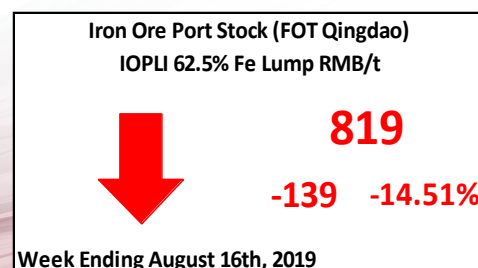
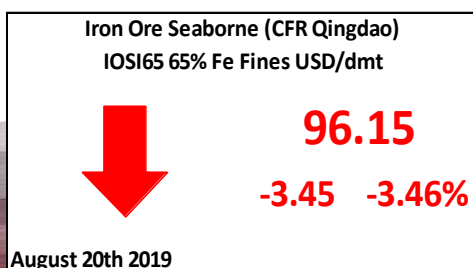
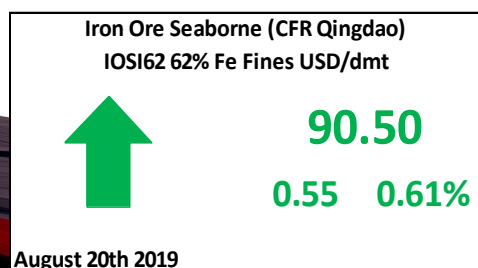
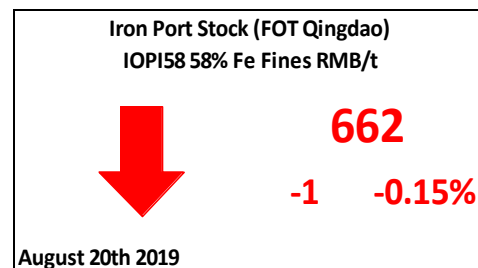
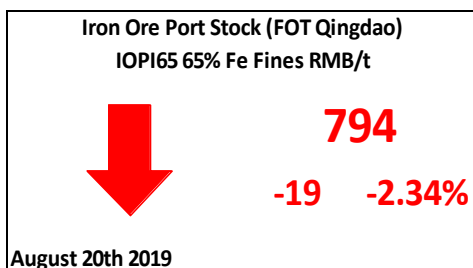
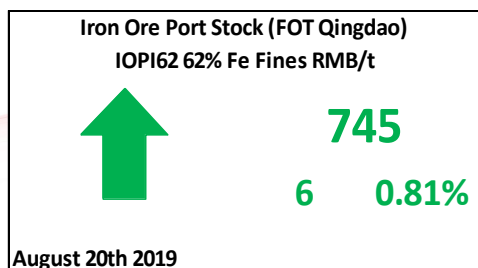


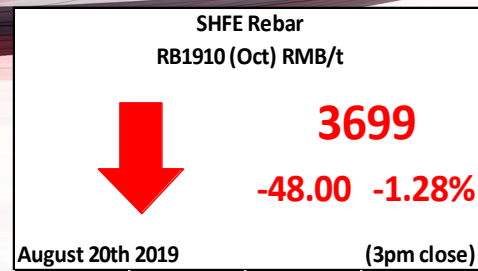
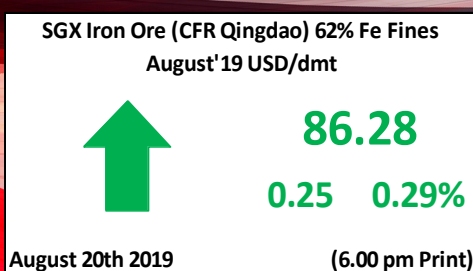
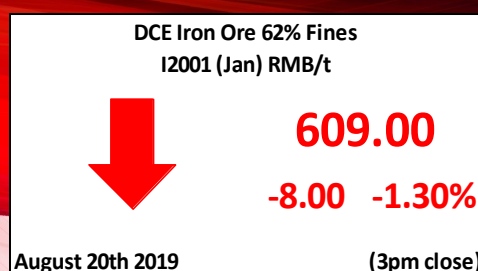


# MMi Dashboard

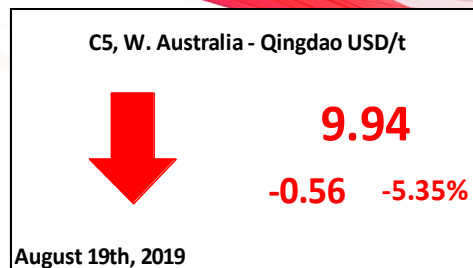
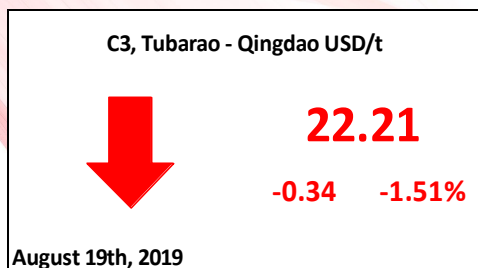
## Iron Ore Price Indices



