

Discussion Materials

Chinese Steel Industry ~the trends of overcapacity elimination▪
corporation reorganization▪raw material procurement ~

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Corporate Research Department



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Executive summary

- In a short term, steel demand in China is forecast to fall marginally due to slowdown of growth in real estate construction and auto production. Steel output is likely to slightly decrease under the control of the government for the purpose of overcapacity elimination. In mid- to long-term, both the demand and output are expected to increase gently while keeping the balance, driven by the expanding Chinese auto market, the world's largest auto market.
- Under the circumstances, Chinese government set targets such as overcapacity elimination and “super large enterprises” establishment via corporation reorganization in the supply-side reform at the beginning of 2016. Additional measures to eliminate overcapacity have been taken in rapid succession and the yearly goal of reducing facilities is over-achieved. In addition, the merger of major companies was also made, which indicates that the possibility of the progress in the government reform is faster than expected is becoming high.
- Moreover, Chinese steel mills are improving raw materials quality with an aim to enhance steel product quality. The movements of equity interest acquisition carried out by Chinese companies are gradually becoming more obvious according to the government policy of securing high-quality mines.
- Looking ahead, with the reform in progress, “super large enterprises” established will have a bigger production scale and higher price competitiveness as compared to major companies in other countries. In addition, it is anticipated that they will make efforts to improve their technological capabilities and accelerate the procurement of high-quality raw materials. Therefore, there is also a possibility that it will affect the strategies of those major companies in Japan, U.S. and Europe.

Agenda

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1. Demand and supply(1) Demand ① The breakdown and steel demand in 2016

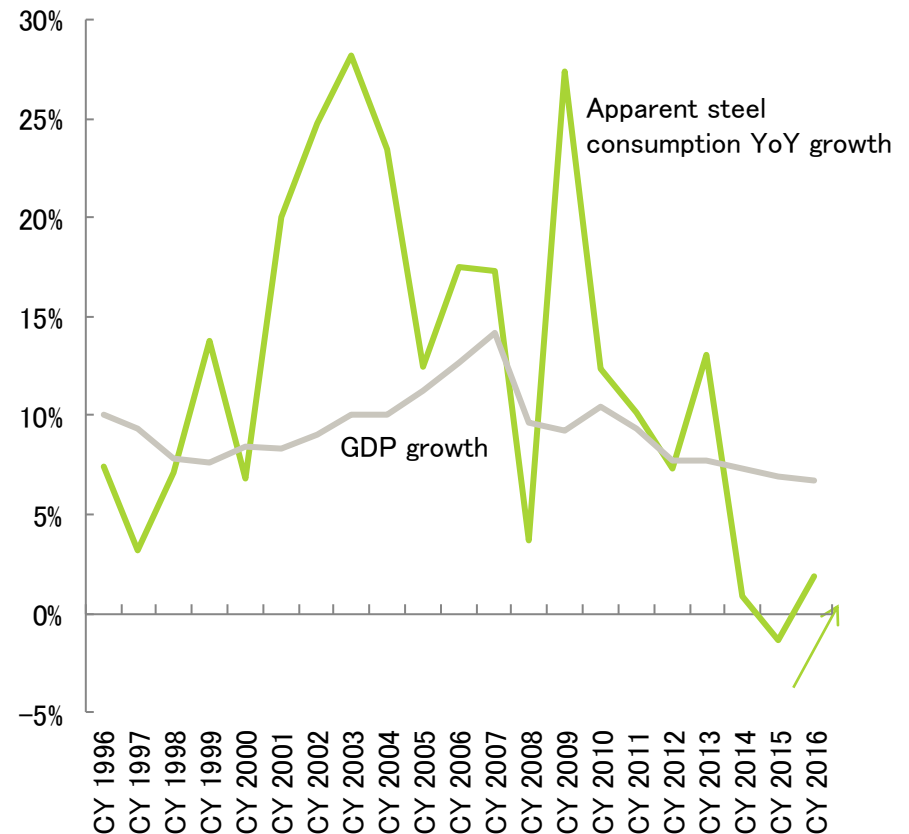
Infrastructure and real estate account for majority of steel demand in China. Moreover, from a quality viewpoint, steel products with low quality are consumed in construction, while those with high quality are mainly consumed in auto production. Steel demand recovered in 2016 driven by the increase demand in real estate construction and auto production.

Consumption volume by sector in 2016

	Consumption (10 thousand tonnes)	composition ratio
Total consumption	67,005	–
Construction	36,012	54%
Machinery	12,844	19%
Automobile	5,815	9%
Energy	3,109	5%
Shipbuilding	1,200	2%
Home appliance	1,080	2%
Railway	522	1%
Others	6,422	10%

(Source) China Metallurgical Industrial Planning and Research Institute

Growth of apparent steel consumption



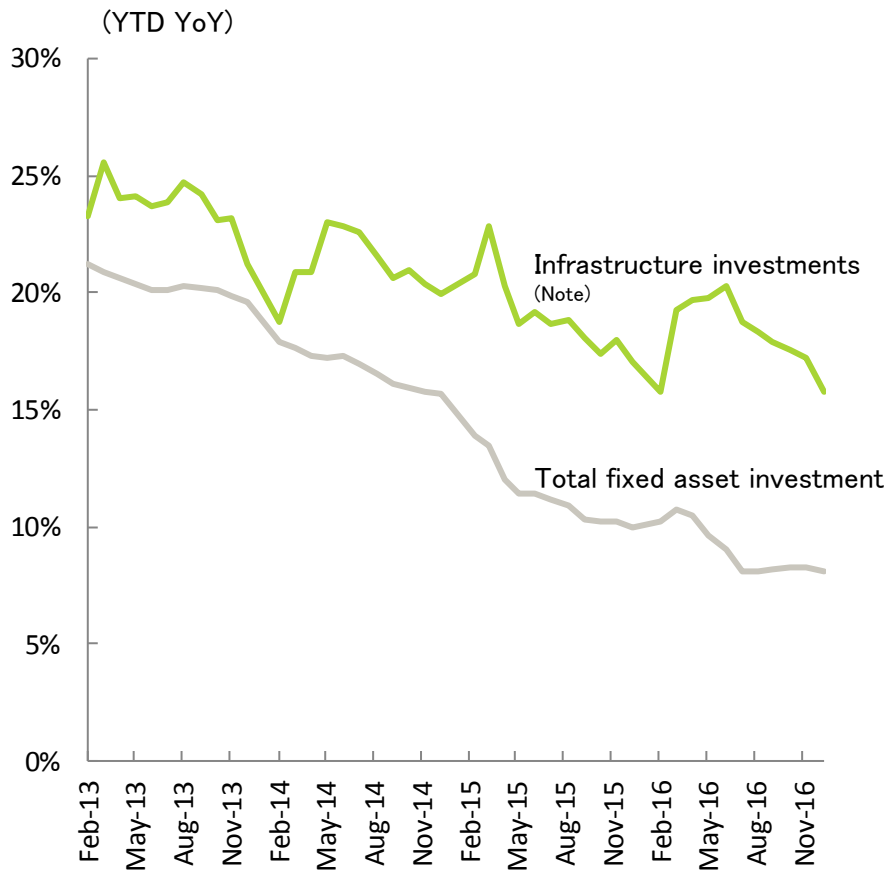
(Note) Apparent steel consumption= domestic production + import volume - export volume

