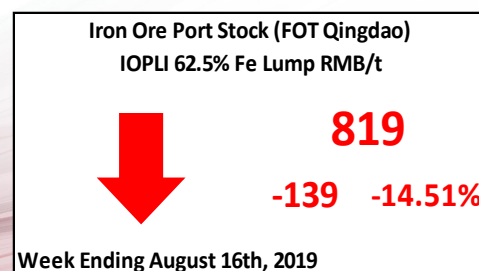
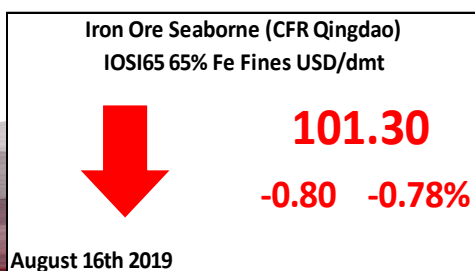
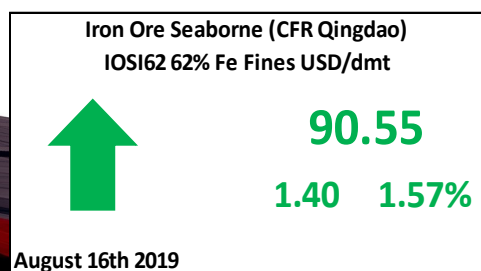
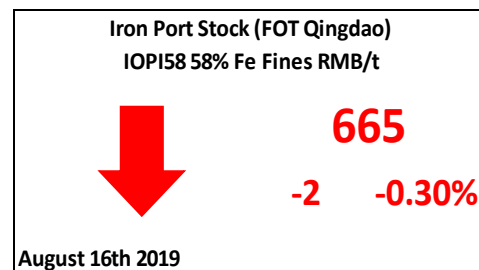
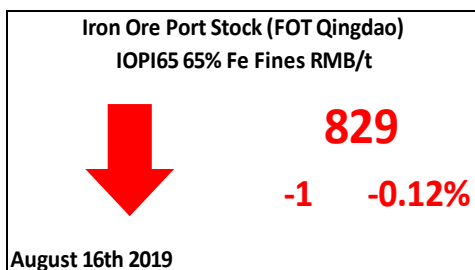
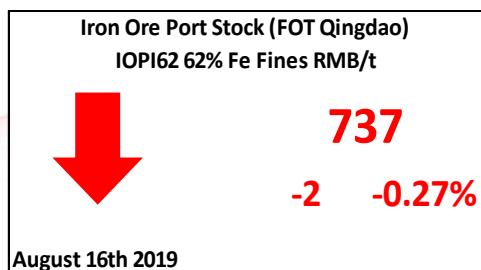


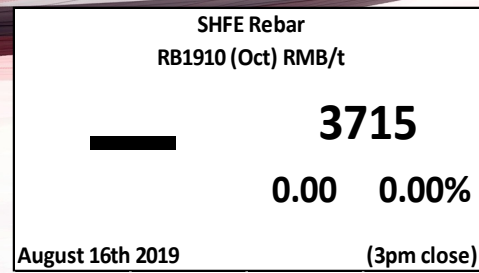
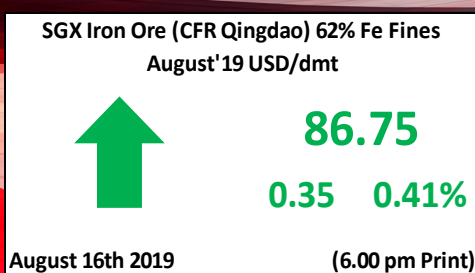
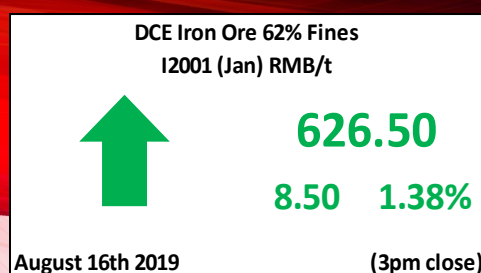


## MMi Dashboard

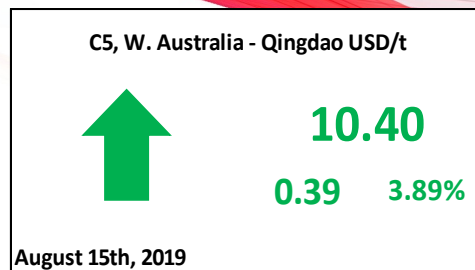
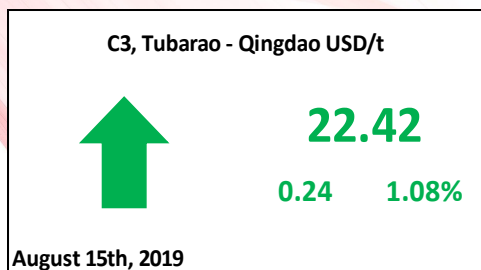
## Iron Ore Price Indices



