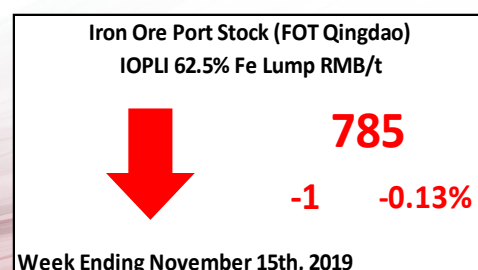
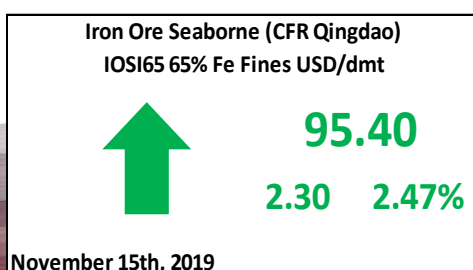
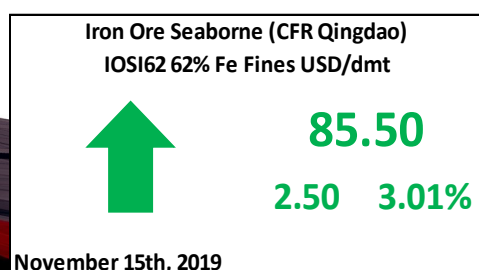
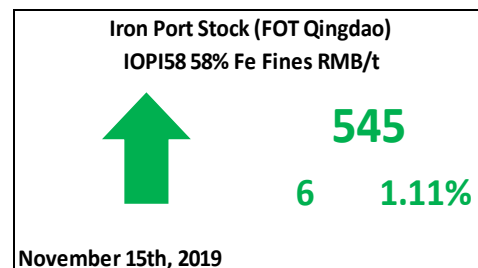
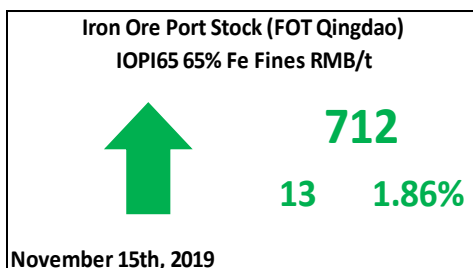
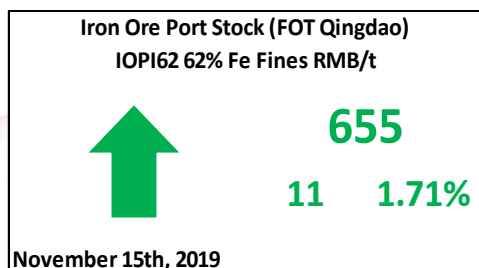


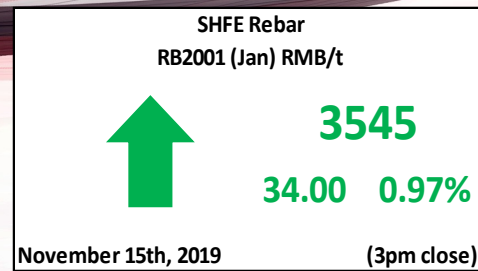
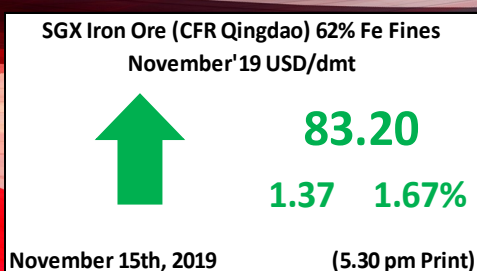
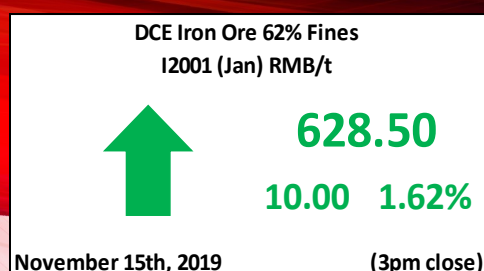


MMi Dashboard

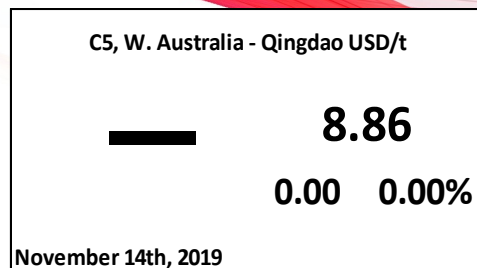
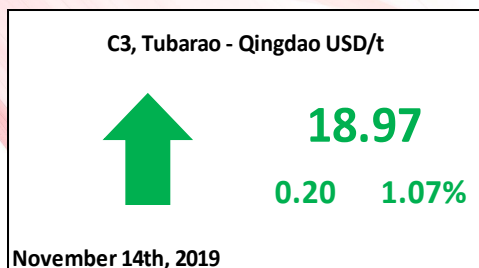
Iron Ore Price Indices



