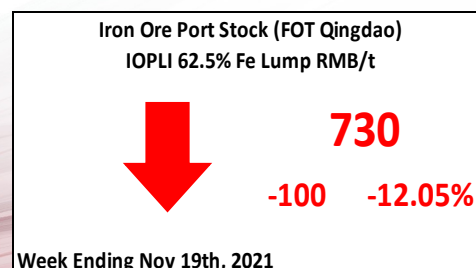
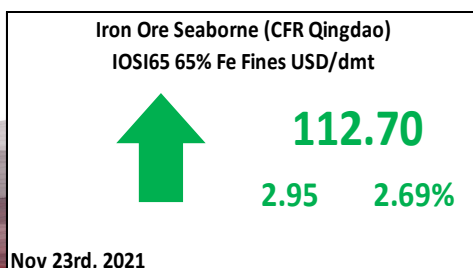
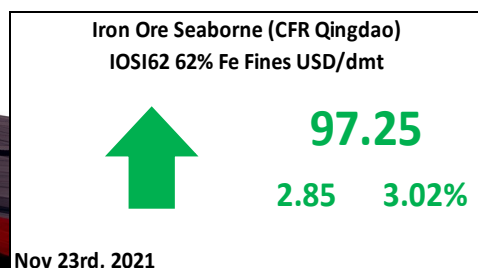
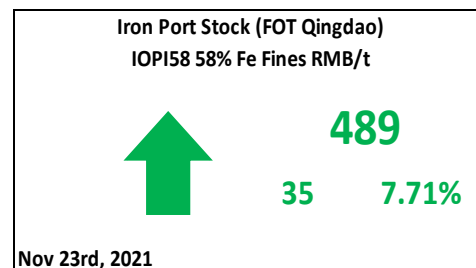
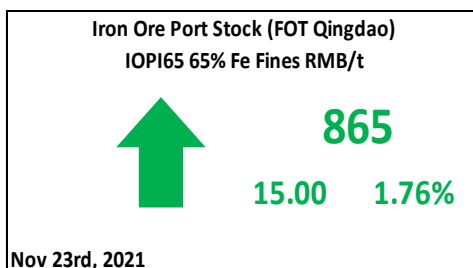
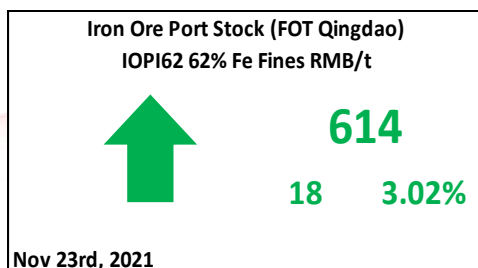


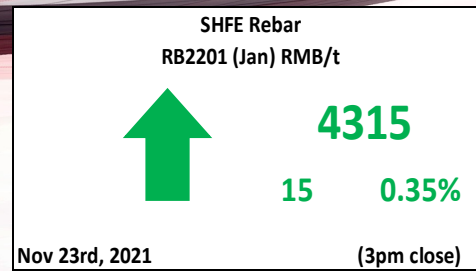
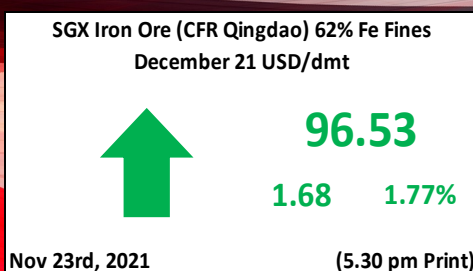
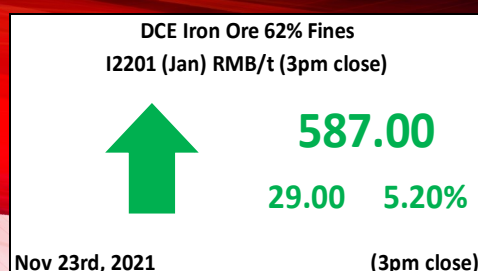


