

Special Commentary

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The policies on environmental-related production curbs in the heating season have intensified across the steel industry. The 2+26 Cities see shrinking supply and rising steel prices. Green upgrading is likely to become the main direction of supply-side structural reform

Abstract

- The production curb policies in the 2017/2018 heating season have been tougher than ever before in terms of time span, curb standards and enforcement. Local governments have also issued specific rules for implementing production curb requirements. The industry is under unprecedentedly strict control.
- The steel output in the production curb areas has declined to unleash the steel demand in the short run. The tight supply in some areas has driven up the price of steel.
- Since 2017, steelmakers have found their liquidity pressure eased due to solid profit growth. The industry-wide credit strength has picked up, providing conditions for smooth implementation of production curbs. However, the production curb requirements also pose a greater challenge to the cost and expense control of steelmakers in covered areas.
- Green upgrading will become the main direction of supply-side structural reform. Heightened environmental standards will force steelmakers to choose between upgrading and quit.

The production curb policies in the 2017/2018 heating season have been tougher than ever before in terms of time span, curb standards and enforcement. Local governments have also issued specific rules for implementing production curb requirements. The industry is under unprecedentedly strict control.

Since 2016, relevant authorities have issued a series of important environmental protection policies related to the steel industry in key areas in the Beijing-Tianjin-Hebei region, imposing emergency production curbs on the steel and other heavy-polluting industries to ensure air quality during special periods, such as major conferences and worsened smog. In addition, the environmental authority has stepped up environmental supervision and inspection and the enforcement of steel production curbs has become increasingly strict, which has begun to have a substantial impact on the industry supply-demand balance and market expectations.

The Ministry of Environmental Protection (MEP), in conjunction with other ministries and local governments, issued the 2017 Work Plan for Air Pollution Prevention and Control in Beijing, Tianjin and Hebei and Adjacent Areas in March 2017. The plan covers 26 cities and two municipalities directly under the Central Government (Beijing and Tianjin), namely “2+26 Cities”. As for the steel industry, the plan caps the steel output during the heating season at 50% of production capacity (i.e. the blast furnace capacity) in key cities including Shijiazhuang, Tangshan, Handan and Anyang. The performance will be assessed based on actual power consumption of steel mills. Based on this plan, MEP together with relevant authorities issued a more detailed Action Plan for Air Pollution Crackdown in Beijing, Tianjin and Hebei and Adjacent Areas in Autumn and Winter 2017-2018 on August 21. The crackdown plan requires 2+26 Cities to implement category-specific management of steelmakers and to develop a plan for peak load shifting and production suspension/reduction by the end of September 2017 according to their pollutant discharge performance. The steel output in key cities such as Shijiazhuang, Tangshan, Handan and Anyang is capped at 50% of capacity (i.e. the blast furnace capacity) in the heating season, with performance assessed based on actual power consumption of steel mills.

Table 1: Main Guidelines and Policies on Environmental-related production Curb in the Steel Industry Since 2016

Time	Policy document	Issued by	Highlights
July 2016	Urgent Notice on Further Strengthening Environmental Law Enforcement Inspection in the Steel Industry	MEP	Carry out environmental law enforcement inspection across the steel industry. Municipal environmental protection bureaus should prepare work briefings on law enforcement inspection in the steel industry
October 2016	Announcement on the Implementation of Special Emission Limits for Air Pollutants in Hebei Steel Industry	Environmental Protection Department of Hebei Province	Effective as from September 1, 2017 for existing steelmakers and from the date of announcement for newly established steelmakers. Newly approved steel projects shall meet special emission limits in the Emission Standards for Air Pollutants in Iron and Steel Sintering and Pelletizing Industries, the Emission Standards for Air Pollutants in the Iron Smelting Industry, the Emission Standards for Air Pollutants in the Steel Smelting Industry and the Emission Standards for Air Pollutants in the Steel Rolling Industry
March 2017	2017 Work Plan for Air Pollution Prevention and Control in Beijing, Tianjin and Hebei and Adjacent Areas	Issued by MEP in conjunction with the National Development and Reform Commission	The work of the 2 +26 Cities shall put improving the regional air quality at the core, focus efforts on reducing heavy pollution days and take various measures to strengthen the prevention and control of air pollution in winter to reduce the regional pollutant emission load in an all-round way. Local