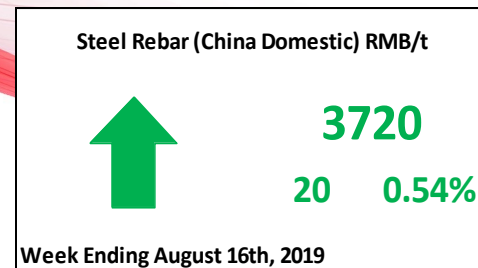
## Exchange Traded Contracts



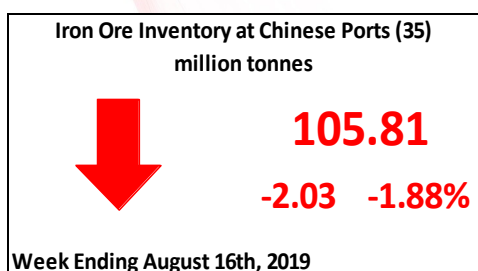
## Freight Rates



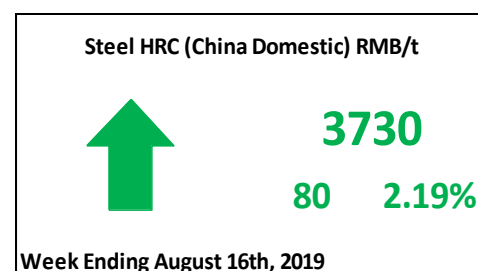
## Steel Price



## Inventory Levels



## Steel Price



## IRON ORE PORT STOCK INDEX (IOPI)

August 20th 2019		FOT Qingdao (inc. 13% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 13% VAT), USD/dry tonne <sup>1</sup>						
Index	Fe Content	Price	Change	Change %	MTD	YTD	Low <sup>2</sup>	High <sup>2</sup>	Price	Change	Change %	MTD	YTD	Low <sup>2</sup>	High <sup>2</sup>
IOPI62	62% Fe Fines	745	6	0.8%	781	724	492	928	97.89	0.69	0.7%	103.60	97.37	63.83	126.12
IOPI58	58% Fe Fines	662	-1	-0.2%	719	635	356	823	87.51	-0.25	-0.3%	96.11	85.44	45.02	112.44
IOPI65	65% Fe Fines	794	-19	-2.3%	848	798	654	992	104.58	-2.73	-2.5%	112.84	107.69	85.47	135.34

## IRON ORE SEABORNE INDEX (IOSI)

## MARKET COMMENTARY

August 20th 2019		CFR Qingdao, USD/dry tonne							<small>Concluded transactions picked up slightly over yesterday. Mills bought hand-to-mouth while traders looked to build their inventories. According to the market, products like Carajas Fines and JMBF seemed to be more economical, and thus in high demand. According to SMM, arrivals of seaborne iron ore at Chinese ports grew significantly last week after two straight weeks of declines, as shipping unclogged at ports following the typhoon and greater deliveries from Australia and Brazil. Supply/demand fundamentals are normalizing on the shipment recovery. SMM estimates that 99 vessels carrying 14.41 million mt of iron ore arrived at major Chinese ports during August 11-17, up 4.98 million mt from the week ended August 10. Last week, iron ore deliveries leaving Australian ports decreased 620,000 mt from the prior week to 14.56 million mt. Shipments that left Brazilian ports fell 60,000 mt to 7.36 million mt. These arrivals will start weighing on market sentiment and pricing.</small>							
Index	Fe Content	Price	Change	Change %	MTD	YTD	Low <sup>2</sup>	High <sup>2</sup>	Price	Change	Change %	MTD	YTD	Low <sup>2</sup>	High <sup>2</sup>	
IOSI62	62% Fe Fines	90.50	0.55	0.61%	97.11	96.16	62.95	127.50								
IOSI65	65% Fe Fines	96.15	-3.45	-3.46%	106.27	109.26	83.20	137.95								

## IRON ORE PORT LUMP INDEX (IOPLI)

Week Ending August 16th, 2019		FOT Qingdao (inc. 16% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 16% VAT), USD/dry tonne <sup>3</sup>						
Index	Fe Content	Price	W-o-W	Change %	MTD	YTD	Low <sup>2</sup>	High <sup>2</sup>	Price	W-o-W	Change %	MTD	YTD	Low <sup>2</sup>	High <sup>2</sup>
IOPLI62	62.5% Fe Lump	819	-139	-14.5%	928	907	644	1051	101.06	-18.56	-15.52%	116.05	115.89	80.29	133.81