## MMi Dashboard

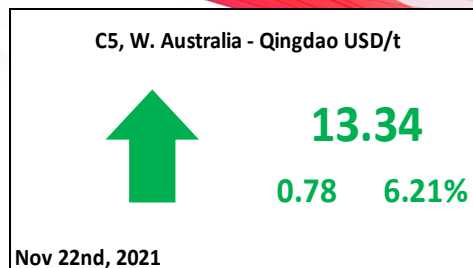
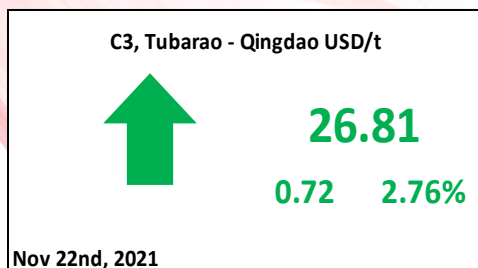
## Iron Ore Price Indices



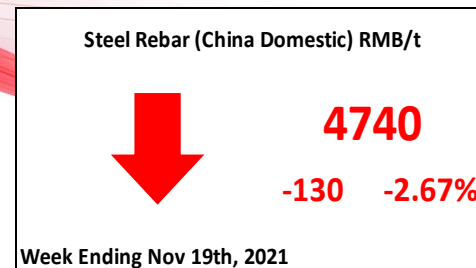
## Exchange Traded Contracts



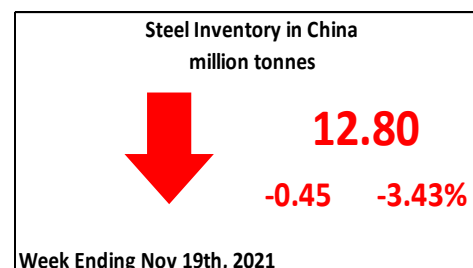
## Freight Rates



## Steel Price



## Inventory Levels



## Steel Price



## IRON ORE PORT STOCK INDEX (IOPI)

Nov 23rd, 2021		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	614	18	3.0%	674	1188	587	1680	88.17	2.74	3.2%	97.16	172.62	84.25	247.30
IOPI58	58% Fe Fines	489	35	7.7%	492	959	454	1421	70.13	5.35	8.3%	70.51	140.05	64.78	210.83
IOPI65	65% Fe Fines	865	15	1.8%	900	1391	843	1894	125.94	2.30	1.9%	131.19	202.90	122.83	278.61

## IRON ORE SEABORNE INDEX (IOSI)

## MARKET COMMENTARY

Nov 23rd, 2021		CFR Qingdao, USD/dry tonne						
Index	Fe Content	Price	Change	Change %	MTD	YTD	Low <sup>2</sup>	High <sup>2</sup>
IOSI62	62% Fe Fines	97.25	2.85	3.02%	98.11	167.97	93.75	230.50
IOSI65	65% Fe Fines	112.70	2.95	2.69%	113.43	194.18	108.20	262.95

DCE iron ore futures rose largely today, an increase of 7.81% throughout the day. The highest price is 598.5, Most traders do not quote prices in the morning, but after the quotation increased compared with yesterday 50-70 yuan/mt. The enthusiasm of steel works has increased. Today's overall market transaction atmosphere is good. PBF at Shandong port deal: 650,660 yuan/mt, increased 50-70 yuan/mt over yesterday. PBF at Tangshan port deal: 620,650 yuan/mt, increased 40-50 yuan/mt over yesterday. According to data tracked by MMI, 79 ships arrived at domestic main ports in November. 15,21. Arrivals of cargoes are estimated to stand at 11.83 million mt, down 0.27 million mt from the previous week and down 2.69 million mt on year. Shipments that departed Australian ports were estimated to increase 2.59 million mt week on week to 18.89 million mt, up 3.82 million mt on the year. And that from Brazilian ports increased 0.79 million mt to 5.18 million mt on a weekly basis, down 1.82 million mt on the year. The total arrivals of imported ore dropped slightly again from the prior week, while the combined shipments from Australia and Brazil rose as a whole. Recently, the market has heightened its estimate regarding steel mills' resuming production due to positive news from the downstream real estate sector, on the combination of the early completion of crude steel output control target by some mills. The intraday most-trade iron ore contract has surged by more than 9% as the time of this writing. On the other hand, however, coke prices have been falling for seven consecutive rounds, and the ore prices are also at a low level, restoring part of the steel mills' profits. Hence, ore prices will gain some support in the short term.