(Source) Wind

1. Demand and supply (1)Demand ②infrastructure construction (current situation and short-term outlook)

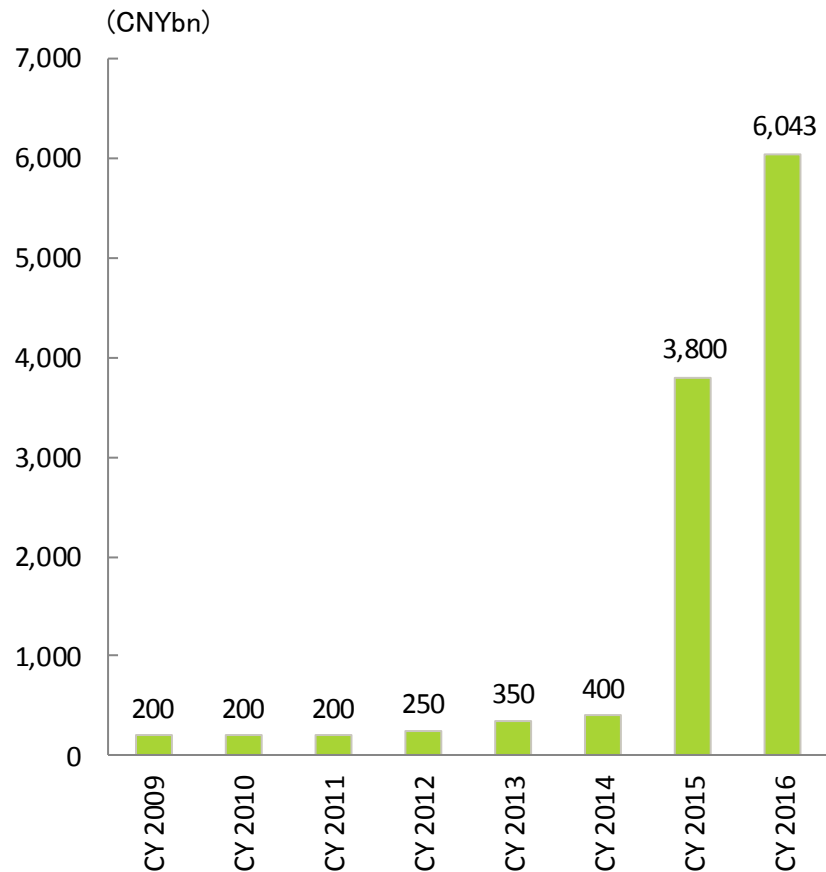
The bottleneck for carrying out infrastructure investments is caused by the financial problems of local governments. The infrastructure investments in 2016 maintained high growth rate supported by the financing from local government debt. Looking ahead, it is expected to show steady growth as the government is accelerating PPP projects using funds from corporate sector.

Growth of infrastructure investments



(Note) The sum of Transport & Logistics, Environment & Public facilities and Utilities
(Source) Wind

The amount of local-government debt

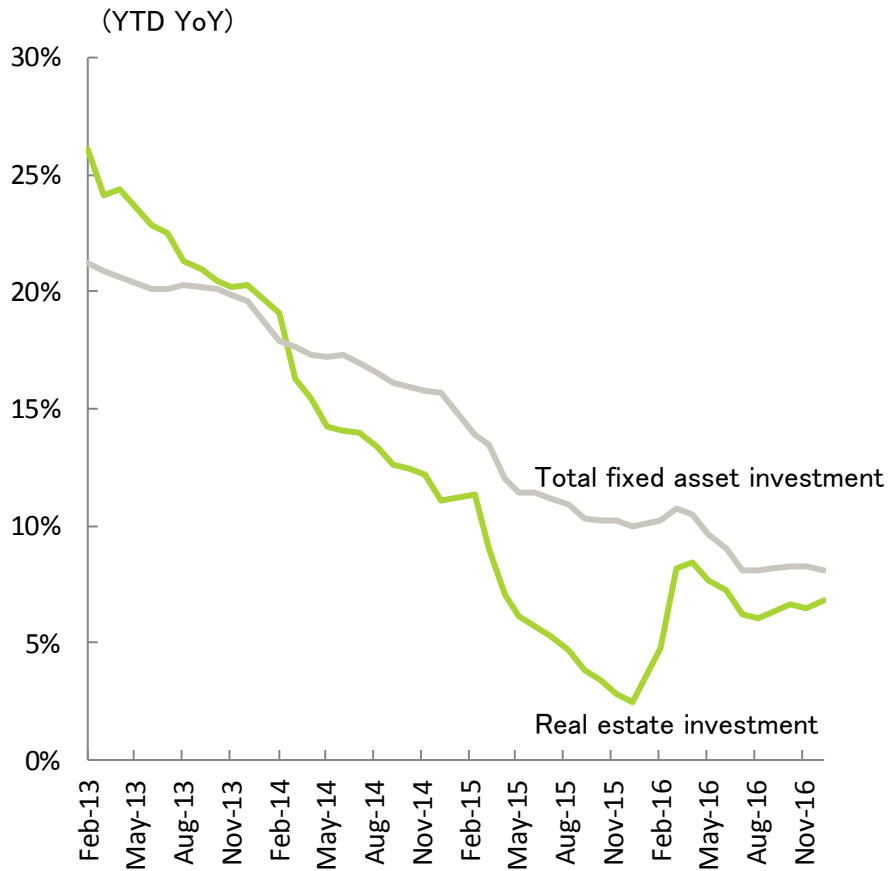


(Source) Wind

1. Demand and supply (1) Demand ③ real estate construction (current situation and short-term outlook)

Real estate construction recovered driven by robust demand in first/second-tier cities from the effect of various easing measures since late 2014. However, the growth rate is likely to slow down due to the tighter housing regulations in some cities with overheated housing market and continuous high inventories in third/lower-tier cities.

