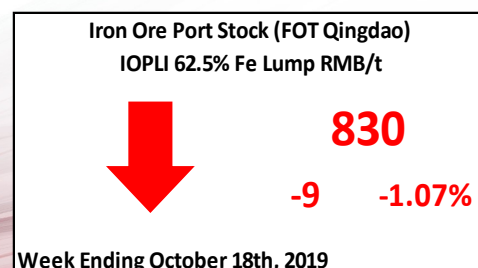
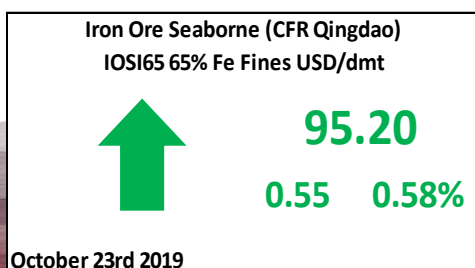
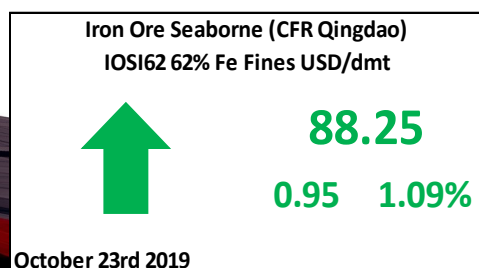
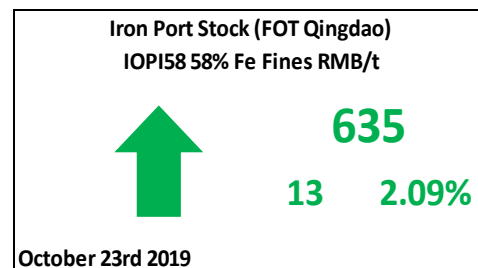
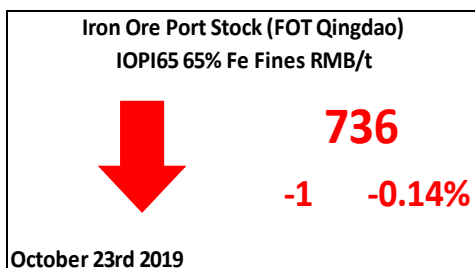
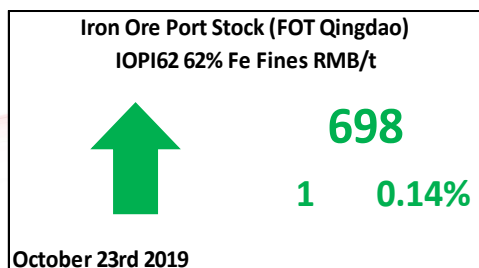


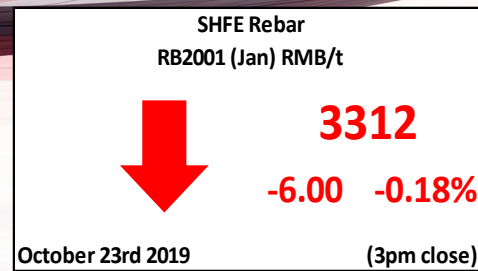
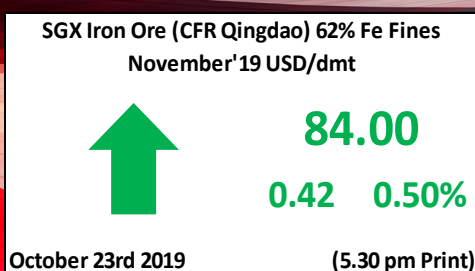
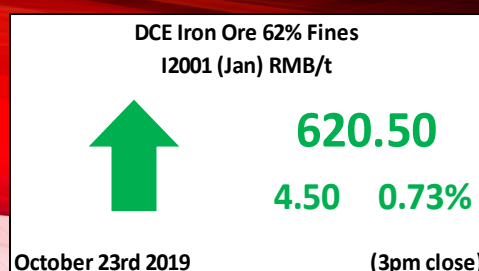


## MMi Dashboard

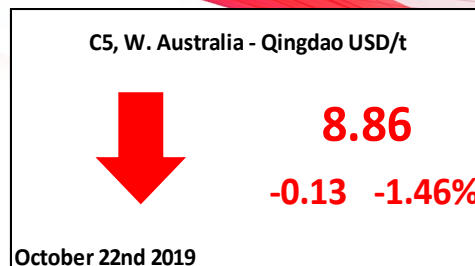
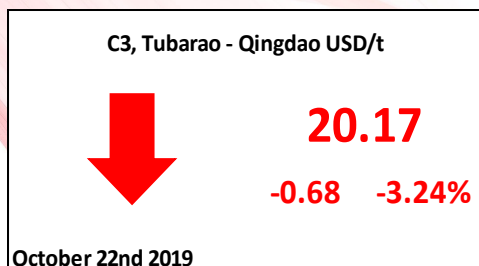
## Iron Ore Price Indices