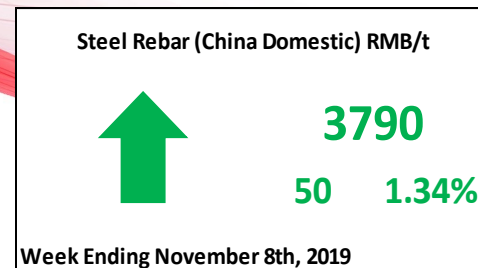
Exchange Traded Contracts



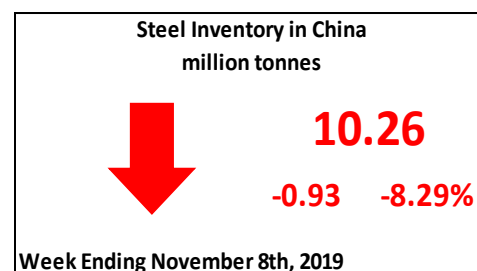
Freight Rates



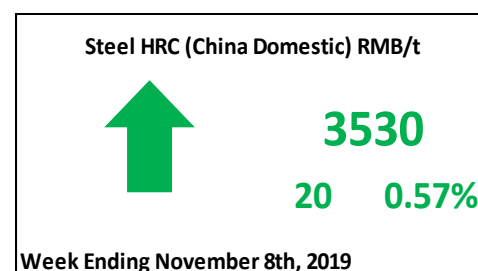
Steel Price



Inventory Levels



Steel Price



IRON ORE PORT STOCK INDEX (IOPI)

November 15th, 2019		FOT Qingdao (inc. 13% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 13% VAT), USD/dry tonne ¹						
Index	Fe Content	Price	Change	Change %	MTD	YTD	Low ²	High ²	Price	Change	Change %	MTD	YTD	Low ²	High ²
IOPI62	62% Fe Fines	655	11	1.7%	660	724	535	928	86.05	1.50	1.8%	86.74	96.60	68.50	126.12
IOPI58	58% Fe Fines	545	6	1.1%	656	635	375	823	71.73	0.82	1.2%	74.52	84.99	46.88	112.44
IOPI65	65% Fe Fines	712	13	1.9%	710	790	654	992	93.87	1.77	1.9%	93.51	105.81	85.47	135.34

IRON ORE SEABORNE INDEX (IOSI)

MARKET COMMENTARY

November 15th, 2019		CFR Qingdao, USD/dry tonne							SMM statistics showed that iron ore stocks across 35 Chinese ports declined 2.05 million mt from a week ago to 114.4 million mt as of November 15, and were also 16.86 million mt lower than a year ago. Arrivals decreased for two consecutive weeks, which slightly eased supply pressure. Daily average deliveries from the 35 ports rose 126,000 mt on a weekly basis and 237,000 mt on a yearly basis to 2.87 million mt this week. Some steel mills stockpiled after DCE iron ore prices rebounded in the second half of the week. However, environmental restrictions are likely to prevent deliveries from ports from increasing this week. Hebei province's Handan and Henan province issued heavy pollution alerts ahead of last weekend.							
Index	Fe Content	Price	Change	Change %	MTD	YTD	Low ²	High ²								
IOSI62	62% Fe Fines	85.50	2.50	3.01%	83.49	94.38	62.95	127.50								
IOSI65	65% Fe Fines	95.40	2.30	2.47%	93.26	105.77	83.20	137.95								

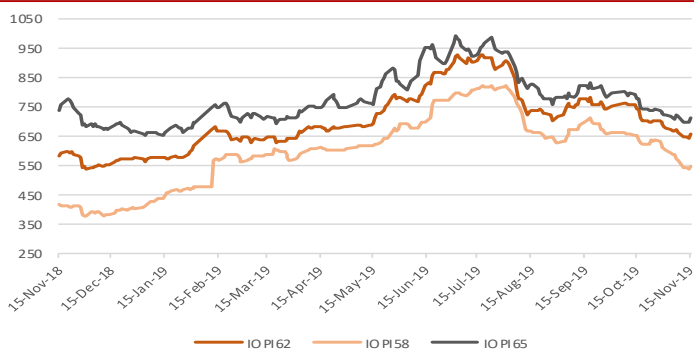
IRON ORE PORT LUMP INDEX (IOPLI)

Week Ending November 15th, 2019		FOT Qingdao (inc. 16% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 16% VAT), USD/dry tonne ³						
Index	Fe Content	Price	W-o-W	Change %	MTD	YTD	Low ²	High ²	Price	W-o-W	Change %	MTD	YTD	Low ²	High ²
IOPLI62	62.5% Fe Lump	785	-1	-0.1%	790	879	743	1051	97.08	0.06	0.06%	97.35	111.18	93.24	133.81