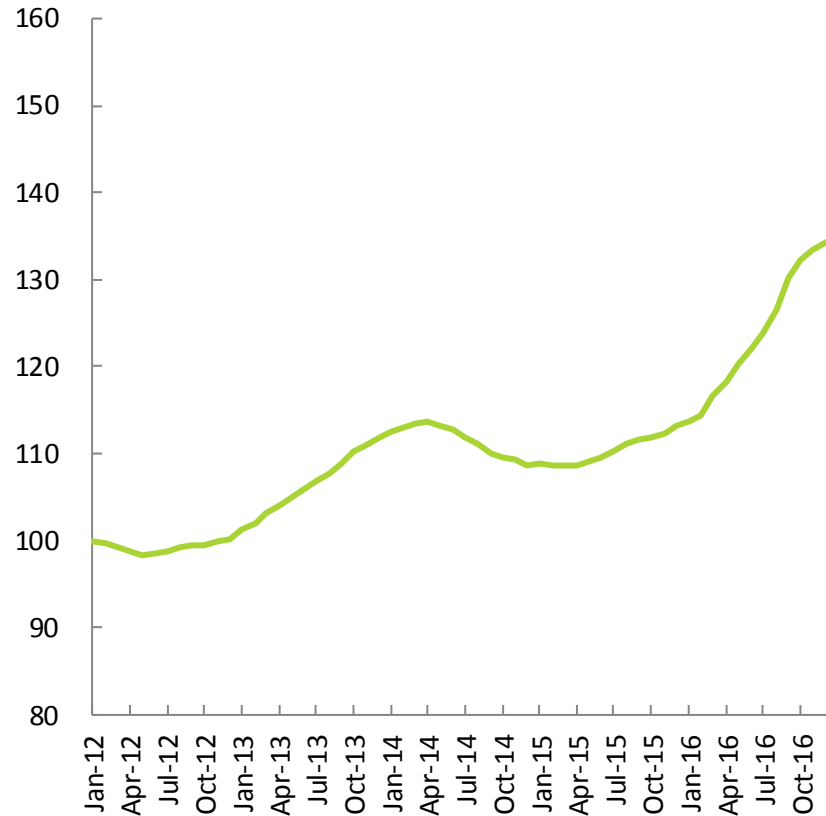
Growth of real estate investment



(Source) Wind

Price trends in housing market

Average selling prices in CREIS100 cities (January 2012=100)



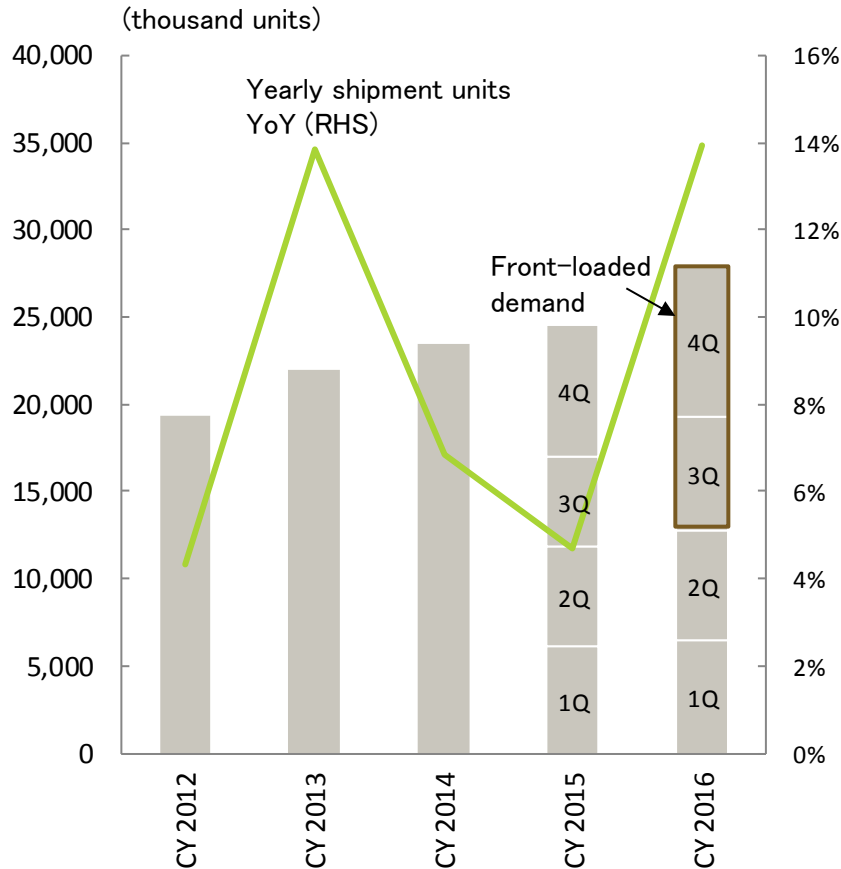
(Source) CREIS

1. Demand and supply (1) Demand ④ auto production (current situation and short-term outlook)

The auto market in 2016 benefited from government's purchase tax cut policy on small vehicles (Note) implemented from Oct. 2015 and the occurrence of front-loaded demand before the scheduled termination of tax cut policy before the year-end. The growth rate of auto production in 2017 is likely to slow down due to a reduction in the tax incentives.