## IRON ORE DOMESTIC CONCENTRATE SPOT PRICE ASSESSMENTS AND COMPOSITE INDEX

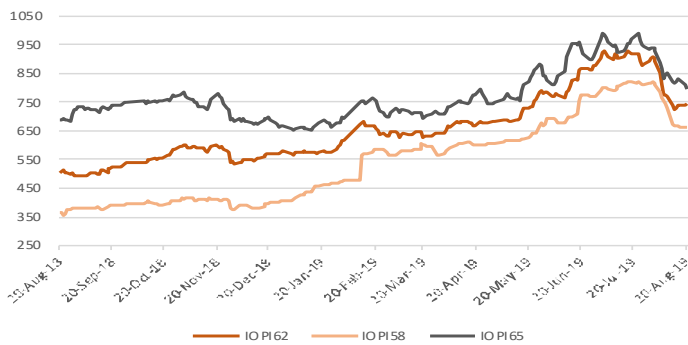
Week Ending August 16th, 2019				RMB/tonne (excluding tax) <sup>3</sup>				USD/tonne (excluding tax) <sup>3</sup>			
Province	Region	Product	Basis	This week	Change %	Low <sup>2</sup>	High <sup>2</sup>	This week	Change %	Low <sup>2</sup>	High <sup>2</sup>
Hebei	Hanxing	66% Fe Concentrate	Dry	865	-13.0%	630	1032	123.07	-13.56%	92.31	150.03
Hebei	Qian'an	65% Fe Concentrate	Dry	850	-8.1%	690	960	120.93	-8.72%	100.26	139.35
Liaoning	Anshan	65% Fe Concentrate	Wet	710	-1.4%	485	745	101.02	-2.05%	70.49	104.66
Shandong	Zibo	65% Fe Concentrate	Dry	895	-5.8%	725	1040	127.34	-6.42%	105.37	151.33

Week Ending August 16th, 2019		This week	Change %	Low <sup>2</sup>	High <sup>2</sup>
China Mines Concentrate Composite Index RMB/WT		781.74	-5.8%	574.64	859.50

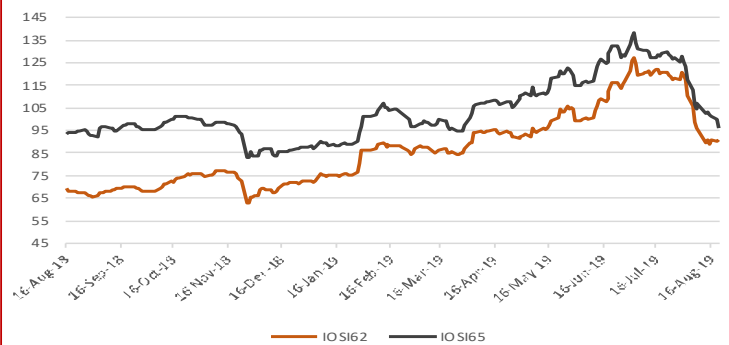
<sup>1</sup> Exchange rate applied: RMB/USD = 7.0454    <sup>2</sup> Last 12 months

<sup>3</sup> Weekly exchange rate applied: RMB/USD 7.0286

## 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

August 20th 2019		FOT Qingdao (inc. 13% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 13% VAT), USD/dry tonne						
Index	Fe Content	April	May	June	July	MTD	QTD	YTD	April	May	June	July	MTD	QTD	YTD
IOPI62	62% Fe Fines	675	729	825	909	781	861	724	85.37	98.40	111.42	123.29	103.60	115.84	97.37
IOPI58	58% Fe Fines	600	637	726	809	719	775	635	77.49	86.39	98.60	110.47	96.11	105.04	85.44
IOPI65	65% Fe Fines	753	812	901	954	848	914	798	95.78	110.00	121.97	129.53	112.84	123.22	107.69

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

## FREIGHT RATES

August 20th 2019		CFR Qingdao, USD/dry tonne							August 19th, 2019						
Index	Fe Content	April	May	June	July	MTD	QTD	YTD	Route	Designation	Change	Change %	Low <sup>2</sup>	High <sup>2</sup>	
IOSI62	62% Fe Fines	93.42	98.68	108.57	120.82	97.11	112.69	96.16	W. Australia - Qingdao	C5	9.94	-0.56	-5.35%	4.39	11.15
IOSI65	65% Fe Fines	106.75	115.53	124.49	129.53	106.27	121.55	109.26	Tubarao - Qingdao	C3	22.21	-0.34	-1.51%	11.61	27.52

