regarding overseas M&A activities of China's steel makers during an interview in September 2008.

Question: Recently, Chinese entities have completed several acquisitions of overseas resources. According to market sources, Hualing Group will become FMG's second largest shareholder after acquiring for cash the latter's outstanding 16.48 percent shares. Does this mean that there is a growing trend of Chinese entities purchasing overseas resources and mineral ores?

Mr. Chinn: China has made the right moves in its M&A activities, as some foreign mineral companies have run into financial difficulties. For instance, laden with debt burdens of USD 40 billion, Rio Tinto was anxiously working out repayment plans early this year when its financially capable Chinese peers were willing to make cash offers to buy its shares. This intended transaction was beneficial to both parties.

Through equity participation in foreign mineral companies, Chinese entities can not only acquire prime assets at low prices, but also have a say on ore pricing, which will help stabilize production costs and upgrade risk controls. This year Chinalco bought a 15 percent interest in Hamersley (Rio Tinto's subsidiary) and signed an agreement with it for its fixed annual supply of 50 million tonnes of iron ore. This has partly lessened the pressure of negotiations over iron ore purchases, and also served the long-term development interests of China's steel makers.

Furthermore, Chinese M&A activities have met with greatly reduced objections from overseas governments. In prior years, similar activities proved unfruitful on many occasions. Among these, Shougang's previous takeover offer for Mount Gibson Iron Ltd. was once rejected by the Australian government for allegedly breaching local M&A regulations and company law. Now that foreign mineral companies have become financially distressed, their insolvency issues will, if not duly addressed, result in greater social implications. In response, the Chinese buyers are making acceptable offers, and overseas governments will be very much unlikely to intervene in these transactions.

In view of the above, now is an opportune time for Chinese steel makers to acquire foreign mineral companies.

Question: To what extent can overseas M&As help China to have more say on ore pricing?

Mr. Chinn: Overseas deals will certainly help China to have more say on ore pricing, but will not completely change the status quo. This is because only iron ore pricing is negotiated between buyers and sellers while prices of other minerals are determined in open or futures markets. The world's three largest iron ore suppliers are BHP Billiton, Rio Tinto, and Vale, accounting for 60 percent of global seaborne iron ore trades. It is indeed a seller's market for iron ore. Moreover, blast furnaces of buyers (steel makers) cannot suspend operation, thereby making their demand inelastic, while sellers have the option not to sell if ore prices are excessively low. This has further impaired buyers' right to have a say on ore pricing.

Even China's continued heavy reliance on imported iron ore, it will remain a seller's market for iron ore to slowing economic recovery. As foreign sellers usually take the initiative in iron ore price negotiations, China is in a disadvantageous position. With a huge demand for iron ore, China still fails to completely change its passive role by taking the initiative in price negotiations, though it now has more say on these activities thanks to its recent successful M&A activities.

These M&A activities have also involved cost-cutting entities in the form of strategic cooperation between steel makers and iron ore miners as well as steel makers and coal producers. In addition, the resource reserve of steel makers with access to mineral resources has become a matter of concern for large steel makers in respect of their strategic requirements for M&A.

Taking advantage of China's "go-out" policy, Angang, Baosteel, and Wugang (three leading players) have also invested in overseas mineral markets. To date, investment opportunities in foreign mineral sectors have blossomed amid a widening world financial crisis.

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The iron and steel industry in China faces difficulties in development. Enterprises and forces from the government are driving the industry to change its internal structures. The adjustment process, however, is rough and problems are gradually emerging.

China's iron and steel industry needs to restructure, but conflicting subjective interests and objective factors in most enterprises may pose obstacles in the process. Major problems observed under domestic circumstances include the complicated line of authority and taxation, complications of staff deployment, and cultural integration.

Lines of authority and taxation are complicated as the industry involves central state-owned enterprises, provincial enterprises and municipal enterprises. When these enterprises are restructured into a big enterprise, the intricate conflicts of interest will pose huge obstacles to the restructuring of assets. When state-owned enterprises restructure cross-regional and cross-departmental businesses, the myriad of interests seems to have become an unsolvable problem.