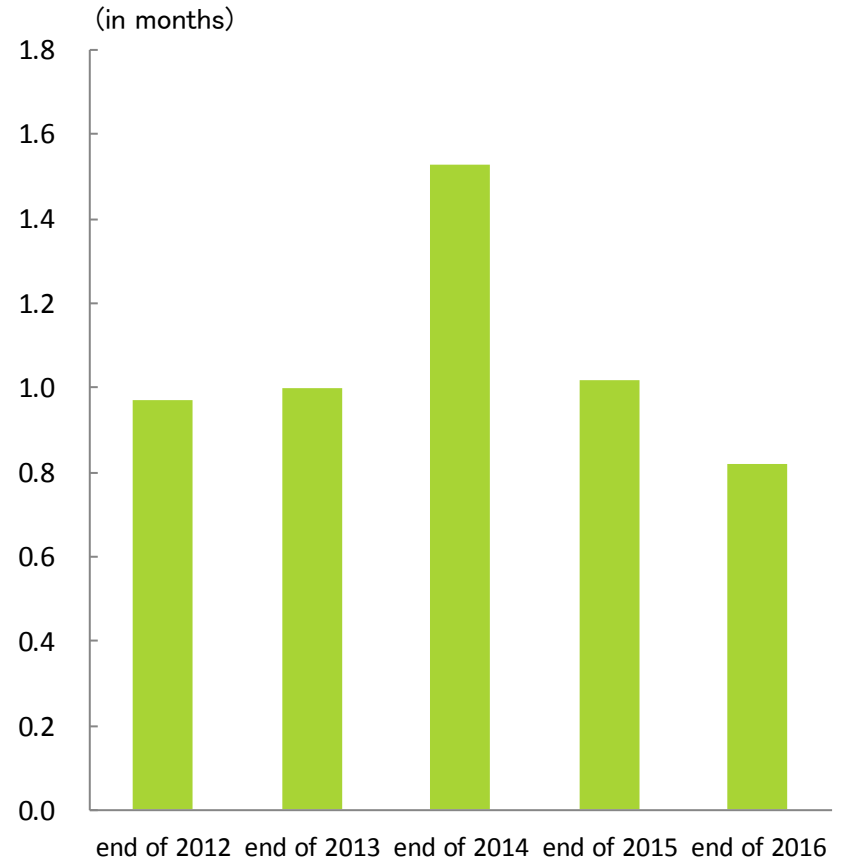
(Note)The purchase tax on vehicles with engine displacement of 1.6 liters and below was cut from 10% to 5% before the end of 2016. From January 2017, tax cut was reduced to 2.5% and will be terminated at the end of 2017.

Shipment volume



(Source) Wind

Passenger car inventory level



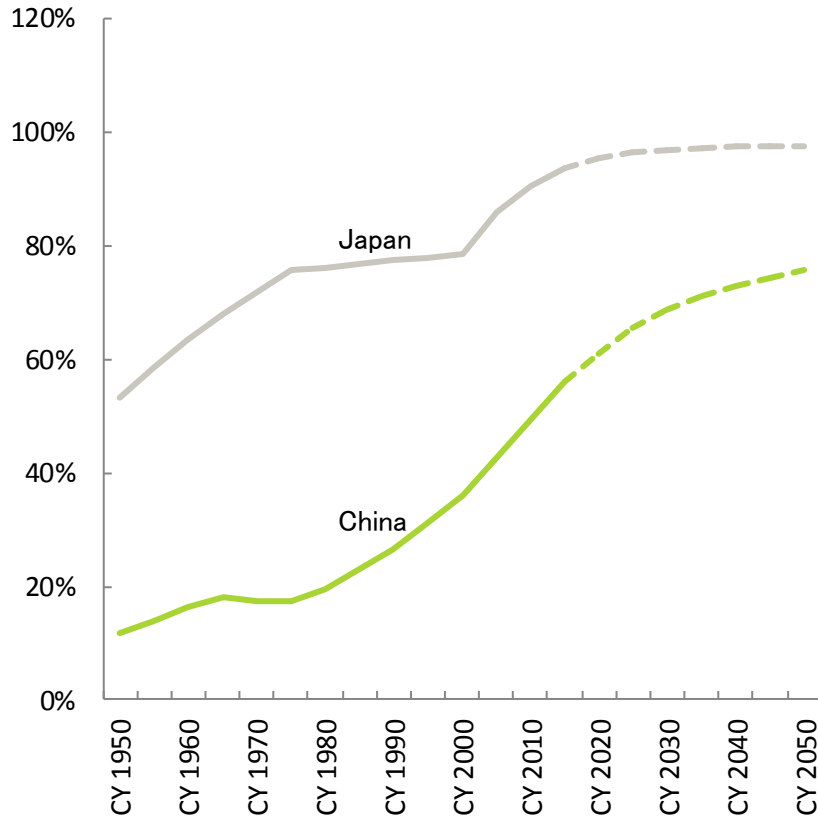
(Note) Inventory level=the year-end inventory units/sales volume in December

(Source) Wind

1. Demand and supply (1) Demand ⑤ mid- to long-term outlook

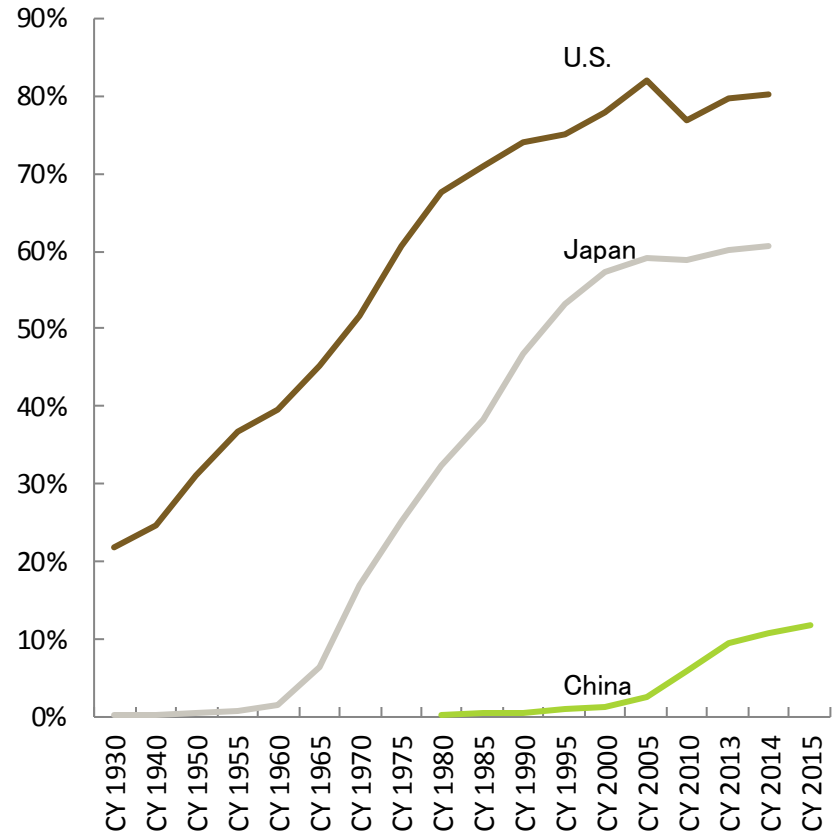
In a short term, steel demand is forecast to fall marginally due to weak performance in real estate construction and auto production. In mid- to long-term, however, the demand is expected to head toward a moderate increasing trend, driven by the expanding Chinese auto market, the world's largest auto market, and further development of urbanization.

