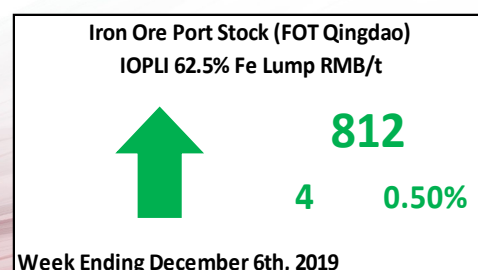
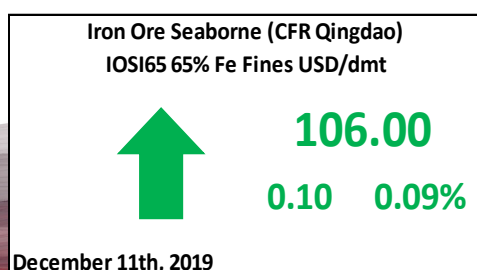
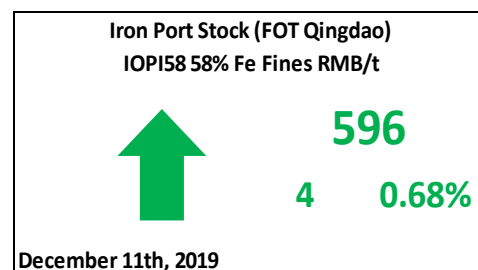
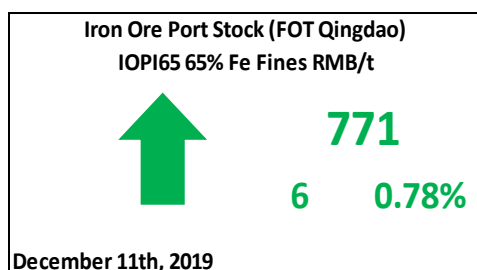
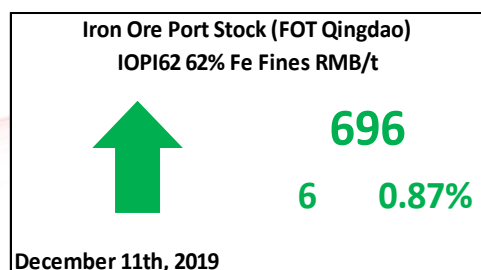


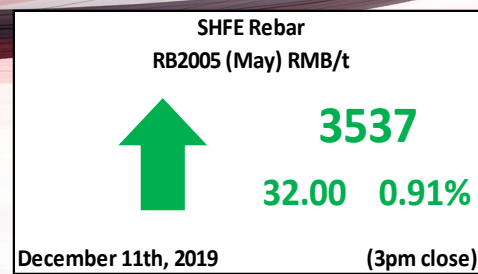
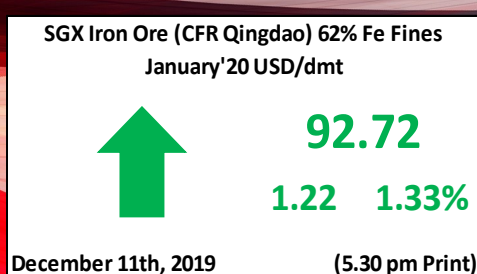
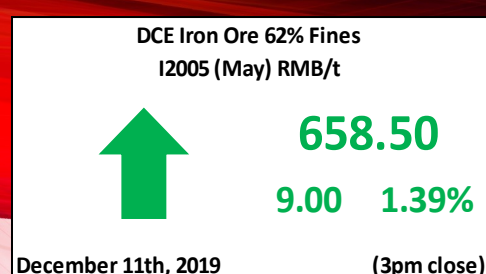


MMi Dashboard

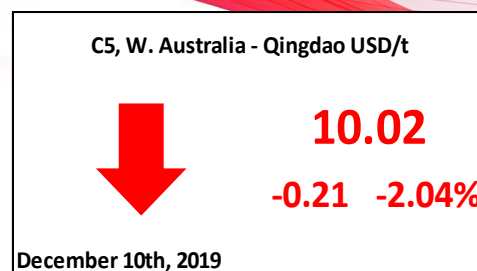
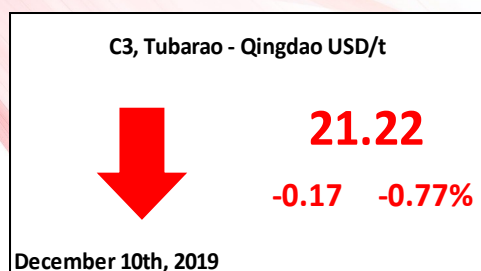
Iron Ore Price Indices