In China, all M&A activity, whether in the form of transfer or acquisition by agreement, is controlled by the regulatory bodies. For this state-dominated industry, the mergers of enterprises are substantially an interest-balancing process. The key to solving this problem is the government's awareness of the necessity and importance of M&A and the need to make concessions for the industry's long-term development.

The redeployment of large numbers of staff and senior managers who are made redundant through restructuring is also a complicated issue. This concern also holds the industry back from integration. Instead of embracing M&A, the management of the acquired enterprises tend to resist it, which is understandable since there will be significant changes in the existing management and they may end up holding minor positions when their companies are turned into branches.



These problems cannot be solved by the enterprises themselves. Coordination and decisions at high-level government authorities are required to restructure the assets of China's iron and steel industry. The restructuring should be a concern of the owners rather than the management since these enterprises are state-owned or controlled in nature. Clarifying ownership, implementing taxation reforms, and balancing the interests of various parties are the key to undergoing genuine asset restructuring.

Cultural integration is also a thorny issue in the M&A process. Most of the industry's medium- and large-enterprises are well-established, with distinct local cultural characteristics which mark each enterprise. Although some enterprises eventually solve the high level issues in the merging process, they neglect cultural differences and integration, often resulting in popular rejection before the deal and resistance afterwards, undermining the efficiency and results of the reorganisation.

Grasping opportunities through M&A transactions

The success of any transaction depends on careful preparation, planning, implementation and post-transaction integration.

Preparation and planning

An acquiring company should prepare carefully and thoroughly to detect any problems early on so that they can timely solve any problems that may occur in a future transaction. The quality and quantity of information provided by the target enterprises usually have a direct impact on the ability of the acquirer and its intermediary to fully uncover any problems related to the target assets and transaction.

Therefore, an acquirer should fully communicate with its target and urge it to ensure the completeness and accuracy of the information it discloses.

An acquirer should also focus on market factors of potential impact on the transaction, such as which stage of the business cycle the target is at, the



advantages and disadvantages of M&A for the acquirer's strategic development, and whether the timing of the transaction is appropriate.

Financial, tax or marketing professionals specialising in M&A provide independent advice and assistance and perform due diligence. Based on the results of the due diligence, an acquirer can detect potential risks of the target early in the process, or adjust the scope and manner of acquisition. Due diligence can uncover major issues that have even escaped the attention of the target's management or discover businesses undervalued by the acquirer.

Pricing

Pricing is the focus of both parties in the entire transaction process. While everyone agrees that the transaction price should be set at the target's fair value or its closest value, potential risk arises as each enterprise may vary in their determination of fair values and interpretation of financial information. Major risks that require caution include the choice of valuation method, the quality of the financial forecasts, and the valuation of contingent liabilities and non-operating assets.

According to international practices, for valuation, the income approach (e.g. discounted future cash flows) and the market approach are generally considered the best methods to measure an enterprise's fair value. In some transactions, acquirers may use other valuation methods.

The quality of the financial forecasts can vary greatly. China's iron and steel industry has a low degree of concentration, with many private enterprises in the market, and the capabilities of their finance functions differ widely. Some enterprises may lack experience in preparing financial forecasts. Others may intentionally provide unclear or misleading financial forecasts to counterparties. Such forecast information could influence the outcome of a deal.

Private enterprises tend to undervalue contingent liabilities and anticipated liabilities (such as outstanding litigations, environmental obligations, and

dismissal welfare) or include non-operating assets in the transaction/valuation. China's iron and steel industry is comparatively loose, with production bases dispersed throughout the nation. Provinces and cities set different rules, so enterprises find it difficult to identify all key undervalued liabilities and overvalued assets.

To avoid the risks associated with M&A, both transaction parties need to understand each other's valuation basis and engage the assistance of independent third parties. By doing so, they can better apply valuation methods generally accepted by the international community, ascertain the credibility of the target's financial forecasts, and improve the forecasts. They can also accurately identify key contingent liabilities (e.g. environmental obligations, dismissal welfare, etc.) and non-operating assets with professional assistance by, for instance, conducting due diligence.