		(NDRC), the National Energy Administration (NEA), the Ministry of Finance (MOF) and the governments of Beijing, Tianjin, Hebei, Henan, Shandong and Shanxi	governments shall implement category-specific management of steelmakers and develop a plan for peak load shifting and production suspension/reduction. The steel output during the heating season is capped at 50% of production capacity (i.e. the blast furnace capacity) in key cities including Shijiazhuang, Tangshan, Handan and Anyang. The performance will be assessed based on actual power consumption of steel mills.
August 2017	Action Plan for Air Pollution Crackdown in Beijing, Tianjin and Hebei and Adjacent Areas in Autumn and Winter 2017-2018	Issued by MEP in conjunction with NDRC, NEA, MOF and the governments of Beijing, Tianjin, Hebei, Henan, Shandong and Shanxi	The Crackdown Plan and the six supporting plans are a combination of blows. With the aim of fully meeting the performance objectives set out in the Ten Measures for Air, the Crackdown Plan introduces stricter measures for tackling both symptoms and root causes in key geographical areas, key time periods, key fields and key issues and addressing weaknesses in air pollution control in Beijing, Tianjin and Hebei and adjacent areas during autumn and winter. The Crackdown Plan breaks down the air quality improvement targets among cities in the form of checklist and logbook and assigns specific tasks at the levels of cities, districts and counties. To further refine and implement the Crackdown Plan, six supporting plans were developed in terms of strengthened supervision, field inspection, special supervision, quantitative accountability, information disclosure and publicity respectively. Systematical arrangements have been made for innovative supervision mechanisms, strengthening the responsibilities of local Party and government officials and establishing and improving the information disclosure and publicity systems.

Source: Public data, compiled by CCXI

The environment-related production curb policies introduced since 2017 clearly aim at meeting targets set out in the objectives set out in the Ten Measures for Air, bringing down the average PM2.5 concentration of cities in the Beijing-Tianjin-Hebei air pollution transmission channel by more than 15% year on year, and reducing the number of heavy pollution days by more than 15% year on year. The goals of air quality improvements have been clearly specified and the enforcement is stricter than in previous years.

Specifically, by duration, production curbs last for 4 months in the 2017/18 heating season, or even longer in a few cities. By geography, production curbs cover cities in the Beijing-Tianjin-Hebei air pollution transmission channel, namely 2 +26 Cities. By affected process or technology, it is made clear for the first time that the production cuts are measured based on blast furnace capacity and cover the whole process of raw iron production. By regulatory document, the MEP, NEA, NDRC and six provincial/municipal governments jointly issued official documents, involving higher levels of government. By production curb criteria, compared with the previous production curbs to the extent of ensuring work safety, the current policy explicitly requires a steel production cut by 50% in key cities with heavy air pollution, such as Shijiazhuang, Tangshan, Handan and Anyang. By enforcement intensity, the central government directly conducts environmental inspection, and some provinces have sent inspection teams to prefecture-level cities to inspect implementation and link the performance to the position of government officials.

Table 2: List of Environmental-related production Curb Policies in the Steel Industry in Recent Years

	Environmental-related production curb policies in 2017	Environmental-related production curb policies before 2017
Duration	Throughout the heating season	1 to 3 weeks, mainly during major conferences and smog build-ups
Geographical areas	2 + 26 cities	Selected cities in Hebei, Henan, Shandong, Shanxi and other provinces, depending on specific weather conditions
Restricted process or technology	Blast furnace	Curbs mainly target the pre-iron systems such as sintering and coking; because steel mills can put raw materials in reserve in advance, the material impact on production is limited
Regulatory documents issued	MEP, NEA, NDRC and six provincial/municipal governments	Production curb documents are informal
Production curb criteria	Steel production cut by 50%	Production curbs to the extent of ensuring work safety. The contingency plan for heavy pollution weather includes four levels of response, including red alert and orange alert. Steelmakers are required to cut output by 50% under red alert and by 30% under orange alert.
Enforcement level	Under the leadership of the central government, send inspection teams to local areas. Take such measures as filing a case for punishment, accountability enforcement, disciplinary interview and detention. Include results in governmental officials' performance assessment.	Led by MEP, routine inspection

Source: Public data, compiled by CCXI

After the MEP released relevant documents to tackle the severe environmental situation, the 2+26 Cities issued environment-related production curb policies intensively. As of November 30, 2017, accumulatively 24 of the 2+26 Cities had explicitly imposed a production cut by 50% or peak shifting upon the local steel industry in the heating season. In addition, Linfen in Shanxi, Linyi in Shandong and Xuzhou in Jiangsu in the region of the 2+26 Cities have also issued a peak shifting policy for the heating season at their discretion.