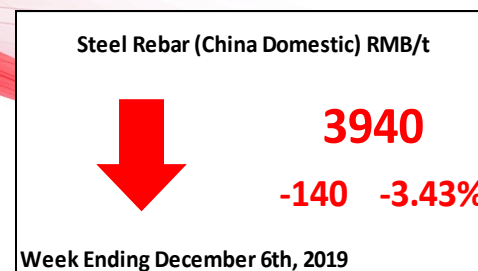
Exchange Traded Contracts



Freight Rates



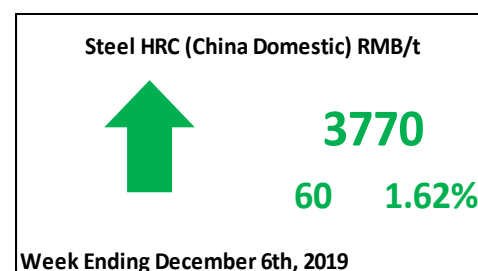
Steel Price



Inventory Levels



Steel Price



IRON ORE PORT STOCK INDEX (IOPI)

December 11th, 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	696	6	0.9%	681	720	551	928	91.29	0.84	0.9%	89.28	95.97	70.96	126.12
IOPI58	58% Fe Fines	596	4	0.7%	584	631	380	823	78.48	0.57	0.7%	76.82	84.27	47.89	112.44
IOPI65	65% Fe Fines	771	6	0.8%	755	786	654	992	101.54	0.84	0.8%	99.31	105.21	85.47	135.34

IRON ORE SEABORNE INDEX (IOSI)

MARKET COMMENTARY

December 11th, 2019		CFR Qingdao, USD/dry tonne							Physical port stock quotes were relatively stable this morning though moved higher in the afternoon. PBF traded at 675-678yuan/mt in Shandong and around 683-690yuan/mt in Tangshan. Traders had little space when negotiating and mills were cautious, preferring to buy small parcels. According to SMM, mills profits for rebar hover around 700yuan/mt, based on an iron ore price of 93.7USD/mt. Mills in East China say they buy on demand for the time being while they progress with their restocking programmes. Hebei experienced another heavy pollution Orange alert, to launch on Dec 13 which gave mills some pause and will likely help ease demand in the province.						
Index	Fe Content	Price	Change	Change %	MTD	YTD	Low ²	High ²							
IOSI62	62% Fe Fines	94.30	0.60	0.64%	91.83	94.05	67.40	127.50							
IOSI65	65% Fe Fines	106.00	0.10	0.09%	103.43	105.45	83.55	137.95							

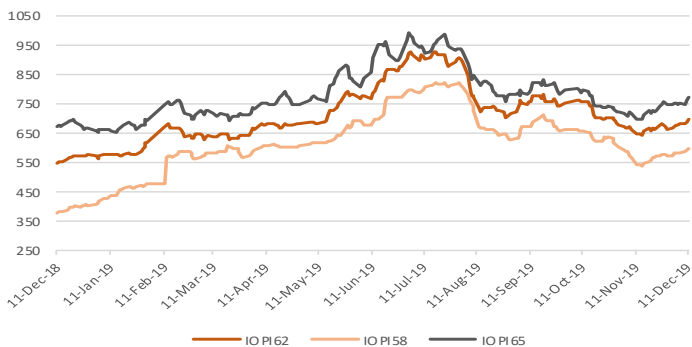
IRON ORE PORT LUMP INDEX (IOPLI)

Week Ending December 6th, 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	812	4	0.5%	812	874	743	1051	100.07	0.56	0.56%	100.07	110.41	93.24	133.81