## IRON ORE PORT LUMP INDEX (IOPLI)

Week Ending Nov 19th, 2021		FOT Qingdao (inc. 13% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 13% 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	730	-100	-12.0%	817	1424	886	1868	101.31	-14.20	-12.29%	113.63	197.91	118.00	262.00

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

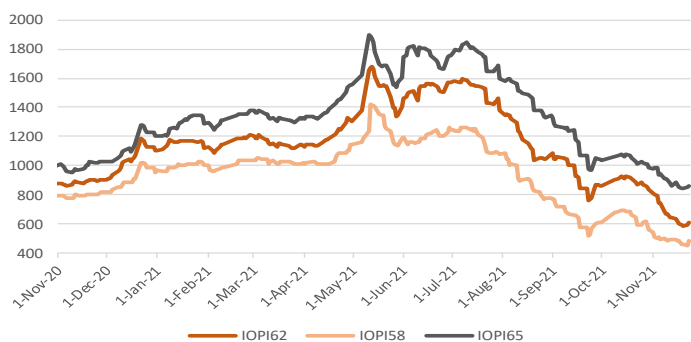
Week Ending Nov 19th, 2021				RMB/tonne (excluding tax) <sup>3</sup>				USD/tonne (excluding tax) <sup>3</sup>			
Province	Region	Product	Basis	This week	Change %	Low <sup>2</sup>	High <sup>2</sup>	This week	Change %	Low <sup>2</sup>	High <sup>2</sup>
Hebei	Hanxing	66% Fe Concentrate	Dry	815	-4.1%	779	1645	127.59	-3.93%	110.31	255.69
Hebei	Qian'an	65% Fe Concentrate	Dry	870	-13.4%	780	1630	136.20	-13.26%	110.51	251.57
Liaoning	Anshan	65% Fe Concentrate	Wet	770	0.0%	620	1310	120.54	0.20%	87.40	202.32
Shandong	Zibo	65% Fe Concentrate	Dry	820	-5.2%	820	1752	128.37	-5.01%	122.55	272.32

Week Ending Nov 19th, 2021

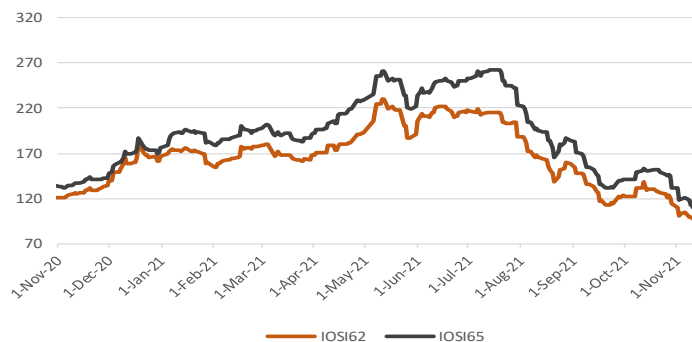
This week	Change %	Low <sup>2</sup>	High <sup>2</sup>	
China Mines Concentrate Composite Index RMB/WT	828.99	-4.53%	706.36	1511.22

<sup>1</sup> Exchange rate applied: RMB/USD = 6.4934 <sup>2</sup> Last 12 months  
<sup>3</sup> Weekly exchange rate applied: RMB/USD 6.5044

## 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

Nov 23rd, 2021		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	1519	1174	937	893	674	780	1188	170.18	135.90	135.31	129.57	97.16	112.87	172.62
IOPI58	58% Fe Fines	1186	894	648	646	492	567	959	130.00	93.62	93.31	93.69	70.51	81.75	140.05
IOPI65	65% Fe Fines	1750	1466	1152	1043	900	970	1391	213.59	214.41	214.06	152.11	131.19	141.33	202.90