Table 3: Steel Capacities and Production Curb Plan for 2+26 Cities

Province (municipality)	Covered cities	Crude steel output in 2016 ('0,000 tons)	Capacity squeeze target (%)	Duration	Major production curb policies
Beijing and Tianjin	Beijing and Tianjin	1,798.93	50%	Nov. 15, 2017 to Mar. 15, 2018	<i>Tianjin Action Plan for Comprehensive Crackdown on Air Pollution in Autumn and Winter 2017-2018, etc.</i>
Hebei Province	Shijiazhuang, Tangshan, Handan, Langfang, Baoding, Cangzhou, Hengshui and Xingtai	19,259.97	50%	Shijiazhuang, Handan: Nov. 15, 2017 to Mar. 15, 2018 Tangshan: Oct. 12, 2017 to Mar. 15, 2018	<i>Action Plan of Hebei Province for Response to Heavy Pollution Weather and Peak Shifting of Production in the Heating Season, the Action Plan of Handan City for Handan for Steel Industry Peak Shifting in Autumn and Winter 2017-2018, etc.</i>
Henan Province	Anyang, Zhengzhou, Kaifeng, Hebi, Xinxiang, Jiaozuo and Puyang	2,794.30	30%-50%	Anyang: Oct. 1, 2017 to Mar. 31, 2018 Zhengzhou: Nov. 15, 2017 to Mar. 15, 2018	<i>Action Plan of Anyang City, Henan Province for the Continuous Crackdown on Air Pollution Prevention and Control in 2017, Action Plan of Zhengzhou City for Comprehensive Crackdown on Air Pollution in Autumn and Winter 2017-2018 and the Action Plan of Jiaozuo City for Strict Air Pollution Prevention and Control in 2017 etc.</i>
Shanxi Province	Taiyuan, Changzhi, Jincheng, Yangquan	3,936.13	50%	Taiyuan, Changzhi: Oct. 1, 2017 to Mar. 31, 2018 Jincheng: Nov. 15, 2017 to Mar. 15, 2018	<i>Notice of Changzhi City on Peak Shifting in Production and Transportation of Industrial Enterprises in Autumn and Winter 2017-2018 and the Action Plan of Jincheng City, Shanxi Province for the Air Quality Enhancement Program in Autumn and Winter</i>
Shandong Province	Binzhou, Zibo, Jinan, Jining, Dezhou, Liaocheng and Heze	7,167.11	50%	Nov. 15, 2017 to Mar. 15, 2018	<i>Action Plan of Binzhou City for Peak Shifting of Industrial Enterprises in 2017-2018, the Action Plan of Zibo City for Peak Shifting of Industrial Enterprises in Winter 2017</i>

Source: Public data, compiled by CCXI

Overall, competent authorities have issued a series of important environmental-related production curb policies related to the steel industry in key areas in the Beijing-Tianjin-Hebei region. The production curb policies in the 2017/2018 heating season have been tougher than ever before in terms of time span, curb standards and enforcement. Local governments have also issued specific rules for implementing production curb requirement, which has a significant impact on the supply and demand of the steel industry.

The steel output in the production curb areas has declined to unleash the steel demand in the short run. The tight supply in some areas has driven up the price of steel

These production curbs are unprecedentedly tough. The steel supply and downstream demand in the production curb area have changed greatly during the curb period.

On the supply side, this winter curb lasted from October to March of the following year. In November, the output of Hebei, Tianjin and Shandong fell by 12.60%, 19.40% and 11.20% year on year, respectively. In addition, since November 2017, the blast furnace utilization rate in the curb areas has dropped sharply and the blast furnace shutdown for maintenance has increased sharply, with the blast furnace utilization rate in Hebei dropping by 13.97 ppt, 0.64 ppt and 0.95 ppt respectively in the first three weeks of the heating season. As of December 1, 2017, the national blast furnace utilization rate was only 63.12%, and that rate in Hebei was only 51.11%. All 2+26 Cities produced about 380 million tons of steel in 2016, accounting for 33.3% of the national production. Take crude steel production cut by 50% for example, the abovementioned five provinces cut their output by about 30 to 45 million tons in the curb period.