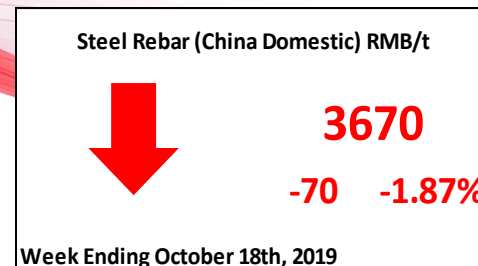
## Exchange Traded Contracts



## Freight Rates



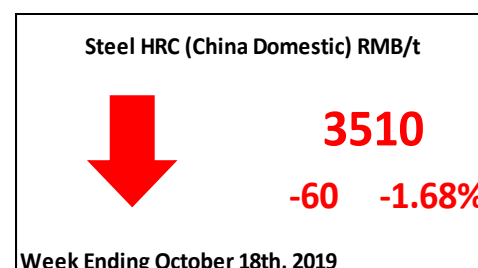
## Steel Price



## Inventory Levels



## Steel Price



## IRON ORE PORT STOCK INDEX (IOPI)

October 23rd 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	698	1	0.1%	733	728	535	928	91.09	0.03	0.0%	95.93	97.33	68.50	126.12
IOPI58	58% Fe Fines	635	13	2.1%	642	640	375	823	83.43	1.69	2.1%	84.42	85.68	46.88	112.44
IOPI65	65% Fe Fines	736	-1	-0.1%	770	796	654	992	96.26	-0.25	-0.3%	100.98	106.81	85.47	135.34

## IRON ORE SEABORNE INDEX (IOSI)

## MARKET COMMENTARY

October 23rd 2019		CFR Qingdao, USD/dry tonne							MARKET COMMENTARY							
Index	Fe Content	Price	Change	Change %	MTD	YTD	Low <sup>2</sup>	High <sup>2</sup>	Yesterday nights' DCE close had physical ports stock traders quote higher this morning. Mills chased material and transactions picked up slightly over that in early this week. However, Tangshan announced further production cuts extending to October 24, so the majority mills purchased only on demand while some mills in North China have started planning to purchase for the winter season. One mill said they worried about future potential prohibitions on iron ore deliveries, so they plan to gradually build their inventory at the plants. According to SMM, mills profits for rebar are around 400yuan/mt, so mills may keep production levels high and therefore iron ore demand is expected to maintain relatively high levels.							
IOSI62	62% Fe Fines	88.25	0.95	1.09%	91.88	95.15	62.95	127.50								
IOSI65	65% Fe Fines	95.20	0.55	0.58%	98.23	106.71	83.20	137.95								

## IRON ORE PORT LUMP INDEX (IOPLI)

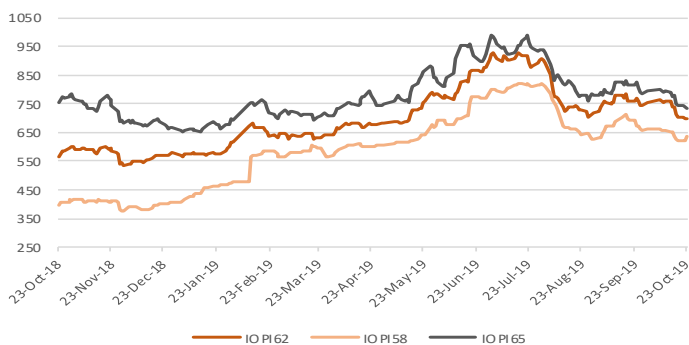
Week Ending October 18th, 2019		FOT Qingdao (inc. 16% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 16% VAT), USD/dry tonne <sup>3</sup>						
Index	Fe Content	Price	W-o-W	Change %	MTD	YTD	Low <sup>2</sup>	High <sup>2</sup>	Price	W-o-W	Change %	MTD	YTD	Low <sup>2</sup>	High <sup>2</sup>
IOPLI62	62.5% Fe Lump	830	-9	-1.1%	835	887	710	1051	101.82	-1.15	-1.12%	102.39	112.48	88.56	133.81