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

## FREIGHT RATES

Nov 23rd, 2021		CFR Qingdao, USD/dry tonne							Nov 22nd, 2021						
Index	Fe Content	July	August	September	October	MTD	QTD	YTD	FREIGHT RATES - DRY BULK US\$/wet tonne						
Index	Fe Content	July	August	September	October	MTD	QTD	YTD	Route	Designation	Change	Change %	Low <sup>2</sup>	High <sup>2</sup>	
IOSI62	62% Fe Fines	211.65	162.80	128.43	127.04	98.11	114.01	167.97	W. Australia - Qingdao	C5	13.34	0.78	6.21%	3.57	16.77
IOSI65	65% Fe Fines	254.36	192.73	148.09	147.37	113.43	132.21	194.18	Tubarao - Qingdao	C3	26.81	0.72	2.76%	6.70	36.40

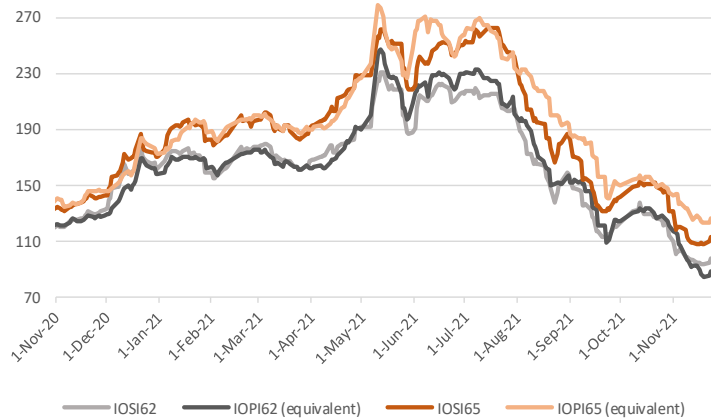
## IRON ORE PORT LUMP INDEX MONTHLY, QUARTERLY AND YEAR-TO-DATE AVERAGES

Week Ending Nov 19th, 2021		FOT Qingdao (inc. 13% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 13% VAT), USD/dry tonne <sup>1</sup>						
Index	Fe Content	July	August	September	October	MTD	QTD	YTD	July	August	September	October	MTD	QTD	YTD
IOPLI62	62.5% Fe Lump	1816	1409	1065	999	817	908	1424	254.64	196.49	147.90	139.52	113.63	126.58	197.91

## IRON ORE INDEX PREMIUMS/DISCOUNTS

Nov 23rd, 2021		PORT STOCK INDEX (RMB/WT)				Nov 23rd, 2021		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	-125		-20.36%		IOSI65	65% Fe Fines	15.45		15.89%	
IOPI65	65% Fe Fines	251		40.88%							

## IRON ORE INDEX COMPARISONS (USD/DMT)



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



## IRON ORE BRAND SPOT PRICE ASSESSMENTS

Nov 23rd, 2021				Nov 23rd, 2021			
PORT STOCK INDEX (RMB/WT)				SEABORNE INDEX (USD/DMT)			
	Price	Change	Diff to IOPI62		Price	Change	Diff to IOSI62
Roy Hill	568	13	-46	Roy Hill	92.75	2.85	-4.50
SIMEC Fines	541	2	-73	SIMEC Fines	89.25	2.85	-8.00
PB Fines	595	16	-19	PB Fines	96.00	2.85	-1.25
Newman Fines	626	19	12	Newman Fines	97.15	2.85	-0.10
MAC Fines	564	11	-50	MAC Fines	93.15	2.85	-4.10
Jimblebar Blended Fines	524	10	-90	Jimblebar Blended Fines	86.50	2.85	-10.75
Carajas Fines	848	15	234	Carajas Fines	126.80	2.85	29.55
Brazilian SSF	629	5	15	Brazilian SSF	101.00	2.85	3.75
Brazilian Blend Fines	631	14	17	Brazilian Blend Fines	102.65	2.85	5.40
RTX Fines	528	9	-86	RTX Fines	87.15	2.85	-10.10
West Pilbara Fines	553	11	-61	West Pilbara Fines	91.50	2.85	-5.75

Nov 23rd, 2021			
PORT STOCK INDEX (RMB/WT)			
	Price	Change	Diff to IOPI58
SSF	488	35	-1
FMG Blended Fines	493	35	4
Robe River	492	35	3
Western Fines	497	35	8
Atlas Fines	489	35	0
Yandi	486	35	-3