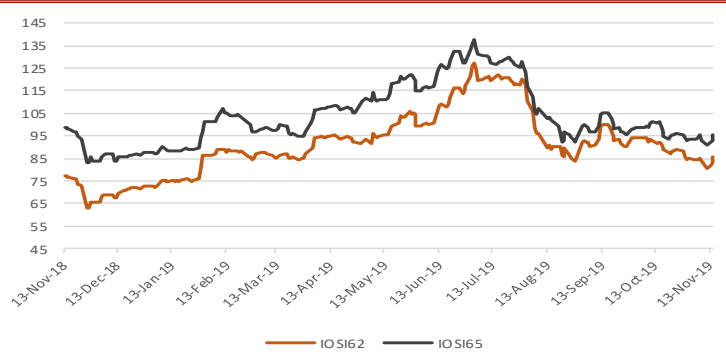
IRON ORE DOMESTIC CONCENTRATE SPOT PRICE ASSESSMENTS AND COMPOSITE INDEX

Week Ending November 8th, 2019				RMB/tonne (excluding tax) ³				USD/tonne (excluding tax) ³			
Province	Region	Product	Basis	This week	Change %	Low ²	High ²	This week	Change %	Low ²	High ²
Hebei	Hanxing	66% Fe Concentrate	Dry	806	0.0%	644	1032	114.88	0.61%	93.58	150.03
Hebei	Qian'an	65% Fe Concentrate	Dry	855	-2.8%	690	960	121.86	-2.25%	100.26	139.35
Liaoning	Anshan	65% Fe Concentrate	Wet	650	0.0%	535	745	92.65	0.61%	77.39	104.66
Shandong	Zibo	65% Fe Concentrate	Dry	835	-2.3%	740	1040	119.01	-1.75%	106.55	151.33
Week Ending November 8th, 2019				This week	Change %	Low ²	High ²	¹ Exchange rate applied: RMB/USD = 7.0091 ² Last 12 months ³ Weekly exchange rate applied: RMB/USD 7.0024			
China Mines Concentrate Composite Index RMB/WT				732.71	-1.3%	609.04	859.50				

IRON ORE PORT INDEX, FOT QINGDAO (RMB/WT)



IRON ORE SEABORNE INDEX, CFR QINGDAO (USD/DMT)



IRON ORE PORT STOCK INDEX MONTHLY, QUARTERLY AND YEAR-TO-DATE AVERAGES

November 15th, 2019		FOT Qingdao (inc. 13% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 13% VAT), USD/dry tonne						
Index	Fe Content	July	August	September	October	MTD	QTD	YTD	July	August	September	October	MTD	QTD	YTD
IOPI62	62% Fe Fines	909	759	758	721	660	698	724	111.42	123.29	100.18	94.29	86.74	91.43	96.60
IOPI58	58% Fe Fines	809	691	674	636	656	609	635	98.60	110.47	91.86	83.57	74.52	80.13	84.99
IOPI65	65% Fe Fines	954	823	803	758	710	740	790	121.97	129.53	108.92	99.32	93.51	97.11	105.81

IRON ORE SEABORNE INDEX MONTHLY, QUARTERLY AND YEAR-TO-DATE AVERAGES

FREIGHT RATES

November 15th, 2019		CFR Qingdao, USD/dry tonne							November 14th, 2019							
Index	Fe Content	July	August	September	October	MTD	QTD	YTD	Route		Designation	Change	Change %	Low ²	High ²	
IOSI62	62% Fe Fines	120.82	92.61	93.76	90.81	83.49	88.37	94.38	W. Australia - Qingdao		C5	8.86	0.00	0.00%	4.39	11.42
IOSI65	65% Fe Fines	129.53	101.34	99.42	97.45	93.26	96.06	105.77	Tubarao - Qingdao		C3	18.97	0.20	1.07%	11.61	29.10

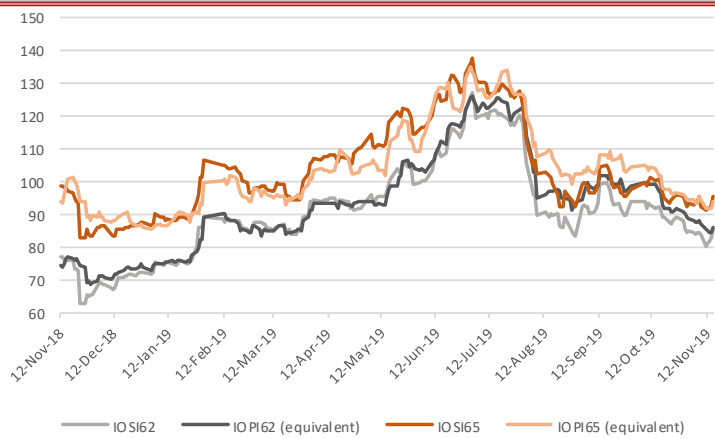
IRON ORE PORT LUMP INDEX MONTHLY, QUARTERLY AND YEAR-TO-DATE AVERAGES

Week Ending November 15th, 2019		FOT Qingdao (inc. 16% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 16% VAT), USD/dry tonne ¹						
Index	Fe Content	July	August	September	October	MTD	QTD	YTD	May	June	July	October	MTD	QTD	YTD
IOPLI62	62.5% Fe Lump	1046	870	803	829	790	814	879	128.00	132.99	108.80	98.44	97.35	100.04	111.18

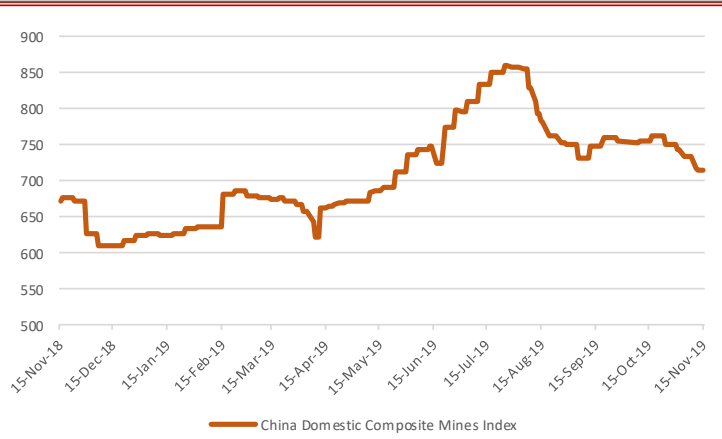
IRON ORE INDEX PREMIUMS/DISCOUNTS

November 15th, 2019				PORT STOCK INDEX (RMB/WT)				November 15th, 2019				SEABORNE INDEX (USD/DMT)			
Index	Fe Content	Spread to IOPI62		% Spread to IOPI62		Index	Fe Content	Spread to IOSI62		% Spread to IOSI62					
IOPI58	58% Fe Fines	-110		-16.79%		IOSI65	65% Fe Fines	9.90		11.58%					
IOPI65	65% Fe Fines	57		8.70%											