Urbanization rate



(Source) Wind, United Nations

Car motorization rate

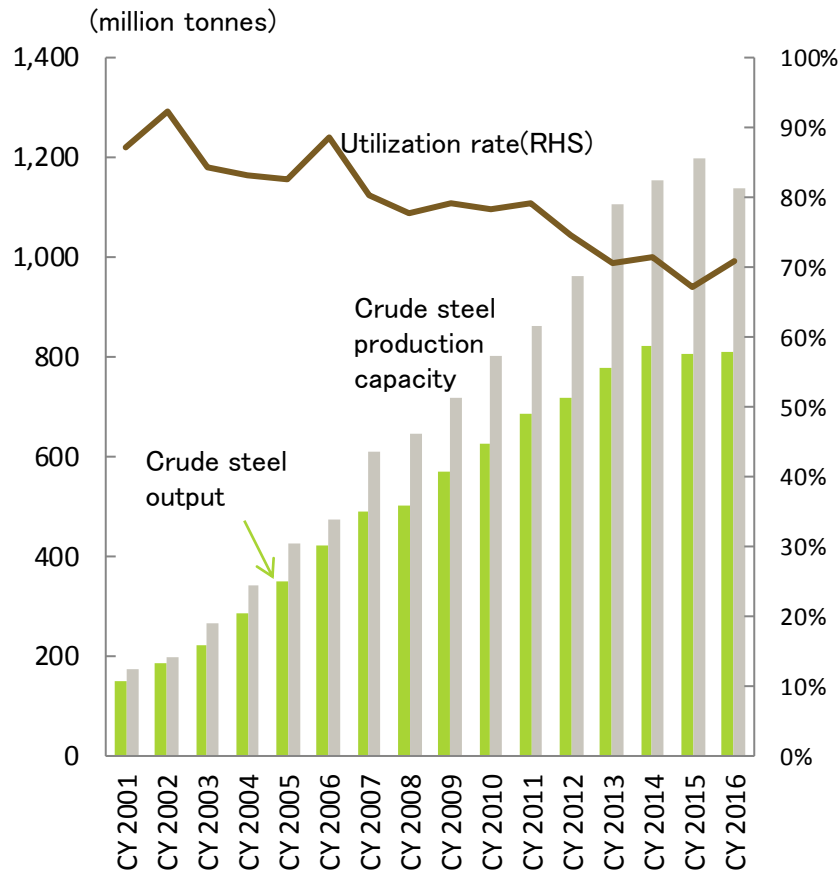


(Source) JAMA "The Motor Industry of Japan", Wind

1. Demand and supply (2)Supply

Steel output in 2016 increased only by 1.2% YoY as the government has strengthened environmental regulations and rules on quality standards as a part of the efforts to eliminate the overcapacity (Details refer to page 9) at the beginning of 2016. Apparent steel consumption, however, grew by 3.0% YoY. As a result, the output growth was lower than the demand growth, resulting in an improved demand–supply balance. In order to maintain the balance, steel output is likely to be controlled as the trend of demand.

Crude steel output, capacity and utilization rate



(Source) Wind, China steel Yearbook and data released by the government

Major environmental regulations

- Authorities have announced environmental regulations one after another.

	Announcement date	Announcing institution
Execution of Special Emission Limits on Air Pollutants	2013/2/27	Ministry of Environmental Protection
Action Plan for Air Pollution Prevention and Control	2013/9/12	State Council
Environmental Protection Law (revised version)	2014/4/24	8th session of the 12th NPC Standing Committee
Action plan to tackle water pollution	2015/4/2	State Council
Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution	2015/8/29	16th session of the 12th NPC Standing Committee
Guiding Opinions to play an active role of Environmental Protection in promoting supply-side structural reforms	2016/2/4	Ministry of Environmental Protection
Law of People's Republic of China Energy Conservation	2016/10/8	Ministry of Environmental Protection
13th Five-Year Plan on Ecological Environment Protection	2016/12/5	State Council

2. Trends in policy (1)Overcapacity elimination

Chinese government set the target of overcapacity elimination as supply-side reform at the beginning of 2016. Additional measures to eliminate overcapacity such as unemployment guarantee and reinforcing supervision of local government have been taken in rapid succession. Therefore, the yearly goal of reducing facilities is over-achieved and the government also released that the goal for 2017 was about 50 million tonnes, which indicates that the possibility of the progress in the government reform is faster than expected is becoming high.

Main policies about overcapacity elimination

Feb. 2016	<p>Extractions from <i>“Opinions of the State Council on Resolving Overcapacity in the Iron and Steel Industry to Gain Profits and Development”</i> released by State Council</p> <ul style="list-style-type: none">• To reduce crude steel capacity by 100~150 million tons within five years from 2016.• All local governments shall prohibit new steel projects construction• To cease production or close down facilities depending on the level of environmental pollution and product quality.• Each local government should report to the central government the proposals in details about how to reduce the capacity by each steel mill under its control.
Apr. 2016	<p>Extractions from <i>“Opinions of the Relization on Resolving Overcapacity in the Iron and Steel Industry to Gain Profits and Development”</i> released by PBOC,CBRC,CSRC,CIRC</p> <ul style="list-style-type: none">• To strictly restrict lending to new steel and coal plants.• To tighten or cease lending to those companies who are lack of capacity for repayment and competitiveness.
May. 2016	<p>Extractions from <i>“The Measures for the Administration of the Incentive Pay Only for Industrial Companies to Adjust Structure”</i> released by Ministry of Finance of the People’s Republic of China</p> <ul style="list-style-type: none">• To furnish one hundred billion Yuan funding to local governments and central enterprises.• To provide incentives to those early-achieved or over-achieved the reduction targets.
Aug. 2016	<p>Standing Committee of State Council</p> <ul style="list-style-type: none">• To instruct to audit the progress status in eliminating steel overcapacity and request to achieve the yearly target.
(Oct. 2016)	<p>(Reduced crude steel production capacity by about 50 million tonnes and achieved the goal ahead of the schedule in 2016)</p>
Nov. 2016	<p>Extractions from <i>“Iron and steel industry adjustment and upgrading plan (2016–2020)”</i> released by MIIT</p> <ul style="list-style-type: none">• To increase the utilization rate over 80% in 2020.
Mar 2017	<p>Extractions from <i>“Government work report”</i> released by State Council</p> <ul style="list-style-type: none">• To reduce crude steel production capacity by about 50 million tonnes in 2017.