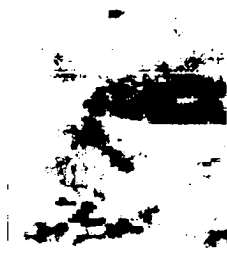
Post-transaction integration

In most industries, post-transaction integration is full of challenges when efficient and effective project management is the key. Anticipating potential problems, formulating detailed plans before the transaction and implementing the plans immediately after the transaction can solve many problems in the process of integration.

Some measures to help mitigate the common problems which occur during the integration phase can include:

1. communicating clearly with the acquiree's employees, customers and suppliers to dispel doubts;
2. maintaining or enhancing market focus to better serve customer needs; and
3. mitigating the problem of cultural differences between the acquiring and acquired companies by strengthening communication with the acquiree's general employees, and introducing appropriate incentive schemes for staff to help reduce resistance and facilitate cultural integration.

The iron and steel industry is a complex network comprising suppliers and customers. Restructuring through M&A can help enterprises improve their industrial structures and supply chains, bringing economies of scale and sharpening international competitiveness. Subsequent to reorganisation, the industry can upgrade its production technologies, seek innovation in management, and enhance research and development capacity. The elimination of industry underperformers and low-productivity equipment through competition allows for more efficient allocation of resources and division of labour based on specialisation. Productivity and economic benefits consequently increase while the integration takes full effect. Good post-deal integration effectively enhances iron ore and charcoal buyers' bargaining power over procurement prices. The industry also stabilises market prices of iron and steel by formulating production plans in line with anticipated market demand, which is based on the development of related industries; for example, real estate, shipbuilding and automobile. Furthermore, Chinese enterprises acquire equity in iron ore suppliers to ensure stable supply and prices of raw materials.



From our analysis of existing M&A cases of China's iron and steel industry, and after referring to the characteristics of international cases, we observed the following restructuring trends for China's iron and steel industry:

Dominant position of large enterprises

Overall, the scale of China's iron and steel industry is small and dispersed at this stage. Administratively, state-owned enterprises are under the control of five levels of governments, namely the central, provincial and municipal, regional, county and town governments. Cross-regional M&A inevitably affects relationships among various levels of government, enterprises and staff. Therefore, an ideal mechanism for cross-regional M&A is needed to coordinate and balance the interests of all parties, and arouse their enthusiasm. Only then will the industry's restructuring pace pick up. Given the industry's current conditions and needs, we can expect to see improvement in the mechanism in the near future, with M&A activities visibly accelerating under the concerted effort of both the central and local governments.

Throughout the industry, large enterprises have advanced and efficient production equipment, and high production capacities. These state-owned enterprises are flexible and responsive in their marketing strategy. They have the combined advantages of capital, management, human resources, and technology, as well as strong capital operation and fund leveraging ability. Furthermore, they enjoy support from the policies of various levels of government. Hence, capitalising the dominant market position of large enterprises is a guarantee of success in restructuring. Over the years, making the most of large enterprises' dominant position in M&A activities always bore fruitful results.

The idea of capitalising the dominant position of large enterprises emphasises the assumption of responsibilities and obligations by large enterprises in the M&A and restructuring process to ensure that all preset goals are attained.

These responsibilities and obligations include:

- ▶ improving the restructured group's production technologies
- ▶ seeking innovation in management
- ▶ enhancing research and development capacity



- ▶ allocating resources more efficiently
- ▶ dividing labour based on specialisation
- ▶ eliminating obsolete and low-productivity equipment
- ▶ increasing productivity and economic benefits
- ▶ satisfactorily solving various legacy problems
- ▶ raising employees' income
- ▶ maintaining stable development...

Current business management characteristics in China show that the attitudes of enterprise leaders are the key to promoting M&A activities of Chinese large state-owned enterprises. In some large enterprises, their leaders' own management approach also restricts the progress of deals to a certain extent.

Additionally, large steel enterprises emerging from restructuring continue to implement the existing overseas expansion strategy. Case studies of overseas mining investments by Wuhan Iron and Steel, Baosteel, Angang and China Baowu show that state-owned giants with a background in China will become only choices to implement the strategy of "go out" and control resources. This is why they can easily get support for various aspects—including government policies and financial funding—and successfully acquire overseas resources.

Restructured enterprises can allocate resources more reasonably over a wider scope. They can deepen the division of labour based on specialisation and cooperation, and improve logistics, capital flow and information flow, resulting in professional large-scale operations and production.