On the demand side, as production curbs led to hoarding by steel traders and end users expecting a short steel supply to come, some steel demand was released in advance from October to early November, keeping steel turnover high. However, downstream demand fell as production curbs affected a range of upstream industries for construction, including steel, cement and building materials, coupled by suspension of some construction projects in North China in winter.

Market inventories and steel prices quickly reflect the current supply-demand status of steel. According to data from China Iron and Steel Association (CISA), the social inventory of 5 major steel products in 20 cities was 8.43 million tons in November, down 500,000 tons from the previous month. In early November, the inventory of steelmakers was 11.97 million tons, down 210,000 tons from the previous month. The decline of both social inventory and steelmakers' inventory also reflected the short-term supply shortage in the market in the wake of production curbs. From the price perspective, due to production curbs, the national rebar price increased by 15% from RMB4,066/ton at the beginning of November 2017 to RMB4,679 /ton at the end of the month. The production curb policy has had a great impact on steel prices in the short term. Subsequently as winter demand fell, steel prices dipped remained high. Steel prices will return to a reasonable level in the long term.

Overall, competent authorities have issued a series of important environmental-related production curb policies related to the steel industry in key areas in the Beijing-Tianjin-Hebei region. The production curb policies in the 2017/2018 heating season have been tougher than ever before in terms of time span, curb standards and enforcement. Local governments have also issued specific rules for implementing production curb requirement, which has a significant impact on the supply and demand of the steel industry.

Fig. 1: Steel Output in 2017 ('0,000 tons)

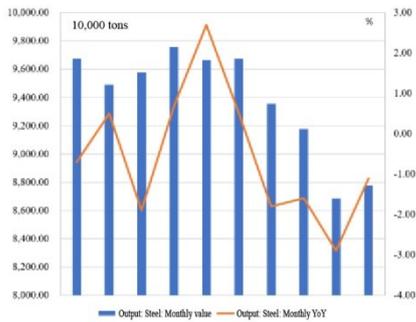
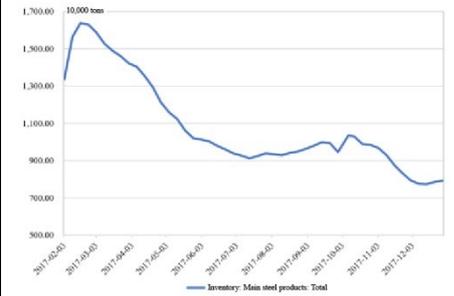


Fig.2: Steel Price Trends in 2017 ((RMB/ton)



Figure 3: Social Inventory of Main Types of Steel Products in 2017 (10,000 Tons)



Source: Choice, compiled by CCXI

In terms of raw fuel supply, the port inventory of iron ore is on the rise due to the increase in global iron ore producers' output and the weakening of raw fuel market demand caused by production curbs. Recently, the national iron-ore port inventory has exceeded 140 million tons/week. In terms of price, iron ore prices are also weakening due to weakening demand from steelmakers, while prices of raw fuels such as coke still fluctuate at highs due to the impact of supply-side structural reform. The lower ore price can partially ease the cost pressure placed by production curbs on steelmakers.

Figure 4: Domestic Port Inventory of Iron Ore ('0,000 tons)

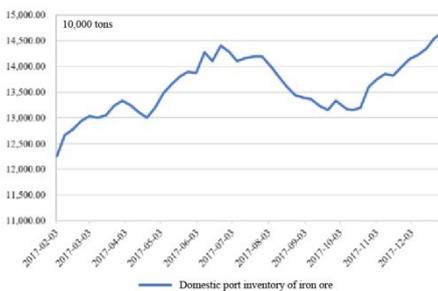
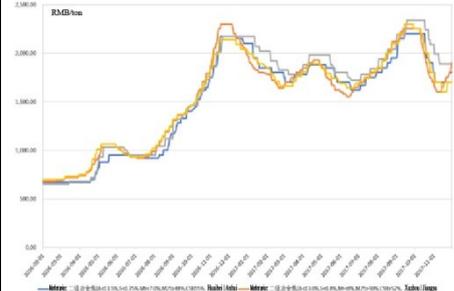


Figure 5: Iron Ore Price Trends in Recent Years ((RMB/ton)



Figure 6: Coke Price Trends in Recent Years ((RMB/ton)



Source: Choice, compiled by CCXI

On the whole, the production curb policy has a great impact on steel supply and demand. The steel output in the production curb areas has obviously declined. In the short run, as the released demand for steel ahead of time sends the social inventory of steel to lows, the tight supply in some areas has driven the steel price to soar rapidly. However, steel price may become rational in the long term.