2. Trends in policy (2) Corporation reorganization

Similar to overcapacity elimination, Chinese government also set the target of “super large enterprises” establishment via corporation reorganization as supply-side reform and announced its policy to increase the total market share of top 10 companies by 1.75 times to 60%. Actually the merger of Baosteel Group Corporation and Wuhan Iron & Steel (Group) Corporation which are directly controlled by central government was made.

Policies about corporation reorganization

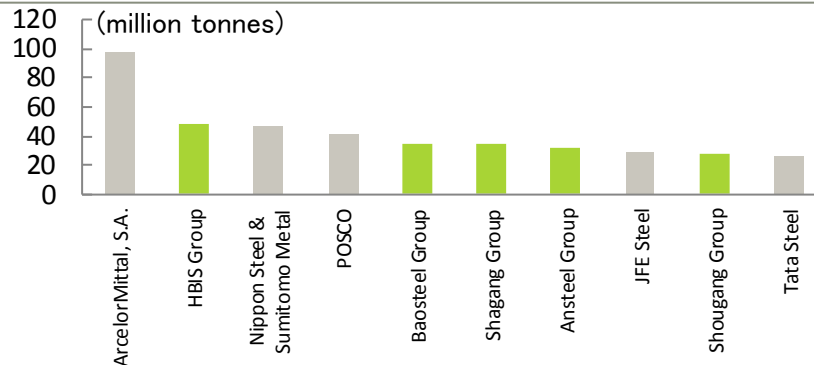
Extractions from “*Iron and steel industry adjustment and upgrading plan (2016–2020)*” released by MIIT

- Released in Nov. 2016
 - To **increase** the total market share of top 10 companies **to 60%** in 2020
- (For reference) China’s domestic market share in 2015

Rank	Corporate name	Attributes of capital	Market share
1	HBIS Group	Local government-owned	5.9%
2	Baosteel Group	Central government-owned	4.3%
3	Shagang Group	Private-owned	4.3%
4	Ansteel Group	Central government-owned	3.9%
5	Shougang Group	Local government-owned	3.6%
6	Wuhan Iron & Steel (Group)	Central government-owned	3.2%
7	Shandong Iron & Steel Group	Local government-owned	2.7%
8	Magang (Group)	Local government-owned	2.3%
9	Bohai steel Group	Local government-owned	2.0%
10	Jianlong Group	Private-owned	1.9%
Total market share of top 10 companies in 2015			34.2% (increase to 60%)

(Source) Wind

The world ranking for crude steel output in 2015



(Source) Wind

(For reference) China’s domestic share by Chinese companies in 2015

	Government-owned	Private-owned	Government and private-owned
Baosteel + Wuhan Iron & Steel	7.6% (2 companies)	–	7.6% (2 companies)
Other top 10 companies	20.5% (6 companies)	6.1% (2 companies)	26.6% (8 companies)
Companies ranked 11~20th	7.9% (5 companies)	7.8% (5 companies)	15.6% (10 companies)
Companies ranked 21~30th	6.4% (6 companies)	4.4% (4 companies)	10.8% (10 companies)
Top 30 companies <Crude steel output>	42.3% (19 companies) <340mn tonnes>	18.3% (11 companies) <147mn tonnes>	60.6% (30 companies) <487mn tonnes>

(Source) Wind

2. Trends in policy (3) Raw material procurement

With the expansion of domestic auto market, Chinese steel mills are improving the quality of raw materials such as iron ore and coking coal with an aim to enhance steel product quality. The procurement volume of high-quality raw material is expected to show an increasing trend amid the further expansion of the world's largest auto market with production volume of more than 28 million units. Under the circumstances, the procurement volume from overseas is increasing as high-quality raw materials are unobtainable in China. Moreover, the market has observed Chinese companies are acquiring equity interests in those producing countries according to the government policy of securing high-quality mines.

Iron and steel industry adjustment and upgrading plan (2016–2020)

(Extractions from articles about “Enhancement of steel resource security”)

To establish a new composition of iron ore supply

- By utilizing both domestic and overseas resources

To form a market price mechanism reflecting supply and demand

To secure production base for mining resources in overseas

- By supporting companies or consortiums to construct or purchase overseas production base with good-quality mining resources at low cost through various means such as wholly-owned or joint venture

To promote the exploration of domestic mining resources and have a grip of its reserve amount

To strengthen the supply capacity of domestic iron ore resources companies

To weed out uncompetitive domestic iron ore resources companies

(Source) Information disclosed by MIIT

Movements for acquiring equity interests by Chinese companies

Released in	Buyer	Target country	Commodity	Target company
Apr. 2016	China Molybdenum	Congo	Copper-cobalt	(U.S.)Freeport-McMoRan
May 2016	China Molybdenum	Brazil	Niobium phosphate	(U.K.)Anglo American
Nov. 2016	Southwest Energy & Mineral	Kyrgyz	Gold	(AU)Manas Resources
Nov. 2016	Shandong Iron & Steel	Sierra Leone	Iron	(Africa)African Minerals
Jan. 2017	Yanzhou Coal Mining	Australia	Coal	(AU)Coal & Allied Industries
Feb. 2017	Shandong Tyan Home	Australia	Gold	(CN)Hanking Australia

(Source) Press released by each company

3. Expected impact and countermeasures

With the reform in progress, “Super large enterprises” established will have a bigger production scale and higher price competitiveness as compared to major companies in other countries. In addition, it is anticipated that they will make efforts to improve their technological capabilities and accelerate the procurement of high-quality raw materials.