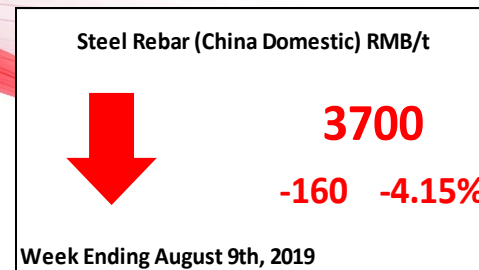
## Exchange Traded Contracts



## Freight Rates



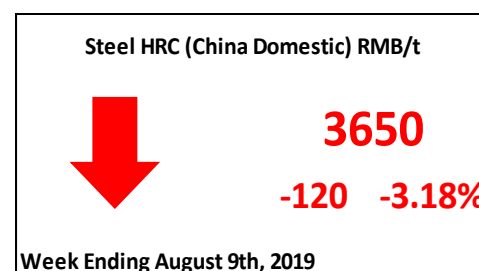
## Steel Price



## Inventory Levels



## Steel Price



## IRON ORE PORT STOCK INDEX (IOPI)

August 16th 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	737	-2	-0.3%	787	724	492	928	97.00	-0.33	-0.3%	104.60	97.37	63.83	126.12
IOPI58	58% Fe Fines	665	-2	-0.3%	728	635	356	823	88.10	-0.33	-0.4%	97.52	85.41	45.02	112.44
IOPI65	65% Fe Fines	829	-1	-0.1%	856	798	654	992	109.58	-0.21	-0.2%	113.99	107.71	85.47	135.34

## IRON ORE SEABORNE INDEX (IOSI)

## MARKET COMMENTARY

August 16th 2019		CFR Qingdao, USD/dry tonne							As of August 16, iron ore stocks across 35 Chinese ports shrank 2.04 million mt from a week ago and 32.17 million mt from a year ago, and stood at 105.81 million mt, SMM statistics showed. Daily average deliveries from the 35 ports decreased 389,000 mt on a weekly basis and 215,800 mt on a yearly basis, and stood at 2.3 million mt this week. Typhoon drove deliveries from ports in Shandong and Tangshan to a virtual standstill early last week, but deliveries began to recover in the second half of the week. As of Thursday, daily deliveries from Tangshan picked up to some 240,000 mt. SMM believes that deliveries from ports would grow next week as some steel mills restock in the short term after cautious purchases, due to lower prices and bad weather, lowered their stocks.							
Index	Fe Content	Price	Change	Change %	MTD	YTD	Low <sup>2</sup>	High <sup>2</sup>								
IOSI62	62% Fe Fines	90.55	1.40	1.57%	98.49	96.24	62.95	127.50								
IOSI65	65% Fe Fines	101.30	-0.80	-0.78%	107.95	109.40	83.20	137.95								

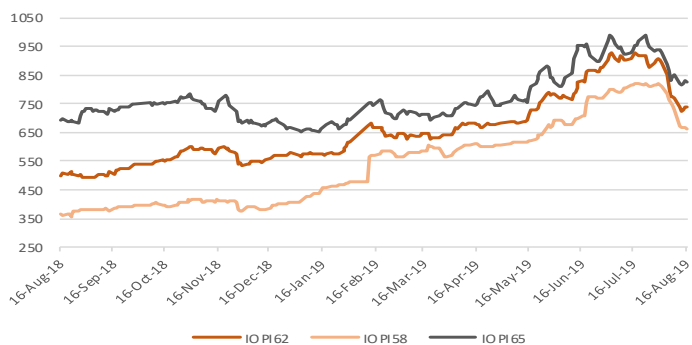
## IRON ORE PORT LUMP INDEX (IOPLI)