Since 2017, steelmakers have found their liquidity pressure eased due to solid profit growth. The industry-wide credit strength has picked up, providing conditions for smooth implementation of production curbs. However, the production curb requirements also pose a greater challenge to the cost and expense control of steelmakers in covered areas.

Thanks to upturn in the downstream infrastructure industry and the successful ban of substandard steel, the steel industry has fully recovered in 2017, laying a solid underground for the heating-season production curbs starting in late 2017. In the first three quarters of 2017, China's crude steel output reached 639 million tons, up 6.3% year on year, and the market supply was rationally allocated. Over the same period, the completed cumulative amount of fixed asset

investment in downstream industries increased by 7.3% year on year, with infrastructure investment rising by 19.6% year on year and taking up a larger share in fixed asset investment. The rapid growth of infrastructure investment shows that downstream demand actually recovers and steel market supply and demand are basically balanced. Propelled by the above factors combined, steel prices have continued to rise since 2017. At the end of September, the price of rebar exceeded RMB4,000/ton, compared with RMB3,300/ton at the beginning of the year.

As for financial data, to present the financial position of steelmakers issuing bonds, this report analyzes data based on 22 sample steelmakers that are bond issuers at present (see appendix) taking into account the availability and representativeness of the data.

Steelmakers have markedly improved their profitability since 2017, thanks to the steady progress of the supply-side structural reform and the local governments' effective substandard steel bans. According to data from the NBS, from January to October 2017, the profit-to-sales ratio of ferrous metal smelting and rolling was 4.69%, up from 3.60% in 2016. As for operating results of sample steelmakers, the total operating income in the first three quarters of 2017 was RMB1,516,496 million, up 33.12% year on year. The average gross profit margin reached 13.26%, up 3.40 ppts year on year. The total net profit reached RMB43,523 million, significantly exceeding the annual net profit of the previous year. The net cash flows from operating activities were RMB92,948 million, indicating an enhanced ability to create cash flows. Thanks to the slump in new projects of steelmakers in recent years, the investment scale has narrowed over years, with the net cash outflows from investing activities in the first three quarters falling to RMB52,099 million. In addition, CCXI has noticed that, unlike previous winter production curbs under special weather conditions, this one is broader in scope and greater in intensity. The steel production curbs starting from 2017Q4 will directly reduce the revenue of steelmakers. But the production cuts will also drive steel prices up in the short term and have a positive effect on the profitability of steelmakers. Steelmakers in non-curb areas will benefit more from it.

As the five priority tasks of cutting overcapacity, reducing excess inventory, de-leveraging, lowering costs, and strengthening areas of weakness were proceeding in the steel industry, the average asset-liability ratio of sample steelmakers dropped to 69.23% at the end of September 2017 from 72.33% at the end of the previous year. Thanks to the good ability to generate operating cash flows and the reduced investment spending, the overall leverage ratio of the industry has declined. In terms of interest-bearing debts, the gross debts of sample companies were RMB1,541,687 million at the end of the September 2017, down 0.19% from the end of the previous year. By debt structure, steelmakers have actively adjusted their debt structure since 2017. The short-term debts of sample steelmakers have decreased, with long-term debts accounting for a larger percentage. The industry has seen improvements in the high proportion of short-term debts, with the short-term debts/total debts falling to 67.83% at the end of Q3. The decline in short-term debts and the enhanced ability to create cash flows have eased the overall short-term debt service pressure of sample steelmakers. The cash flows/short-term debts rose to 31.98% at the end of September 2017, but the cash coverage for short-term debts was still low. Steelmakers still have a certain demand for de-leveraging.

In addition, there are certain differences in the impact of this environmental restriction on different steelmakers. On the one hand, steelmakers need to shut down blast furnaces and other equipment as the production curbs last long. Compared with previous years when blast furnaces ran at partial capacity, the re-ignition cost of blast furnaces is high, but the labor and management costs are relatively fixed. The production curbs will increase steelmakers' cost per ton of steel. Because the steel output per capita and financial and administrative expenses vary with steelmakers, the impact of production curbs is steelmaker-specific. Thus the control of costs and expenses during the production curbs will be particularly important. On the other hand, the environment-related production curbs mainly target 2+26 Cities in the heating season. Starting from 2017Q4, steelmakers in the region will face a downside pressure to production and sales.