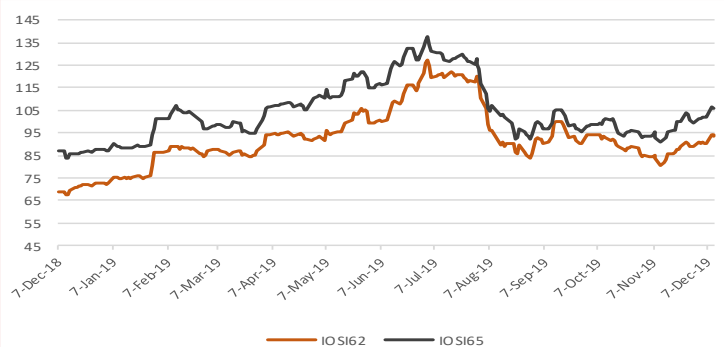
IRON ORE DOMESTIC CONCENTRATE SPOT PRICE ASSESSMENTS AND COMPOSITE INDEX

Week Ending December 6th, 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	815	1.9%	644	1032	115.84	1.84%	93.58	150.03
Hebei	Qian'an	65% Fe Concentrate	Dry	830	0.0%	690	960	117.97	-0.03%	100.26	139.35
Liaoning	Anshan	65% Fe Concentrate	Wet	650	0.0%	535	745	92.39	-0.03%	77.39	104.66
Shandong	Zibo	65% Fe Concentrate	Dry	810	0.0%	740	1040	115.13	-0.03%	107.44	151.33
Week Ending December 6th, 2019				This week	Change %	Low ²	High ²	¹ Exchange rate applied: RMB/USD = 7.0385 ² Last 12 months ³ Weekly exchange rate applied: RMB/USD 7.0354			
China Mines Concentrate Composite Index RMB/WT				714.29	0.2%	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

December 11th, 2019		FOT Qingdao (inc. 13% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 13% VAT), USD/dry tonne						
Index	Fe Content	August	September	October	November	MTD	QTD	YTD	August	September	October	November	MTD	QTD	YTD
IOPI62	62% Fe Fines	759	758	721	665	681	689	720	123.29	100.18	94.29	87.30	89.28	90.31	95.97
IOPI58	58% Fe Fines	691	674	636	567	584	596	631	110.47	91.86	83.57	74.67	76.82	78.44	84.27
IOPI65	65% Fe Fines	823	803	758	723	755	742	786	129.53	108.92	99.32	95.29	99.31	97.52	105.21

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

FREIGHT RATES

December 11th, 2019		CFR Qingdao, USD/dry tonne							December 10th, 2019		FREIGHT RATES - DRY BULK US\$/wet tonne				
Index	Fe Content	August	September	October	November	MTD	QTD	YTD	Route	Designation	Change	Change %	Low ²	High ²	
IOSI62	62% Fe Fines	92.61	93.76	90.81	85.83	91.83	88.92	94.05	W. Australia - Qingdao	C5	10.02	-0.21	-2.04%	4.39	11.42
IOSI65	65% Fe Fines	101.34	99.42	97.45	96.49	103.43	97.99	105.45	Tubarao - Qingdao	C3	21.22	-0.17	-0.77%	11.61	29.10

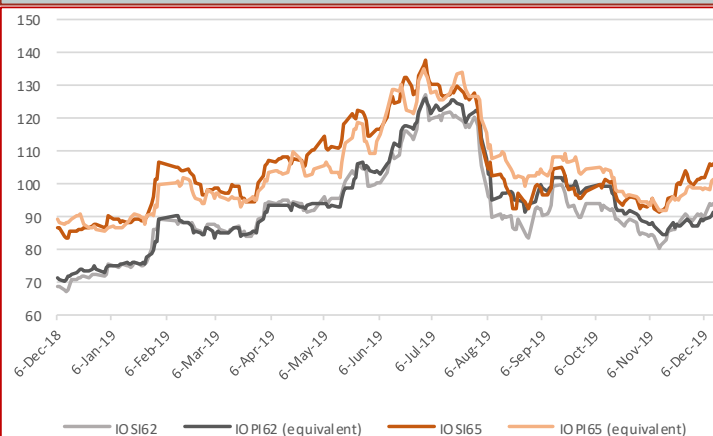
IRON ORE PORT LUMP INDEX MONTHLY, QUARTERLY AND YEAR-TO-DATE AVERAGES

Week Ending December 6th, 2019		FOT Qingdao (inc. 16% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 16% VAT), USD/dry tonne ¹						
Index	Fe Content	August	September	October	November	MTD	QTD	YTD	May	June	July	November	MTD	QTD	YTD
IOPLI62	62.5% Fe Lump	870	803	829	794	812	808	874	132.99	108.80	98.44	97.89	100.07	99.42	110.41