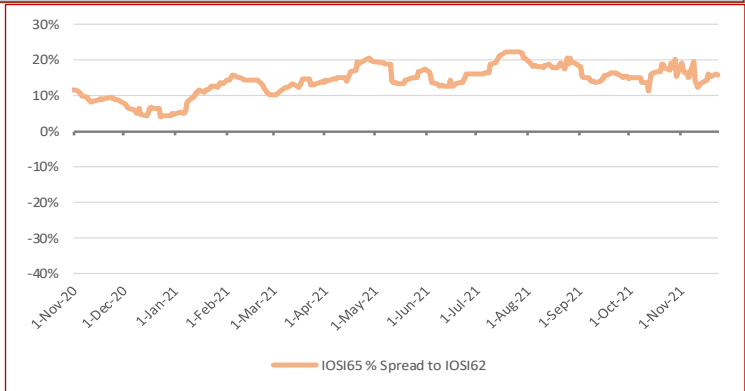
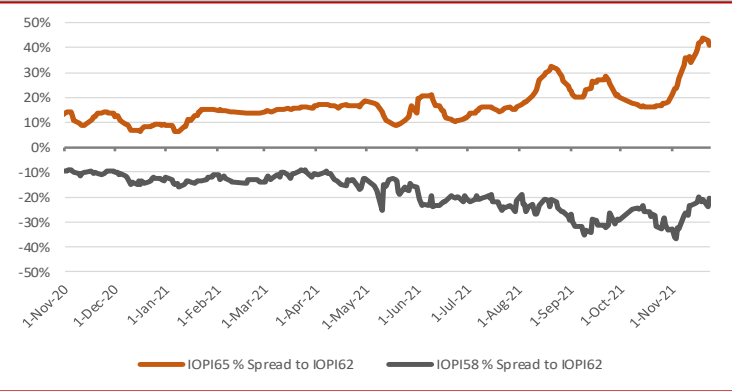
## IRON ORE INDEX NORMALISATION DIFFERENTIALS

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%	24.00	2.00	1% Fe	High Grade Fe 60 - 63%	3.00	0.00
	High Grade Fe 63 - 64%	39.00	0.00		High Grade Fe 63 - 64%	2.25	0.00
	High Grade Fe 64 - 65%	39.00	0.00		High Grade Fe 64 - 65%	2.25	0.00
	High Grade Fe 65 - 65.5%	39.00	0.00		High Grade Fe 65 - 65.5%	2.25	0.00
1% Alumina	Low Grade Fe	22.00	-1.00	1% Alumina	High Fe Grade Al <2.25%	0.75	0.25
	High Fe Grade Al <2.25%	31.00	-1.00		High Fe Grade Al 2.25-4%	1.25	-0.25
	High Fe Grade Al 2.25-4%	41.00	5.00				
	Low Fe Grade Al <2.25%	65.00	0.00				
1% Silica	Low Fe Grade Al 2.25-4%	47.00	-3.00	1% Silica	High Fe Grade Si <4%	3.00	0.00
	High Fe Grade Si <4%	49.00	-2.00		High Fe Grade Si 4 - 6.5%	7.50	0.00
0.01% Phosphorus	High Fe Grade Si 4-6.5%	15.00	5.00	0.01% Phosphorus	High Fe Grade 0.09%<P<0.115%	0.25	0.00
	Low Fe Grade	10.00	-2.00		High Fe Grade 0.115%<P<0.15%	1.00	0.00
	High Fe Grade 0.09%<P<0.115%	5.00	0.00				
	High Fe Grade 0.115%<P<0.15%	5.00	0.00				
	Low Fe Grade 0.09%<P<0.1%	5.00	0.00				

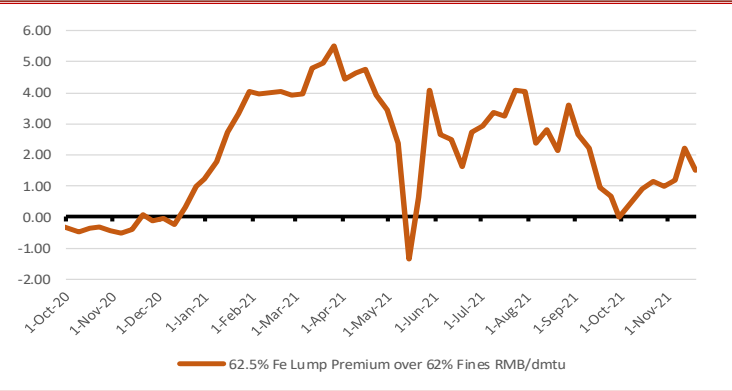
## Port Stock Price Differentials to Qingdao Port for PB Fines (RMB/wet tonne)