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

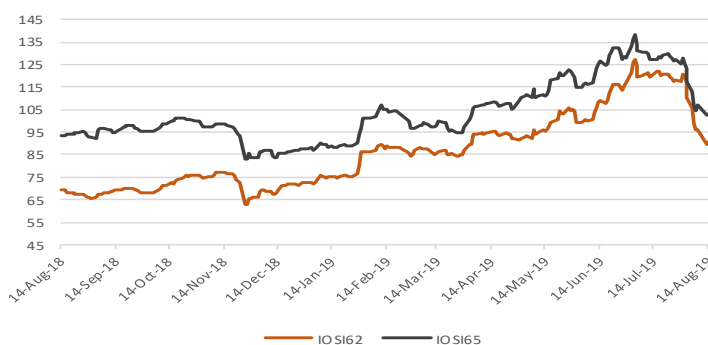
## IRON ORE DOMESTIC CONCENTRATE SPOT PRICE ASSESSMENTS AND COMPOSITE INDEX

Week Ending August 9th, 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	994	-0.8%	630	1032	142.37	-2.11%	91.97	150.03
Hebei	Qian'an	65% Fe Concentrate	Dry	925	-3.6%	690	960	132.49	-4.92%	100.26	139.35
Liaoning	Anshan	65% Fe Concentrate	Wet	720	0.0%	465	745	103.13	-1.32%	68.21	104.66
Shandong	Zibo	65% Fe Concentrate	Dry	950	-6.9%	690	1040	136.07	-8.10%	99.75	151.33
Week Ending August 9th, 2019				This week	Change %	Low <sup>2</sup>	High <sup>2</sup>	<sup>1</sup> Exchange rate applied: RMB/USD = 7.0312 <sup>2</sup> Last 12 months <sup>3</sup> Weekly exchange rate applied: RMB/USD 7.0286			
China Mines Concentrate Composite Index RMB/WT				829.53	-3.3%	574.64	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

August 16th 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	787	867	724	85.37	98.40	111.42	123.29	104.60	116.88	97.37
IOPI58	58% Fe Fines	600	637	726	809	728	781	635	77.49	86.39	98.60	110.47	97.52	106.03	85.41
IOPI65	65% Fe Fines	753	812	901	954	856	920	798	95.78	110.00	121.97	129.53	113.99	124.20	107.71

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

## FREIGHT RATES

August 16th 2019		CFR Qingdao, USD/dry tonne							August 15th, 2019		FREIGHT RATES - DRY BULK US\$/wet tonne				
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	98.49	114.05	96.24	W. Australia - Qingdao	C5	10.40	0.39	3.89%	4.39	11.15
IOSI65	65% Fe Fines	106.75	115.53	124.49	129.53	107.95	122.99	109.40	Tubarao - Qingdao	C3	22.42	0.24	1.08%	11.61	27.52

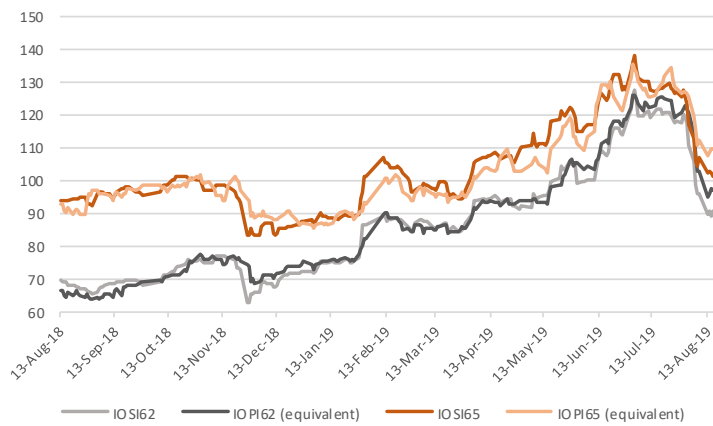
## IRON ORE PORT LUMP INDEX MONTHLY, QUARTERLY AND YEAR-TO-DATE AVERAGES

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

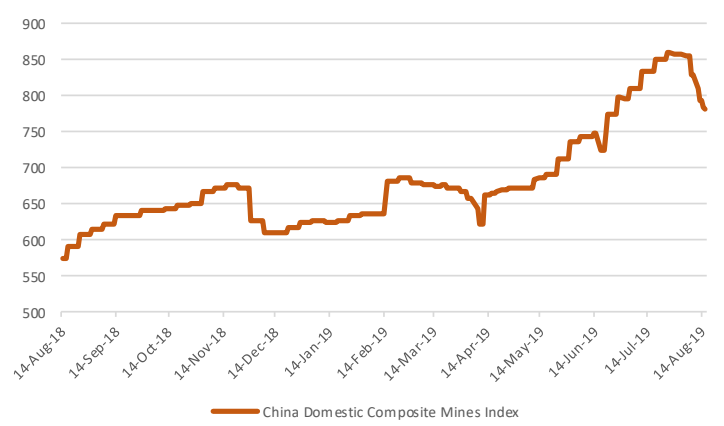
## IRON ORE INDEX PREMIUMS/DISCOUNTS

August 16th 2019		PORT STOCK INDEX (RMB/WT)		August 16th 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	-72	-9.77%	IOSI65	65% Fe Fines	10.75	11.87%
IOPI65	65% Fe Fines	92	12.48%				