IRON ORE INDEX COMPARISONS (USD/DMT)



CHINA DOMESTIC COMPOSITE MINES INDEX (RMB/Wet Tonne, including VAT)



IRON ORE BRAND SPOT PRICE ASSESSMENTS

November 15th, 2019				November 15th, 2019			
PORT STOCK INDEX (RMB/WT)				SEABORNE INDEX (USD/DMT)			
	Price	Change	Diff to IOPI62		Price	Change	Diff to IO SI62
Roy Hill	608	14	-47	Roy Hill	83.99	2.84	-1.51
SIMEC Fines	557	18	-98	SIMEC Fines	82.06	3.01	-3.44
PB Fines	632	10	-23	PB Fines	83.69	1.59	-1.81
Newman Fines	659	9	4	Newman Fines	85.42	2.31	-0.08
MAC Fines	617	15	-38	MAC Fines	82.31	2.36	-3.19
Jimblebar Blended Fines	554	12	-101	Jimblebar Blended Fines	76.94	3.37	-8.56
Carajas Fines	717	15	62	Carajas Fines	95.52	3.01	10.02
Brazilian SSF	599	11	-56	Brazilian SSF	84.87	2.81	-0.63
Brazilian Blend Fines	654	8	-1	Brazilian Blend Fines	85.87	2.56	0.37
RTX Fines	582	13	-73	RTX Fines	79.69	2.84	-5.81
West Pilbara Fines	599	17	-56	West Pilbara Fines	84.09	2.99	-1.41

November 15th, 2019			
PORT STOCK INDEX (RMB/WT)			
	Price	Change	Diff to IOPI58
SSF	523	2	-22
FMG Blended Fines	553	5	8
Robe River	519	2	-26
Western Fines	534	4	-11
Atlas Fines	517	4	-28
Yandi	541	5	-4

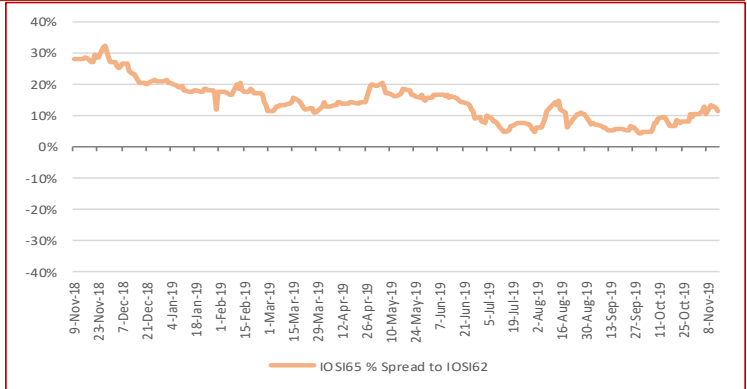
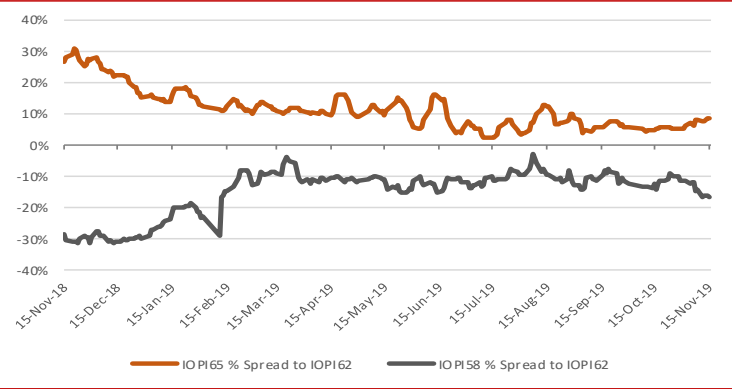
IRON ORE INDEX NORMALISATION DIFFERENTIALS

Port Stock Index Product Differentials (RMB/wet tonne)				Seaborne Index Product Differentials (USD/dry tonne)			
	Applicable range	Value	Change		Applicable range	Value	Change
1% Fe	High Grade Fe 60 - 63%	14.00	-3.00	1% Fe	High Grade Fe 60 - 63%	0.25	-0.25
	High Grade Fe 63 - 64%	8.00	3.00		High Grade Fe 63 - 64%	1.75	0.00
	High Grade Fe 64 - 65%	8.00	3.00		High Grade Fe 64 - 65%	1.75	0.00
	High Grade Fe 65 - 65.5%	8.00	3.00		High Grade Fe 65 - 65.5%	1.75	0.00
	Low Grade Fe	12.00	1.00				
1% Alumina	High Fe Grade Al <2.25%	15.00	0.00	1% Alumina	High Fe Grade Al <2.25%	2.00	0.25
	High Fe Grade Al 2.25-4%	36.00	0.00		High Fe Grade Al 2.25-4%	1.25	-0.25
	Low Fe Grade Al <2.25%	19.00	0.00				
	Low Fe Grade Al 2.25-4%	4.00	3.00				
1% Silica	High Fe Grade Si <4%	6.00	0.00	1% Silica	High Fe Grade Si <4%	2.00	0.25
	High Fe Grade Si 4-6.5%	35.00	0.00		High Fe Grade Si 4 - 6.5%	1.25	0.00
0.01% Phosphorus	High Fe Grade 0.09%<P<0.115%	4.00	2.00	0.01% Phosphorus	High Fe Grade 0.09%<P<0.115%	0.75	0.25
	High Fe Grade 0.115%<P<0.15%	2.00	-2.00		High Fe Grade 0.115%<P<0.15%	1.00	-0.25
	Low Fe Grade 0.09<P<0.1%	2.00	0.00				