Areas reinforced and improved through reform for Chinese companies and expected impact

Policy	Contents of policy	Areas reinforced and improved	Expected impact	Countermeasures taken by foreign major companies
Overcapacity elimination	<ul style="list-style-type: none"> To reduce production capacity by 150 million tonnes To improve the utilization rate to 80% 	<ul style="list-style-type: none"> Steel prices <ul style="list-style-type: none"> – competition subdued 	(For Chinese companies) <ul style="list-style-type: none"> Increase investment capability 	–
Corporation reorganization	<ul style="list-style-type: none"> To increase the total market share of top 10 companies to 60% To reduce costs such as labor cost, logistics and administrative costs through integration To improve transaction terms in raw material procurement 	<ul style="list-style-type: none"> Financial strength <ul style="list-style-type: none"> –the anticipated merger through share exchange according to the government policy of lowering leverage Price competitiveness <ul style="list-style-type: none"> – (Per company) increase the production scale and cut manufacturing cost (fixed costs) through integration of indirect sectors, etc – Reduction in financial expenses such as imported L/C issuance cost with improved financial strength 	(For Chinese companies) <ul style="list-style-type: none"> Strengthen international competitiveness Accelerate business expansion in emerging countries Improvement of technology <ul style="list-style-type: none"> – Accelerate R&D and overseas acquisitions with improved investment capability 	<ul style="list-style-type: none"> Additional study on the cooperation with Chinese companies such as downstream process, etc Expansion in sales network and collaboration with local steel makers in emerging countries Expansion in scale by M&A, etc
Securing high-quality raw material	<ul style="list-style-type: none"> To increase the procurement of high-quality raw materials from overseas by acquiring interests 	<ul style="list-style-type: none"> Quality of products <ul style="list-style-type: none"> – secure stable procurement system for high-quality raw materials 	<ul style="list-style-type: none"> The competition for high-quality raw materials procurement becomes intensified 	<ul style="list-style-type: none"> Strengthen the procurement route of raw materials including acquiring equity interests Improve financing system

Appendix(1)Demand and supply of steel products

Demand and supply of steel products

In 2015

Demand	Quantity (thousand tonnes)	YoY	Supply	Quantity (thousand tonnes)	YoY
Apparent steel consumption (Note1)	1,023,883	-1.3%	Production(Note2) (Crude steel output)	1,123,496 (803,830)	+0.6% (-2.3%)
Export volume	112,396	+19.9%	Import volume	12,782	-11.4%

Steel mills' inventory	12,424	-6.2%
Steel traders' inventory	8,620	-10.5%

In 2016

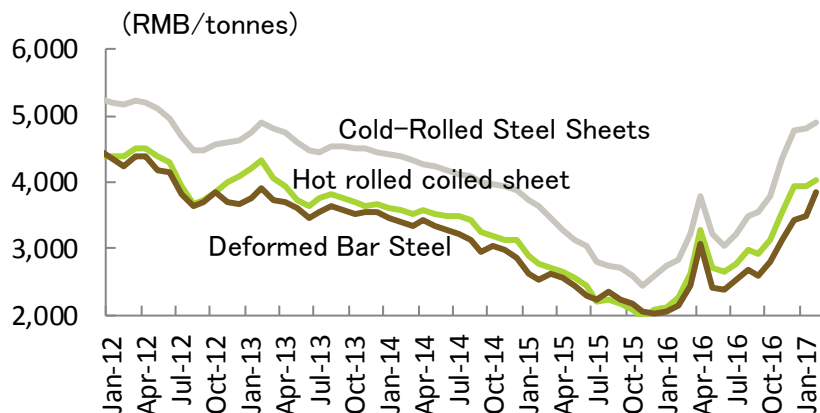
Demand	Quantity (thousand tonnes)	YoY	Supply	Quantity (thousand tonnes)	YoY
Apparent steel consumption (Note1)	1,042,732	+3.0%	Production(Note2) (Crude steel output)	1,138,012 (808,366)	+2.3% (+1.2%)
Export volume	108,490	-3.5%	Import volume	13,210	+3.4%

Steel mills' inventory	12,308	-0.9%
Steel traders' inventory	9,470	+9.8%

(Note1) Apparent steel consumption= domestic production + import volume - export volume
 (Note2) As the revised data of production and crude steel output have not been released, we use the published preliminary figure
 (Source) Wind

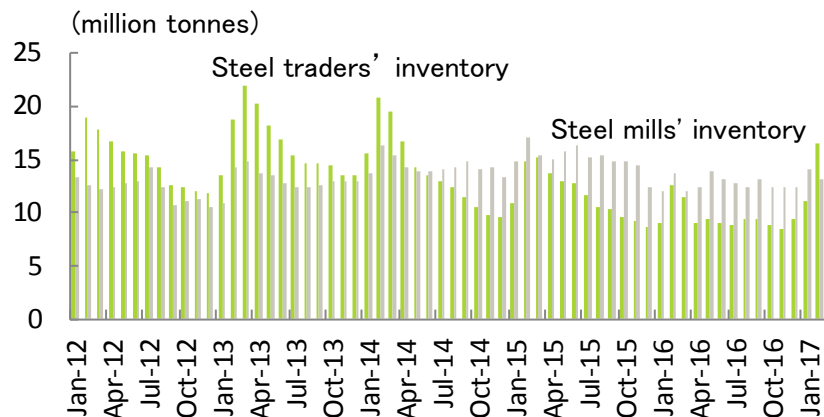
Appendix(2)Steel prices, inventory and export & import volume