## IRON ORE INDEX COMPARISONS (USD/DMT)



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



## IRON ORE BRAND SPOT PRICE ASSESSMENTS

August 16th 2019				August 16th 2019			
PORT STOCK INDEX (RMB/WT)				SEABORNE INDEX (USD/DMT)			
	Price	Change	Diff to IOPI62		Price	Change	Diff to IO SI62
Roy Hill	705	1	-32	Roy Hill	87.44	2.69	-3.11
SIMEC Fines	673	7	-64	SIMEC Fines	85.34	3.57	-5.21
PB Fines	721	-2	-16	PB Fines	89.96	2.09	-0.59
Newman Fines	740	-2	3	Newman Fines	92.12	0.86	1.57
MAC Fines	717	1	-20	MAC Fines	87.14	3.62	-3.41
Jimblebar Blended Fines	681	-2	-56	Jimblebar Blended Fines	79.71	6.89	-10.84
Carajas Fines	843	0	106	Carajas Fines	100.92	-0.64	10.37
Brazilian SSF	708	5	-29	Brazilian SSF	92.42	1.71	1.87
Brazilian Blend Fines	743	-2	6	Brazilian Blend Fines	92.92	1.08	2.37
RTX Fines	684	-2	-53	RTX Fines	84.11	4.39	-6.44
West Pilbara Fines	703	1	-34	West Pilbara Fines	86.34	3.09	-4.21

August 16th 2019			
PORT STOCK INDEX (RMB/WT)			
	Price	Change	Diff to IOPI58
SSF	657	4	-8
FMG Blended Fines	676	-1	11
Robe River	651	1	-14
Western Fines	664	5	-1
Atlas Fines	652	5	-13
Yandi	665	1	0

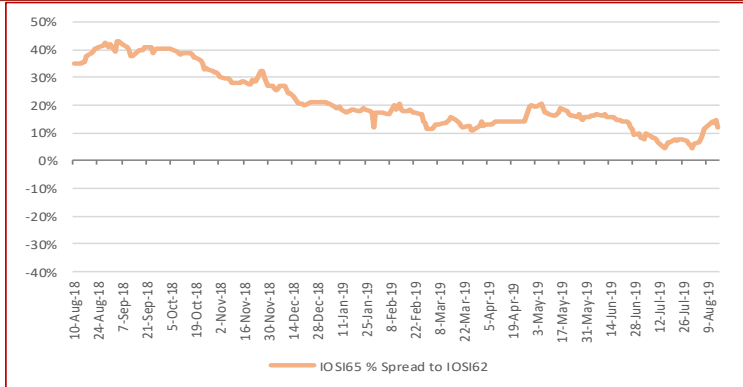
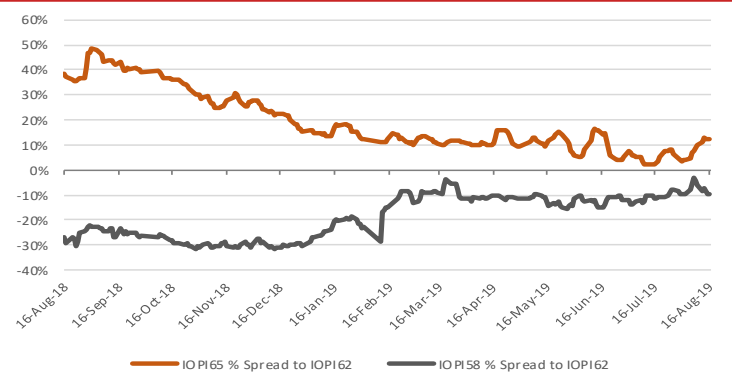
## IRON ORE INDEX NORMALISATION DIFFERENTIALS