IRON ORE INDEX PREMIUMS/DISCOUNTS

December 11th, 2019		PORT STOCK INDEX (RMB/WT)		December 11th, 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	-100	-14.37%				
IOPI65	65% Fe Fines	75	10.78%	IOSI65	65% Fe Fines	11.70	12.41%

IRON ORE INDEX COMPARISONS (USD/DMT)



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



IRON ORE BRAND SPOT PRICE ASSESSMENTS

December 11th, 2019				December 11th, 2019			
PORT STOCK INDEX (RMB/WT)				SEABORNE INDEX (USD/DMT)			
	Price	Change	Diff to IOPI62		Price	Change	Diff to IOSI62
Roy Hill	662	6	-34	Roy Hill	92.27	0.83	-2.03
SIMEC Fines	638	6	-58	SIMEC Fines	90.52	1.18	-3.78
PB Fines	677	6	-19	PB Fines	93.72	0.76	-0.58
Newman Fines	699	6	3	Newman Fines	94.96	0.66	0.66
MAC Fines	672	6	-24	MAC Fines	92.32	0.88	-1.98
Jimblebar Blended Fines	613	6	-83	Jimblebar Blended Fines	84.00	1.41	-10.30
Carajas Fines	779	6	83	Carajas Fines	104.99	-0.11	10.69
Brazilian SSF	687	6	-9	Brazilian SSF	94.61	0.91	0.31
Brazilian Blend Fines	710	6	14	Brazilian Blend Fines	95.36	0.66	1.06
RTX Fines	630	6	-66	RTX Fines	87.07	0.93	-7.23
West Pilbara Fines	664	6	-32	West Pilbara Fines	91.82	0.78	-2.48
December 11th, 2019							
PORT STOCK INDEX (RMB/WT)							
	Price	Change	Diff to IOPI58				
SSF	563	4	-33				
FMG Blended Fines	605	4	9				
Robe River	571	4	-25				
Western Fines	553	4	-43				
Atlas Fines	541	4	-55				
Yandi	578	4	-18				

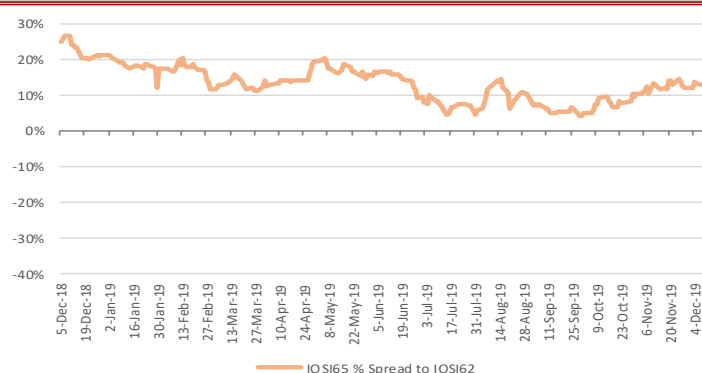
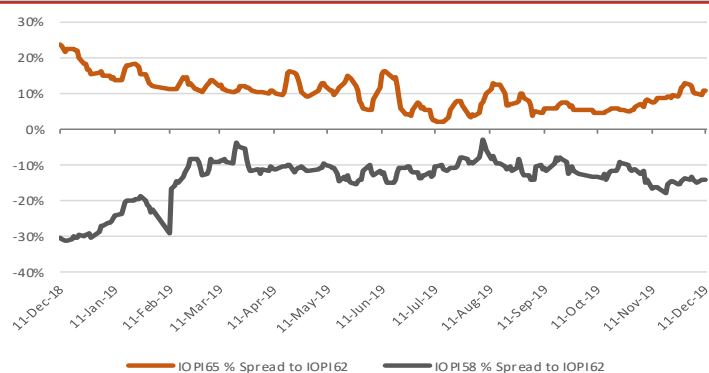
IRON ORE INDEX NORMALISATION DIFFERENTIALS