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

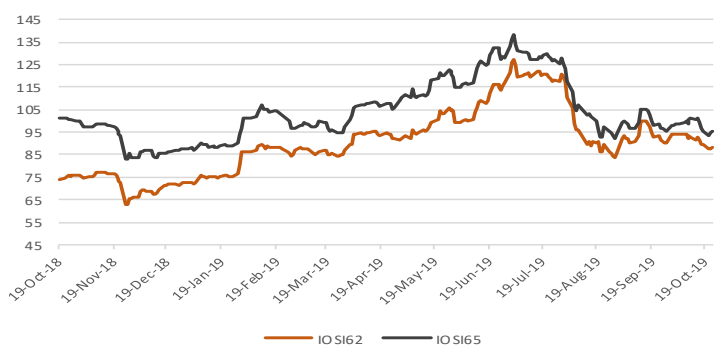
Week Ending October 18th, 2019				RMB/tonne (excluding tax) <sup>3</sup>				USD/tonne (excluding tax) <sup>3</sup>			
Province	Region	Product	Basis	This week	Change %	Low <sup>2</sup>	High <sup>2</sup>	This week	Change %	Low <sup>2</sup>	High <sup>2</sup>
Hebei	Hanxing	66% Fe Concentrate	Dry	852	-0.6%	644	1032	120.45	-0.59%	93.58	150.03
Hebei	Qian'an	65% Fe Concentrate	Dry	905	0.0%	690	960	127.95	-0.01%	100.26	139.35
Liaoning	Anshan	65% Fe Concentrate	Wet	650	0.0%	535	745	91.90	-0.01%	77.39	104.66
Shandong	Zibo	65% Fe Concentrate	Dry	895	0.0%	740	1040	126.53	-0.01%	106.55	151.33
Week Ending October 18th, 2019				This week	Change %	Low <sup>2</sup>	High <sup>2</sup>				
China Mines Concentrate Composite Index RMB/WT				761.97	1.0%	609.04	859.50				

<sup>1</sup> Exchange rate applied: RMB/USD = 7.0572 <sup>2</sup>Last 12 months  
<sup>3</sup> Weekly exchange rate applied: RMB/USD 7.0732

## 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

October 23rd 2019		FOT Qingdao (inc. 13% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 13% VAT), USD/dry tonne						
Index	Fe Content	June	July	August	September	MTD	QTD	YTD	June	July	August	September	MTD	QTD	YTD
IOPI62	62% Fe Fines	825	909	759	758	733	733	728	98.40	111.42	123.29	100.18	95.93	95.93	97.33
IOPI58	58% Fe Fines	726	809	691	674	642	642	640	86.39	98.60	110.47	91.86	84.42	84.42	85.68
IOPI65	65% Fe Fines	901	954	823	803	770	770	796	110.00	121.97	129.53	108.92	100.98	100.98	106.81

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

## FREIGHT RATES

October 23rd 2019		CFR Qingdao, USD/dry tonne							FREIGHT RATES - DRY BULK US\$/wet tonne						
Index	Fe Content	June	July	August	September	MTD	QTD	YTD	Route	Designation	Change	Change %	Low <sup>2</sup>	High <sup>2</sup>	
IOSI62	62% Fe Fines	108.57	120.82	92.61	93.76	91.88	91.88	95.15	W. Australia - Qingdao	C5	8.86	-0.13	-1.46%	4.39	11.42
IOSI65	65% Fe Fines	124.49	129.53	101.34	99.42	98.23	98.23	106.71	Tubarao - Qingdao	C3	20.17	-0.68	-3.24%	11.61	29.10

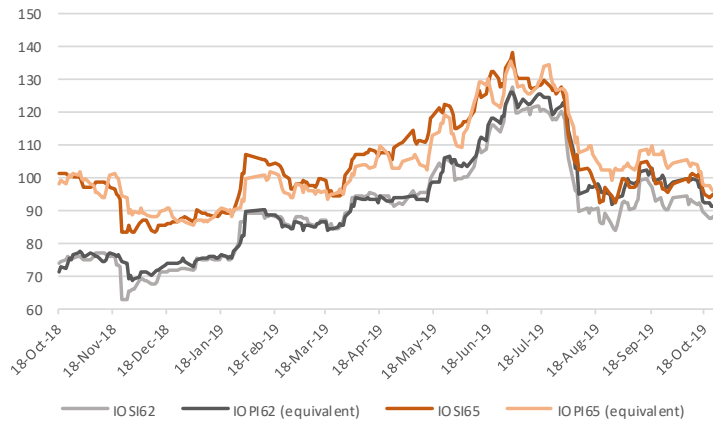
## IRON ORE PORT LUMP INDEX MONTHLY, QUARTERLY AND YEAR-TO-DATE AVERAGES

Week Ending October 18th, 2019		FOT Qingdao (inc. 16% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 16% VAT), USD/dry tonne <sup>1</sup>						
Index	Fe Content	June	July	August	September	MTD	QTD	YTD	May	June	July	September	MTD	QTD	YTD
IOPLI62	62.5% Fe Lump	1009	1046	870	803	835	835	887	128.00	132.99	108.80	98.44	102.39	102.39	112.48