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	-1.00	1% Fe	High Grade Fe 60 - 63%	2.00	-0.75
	High Grade Fe 63 - 64%	21.00	1.00		High Grade Fe 63 - 64%	2.00	-0.25
	High Grade Fe 64 - 65%	21.00	1.00		High Grade Fe 64 - 65%	2.00	-0.25
	High Grade Fe 65 - 65.5%	21.00	1.00		High Grade Fe 65 - 65.5%	2.00	-0.25
1% Alumina	Low Grade Fe	6.00	-1.00	1% Alumina	High Fe Grade Al <2.25%	2.50	-0.25
	High Fe Grade Al <2.25%	25.00	0.00		High Fe Grade Al 2.25-4%	1.25	-1.75
	High Fe Grade Al 2.25-4%	24.00	3.00				
	Low Fe Grade Al <2.25%	9.00	0.00				
1% Silica	Low Fe Grade Al 2.25-4%	2.00	-2.00	1% Silica	High Fe Grade Si <4%	1.00	-0.25
	High Fe Grade Si <4%	10.00	0.00		High Fe Grade Si 4 - 6.5%	0.50	-0.25
	High Fe Grade Si 4-6.5%	30.00	-3.00				
0.01% Phosphorus	Low Fe Grade	5.00	-3.00	0.01% Phosphorus	High Fe Grade 0.09%<P<0.115%	0.25	-0.25
	High Fe Grade 0.09%<P<0.115%	2.00	0.00		High Fe Grade 0.115%<P<0.15%	1.25	0.00
	High Fe Grade 0.115%<P<0.15%	6.00	0.00				
	Low Fe Grade 0.09<P<0.1%	0.00	0.00				

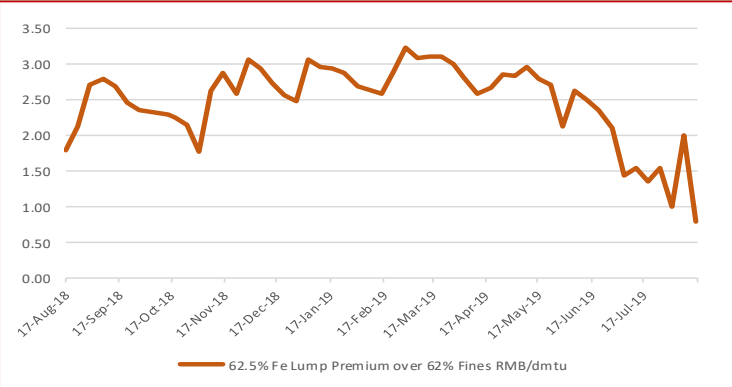
## Port Stock Price Differentials to Qingdao Port for PB Fines (RMB/wet tonne)

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	-15.00	0.00	Jingtang	-15.00	0.00	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

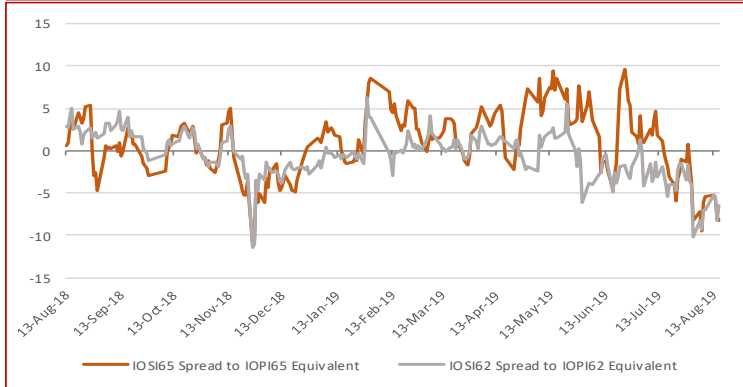
IRON ORE INDEX PREMIUMS/DISCOUNTS



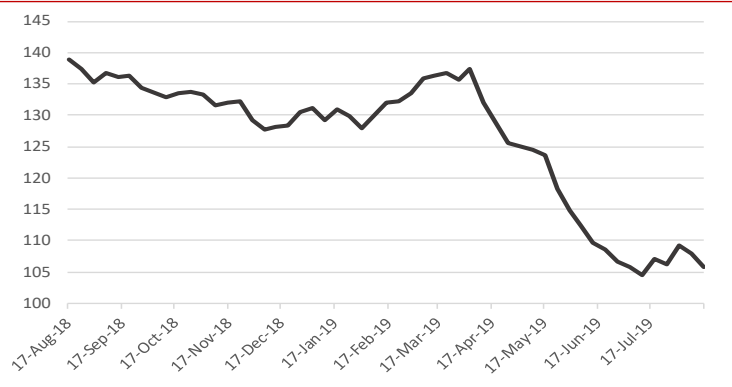
WEEKLY IRON ORE PORT STOCK LUMP PREMIUM (RMB/DMTU)