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%	4.00	0.00	1% Fe	High Grade Fe 60 - 63%	1.00	0.00
	High Grade Fe 63 - 64%	8.00	0.00		High Grade Fe 63 - 64%	1.25	-0.25
	High Grade Fe 64 - 65%	8.00	0.00		High Grade Fe 64 - 65%	1.25	-0.25
	High Grade Fe 65 - 65.5%	8.00	0.00		High Grade Fe 65 - 65.5%	1.25	-0.25
1% Alumina	Low Grade Fe	12.00	0.00	1% Alumina	High Fe Grade Al <2.25%	1.75	-0.25
	High Fe Grade Al <2.25%	35.00	0.00		High Fe Grade Al 2.25-4%	1.00	-0.25
	High Fe Grade Al 2.25-4%	32.00	0.00				
	Low Fe Grade Al <2.25%	24.00	0.00				
1% Silica	Low Fe Grade Al 2.25-4%	1.00	0.00	1% Silica	High Fe Grade Si <4%	2.50	0.00
	High Fe Grade Si <4%	10.00	0.00		High Fe Grade Si 4 - 6.5%	0.75	-0.25
	High Fe Grade Si 4-6.5%	27.00	0.00				
	Low Fe Grade	25.00	0.00				
0.01% Phosphorus	High Fe Grade 0.09%<P<0.115%	6.00	0.00	0.01% Phosphorus	High Fe Grade 0.09%<P<0.115%	0.00	0.00
	High Fe Grade 0.115%<P<0.15%	5.00	0.00		High Fe Grade 0.115%<P<0.15%	2.50	0.00
	Low Fe Grade 0.09<P<0.1%	3.00	0.00				

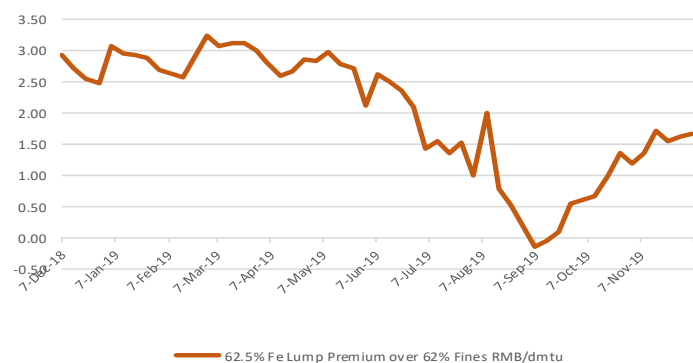
Port Stock Price Differentials to Qingdao Port for PB Fines (RMB/wet tonne)

Port	Value	Change	Port	Value	Change	Port	Value	Change	Port	Value	Change
Bayuquan	-50.00	0.00	Fangcheng	-5.00	0.00	Lanshan	0.00	0.00	Qingdao	0.00	0.00
Beilun	5.00	0.00	Jiangyin	-15.00	0.00	Lianyungang	0.00	0.00	Rizhao	0.00	0.00
Caofeidian	-10.00	0.00	Jingtang	-10.00	0.00	Majishan	0.00	0.00	Shekou	0.00	0.00
Dalian	-50.00	0.00	Langqiao	0.00	0.00	Nantong	-15.00	0.00	Tianjin	0.00	0.00

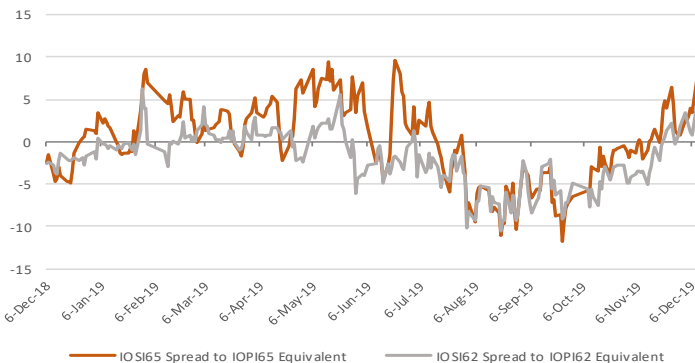
IRON ORE INDEX PREMIUMS/DISCOUNTS



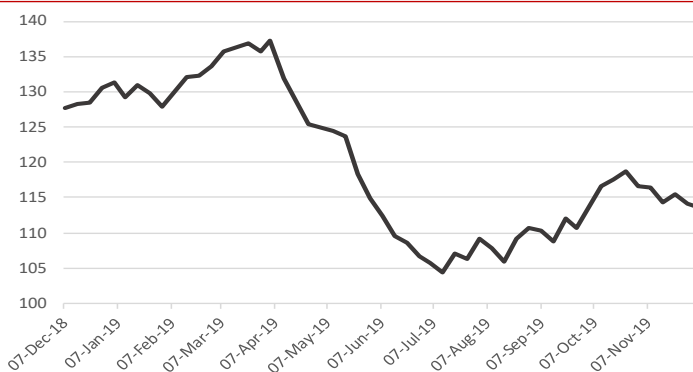
WEEKLY IRON ORE PORT STOCK LUMP PREMIUM (RMB/DMTU)