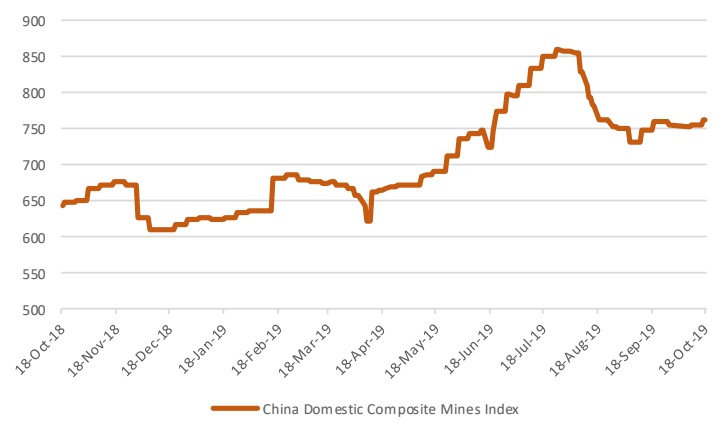
## IRON ORE INDEX PREMIUMS/DISCOUNTS

October 23rd 2019				PORT STOCK INDEX (RMB/WT)		October 23rd 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	-63	-9.03%	IOSI65	65% Fe Fines	6.95	7.88%		
IOPI65	65% Fe Fines	38	5.44%						

## IRON ORE INDEX COMPARISONS (USD/DMT)



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



## IRON ORE BRAND SPOT PRICE ASSESSMENTS

October 23rd 2019				October 23rd 2019			
PORT STOCK INDEX (RMB/WT)				SEABORNE INDEX (USD/DMT)			
	Price	Change	Diff to IOPI62		Price	Change	Diff to IO SI62
Roy Hill	676	7	-22	Roy Hill	85.46	0.95	-2.79
SIMEC Fines	677	19	-21	SIMEC Fines	82.66	0.95	-5.59
PB Fines	674	1	-24	PB Fines	86.84	0.95	-1.41
Newman Fines	704	1	6	Newman Fines	88.65	0.95	0.40
MAC Fines	685	7	-13	MAC Fines	84.96	0.95	-3.29
Jimblebar Blended Fines	622	6	-76	Jimblebar Blended Fines	74.56	0.95	-13.69
Carajas Fines	738	-2	40	Carajas Fines	94.92	0.95	6.67
Brazilian SSF	704	15	6	Brazilian SSF	85.75	0.95	-2.50
Brazilian Blend Fines	704	2	6	Brazilian Blend Fines	88.00	0.95	-0.25
RTX Fines	648	6	-50	RTX Fines	79.66	0.95	-8.59
West Pilbara Fines	668	9	-30	West Pilbara Fines	85.16	0.95	-3.09

October 23rd 2019			
PORT STOCK INDEX (RMB/WT)			
	Price	Change	Diff to IOPI58
SSF	567	6	-68
FMG Blended Fines	631	12	-4
Robe River	575	8	-60
Western Fines	577	7	-58
Atlas Fines	567	6	-68
Yandi	605	10	-30

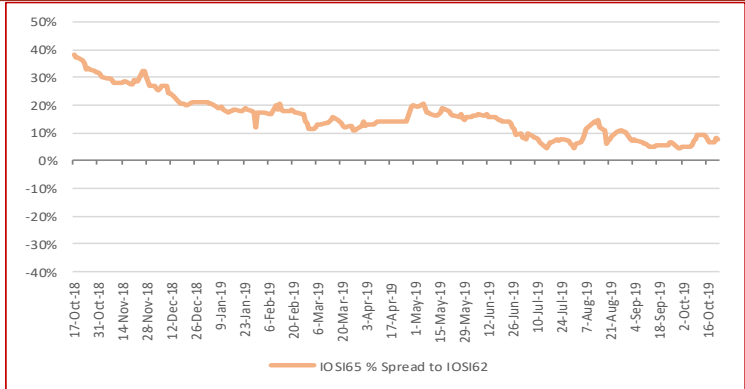
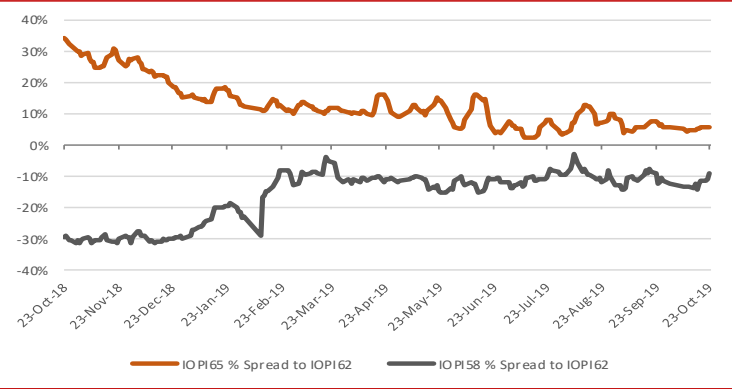
## IRON ORE INDEX NORMALISATION DIFFERENTIALS