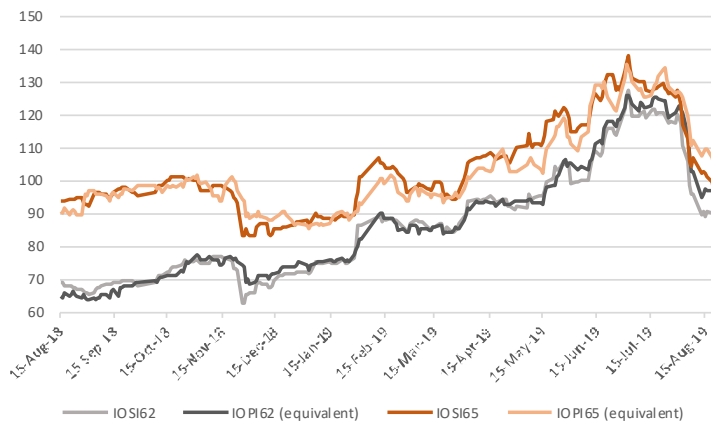
## IRON ORE PORT LUMP INDEX MONTHLY, QUARTERLY AND YEAR-TO-DATE AVERAGES

Week Ending August 16th, 2019		FOT Qingdao (inc. 16% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 16% VAT), USD/dry tonne <sup>1</sup>						
Index	Fe Content	March	April	May	June	MTD	QTD	YTD	March	April	May	June	MTD	QTD	YTD
IOPLI62	62.5% Fe Lump	858	872	919	1009	928	995	907	99.57	111.03	117.12	128.00	116.05	125.73	115.89

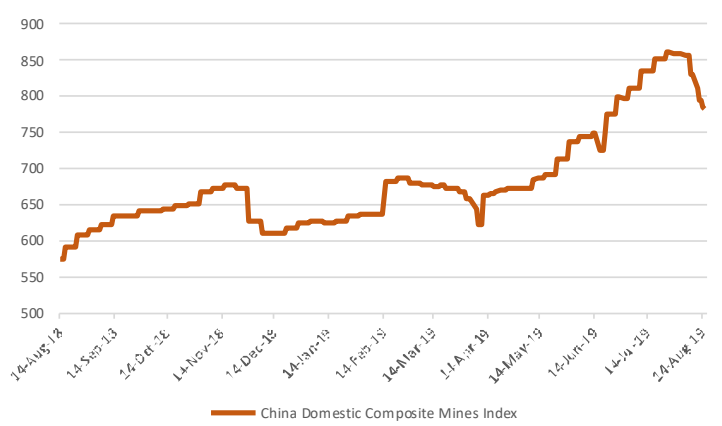
## IRON ORE INDEX PREMIUMS/DISCOUNTS

August 20th 2019		PORT STOCK INDEX (RMB/WT)				August 20th 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	-83		-11.14%		IOSI65	65% Fe Fines	5.65		6.24%	
IOPI65	65% Fe Fines	49		6.58%							

## IRON ORE INDEX COMPARISONS (USD/DMT)



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



## IRON ORE BRAND SPOT PRICE ASSESSMENTS

August 20th 2019				August 20th 2019			
PORT STOCK INDEX (RMB/WT)				SEABORNE INDEX (USD/DMT)			
	Price	Change	Diff to IOPI62		Price	Change	Diff to IO SI62
Roy Hill	722	8	-23	Roy Hill	88.75	0.89	-1.75
SIMEC Fines	716	13	-29	SIMEC Fines	87.35	1.06	-3.15
PB Fines	728	5	-17	PB Fines	90.35	0.64	-0.15
Newman Fines	746	6	1	Newman Fines	91.19	0.33	0.69
MAC Fines	737	7	-8	MAC Fines	89.15	0.91	-1.35
Jimblebar Blended Fines	688	5	-57	Jimblebar Blended Fines	86.60	2.04	-3.90
Carajas Fines	801	-25	56	Carajas Fines	96.31	-0.08	5.81
Brazilian SSF	731	1	-14	Brazilian SSF	90.19	-0.07	-0.31
Brazilian Blend Fines	743	0	-2	Brazilian Blend Fines	91.06	0.05	0.56
RTX Fines	696	5	-49	RTX Fines	88.75	1.51	-1.75
West Pilbara Fines	724	8	-21	West Pilbara Fines	88.25	1.04	-2.25

August 20th 2019			
PORT STOCK INDEX (RMB/WT)			
	Price	Change	Diff to IOPI58
SSF	641	-11	-21
FMG Blended Fines	672	-2	10
Robe River	639	-8	-23
Western Fines	649	-9	-13
Atlas Fines	634	-11	-28
Yandi	655	-5	-7