Port	Value	Change	Port	Value	Change	Port	Value	Change	Port	Value	Change
Bayuquan	-100.00	0.00	Fangcheng	-25.00	0.00	Lanshan	0.00	0.00	Rizhao	0.00	0.00
Beilun	0.00	0.00	Jiangyin	-95.00	0.00	Lianyungang	0.00	0.00	Shekou	0.00	0.00
Caofeidian	-20.00	-20.00	Jingtang	-20.00	-20.00	Majishan	0.00	0.00	Taicang	-95.00	0.00
Dalian	0.00	0.00	Lanqiao	0.00	0.00	Qingdao	0.00	0.00	Tianjin	-40.00	0.00

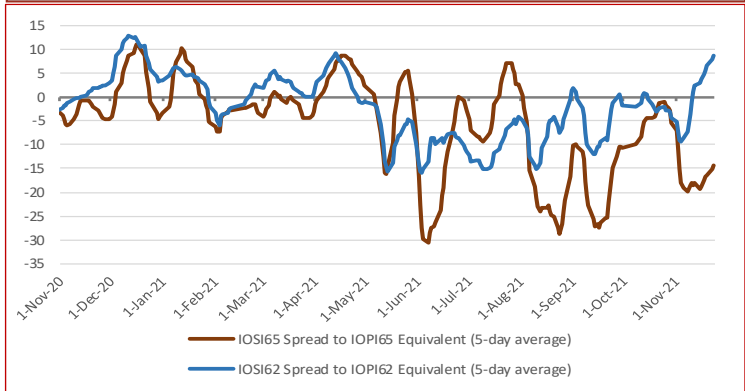
IRON ORE INDEX PREMIUMS/DISCOUNTS



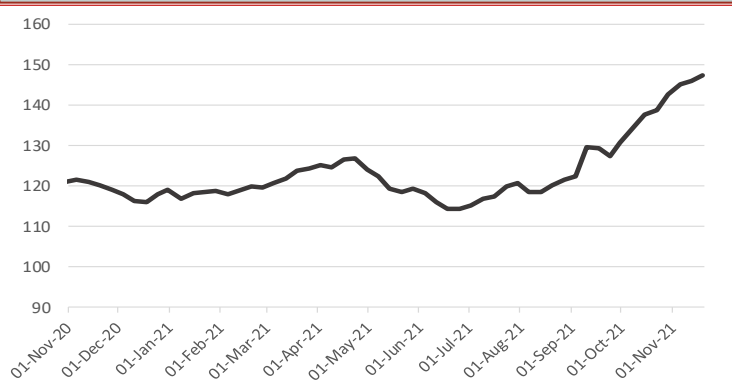
WEEKLY IRON ORE PORT STOCK LUMP PREMIUM (RMB/DMTU)



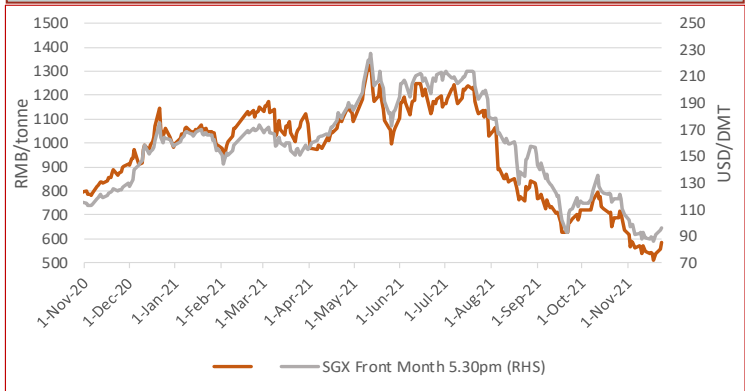
IRON ORE SEABORNE TO PORT STOCK PRICE SPREADS (USD/DMT)