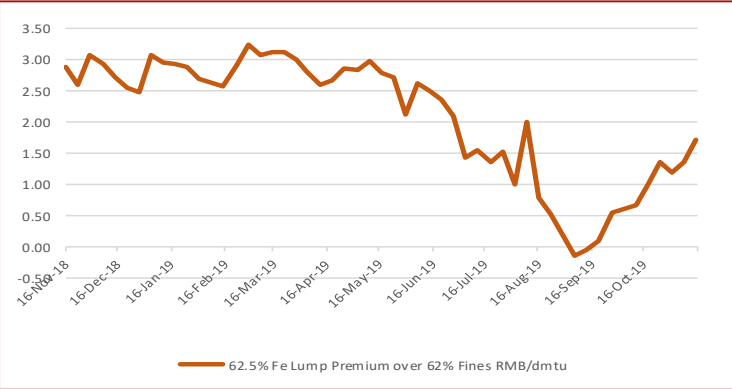
Port Stock Price Differentials to Qingdao Port for PB Fines (RMB/wet tonne)

Port	Value	Change	Port	Value	Change	Port	Value	Change	Port	Value	Change
Bayuquan	-55.00	0.00	Fangcheng	-5.00	0.00	Lanshan	0.00	0.00	Qingdao	0.00	0.00
Beilun	5.00	0.00	Jiangyin	-30.00	0.00	Lianyungang	0.00	0.00	Rizhao	0.00	0.00
Caofeidian	0.00	0.00	Jingtang	0.00	0.00	Majishan	0.00	0.00	Shekou	0.00	0.00
Dalian	-55.00	0.00	Lanqiao	0.00	0.00	Nantong	-30.00	0.00	Tianjin	-5.00	0.00

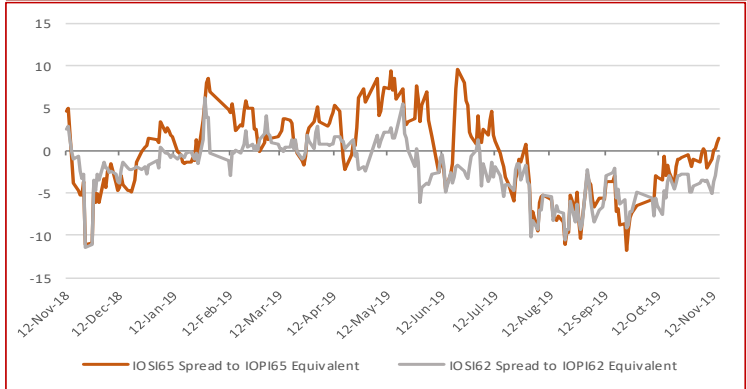
IRON ORE INDEX PREMIUMS/DISCOUNTS



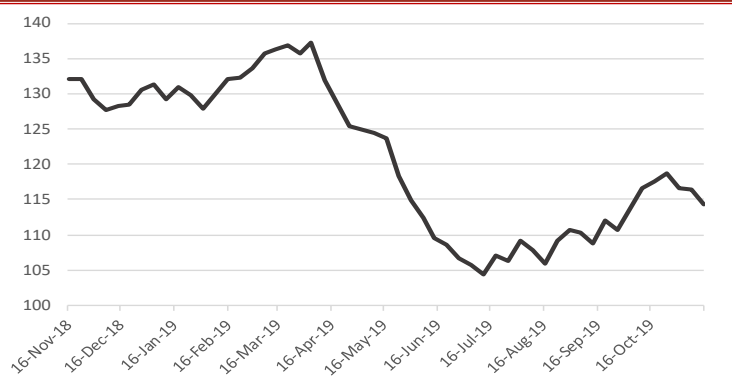
WEEKLY IRON ORE PORT STOCK LUMP PREMIUM (RMB/DMTU)



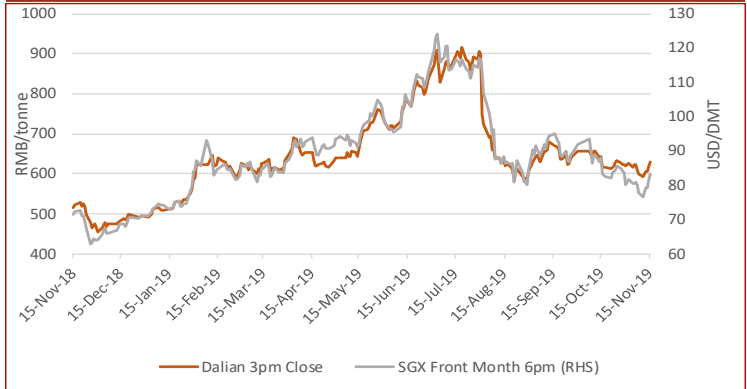
IRON ORE SEABORNE TO PORT STOCK PRICE SPREADS (USD/DMT)