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%	11.00	-2.00	1% Fe	High Grade Fe 60 - 63%	1.00	0.00
	High Grade Fe 63 - 64%	7.00	0.00		High Grade Fe 63 - 64%	1.25	0.00
	High Grade Fe 64 - 65%	7.00	0.00		High Grade Fe 64 - 65%	1.25	0.00
	High Grade Fe 65 - 65.5%	7.00	0.00		High Grade Fe 65 - 65.5%	1.25	0.00
	Low Grade Fe	18.00	2.00				
1% Alumina	High Fe Grade Al <2.25%	3.00	-1.00	1% Alumina	High Fe Grade Al <2.25%	1.00	0.00
	High Fe Grade Al 2.25-4%	32.00	0.00		High Fe Grade Al 2.25-4%	2.75	0.00
	Low Fe Grade Al <2.25%	2.00	0.00				
	Low Fe Grade Al 2.25-4%	39.00	3.00				
1% Silica	High Fe Grade Si <4%	4.00	0.00	1% Silica	High Fe Grade Si <4%	1.00	0.00
	High Fe Grade Si 4-6.5%	5.00	-6.00		High Fe Grade Si 4 - 6.5%	1.50	0.00
0.01% Phosphorus	High Fe Grade 0.09%<P<0.115%	5.00	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%	0.00	0.00		High Fe Grade 0.115%<P<0.15%	2.25	0.00
	Low Fe Grade 0.09<P<0.1%	0.00	0.00				

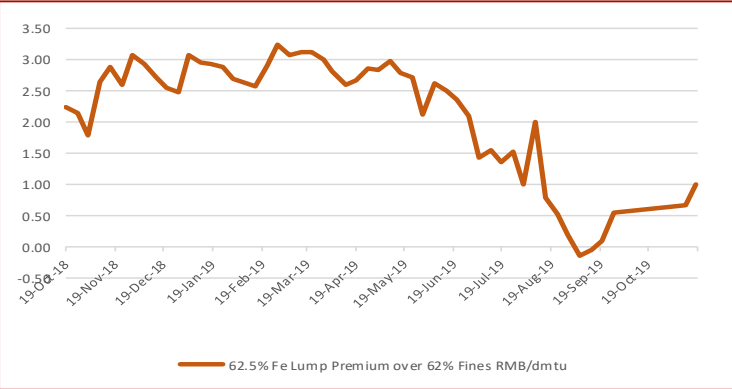
## Port Stock Price Differentials to Qingdao Port for PB Fines (RMB/wet tonne)

Port	Value	Change	Port	Value	Change	Port	Value	Change	Port	Value	Change
Bayuquan	-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	-30.00	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	Lanqiao	0.00	0.00	Nantong	-10.00	0.00	Tianjin	-20.00	0.00