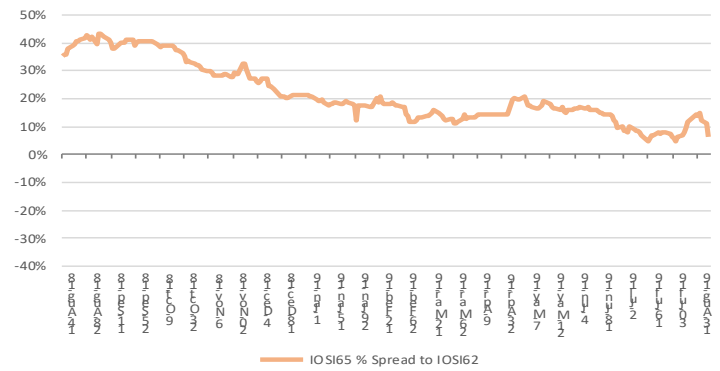
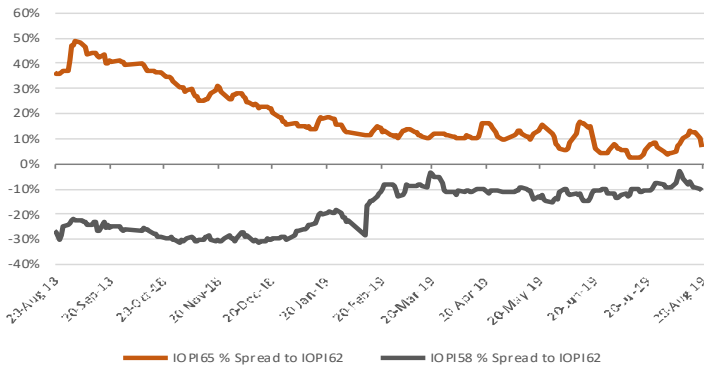
## IRON ORE INDEX NORMALISATION DIFFERENTIALS

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%	2.00	0.00	1% Fe	High Grade Fe 60 - 63%	1.00	-0.25
	High Grade Fe 63 - 64%	14.00	-5.00		High Grade Fe 63 - 64%	1.75	0.00
	High Grade Fe 64 - 65%	14.00	-5.00		High Grade Fe 64 - 65%	1.75	0.00
	High Grade Fe 65 - 65.5%	14.00	-5.00		High Grade Fe 65 - 65.5%	1.75	0.00
1% Alumina	Low Grade Fe	10.00	3.00	1% Alumina	High Fe Grade Al <2.25%	0.75	-0.50
	High Fe Grade Al <2.25%	10.00	-10.00		High Fe Grade Al 2.25-4%	0.00	-0.25
	High Fe Grade Al 2.25-4%	30.00	3.00				
	Low Fe Grade Al <2.25%	9.00	0.00				
1% Silica	Low Fe Grade Al 2.25-4%	5.00	3.00	1% Silica	High Fe Grade Si <4%	0.25	0.00
	High Fe Grade Si <4%	4.00	-3.00		High Fe Grade Si 4 - 6.5%	0.50	0.00
	High Fe Grade Si 4-6.5%	17.00	-3.00				
0.01% Phosphorus	Low Fe Grade	10.00	3.00	0.01% Phosphorus	High Fe Grade 0.09%<P<0.115%	0.00	0.00
	High Fe Grade 0.09%<P<0.115%	2.00	0.00		High Fe Grade 0.115%<P<0.15%	0.25	-0.25
	High Fe Grade 0.115%<P<0.15%	6.00	0.00				
	Low Fe Grade 0.09%<P<0.1%	0.00	0.00				

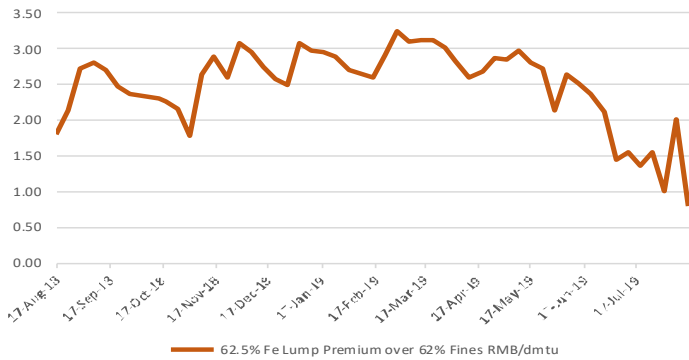
## Port Stock Price Differentials to Qingdao Port for PB Fines (RMB/wet tonne)

Port	Value	Change	Port	Value	Change	Port	Value	Change	Port	Value	Change
Bayuquan	-25.00	0.00	Fangcheng	-5.00	0.00	Lanshan	0.00	0.00	Qingdao	0.00	0.00
Beilun	5.00	0.00	Jiangyin	-40.00	0.00	Lianyungang	0.00	0.00	Rizhao	0.00	0.00
Caofeidian	-5.00	5.00	Jingtang	-5.00	5.00	Majishan	0.00	0.00	Shekou	0.00	0.00
Dalian	-40.00	0.00	Lanqiao	0.00	0.00	Nantong	-40.00	0.00	Tianjin	-35.00	0.00