TOTAL IRON ORE INVENTORIES AT CHINA PORTS (MILLION TONNES)



FUTURE TRADING—FRONT MONTH CLOSING PRICE



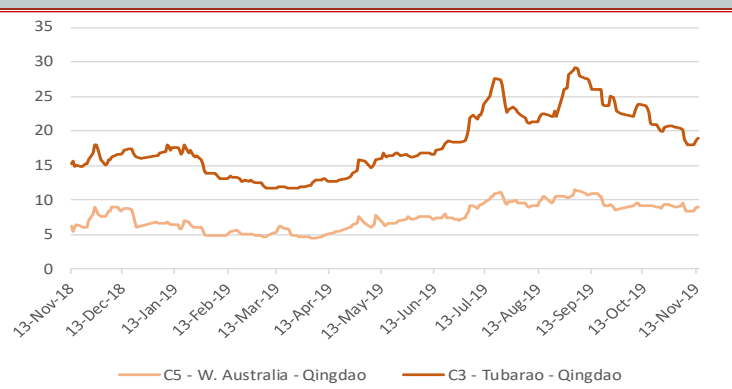
IRON ORE PORT INVENTORIES (MILLION TONNES)

Week Ending November 15th, 2019				
Province	This week	Change %	Low ²	High ²
Jingtang	15.49	-1.65%	10.80	17.00
Qingdao	14.00	1.82%	12.38	19.01
Caofeidian	14.95	-6.15%	14.32	19.40
Tianjin	7.26	-4.22%	6.37	10.05
Rizhao	13.40	-1.33%	11.41	17.10
Total (35 Ports)	114.40	-1.76%	104.40	137.30

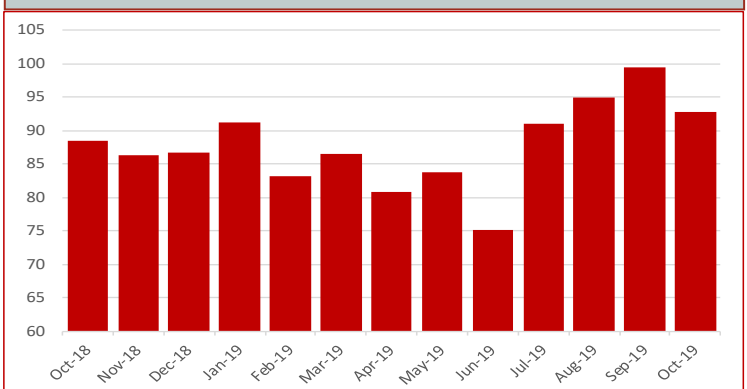
IRON ORE FUTURES CONTRACTS

Closing Date	DCE (RMB/WMT)			SGX (USD/DMT)		
	Nov 15th 3pm close			Nov 15th 5.30 pm		
Contract	I2001	Change	Change %	Dec'19	Change	Change %
Closing Price	628.50	10.0	1.62%	83.20	1.37	1.67%
Vol traded ('000 lots)	196.59	-11.3	-5.45%	11.84	-3.99	-25.22%
Open positions ('000 lots)	145.63	-5.5	-3.63%	159.93	0.66	0.42%
Day Low	620.5	19.0	3.16%	82.50	3.72	4.72%
Day High	633.0	14.5	2.34%	83.63	1.80	2.20%

DRY BULK FREIGHT RATES (USD/MT)

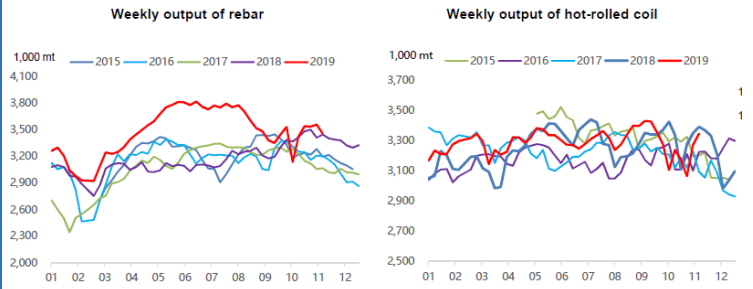


TOTAL CHINA IRON ORE IMPORT VOLUMES (MILLION TONNES)



STEEL SPOT MARKET PRICES—CHINA

Steel Spot Market RMB/tonne			
Product	8/11/2019	Change	Change %
ReBar HRB400 φ18mm	3,790.0	50	1.34%
Wirerod Q300 φ6.5mm	4,180.0	50	1.21%
HRC Q235/SS400 5.5mm*1500*C	3,530.0	20	0.57%
CRC SPPC/ST12 1.0mm*1250*2500	4,210.0	0	0.00%
Medium & Heavy Plate Q235B 20mm	3,680.0	0	0.00%
GI ST02Z 1.0mm*1000*C	4,350.0	0	0.00%
Colour Coated Plate	6,800.0	-100	-1.45%