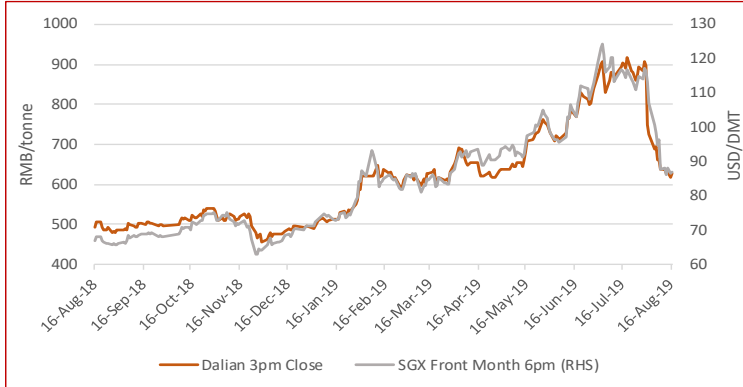
IRON ORE SEABORNE TO PORT STOCK PRICE SPREADS (USD/DMT)



TOTAL IRON ORE INVENTORIES AT CHINA PORTS (MILLION TONNES)



FUTURE TRADING—FRONT MONTH CLOSING PRICE



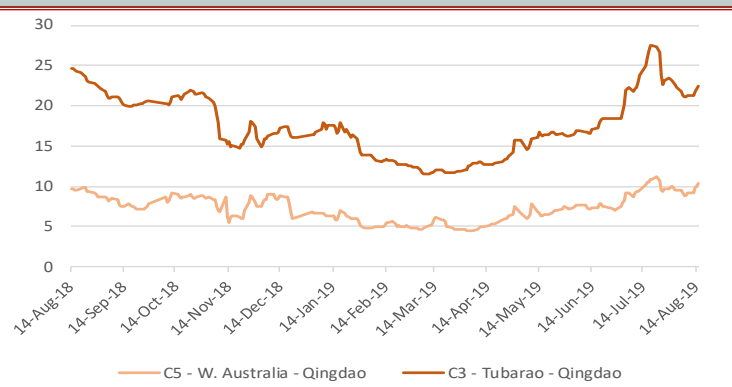
IRON ORE PORT INVENTORIES (MILLION TONNES)

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>

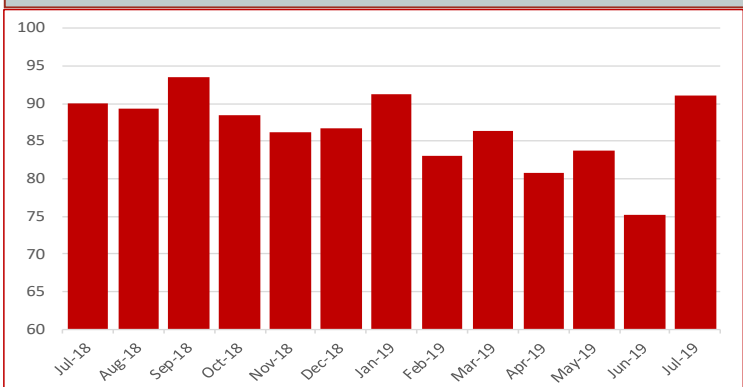
IRON ORE FUTURES CONTRACTS

Closing Date	DCE (RMB/WMT)			SGX (USD/DMT)		
	Aug 16th 3pm close			Aug 16th 5.30 pm		
Contract	I2001	Change	Change %	Sep'19	Change	Change %
Closing Price	626.50	8.5	1.38%	86.75	0.35	0.41%
Vol traded ('000 lots)	218.91	-70.0	-24.23%	16.47	3.59	27.87%
Open positions ('000 lots)	137.37	-4.0	-2.82%	160.40	-0.21	-0.13%
Day Low	612.0	-1.5	-0.24%	86.37	0.18	0.21%
Day High	633.5	-6.0	-0.94%	87.64	-0.68	-0.77%

DRY BULK FREIGHT RATES (USD/MT)



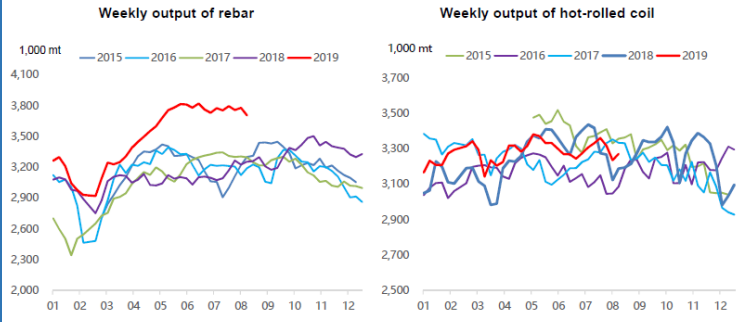
TOTAL CHINA IRON ORE IMPORT VOLUMES (MILLION TONNES)