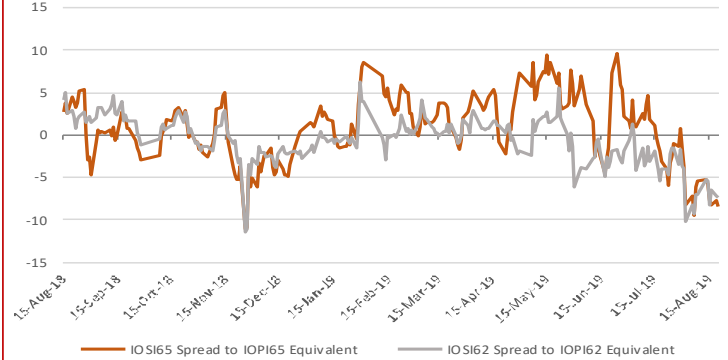
IRON ORE INDEX PREMIUMS/DISCOUNTS



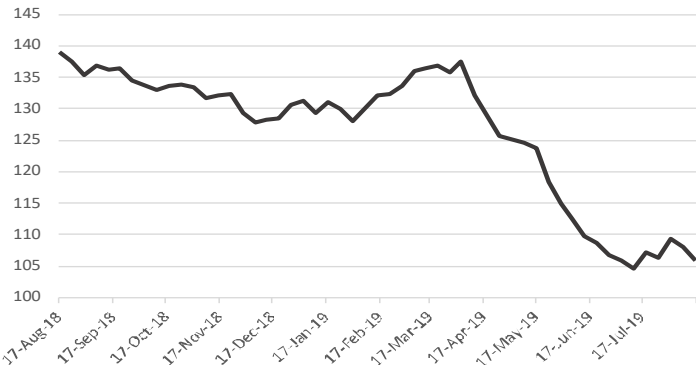
WEEKLY IRON ORE PORT STOCK LUMP PREMIUM (RMB/DMTU)



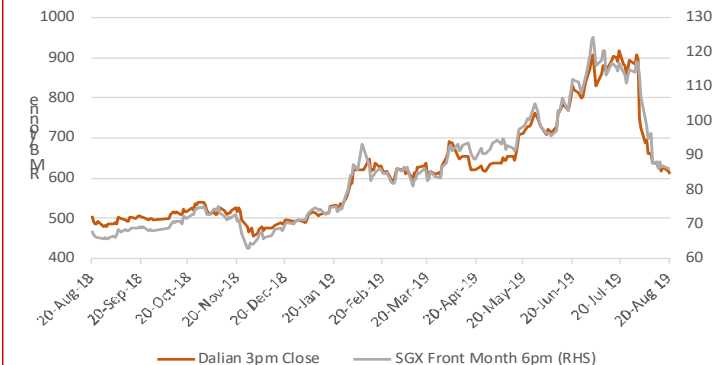
IRON ORE SEABORNE TO PORT STOCK PRICE SPREADS (USD/DMT)



TOTAL IRON ORE INVENTORIES AT CHINA PORTS (MILLION TONNES)



FUTURE TRADING—FRONT MONTH CLOSING PRICE



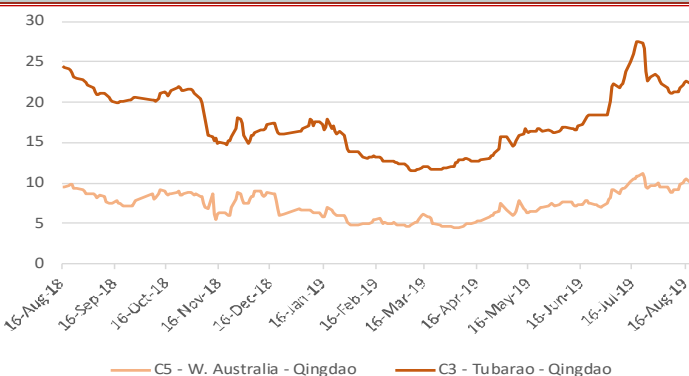
IRON ORE PORT INVENTORIES (MILLION TONNES)

Week Ending August 16th, 2019				
Province	This week	Change %	Low <sup>2</sup>	High <sup>2</sup>
Jingtang	13.02	5.85%	10.80	16.37
Qingdao	12.67	-3.06%	12.38	19.01
Caofeidian	14.32	-1.98%	14.32	20.10
Tianjin	7.12	1.14%	6.39	10.40
Rizhao	12.68	7.37%	11.65	17.30
<b>Total (35 Ports)</b>	<b>105.81</b>	<b>-1.88%</b>	<b>104.40</b>	<b>138.82</b>