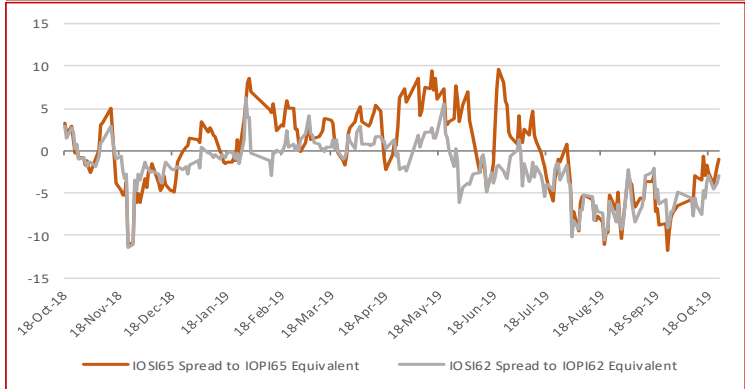
IRON ORE INDEX PREMIUMS/DISCOUNTS



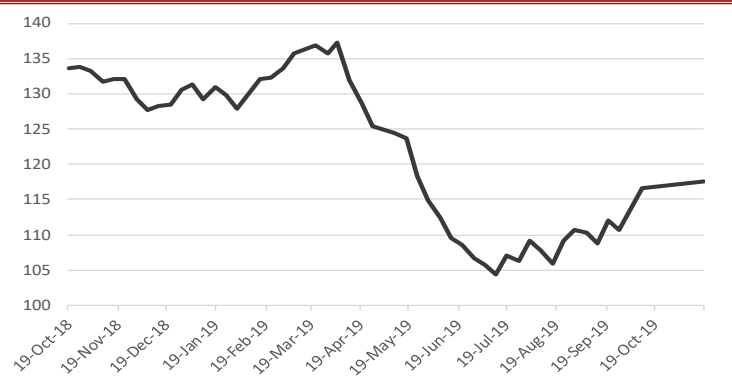
WEEKLY IRON ORE PORT STOCK LUMP PREMIUM (RMB/DMTU)



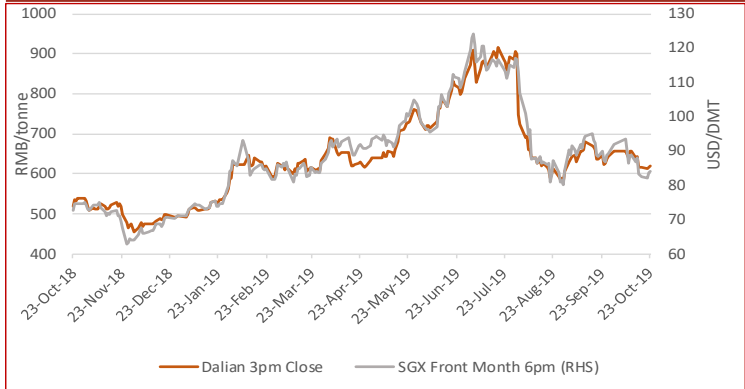
IRON ORE SEABORNE TO PORT STOCK PRICE SPREADS (USD/DMT)



TOTAL IRON ORE INVENTORIES AT CHINA PORTS (MILLION TONNES)



FUTURE TRADING—FRONT MONTH CLOSING PRICE



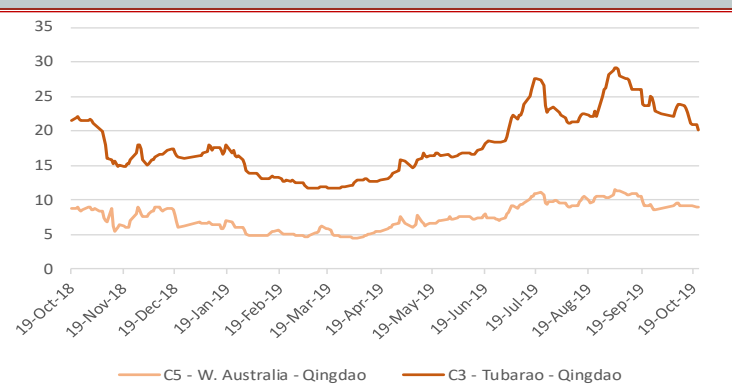
IRON ORE PORT INVENTORIES (MILLION TONNES)

Week Ending October 18th, 2019				
Province	This week	Change %	Low <sup>2</sup>	High <sup>2</sup>
Jingtang	16.68	10.03%	10.80	16.68
Qingdao	13.50	-3.30%	12.38	19.01
Caofeidian	16.72	0.00%	14.32	19.96
Tianjin	7.40	1.79%	6.37	10.05
Rizhao	13.66	4.75%	11.41	17.10
<b>Total (35 Ports)</b>	<b>117.51</b>	<b>0.75%</b>	<b>104.40</b>	<b>137.30</b>