Steelmakers not subject to production curbs are expected to maintain the momentum in the first three quarters. The steel industry may show divergent performance.

Overall, the steel market has recovered and the profitability of steelmakers has improved since 2017, paving the groundwork for China's first large-scale production curb in the heating season. Also, steelmakers have embraced a debt pressure relief and maintained good ability to generate cash flows from operating activities, paving the way for implementing this production curb. However, the production curb would impose higher requirements on the cost and expense control of companies in covered areas.

Green upgrading will become the main direction of supply-side structural reform. Heightened environmental standards will force steelmakers to choose between upgrading and quit.

Production curbs are one of the means to solve the current atmospheric environment problems, but green upgrading is the top priority in pursuing sustainable development of the steel industry. Early in the 13th Five-Year Plan period, the major contradiction of demand-supply imbalance was eased due to continuous capacity squeeze and substandard steel ban. In the remainder of the 13th Five-Year Plan period, the focus of supply-side structural reform in the steel industry will shift to green upgrading.

With the new environmental law effective in 2015, a number of energy conservation and emission reduction technologies have been broadly applied in the steel industry in recent years, typically including dry quenching, dry dedusting, sintering desulfurization and energy management centers. Key large and medium-sized steelmakers have seen a marked decline in their overall energy consumption (tons of standard coal) per ton of steel and fresh water consumption per ton of steel. However, there are still some problems in the industry, such as varying facility standards and illegal idleness of environmental protection facilities. Also, the large overall scale results in massive energy consumption and heavy pollutant discharge in aggregate. In particular in some areas where steel capacities are concentrated, the pollutant discharge has exceeded the environmental carrying capacity. Therefore, the 13th Five-Year Plan for the steel industry explicitly identifies the coke oven flue gas desulfurization and denitration project and the integrated sintering (pellet) flue gas cleanup project as major green upgrading projects. It also requires accelerated implementation of cleaner production technologies (e.g. enclosed raw material yard and deep purification of sintering flue gas) in environmentally sensitive areas and steel capacity-concentrated areas with weak environmental carrying capacity. Thanks to their earlier heavy investment in energy conservation and emission reduction, large steelmakers such as Baosteel, He Steel and Taiyuan Iron & Steel have basically completed such upgrades as cleaner technology implementation and storage space enclosing. However, most small and medium-sized enterprises in the industry usually follow existing environmental standards in manufacturing due to years of losses, obsolete equipment and relatively backward investments in environmental protection. With the environmental standards heightened in the industry, backward enterprises will face greater pressure on environmental investment, especially when it comes to backward steelmakers in production curb areas.

After Hebei Province published the *Special Action Plan* in early August 2017, Li Xinxin, president of the China Metallurgical Industry and Research Institute, said that "In curbing production during the heating season, local governments can take differentiated curb measures according to the level of environmental friendliness of local steelmakers, so that environment-friendly steelmakers have less or no capacities slashed, while environment-unfriendly steelmakers have to close down more or all of their capacities". Therefore, differentiated curb measures cause steelmakers to invest more in environmental protection and reduce pollution. In addition, the *Environmental Protection Tax Law* will come into effect on January 1, 2018. Local governments have determined the tax burden level within the statutory range, taking into account the regional environmental carrying capacity, current situation of pollutant discharge and the goals of economic, social and ecological development. As laws and regulatory measures become increasingly more stringent, steelmakers will realign their environmental awareness. The heightened threshold for

environmental compliance will force enterprises that are less competitive in environmental protection to make more environmental investment or quit the market, while advanced enterprises are expected to benefit greatly from environmental regulation and production curbs for environmental protection.

To sum up, the improved profitability of enterprises amid the supply-side structural reform paves the groundwork for environmental standard upgrades in the later stage. The heightened environmental standards will force enterprises to choose between environmental upgrades and quite. Enterprises whose facilities do not meet environmental standards due to less environmental investment will face greater capital expenditure pressure or the risk of exit from the market.