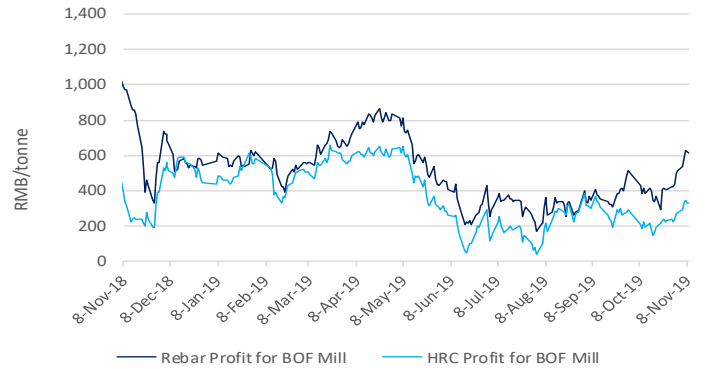


CHINESE STEEL MILL PROFITABILITY

SMM Tracking of Steel Mill P&L - Rebar and Hot-rolled Coil (RMB/tonne)			
Category	Price	Change (WoW)	Note
MMi (Fe 62%), USD/mt excluding tax	84.75	0.25	Mmi CFR Equivalent index for 1st Feb
Coke	1,810	-50	2nd grade met coke, Tangshan, incl. tax
Steel Scrap	2,340	60	steel scrap (6mm) in Zhangjiagang, excl. tax
Billet Cost	2,893	-31	Q234, incl. tax
Rebar cost - Blast furnace	3,119	-36	calculated based on theoretical weight, incl. tax
Rebar profit - Blast furnace	611	96	based on Shanghai prices, incl. tax
Hot-rolled coil cost - Blast furnace	3,209	-31	based on actual weight, incl. tax
Hot-rolled coil profit - Blast furnace	331	51	based on Shanghai prices, incl. tax

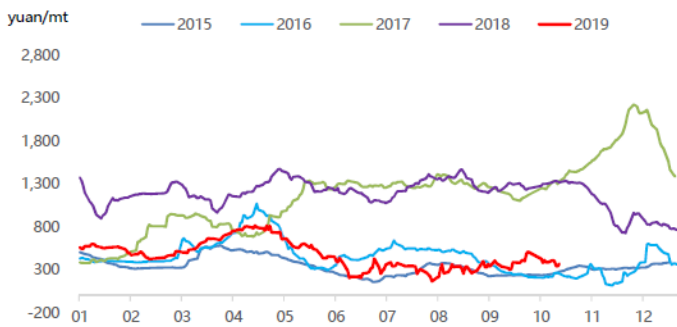
Note: 1. Costs in the table are calculated based on today's market prices and fact of our management, sales, financial and depreciations fees.
2. The cost refers to average cost in the industry based on SMM's survey of small, medium and large mills in China