M&A, in conjunction with online relocation and transformation initiatives, can help transfer production bases to coastal regions with comprehensive resource advantages, and improve the environment of the cities of the original production bases. They are also conducive to the development of the restructured enterprises, enhancing their competitiveness and economic benefits, and, eventually, driving the growth of the local iron and steel industry chain, and even the whole economy.

Enhanced cooperation between Chinese and foreign enterprises

Apparently, China's iron and steel industry is adopting a strategy. Although China is already the most abundant steel producer worldwide, the domestic industry still encounters numerous problems in terms of industry disposition, product structure, independent innovation, energy conservation, and emission reduction. This provides the ground for foreign investors to enter China's market.

State-owned enterprises have to do more in finding support in M&A activities, while the completion of firms' moves to private enterprises may require capital injection to merge state-owned distressed companies. As the industry faces the risk of slipping from its peak, some private capital is considering pulling out of the industry. Hence, M&A in private enterprises will offer opportunities for the entry of foreign investors.

Some ambitious state-owned enterprises bring in foreign investors with a view to shortening their development time by acquiring advanced technology and management experience. They also hope to enter the international market more easily and rapidly with the help of foreign investors. Some enterprises hope to reduce objections of foreign governments to overseas mining through Sino-foreign joint venture investments. There are a large number of privately run enterprises which face a series of problems, including shortage of funds, low technology, and poor management. The appeal of high-quality foreign investors is therefore understandable. Chinese enterprises' aspirations for development will present opportunities for foreign investors to enter the domestic industry.

Accelerated coastal development

The current broad strategy of Chinese enterprises is to move to, and close around, certain coastal areas. Along China's coast, from the north to the south, production bases in Liaoning's Shenyang, Hebei's曹妃甸, Zhejiang and Ningbo's Ningbo Port are operating in under construction. This indicates that, under increasing pressure over environmental protection and awareness of the need to control logistics costs, China will follow Japan's pattern, gradually moving competitive production capacity to the coastal areas to give enterprises an edge over their inland counterparts in the costs of environmental protection, land and transportation.

Of these projects, the investment in phase one of Baosteel's Ningbo project is expected to reach RMB 69 billion, with the total investment exceeding RMB 100 billion. Wuhan Iron and Steel invests RMB 62 billion in phase one of the Fangcheng Port project. Together with the supporting projects and downstream projects, the aggregate investment surpasses RMB 92.5 billion. The coastal projects in Huanghua, Jingji, Rizhao and Nansha will have a production capacity of over 4 million tonnes, with a total investment of RMB 20 billion or more. Given such massive, fixed-asset input, the processing and raw material markets will bring the industry new opportunities.

Private enterprises unite amid crisis

Private enterprises have been hit hardest. The impact of financial crisis has spread. A diminishing market, exorbitant raw material costs, and, most

importantly, a shortage of funds, have caused big bottlenecks in many recently established private enterprises. Fortunately, the straightforward shareholding relationship of private enterprises makes them more flexible in M&A. Large private enterprises have an irresistible appeal to small- and medium-sized private enterprises (SMEs). These large enterprises seek to improve their management by refining their internal management structure, and eventually develop by leaps and bounds. To shield themselves from the crisis, SMEs in the same district seek to unite with each other and achieve a production capacity, sales network and procurement network which are several times their own scales. While such joint restructuring may be merely a formality, it still has obvious benefits for SMEs, especially in united procurement and applying for credit financing.

Financing bottlenecks

Amid this financial crisis, the profitability of China's iron and steel industry has been adversely impacted, and concerns over liquidity have been rising. While opportunities for M&A have appeared, financing for these activities continues to be a challenge.

The Chinese government supports industry restructuring through M&A. In addition to administrative measures, the relevant departments have adjusted their fiscal policies and released financing channels to support and aid such deals. Enterprises now have access to more financing sources other than their own capital. For example, some state-owned banks have already launched lending businesses to support M&A.