TOTAL IRON ORE INVENTORIES AT CHINA PORTS (MILLION TONNES)



FUTURE TRADING—FRONT MONTH CLOSING PRICE



IRON ORE PORT INVENTORIES (MILLION TONNES)

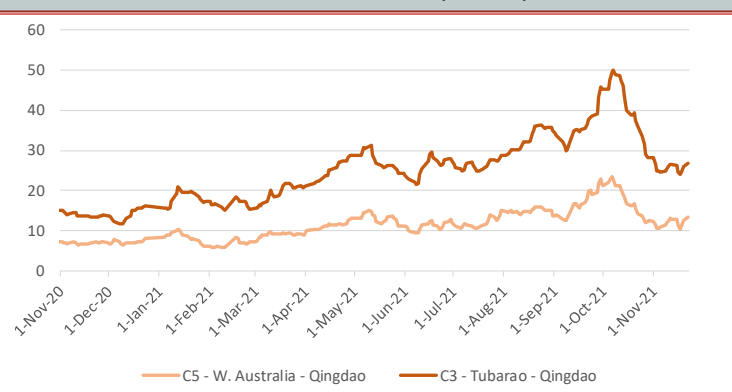
Week Ending Nov 19th, 2021

Province	This week	Change %	Low <sup>2</sup>	High <sup>2</sup>
Jingtang	16.21	1.00%	12.26	19.20
Qingdao	22.37	-1.76%	9.41	23.96
Caofeidian	15.50	2.24%	11.25	16.25
Tianjin	11.18	2.76%	7.14	11.28
Rizhao	15.84	1.73%	9.44	15.84
<b>Total (35 Ports)</b>	<b>147.33</b>	<b>0.83%</b>	<b>98.80</b>	<b>147.33</b>

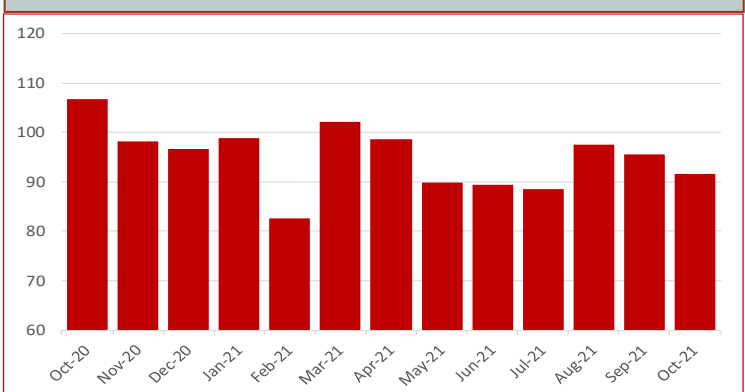
IRON ORE FUTURES CONTRACTS

Closing Date	DCE (RMB/WMT)			SGX (USD/DMT)		
	Nov 23rd, 3pm close			Nov 23rd, 5:30pm		
Contract	I2201	Change	Change %	Nov. 21	Change	Change %
Closing Price	587.00	29.00	5.20%	96.53	1.68	1.77%
Vol traded ('000 lots)	95.57	14.99	18.61%	3.56	1.09	44.23%
Open positions ('000 lots)	40.36	-4.07	-9.15%	19.96	0.43	2.20%
Day Low	558.0	32.00	6.08%	94.00	4.90	5.50%
Day High	598.5	37.50	6.68%	104.60	9.60	10.11%

DRY BULK FREIGHT RATES (USD/MT)



TOTAL CHINA IRON ORE IMPORT VOLUMES (MILLION TONNES)