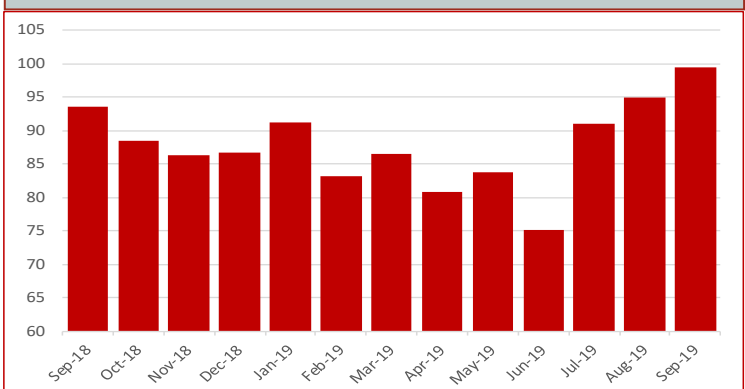
IRON ORE FUTURES CONTRACTS

Closing Date	DCE (RMB/WMT)			SGX (USD/DMT)		
	Oct 23rd 3pm close			Oct 23rd 5.30 pm		
Contract	I2001	Change	Change %	Nov'19	Change	Change %
Closing Price	620.50	4.5	0.73%	84.00	0.42	0.50%
Vol traded ('000 lots)	210.11	15.5	7.98%	13.13	-7.06	-34.97%
Open positions ('000 lots)	167.86	-1.9	-1.10%	126.67	-3.66	-2.81%
Day Low	615.5	8.0	1.32%	83.43	0.93	1.13%
Day High	628.0	9.0	1.45%	84.95	1.18	1.41%

DRY BULK FREIGHT RATES (USD/MT)

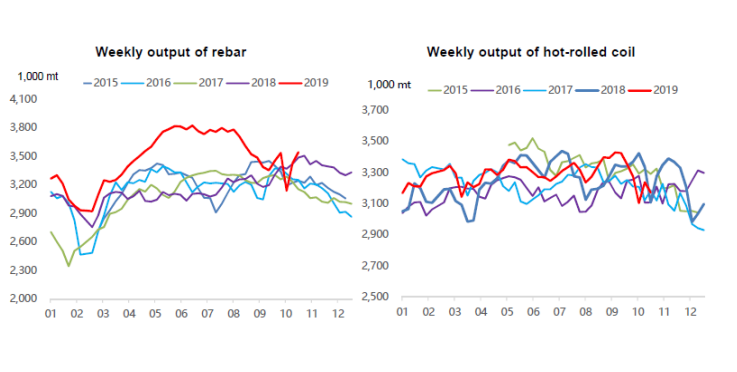


TOTAL CHINA IRON ORE IMPORT VOLUMES (MILLION TONNES)



STEEL SPOT MARKET PRICES—CHINA

Steel Spot Market RMB/tonne			
Product	18/10/2019	Change	Change %
ReBar HRB400 φ18mm	3,670.0	-70	-1.87%
Wirerod Q300 φ6.5mm	4,040.0	-60	-1.46%
HRC Q235/SS400 5.5mm*1500*C	3,510.0	-60	-1.68%
CRC SPPC/ST12 1.0mm*1250*2500	4,240.0	-30	-0.70%
Medium & Heavy Plate Q235B 20mm	3,700.0	-60	-1.60%
GI ST02Z 1.0mm*1000*C	4,430.0	-60	-1.34%
Colour Coated Plate	6,900.0	50	0.73%

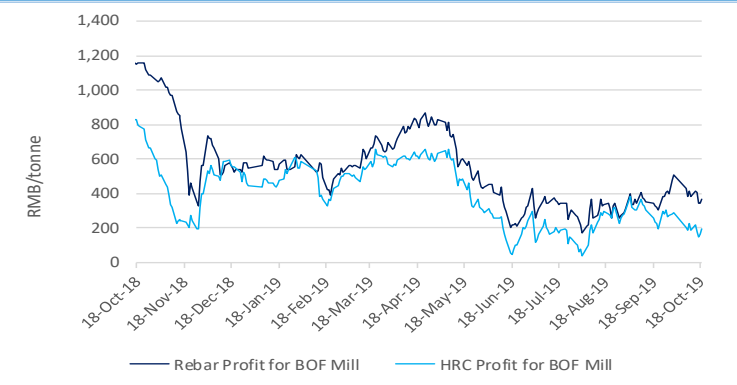


CHINESE STEEL MILL PROFITABILITY

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	89.50	-4.10	Mmi CFR Equivalent index for 1st Feb
Coke	1,910	0	2nd grade met coke, Tangshan, incl. tax
Steel Scrap	2,280	-100	steel scrap (6mm) in Zhangjiagang, exl. tax
Billet Cost	3,011	-72	Q234, incl. tax
Rebar cost - Blast furnace	3,250	-73	calculated based on theoretical weight, incl. tax
Rebar profit - Blast furnace	370	-17	based on Shanghai prices, incl. tax
Hot-rolled coil cost - Blast furnace	3,327	-72	based on actual weight, incl. tax
Hot-rolled coil profit - Blast furnace	193	-8	based on Shanghai prices, incl. tax