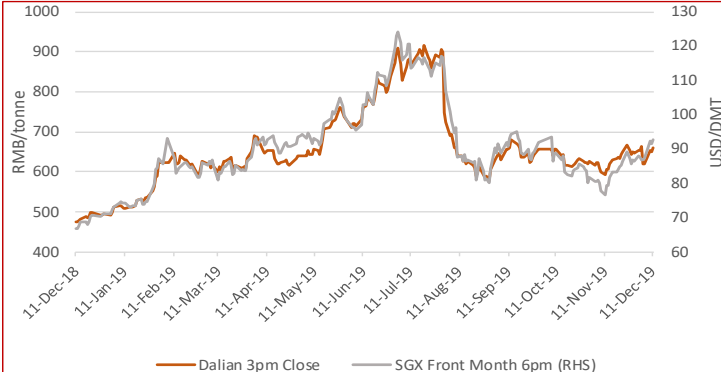
IRON ORE SEABORNE TO PORT STOCK PRICE SPREADS (USD/DMT)



TOTAL IRON ORE INVENTORIES AT CHINA PORTS (MILLION TONNES)



FUTURE TRADING—FRONT MONTH CLOSING PRICE



IRON ORE PORT INVENTORIES (MILLION TONNES)

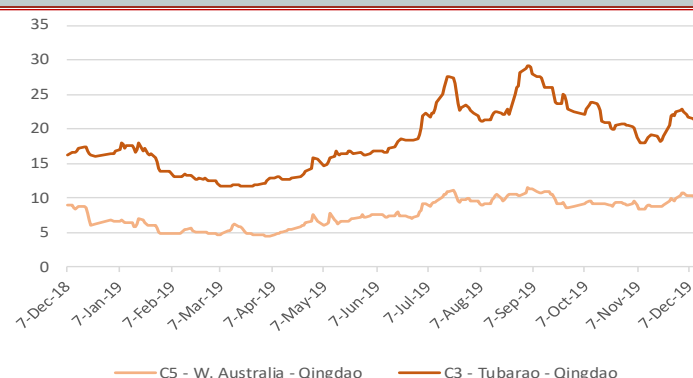
Week Ending December 6th, 2019

Province	This week	Change %	Low ²	High ²
Jingtang	14.40	-1.17%	10.80	17.00
Qingdao	13.66	0.44%	12.38	19.01
Caofeidian	13.47	-3.58%	13.47	19.30
Tianjin	7.54	7.10%	6.37	9.80
Rizhao	13.01	-3.27%	11.41	17.10
Total (35 Ports)	113.50	-0.59%	104.40	137.30

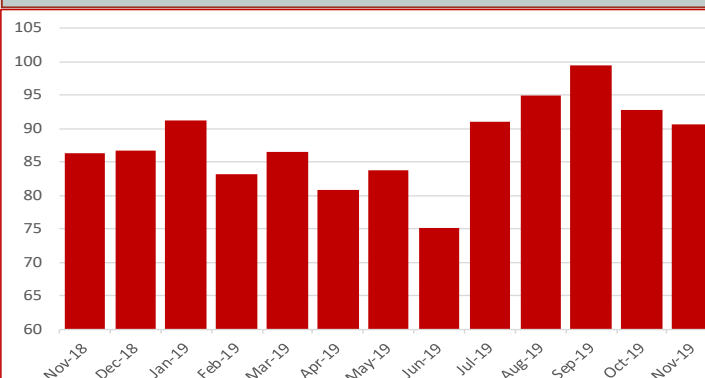
IRON ORE FUTURES CONTRACTS

Closing Date	DCE (RMB/WMT)			SGX (USD/DMT)		
	Dec 11th, 3pm close			Dec 11th, 5:30 pm		
Contract	I2005	Change	Change %	Jan'20	Change	Change %
Closing Price	658.50	9.0	1.39%	92.72	1.22	1.33%
Vol traded ('000 lots)	159.00	-6.2	-3.77%	16.10	2.00	14.19%
Open positions ('000 lots)	132.69	2.3	1.76%	130.22	-3.49	-2.61%
Day Low	645.0	-1.0	-0.15%	91.91	0.57	0.62%
Day High	659.0	-3.0	-0.45%	92.92	0.01	0.01%