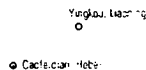
The *Adjustments and Revitalisation Planning for the Iron and Steel Industry* provides guidance to "increase financial support to leading iron and steel enterprises. Specifically, it supports projects meeting the regulatory requirements of environmental protection, land laws

and investment management measures, as well as enterprises embracing M&A, restructuring, "go-out" strategies and advanced technology to issue shares, corporate bonds, medium-term notes, and short-term financing bills, obtain bank loans, and absorb private equity investment. It prevents leading enterprises' capital chains from broken by subsidising loan interests, where necessary. It continues to impose restrictive measures on the provision of financing to unlawful and irregular constructions, projects with unauthorised approval and enterprises with low production capacity."

As a recent example of increased financial support, Hebei Iron & Steel Group and China Construction Bank (CCB) entered into a strategic cooperation agreement in Shijiazhuang, Hebei in 2008, in which CCB agreed to provide a credit line of RMB 50 billion to the group over the following three years.¹³

In accordance with the agreement, Hebei Iron & Steel Group, as an important customer and a long-term business partner of CCB, will use CCB as its originating bank. Given the same conditions, the group and its subsidiaries should give priority to using CCB's financial products and services. Where the relevant laws and regulations permit, CCB should give priority to providing the group and its member firms with high-quality, preferential financial services for comprehensive credit extension, cash management and capital operation services. The credit line granted in the agreement is applicable to loans denominated in renminbi and foreign currencies, and to other credit services. Specifically, the financing services include fixed asset loans, trade finance for import and export, and liquidity loans. In tally, the group plans to use the loans on areas such as adjusting its product structure, exploiting mining resources and M&A.

Chart 8: Top four iron and steel production bases on the coastlines



● Fangcheng Port, Guangxi
● Zhanjiang, Guangdong

Source: China Metallurgical News

Development – steel industry recovery opportunities



As the global financial crisis has yet to bottom out, difficult times still await China's iron and steel industry. If problems surrounding the concentration of the industry structure, industry disposition, environmental protection and employment are not solved effectively, the industry's development pace will slow, and the opportunities may slip away.

On 5 November 2008, China introduced ten measures to stimulate the economy. The series of investment plans will be worth RMB 4 trillion by the end of 2010. For the Chinese market which is under the threat of the financial crisis, these measures will have direct, positive effects on boosting domestic demand and stimulating economic growth, as well as promoting structural adjustments in industries.

Industry opportunities

Power industry – China plans to construct 260,000 kilometres of transmission lines (110 kilovolts and up) with a transformer capacity of 1.35 billion kilovolt/ampere(s) in the next two to three years. The total investment will reach RMB 1.1 trillion.²¹

Railway industry – The industry aims to complete RMB 600 billion worth of infrastructure investment in 2009, surpassing the preset target of RMB 50 billion. Originally, China planned to approve the construction of 10,000 kilometres of new railways at a cost of RMB 1 trillion in both 2009 and 2010. According to the revised plan, by 2013 (seven years earlier than the original plan), the industry will complete the construction target of 120,000 kilometres, with annual investment doubling to RMB 600 billion. This implies an additional consumption of 9 million tonnes of steel each year.²²

Real estate industry – Over a timeframe of roughly three years, China is building over 2 million low-rent housing units and over 4 million economy housing units, with total investment likely to reach RMB 900 billion. It is expected to stimulate nearly RMB 600 billion of investment each year.²³

Energy industry – The State Council approved an aggregate investment amount of RMB 95.5 billion for the Guangdong Yangjiang Nuclear Power Project and the

21. *China News Agency*, 11 November 2008.

22. *People's Daily*, 11 November 2008.

23. *Shanghai Securities News*, 10 November 2008.



Qinshan Nuclear Plant Expansion Project in Zhejiang, and RMB 9.5 billion³⁴ for the eastern section of the Second West-East Gas Pipeline Project. A number of energy infrastructure projects will also be launched in 2009, including a large oil refinery plant in Chengdu with a production capacity of tens of million tonnes.

Water industry – China has earmarked RMB 20 billion³⁵ to accelerate water infrastructure projects in 2009.