CHINESE STEEL MILL PROFITABILITY

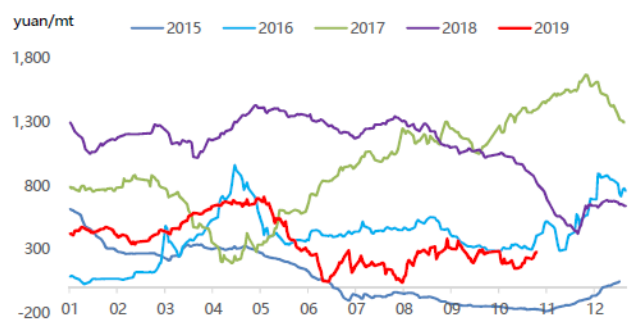


CHINESE STEEL MILL PROFITABILITY

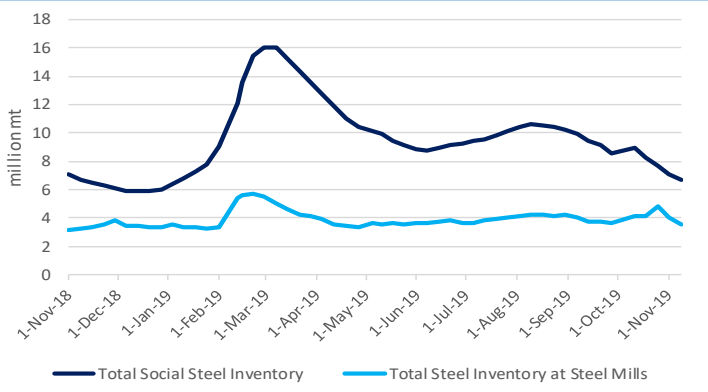
Rebar profits



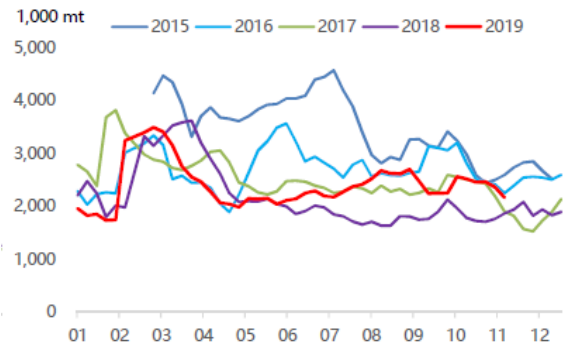
Hot-rolled coil profits



CHINESE STEEL INVENTORIES



In-plant inventory of rebar



IRON ORE INDEX SPECIFICATIONS, COMPILATION RATIONALE AND DATA EXCLUSIONS

Iron Ore Index Specifications (Port and Seaborne)					Iron Ore Index Compilation Rationale and Data Exclusions
	65% Fe Fines	62% Fe Fines	58% Fe Fines	62.5% Fe Lump	MMi iron ore indices are compiled from data provided by companies that are part of the iron ore supply chain and involved in spot market transactions. The indices are calculated using detailed transaction-level data submitted to MMi by these companies. This data is normalised to the appropriate specifications and screened to remove outliers before volume-weighted average prices are calculated from the remaining core set of data. For more details on MMi's iron ore methodology please download the guide published on our website at: www.mmiprices.com
Fe %	65.00	62.00	58.00	62.50	
Alumina %	1.40	2.25	2.25	1.50	
Silica%	1.50	4.00	5.50	3.50	
Phosphorus %	0.06	0.09	0.05	0.08	
Sulphur %	0.01	0.02	0.02	0.02	
Moisture %	8.00	8.00	9.00	4.00	
Sizing	Granular size below 10mm for at least 90% of cargo; maximum of 40% below 150 micron			Size below 6.3mm max 15% Size above 31.15mm max 25%	
Pricing Point	Qingdao Port (FOT and CFR respectively)			FOT Qingdao Port	
Timing (Seaborne)	Loading within 4 weeks, Delivery within 8 weeks			Delivery within 2 weeks	
Payment Terms	L/C at sight			L/C at sight or CAD	
Data Exclusions*					
	62%	58%	65%		
Port Index	0	0	0		
Seaborne Index	0		0		
Lump Index 62.5	0				
* Number of price submissions for iron ore indices that were excluded from index calculations today as they were anomalous and could not be verified					

IRON ORE DOMESTIC CONCENTRATE INDEX CALCULATION METHODOLOGY

The compilation method for price index generally refers to the compilation method of CPI price index and other price indices, breakdown the price data and calculate the average value according to a certain method, taking the vertical axis as the regional composite index (average of different grade index) and the horizontal axis as the grade composite index (average of different regional index), a total composite index for domestic ore can be output ultimately. The process system is also adopted in the calculation i.e. each sub-index can be obtained as well.

AVERAGE IRON ORE SPECIFICATIONS APPLIED FOR BRAND PRICE ASSESSMENTS

PORT STOCK BRANDS						SEABORNE BRANDS					
November 15th, 2019	Specifications applied for 62% brand assessments					Specifications applied for 62% brand assessments					
	Fe	Alumina	Silica	Phos	Moisture		Fe	Alumina	Silica	Phos	Moisture
Roy Hill	61.01%	2.25%	4.70%	0.054%	9.34%	Roy Hill	60.70%	2.30%	4.90%	0.055%	8.00%
SIMEC Fines	60.00%	2.30%	6.30%	0.060%	6.00%	SIMEC Fines	60.00%	2.30%	6.30%	0.060%	6.00%
PB Fines	61.57%	2.37%	3.70%	0.098%	9.57%	PB Fines 62%	62.00%	2.60%	4.30%	0.090%	10.00%
Newman Fines	62.49%	2.19%	4.12%	0.092%	7.76%	Newman Fines	62.80%	2.20%	4.30%	0.080%	6.40%
MAC Fines	60.83%	2.27%	4.65%	0.081%	7.73%	MAC Fines	61.00%	2.70%	4.70%	0.110%	9.30%
Jimblebar Blended Fines	60.50%	3.04%	4.62%	0.117%	7.82%	Jimblebar Blended Fines	59.50%	3.70%	5.80%	0.135%	8.30%
Carajas Fines	65.41%	1.29%	1.37%	0.080%	8.13%	Carajas Fines	65.10%	1.50%	1.70%	0.080%	8.50%
Brazilian SSF	62.00%	1.00%	6.50%	0.040%	6.00%	Brazilian SSF	62.00%	1.00%	6.50%	0.040%	6.00%
Brazilian Blend Fines	62.96%	1.47%	4.74%	0.071%	7.97%	Brazilian Blend Fines	62.50%	1.50%	5.00%	0.070%	7.00%
RTX Fines	61.00%	3.10%	4.50%	0.135%	7.50%	RTX Fines	61.00%	3.10%	4.50%	0.135%	7.50%
West Pilbara Fines	60.10%	2.30%	4.70%	0.075%	8.50%	West Pilbara Fines	60.10%	2.30%	4.70%	0.075%	8.50%
November 15th, 2019	Specifications applied for 58% brand assessments										
	Fe	Alumina	Silica	Phos	Moisture						
SSF	56.61%	3.05%	6.23%	0.051%	8.35%						
FMG Blended Fines	58.19%	2.68%	5.50%	0.058%	7.77%						
Robe River	56.28%	2.91%	5.58%	0.035%	9.29%						
Western Fines	57.88%	2.87%	7.50%	0.062%	7.45%						
Atlas Fines	56.59%	2.55%	7.14%	0.080%	8.46%						
Yandi	57.20%	1.57%	6.40%	0.041%	9.01%						

BLOOMBERG TICKERS

PORT STOCK INDICES				SEABORNE INDICES	
FOT Qingdao (RMB/wet tonne)		CFR Qingdao Equivalent (USD/dry tonne)		CFR Qingdao (USD/DMT)	
IOPI62	IRCNO001		IRCNO004	IOSI62	IRCNO034
IOPI58	IRCNO002		IRCNO005	IOSI65	IRCNO035
IOPI65	IRCNO003		IRCNO006		
IOPLI62	IRCNO036		IRCNO037		

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