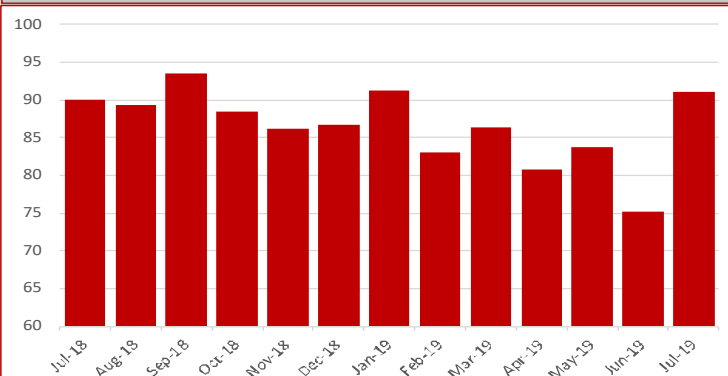
IRON ORE FUTURES CONTRACTS

Closing Date	DCE (RMB/WMT)			SGX (USD/DMT)		
	Aug 20th 3pm close			Aug 20th 5:30 pm		
	Contract	Change	Change %	Sep'19	Change	Change %
Closing Price	609.00	-8.0	-1.30%	86.28	0.25	0.29%
Vol traded ('000 lots)	149.98	-51.7	-25.64%	17.15	3.10	22.05%
Open positions ('000 lots)	136.81	-7.2	-4.98%	157.27	-3.06	-1.91%
Day Low	609.0	1.5	0.25%	85.98	0.52	0.61%
Day High	622.0	-13.5	-2.12%	87.30	-1.07	-1.21%

DRY BULK FREIGHT RATES (USD/MT)



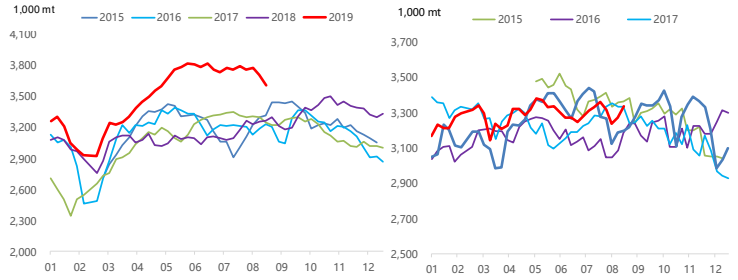
TOTAL CHINA IRON ORE IMPORT VOLUMES (MILLION TONNES)



STEEL SPOT MARKET PRICES—CHINA

Steel Spot Market RMB/tonne

Product	16/8/2019	Change	Change %
ReBar HRB400 φ18mm	3,720.0	20	0.54%
Wirerod Q300 φ6.5mm	4,000.0	40	1.01%
HRC Q235/SS400 5.5mm*1500*C	3,730.0	80	2.19%
CRC SPCC/ST12 1.0mm*1250*2500	4,240.0	20	0.47%
Medium & Heavy Plate Q235B 20mm	3,830.0	10	0.26%
GI ST02Z 1.0mm*1000*C	4,520.0	0	0.00%
Colour Coated Plate	7,100.0	0	0.00%



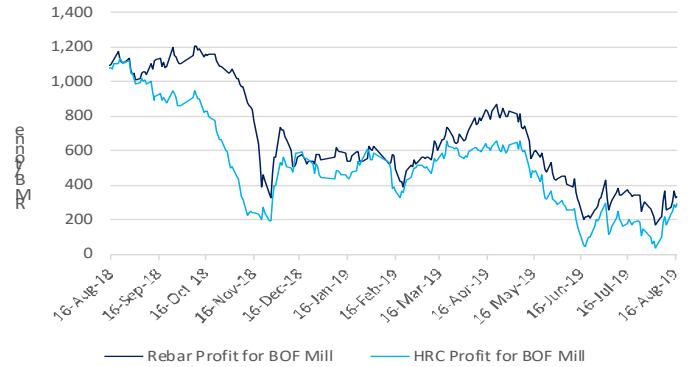
CHINESE STEEL MILL PROFITABILITY

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	89.20	-6.60	Mmi CFR Equivalent index for 1st Feb
Coke	2,110	100	2nd grade met coke, Tangshan, incl. tax
Steel Scrap	2,270	-90	steel scrap (6mm) in Zhangjiagang, excl. tax
Billet Cost	3,124	-36	Q234, incl. tax
Rebar cost - Blast furnace	3,374	-37	calculated based on theoretical weight, incl. tax
Rebar profit - Blast furnace	336	77	based on Shanghai prices, incl. tax
Hot-rolled coil cost - Blast furnace	3,441	-36	based on actual weight, incl. tax
Hot-rolled coil profit - Blast furnace	299	126	based on Shanghai prices, incl. tax

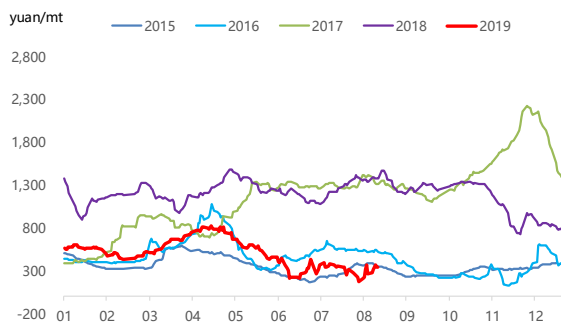
Note: 1. Costs in the table are calculated based on today's market prices and factored our management, sales, financial and depreciations fees.  
2. The cost refers to average cost in the industry based on SMM's survey of small, medium and large mills in China