STEEL SPOT MARKET PRICES—CHINA

Steel Spot Market RMB/tonne

Product	9/8/2019	Change	Change %
ReBar HRB400 φ18mm	3,700.0	-160	-4.15%
Wirerod Q300 φ6.5mm	3,960.0	-160	-3.88%
HRC Q235/SS400 5.5mm*1500*C	3,650.0	-120	-3.18%
CRC SPPC/ST12 1.0mm*1250*2500	4,220.0	-20	-0.47%
Medium & Heavy Plate Q235B 20mm	3,820.0	-50	-1.29%
GI ST02Z 1.0mm*1000*C	4,520.0	-30	-0.66%
Colour Coated Plate	7,100.0	50	0.71%



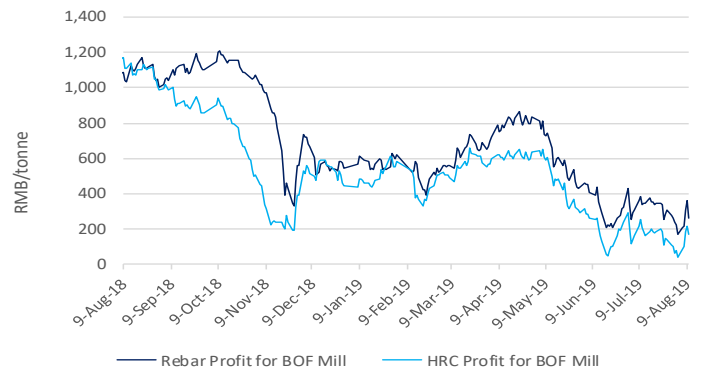
CHINESE STEEL MILL PROFITABILITY

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	95.80	-21.95	Mmi CFR Equivalent index for 1st Feb
Coke	2,010	0	2nd grade met coke, Tangshan, incl. tax
Steel Scrap	2,360	-60	steel scrap (6mm) in Zhangjiagang, excl. tax
Billet Cost	3,160	-420	Q234, incl. tax
Rebar cost - Blast furnace	3,411	-222	calculated based on theoretical weight, incl. tax
Rebar profit - Blast furnace	259	92	based on Shanghai prices, incl. tax
Hot-rolled coil cost - Blast furnace	3,477	-252	based on actual weight, incl. tax
Hot-rolled coil profit - Blast furnace	173	132	based on Shanghai prices, incl. tax

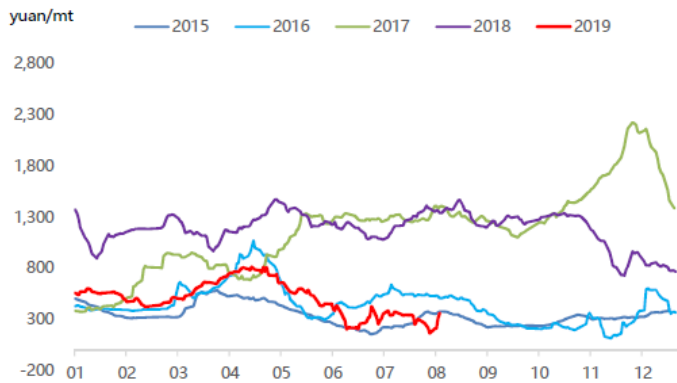
Note: 1. Costs in the table are calculated based on today's market prices and fact our management, sales, financial and depreciations fees.  
2. The cost refers to average cost in the industry based on SMM's survey of small, medium and large mills in China