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	6/12/2019	Change	Change %
ReBar HRB400 ϕ 18mm	3,940.0	-140	-3.43%
Wirerod Q300 ϕ 6.5mm	4,150.0	-230	-5.25%
HRC Q235/SS400 5.5mm*1500*C	3,770.0	60	1.62%
CRC SPPC/ST12 1.0mm*1250*2500	4,310.0	30	0.70%
Medium & Heavy Plate Q235B 20mm	3,770.0	40	1.07%
GI ST02Z 1.0mm*1000*C	4,490.0	40	0.90%
Colour Coated Plate	6,750.0	-50	-0.74%

CHINESE STEEL MILL PROFITABILITY

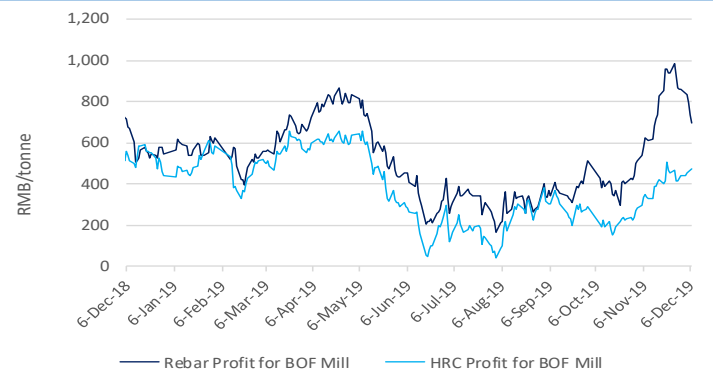
SMM Tracking of Steel Mill P&L - Rebar and Hot-rolled Coil (RMB/tonne)

Category	Price	Change (WoW)	Note
MMI (Fe 62%), USD/mt excluding tax	90.00	0.90	Mmi CFR Equivalent index for 1st Feb
Coke	1,860	50	2nd grade met coke, Tangshan, incl. tax
Steel Scrap	2,310	-20	steel scrap (6mm) in Zhangjiagang, exl. tax
Billet Cost	2,979	38	Q234, incl. tax
Rebar cost - Blast furnace	3,204	37	calculated based on theoretical weight, incl. tax
Rebar profit - Blast furnace	696	-167	based on Shanghai prices, incl. tax
Hot-rolled coil cost - Blast furnace	3,295	37	based on actual weight, incl. tax
Hot-rolled coil profit - Blast furnace	475	33	based on Shanghai prices, incl. tax

Note: 1 Costs in the table are calculated based on today's market prices and factoring our management, sales, financial and depreciations fees.

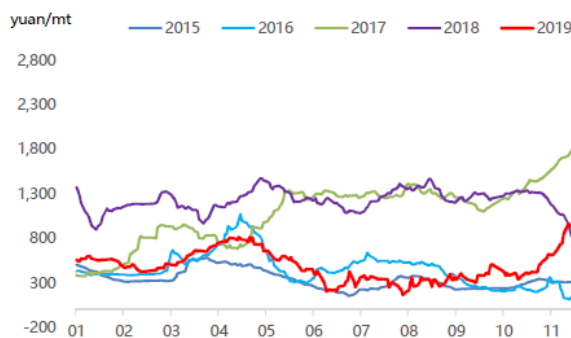
2. The cost refers to average cost in the industry based on SMM's survey of small, medium and large mills in China