CHINESE STEEL MILL PROFITABILITY

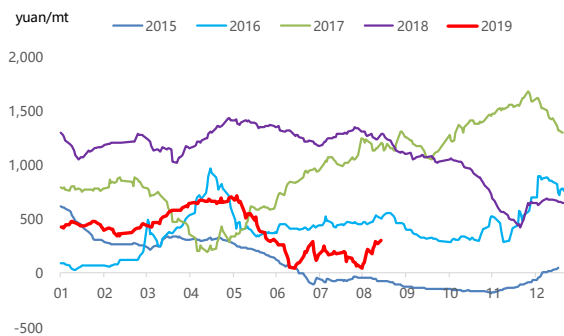


CHINESE STEEL MILL PROFITABILITY

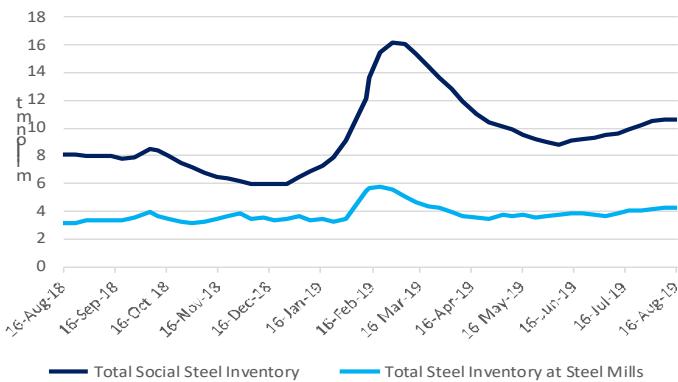
Rebar profits



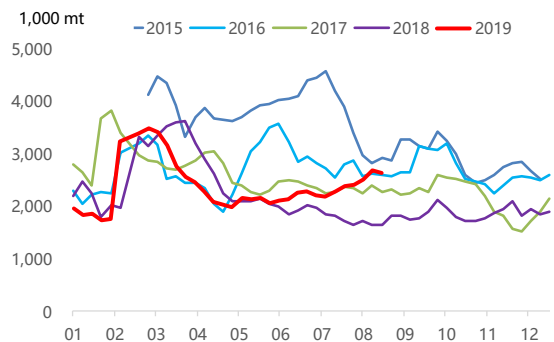
Hot-rolled coil profits



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
	<b>65% Fe Fines</b>	<b>62% Fe Fines</b>	<b>58% Fe Fines</b>	<b>62.5% Fe Lump</b>	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: <a href="http://www.mmiprices.com">www.mmiprices.com</a>
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	
<b>Data Exclusions*</b>					
	<b>62%</b>	<b>58%</b>	<b>65%</b>		
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					
August 20th 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	61.16%	2.25%	4.61%	0.052%	9.35%	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	61.48%	2.36%	3.85%	0.099%	9.42%	PB Fines 62%	62.00%	2.60%	4.30%	0.090%	10.00%
Newman Fines	62.58%	2.26%	3.96%	0.083%	8.00%	Newman Fines	62.80%	2.20%	4.30%	0.080%	6.40%
MAC Fines	60.88%	2.23%	4.51%	0.079%	7.64%	MAC Fines	61.00%	2.70%	4.70%	0.110%	9.30%
Jimblebar Blended Fines	60.72%	3.02%	4.51%	0.119%	7.38%	Jimblebar Blended Fines	59.50%	3.70%	5.80%	0.135%	8.30%
Carajas Fines	65.58%	1.26%	1.34%	0.073%	8.34%	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	63.04%	1.56%	4.36%	0.078%	8.71%	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%
August 20th 2019	Specifications applied for 58% brand assessments						Specifications applied for 58% brand assessments				
	Fe	Alumina	Silica	Phos	Moisture		Fe	Alumina	Silica	Phos	Moisture
SSF	56.66%	3.08%	6.33%	0.058%	8.24%						
FMG Blended Fines	58.22%	2.58%	5.47%	0.061%	7.67%						
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	57.32%	1.51%	6.32%	0.041%	8.85%						

## BLOOMBERG TICKERS

PORT STOCK INDICES			
FOT Qingdao (RMB/wet tonne)		CFR Qingdao Equivalent (USD/dry tonne)	
IOPI62	IRCNQ001		IRCNQ004
IOPI58	IRCNQ002		IRCNQ005
IOPI65	IRCNQ003		IRCNQ006
IOPLI62	IRCN0036		IRCN0037
SEABORNE INDICES			
CFR Qingdao (USD/DMT)			
IOSI62	IRCN0034		
IOSI65	IRCN0035		

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