Steel prices



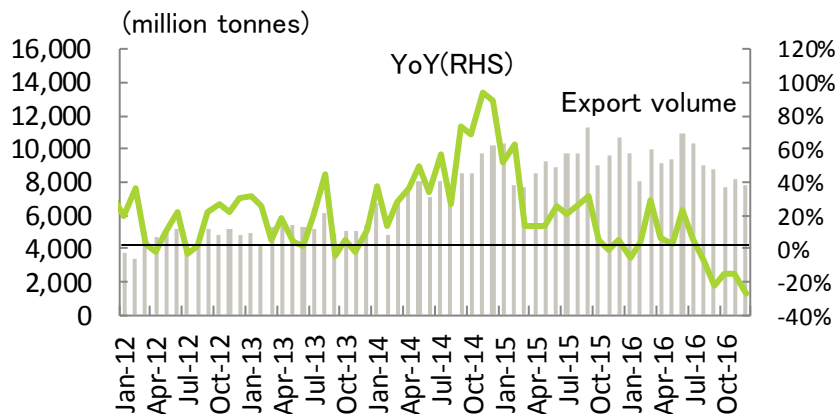
(Source) CISA

Inventory of steel traders and steel mills



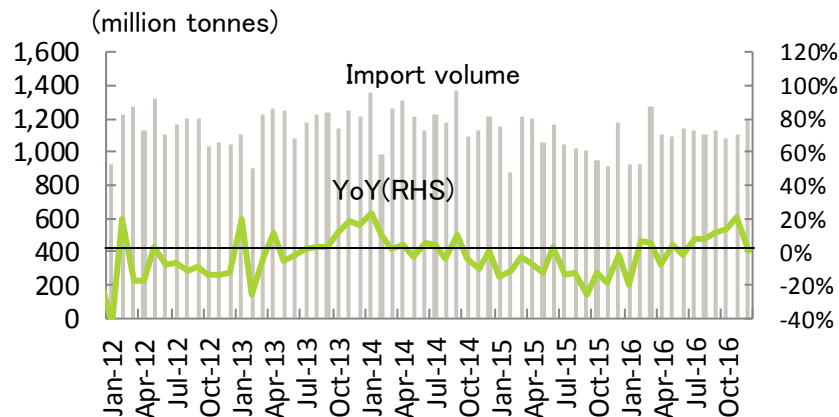
(Source) Wind

Export volume of steel products



(Source) Wind

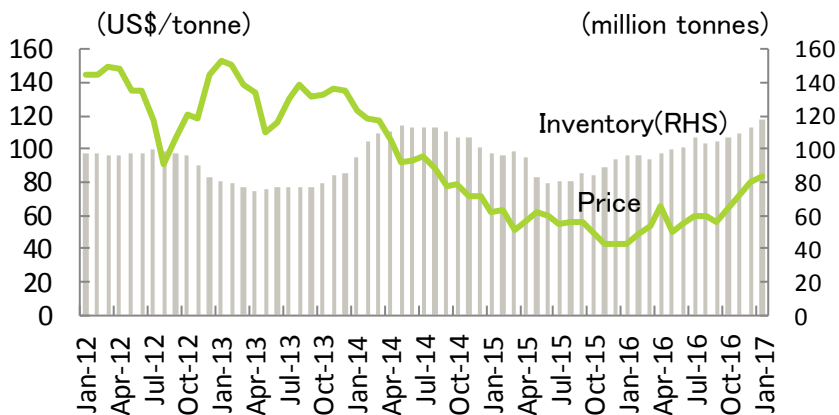
Import volume of steel products



(Source) Wind

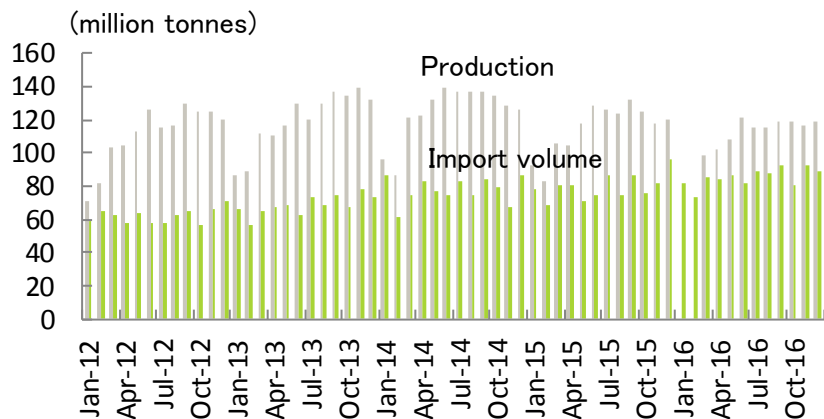
Appendix(3) Raw materials prices, inventory and procurement

Iron ore price and inventory at ports



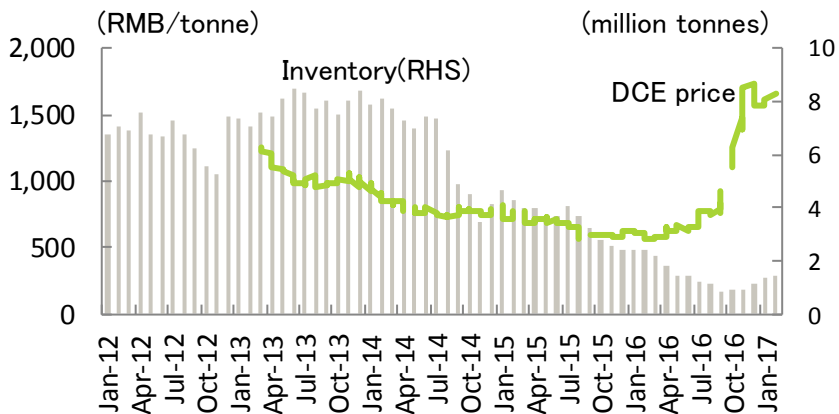
(Source) Wind

Iron ore domestic production and import volume



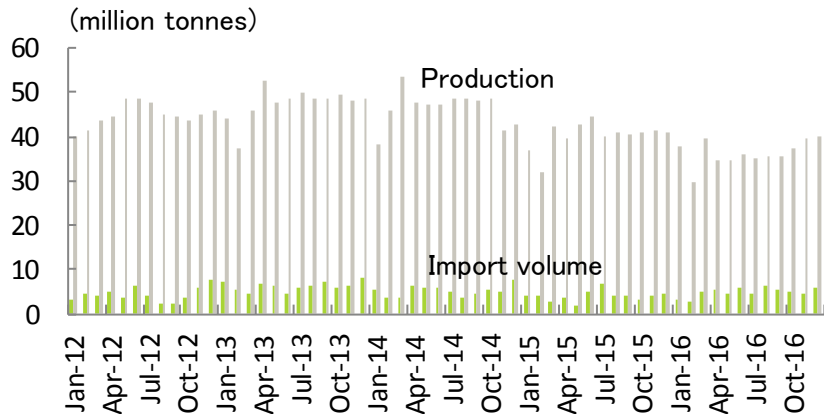
(Note) The iron ore production data in Jan. and Feb. 2016 hasn't been disclosed
(Source) Wind

Coking coal price and inventory at ports



(Note) Inventory data covers only major ports (Jingtang, Rizhao, Lianyungang and Tianjin) and some data are unavailable
(Source) Wind

Coking coal domestic production and import volume



(Source) Wind

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