Transport industry – China will invest RMB 10 billion in transport infrastructure projects in the fourth quarter, and strive to raise annual fixed asset investment in transport to RMB 1 trillion in the next two years. Expedited development in transport infrastructure not only directly fuels the demand for construction steel, but also stimulates the demand for construction machinery, including engineering machinery and heavy duty trucks. This will in turn increase the demand for machinery steel about 35 percent to 40 percent of engineering machinery in China is used in infrastructure construction in areas hit by earthquakes and floods.³⁶

Furthermore, of the RMB 4 trillion economic stimulus package announced by the government, 45 percent will be spent on railways, highways, airports, urban and rural power grid transformation. This is expected to directly stimulate about 90 percent of investment in construction steel, especially in transport and energy infrastructure, low-income housing projects and post-disaster reconstruction.

Following the announcement, governments at all levels proposed their own measures to stimulate their local economies. On initial calculations, these investments, mainly in construction and the infrastructure development of transport and energy, will amount to RMB 18 trillion. Past economic development in China shows that boosting investment is most effective in promoting economic growth.³⁷ While over-investment could bring fresh problems, its effects on stimulating economic growth is undeniable. An expansion in investment can directly increase steel consumption. The construction of railways, highways and other infrastructure supports the domestic steel market. Construction steel accounts for 54 to 55 percent of total steel consumption. Therefore, stabilising the consumption of construction steel is an important measure for realising the goals of the steel market.

³⁴ China Machinery, 13 November 2008.

³⁵ Reuters, 12 November 2008.

³⁶ Reuters, 12 November 2008.

Hit by the financial crisis, the consumption of steel fell by approximately 20 million tonnes in 2009. If China does not actively adopt various measures to revive the economy, the consumption of steel is expected to plunge to around 180 million tonnes. The government's policies on "insistening the economic growth, expanding the domestic demand and adjusting the industrial structure" and their effectiveness will stimulate the growth of steel consumption by different degrees. Initially, the demand for steel is expected to be between 416 million and 438 million tonnes (or 427 million tonnes on average) in 2009. China may adopt more vigorous measures if the crisis deepens, which will be beneficial to the domestic steel consumption.

Currently, the production capacity of China's iron and steel industry totals 500 million tonnes. As the market demand slackens amid slowing economic growth, over-production seems now to be a foregone conclusion.

As a result, steel enterprises will soon face fiercer market competition. The hike in production costs threatens enterprises' survival and hinders their development. It is also a compelling force that drives M&A and provides room for restructuring. At the same time, ruthless competition has forced vulnerable enterprises to either exit the market or enter into mergers with enterprises with more assured resources, advanced technology and stable market shares in order to survive.

In the *Adjustments and Revitalization Planning for the Iron and Steel Industry*, the government promulgates administrative measures and policies to vigorously support the industry's M&A activities, opening up a number of opportunities. Large enterprises with abundant human and financial resources often take the lead and play important roles in M&A projects. In the restructuring process, the engagement of professional advisory service is conducive to smoother transactions. It also helps enterprises adopt a good management pattern and enhance their post-deal competitiveness.

Although not every enterprise enjoys the same opportunity and chance of success in M&As in the current market environment, enterprises have more opportunities to participate in the M&A activities in China's iron and steel industry, including taking part in mergers and post-merger management, improving M&A planning, and optimising the allocation of industry chains.

We believe that the increased trend of M&A activity will not be without its challenges, but will help to develop China's iron and steel industry into a more robust and well-balanced industry that also has a much larger scale.

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About China Metallurgical News

China Metallurgical News, with a masthead inscribed by late Premier Zhou Enlai, was established in July 1956. The newspaper, once a party newspaper of the former Ministry of Metallurgical Industry, is now run by the China Iron and Steel Association under the leadership of the State-owned Assets Supervision and Administrative Commission of the State Council. The newspaper focuses on reporting the development and trends of the metallurgical industry. Currently, the newspaper reaches all steel producers and related enterprises. Its subscription base is on the rise and has had a peak circulation of 620,000.

The newspaper is still committed to providing "useful and meaningful" news reports and economic information to serve China's iron and steel industry, and related upstream and downstream industries. It continues to expand its coverage and services to promote both "sound and fast development" of domestic metallurgical industry under a socialist market economy. The newspaper is highly regarded by the industry, government departments and academic and well-known internationally. Through a window provided by *China Metallurgical News*, global and domestic iron and steel industries can view each other's developments.

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