Conclusion

To sum up, the supply-side reform has led to a recovery in the prospects for steelmakers, and the main contradiction in the steel industry has changed from enterprise survival to green survival. In 2017, the 2 +26 Cities took measures to restrict production in winter, which has had a certain impact on the steel supply in the short term and the steel price has risen sharply. However, the curbs have put higher requirements on the cost and expense control of steelmakers in the region. In the future, with environmental protection requirements further tightened, enterprises with environmentally unfriendly facilities may face a greater pressure on environmental compliance investment or risk of exit, while steelmakers with up-to-date facilities and stronger environmental awareness are expected to obtain a better credit report.

Appendix 1: Main Financial Indicators of 22 Sample Steel Bond Issuers (RMB100 mn)

Company name	Gross revenue capitalization ratio			Net profit			Net cash flows from operating activities			Total		
	2015	2016	Jan. to Sep. 2017	2015	2016	Jan. to Sep. 2017	2015	2016	Jan. to Sep. 2017	2015	2016	Sep. 2017
Angang Steel	203.63	220.44	200.64	-25.48	1.08	9.78	15.04	14.07	33.43	76.81%	74.99%	70.51%
Angang Group	1,297.08	1,392.55	1,365.84	-141.47	-99.07	6.00	93.71	73.11	64.12	75.25%	70.45%	67.58%
Ba Yi Iron & Steel	113.62	107.36	134.01	-51.22	-25.16	7.17	15.52	11.87	32.07	90.09%	98.33%	96.26%
Baosteel	1,641.17	1,857.10	2,521.40	7.14	92.05	125.20	211.77	163.73	131.28	32.82%	34.14%	38.63%
Benxi Steel	355.95	309.88	305.29	-47.72	-3.56	0.06	-48.66	78.41	1.29	81.36%	81.85%	81.95%
Sansteel Minguang	125.42	141.18	158.26	-9.29	9.27	24.76	4.14	9.98	17.53	69.59%	28.32%	16.09%
He Steel Group	2,844.68	2,907.72	2,262.16	1.20	8.91	8.76	131.29	219.06	158.41	70.62%	69.08%	69.24%
Valin Steel	611.63	763.32	741.20	-39.51	0.78	32.10	30.58	65.59	27.97	84.07%	81.75%	72.66%
Shagang Group	1,205.19	1,116.15	1,183.71	10.05	32.38	59.43	60.58	78.70	86.36	54.82%	54.30%	49.23%
Jiu Steel Group	1,008.57	813.10	681.78	-95.06	12.07	4.23	13.22	48.95	10.59	69.30%	70.69%	68.12%
Lingyuan Iron & Steel	124.53	144.63	134.06	0.48	1.34	9.96	11.53	6.92	16.85	60.55%	60.05%	53.72%
Liuzhou Iron & Steel	259.09	266.50	299.19	-11.89	1.96	12.55	2.84	15.88	29.60	77.40%	71.47%	66.58%
Maanshan Iron & Steel	503.71	544.12	573.75	-59.08	9.09	29.39	63.77	49.48	43.65	58.53%	55.65%	51.89%
Nanjing Iron & Steel	222.52	241.74	270.72	-24.33	3.55	20.99	10.41	32.44	20.61	77.82%	74.10%	52.51%
Baotou Steel	225.01	310.28	348.82	-33.02	0.85	14.05	-9.75	64.61	38.90	51.62%	46.22%	46.75%
Shandong iron & Steel Group	1,021.08	1,025.37	992.61	-5.85	-27.04	10.54	53.61	97.38	14.07	79.34%	80.95%	81.50%
Shougang Group	1,352.01	1,348.71	1,326.19	-29.13	-12.47	4.91	32.30	37.28	33.15	67.40%	67.56%	68.68%
Taiyuan Iron & Steel Group	908.35	706.08	624.60	-50.84	10.38	20.05	35.63	90.05	117.40	65.84%	62.76%	56.93%
Wuhan Iron & Steel	1,018.31	773.41	285.27	-114.14	-9.11	14.41	-37.27	39.82	10.20	70.30%	57.94%	45.26%
Xining Special Steel Group	60.55	73.95	47.06	-16.26	0.80	-1.08	-12.17	-18.90	-2.22	79.86%	74.85%	75.88%
Xinxing Ductile Iron Pipes	500.31	521.60	353.31	4.67	4.51	7.90	20.93	11.04	14.53	53.43%	54.68%	48.98%
Xinyu Iron & Steel	253.71	304.61	355.10	0.54	5.13	14.06	20.48	11.59	29.70	61.44%	57.40%	45.99%

Source: Public data, compiled by CCXI

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