CHINESE STEEL MILL PROFITABILITY

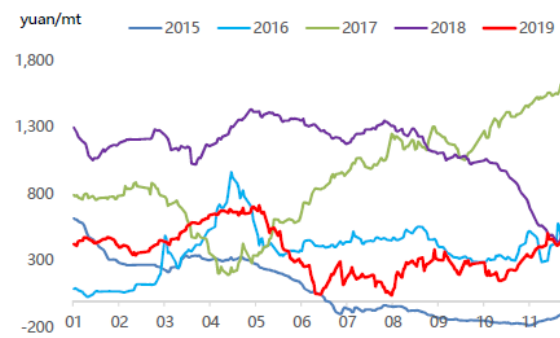


CHINESE STEEL MILL PROFITABILITY

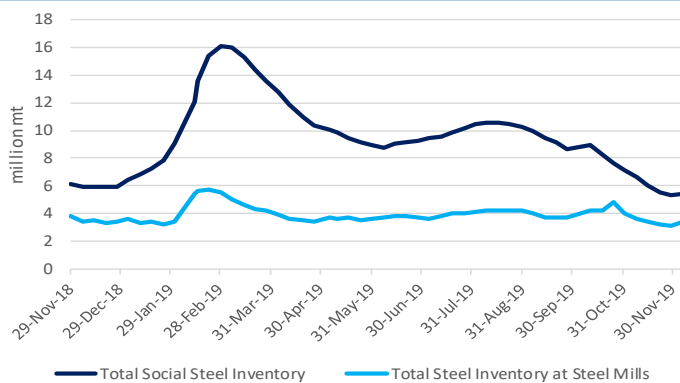
Rebar profits



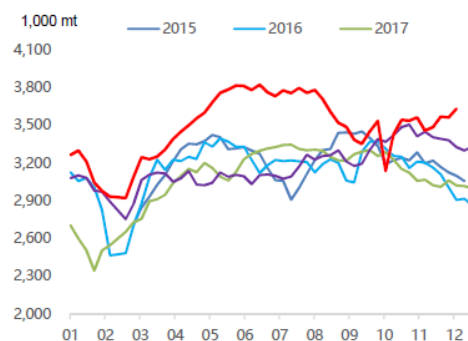
Hot-rolled coil profits



CHINESE STEEL INVENTORIES



Weekly output 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
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					
December 11th, 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	60.70%	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	61.58%	2.36%	3.70%	0.099%	9.50%	PB Fines 62%	62.00%	2.60%	4.30%	0.090%	10.00%
Newman Fines	62.48%	2.21%	4.09%	0.090%	7.74%	Newman Fines	62.80%	2.20%	4.30%	0.080%	6.40%
MAC Fines	60.80%	2.29%	4.71%	0.081%	7.75%	MAC Fines	61.00%	2.70%	4.70%	0.110%	9.30%
Jimblebar Blended Fines	60.51%	3.03%	4.64%	0.116%	7.92%	Jimblebar Blended Fines	59.50%	3.70%	5.80%	0.135%	8.30%
Carajas Fines	65.39%	1.27%	1.44%	0.082%	7.99%	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	62.99%	1.45%	4.74%	0.073%	7.69%	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%
December 11th, 2019	Specifications applied for 58% brand assessments										
	Fe	Alumina	Silica	Phos	Moisture						
SSF	56.72%	3.04%	6.16%	0.055%	9.09%						
FMG Blended Fines	58.26%	2.73%	5.61%	0.062%	7.55%						
Robe River	56.31%	3.17%	5.64%	0.041%	9.10%						
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	57.11%	1.62%	6.40%	0.041%	9.03%						

BLOOMBERG TICKERS

PORT STOCK INDICES			SEABORNE INDICES	
	FOT Qingdao (RMB/wet tonne)	CFR Qingdao Equivalent (USD/dry tonne)		CFR Qingdao (USD/DMT)
IOP162	IRCNQ001	IRCNQ004	IOS162	IRCN0034
IOP158	IRCNQ002	IRCNQ005	IOS165	IRCN0035
IOP165	IRCNQ003	IRCNQ006		
IOP162	IRCN0036	IRCN0037		

CONTACT US

MMI Singapore Office Details: Level 28, Manulife Tower, 8 Cross Street Singapore. Tel: + 65 6850 7629 E: jarek@mmiprices.com

SMM Singapore Office Details: Level 28, Manulife Tower, 8 Cross Street Singapore. Tel: + 65 6850 7630 E: service.en@smm.cn

SMM Shanghai Office Details: 9th FL, Building 9, Lujiazui Software Park, No.20, Lane 91, Pudong, Shanghai Tel: +86 021 5155 0306 E: service.en@smm.cn

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