CHINESE STEEL MILL PROFITABILITY

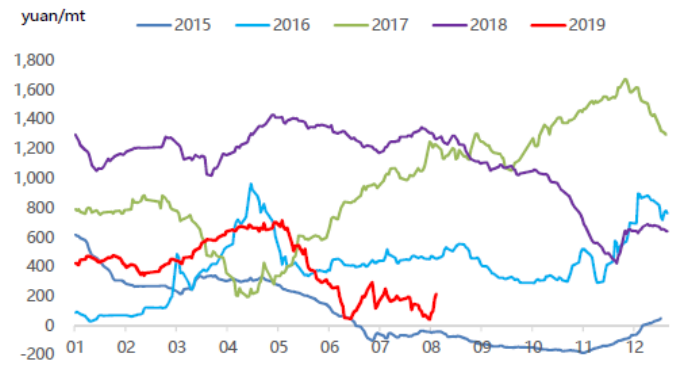


CHINESE STEEL MILL PROFITABILITY

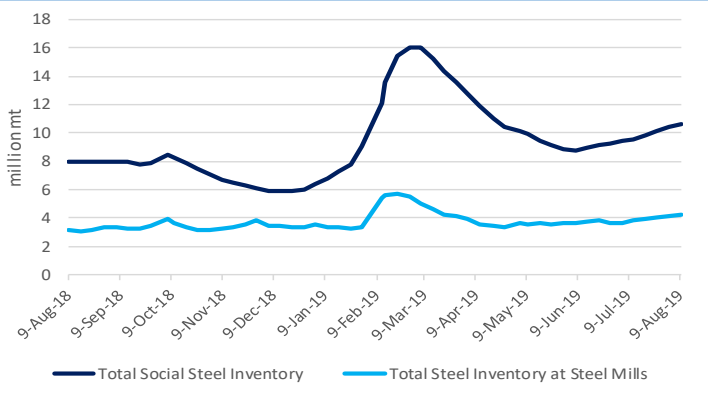
Rebar profits



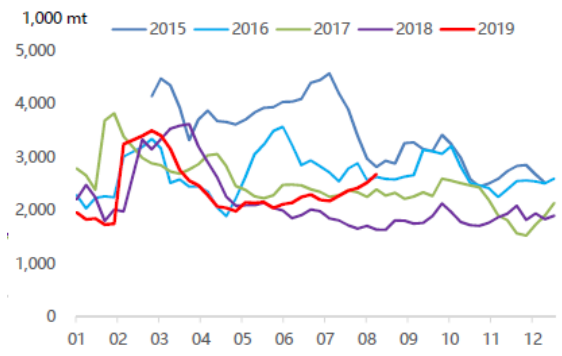
Hot-rolled coil profits



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 16th 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	61.49%	2.36%	3.83%	0.100%	9.38%	PB Fines 62%	62.00%	2.60%	4.30%	0.090%	10.00%
Newman Fines	62.54%	2.26%	4.00%	0.081%	7.87%	Newman Fines	62.80%	2.20%	4.30%	0.080%	6.40%
MAC Fines	60.86%	2.24%	4.64%	0.080%	7.59%	MAC Fines	61.00%	2.70%	4.70%	0.110%	9.30%
Jimblebar Blended Fines	60.83%	2.99%	4.45%	0.114%	7.34%	Jimblebar Blended Fines	59.50%	3.70%	5.80%	0.135%	8.30%
Carajas Fines	65.57%	1.24%	1.39%	0.068%	8.37%	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 16th 2019	Specifications applied for 58% brand assessments										
	Fe	Alumina	Silica	Phos	Moisture						
SSF	56.66%	3.08%	6.34%	0.059%	8.25%						
FMG Blended Fines	58.22%	2.58%	5.47%	0.061%	7.65%						
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%	1.50%	6.32%	0.041%	8.83%						

## BLOOMBERG TICKERS

PORT STOCK INDICES		
	FOT Qingdao (RMB/wet tonne)	CFR Qingdao Equivalent (USD/dry tonne)
IOP162	IRCNQ001	IRCNQ004
IOP158	IRCNQ002	IRCNQ005
IOP165	IRCNQ003	IRCNQ006

## CONTACT US

**MMI Singapore Office Details:** Level 28, Manulife Tower, 8 Cross Street Singapore. Tel: + 65 6850 7629 E: [jarek@mmiprices.com](mailto:jarek@mmiprices.com)  
**SMM Singapore Office Details:** Level 28, Manulife Tower, 8 Cross Street Singapore. Tel: + 65 6850 7630 E: [service.en@smm.cn](mailto: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](mailto:service.en@smm.cn)

Visit [www.mmiprices.com](http://www.mmiprices.com) for full index price histories and archive of daily reports

This information has been prepared by Metals Market Index ("MMI"). Use of the information presented here is at your sole risk, and any content, material and/or data presented or otherwise obtained through your use of the information in this document is at your own discretion and risk and you will be solely responsible for any damage to you personally or your company or organisation or business associates whatsoever which in anyway results from the use, reliance or application of such content material and/or information. Certain data has been obtained from various sources and any copyright existing in such data shall remain the property of the source. Except for the foregoing, MMI retains all copyright within this document. The copying or redistribution of any part of this document without the express written authority of MMI is forbidden.