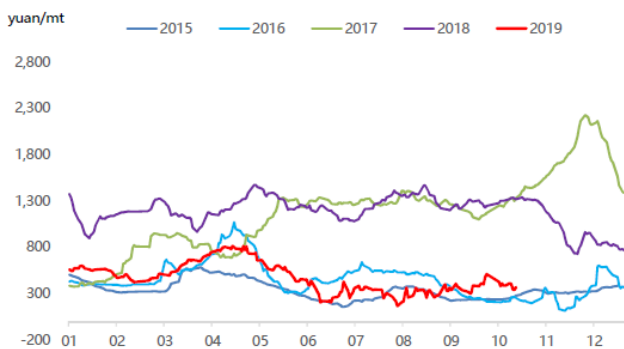
Note: 1. Costs in the table are calculated based on today's market prices and factored our management, sales, financial and depreciations fees.  
2. The cost refers to average cost in the industry based on SMM's survey of small, medium and large mills in China

CHINESE STEEL MILL PROFITABILITY

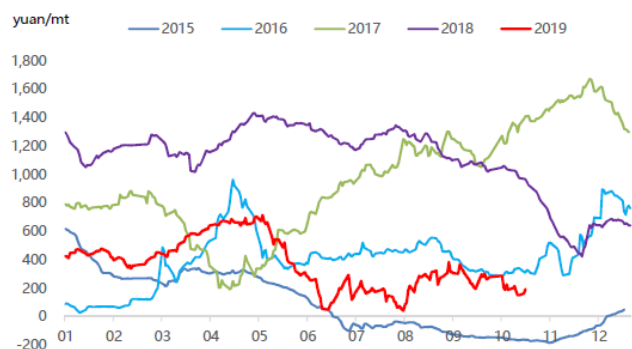


CHINESE STEEL MILL PROFITABILITY

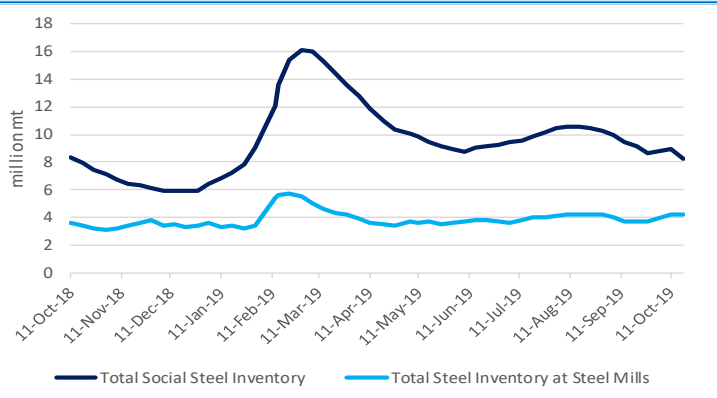
Rebar profits



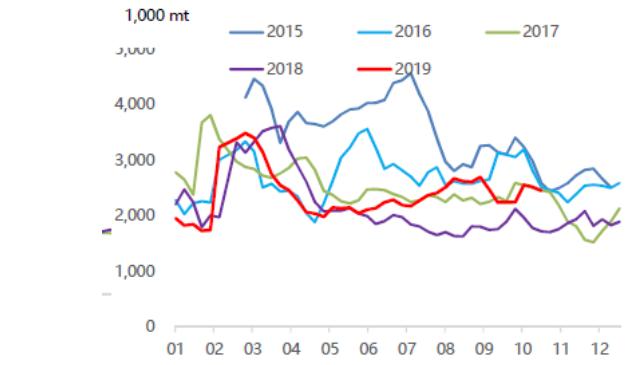
Hot-rolled coil profits



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>	<p>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.</p> <p>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></p>
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					
October 23rd 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	61.54%	2.40%	3.68%	0.097%	9.58%	PB Fines 62%	62.00%	2.60%	4.30%	0.090%	10.00%
Newman Fines	62.50%	2.19%	4.13%	0.092%	7.74%	Newman Fines	62.80%	2.20%	4.30%	0.080%	6.40%
MAC Fines	60.88%	2.25%	4.62%	0.080%	7.61%	MAC Fines	61.00%	2.70%	4.70%	0.110%	9.30%
Jimblebar Blended Fines	60.48%	3.05%	4.60%	0.118%	7.70%	Jimblebar Blended Fines	59.50%	3.70%	5.80%	0.135%	8.30%
Carajas Fines	65.44%	1.29%	1.34%	0.078%	8.22%	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	62.92%	1.54%	4.60%	0.069%	8.39%	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%
October 23rd 2019	Specifications applied for 58% brand assessments						Specifications applied for 58% brand assessments				
	Fe	Alumina	Silica	Phos	Moisture		Fe	Alumina	Silica	Phos	Moisture
SSF	56.56%	3.05%	6.24%	0.051%	8.14%						
FMG Blended Fines	58.17%	2.65%	5.44%	0.057%	7.90%						
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	57.23%	1.58%	6.35%	0.041%	9.02%						

## 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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