STEEL SPOT MARKET PRICES—CHINA

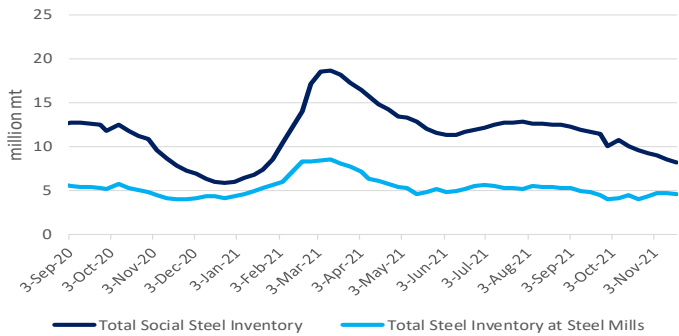
Product	2021/11/19	Change	Change %
ReBar HRB400 φ18mm	4,740	-130	-2.67%
Wirerod Q300 φ6.5mm	5,060	-120	-2.32%
HRC Q235/SS400 5.5mm*1500*C	4,660	-120	-2.51%
CRC SPCC/ST12 1.0mm*1250*2500	5,440	-290	-5.06%
Medium & Heavy Plate Q235B 20mm	5,060	-120	-2.32%
GI ST02Z 1.0mm*1000*C	5,680	-170	-2.91%
Colour Coated Plate	8,450	-200	-2.31%

CHINESE STEEL MILL PROFITABILITY

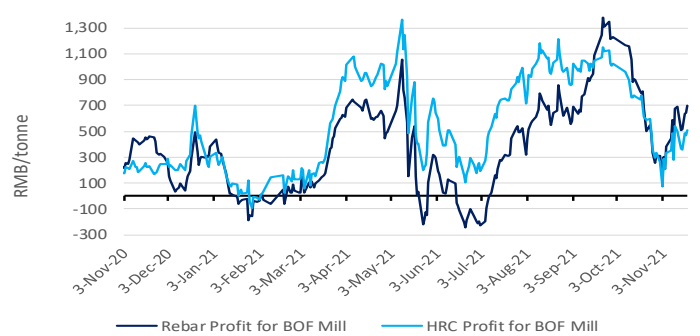
SMM Tracking of Steel Mill P&L - Rebar and Hot-rolled Coil (RMB/tonne)			
Category	Price	Change (WoW)	Note
MMi (Fe 62%), USD/mt excluding tax	93.75	-3	Mmi CFR Equivalent index for 1st Feb
Coke	3,210	-400	2nd grade met coke, Tangshan, incl. tax
Steel Scrap	3,240	-70	steel scrap (6mm) in Zhangjiagang, excl. tax
Billet Cost	3,502	-497	Q234, incl. tax
Rebar cost - Blast furnace	3,970	-284	calculated based on theoretical weight, incl. tax
Rebar profit - Blast furnace	700	10	based on Shanghai prices, incl. tax
Hot-rolled coil cost - Blast furnace	4,151	-128	based on actual weight, incl. tax
Hot-rolled coil profit - Blast furnace	509	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

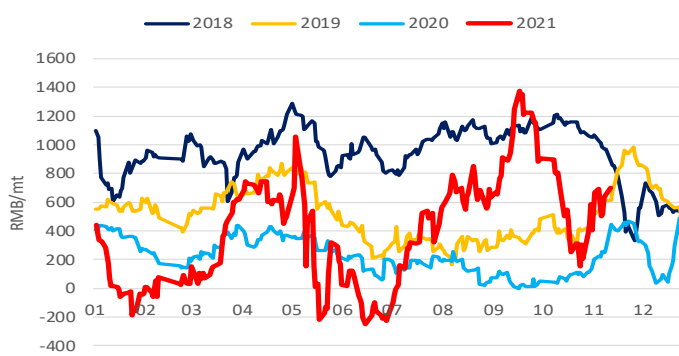
CHINESE STEEL INVENTORIES



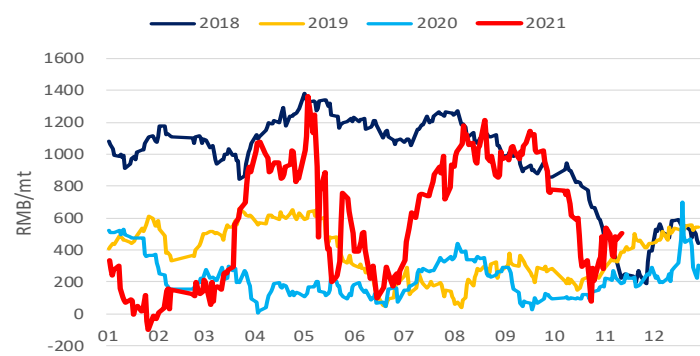
CHINESE STEEL MILL PROFITABILITY



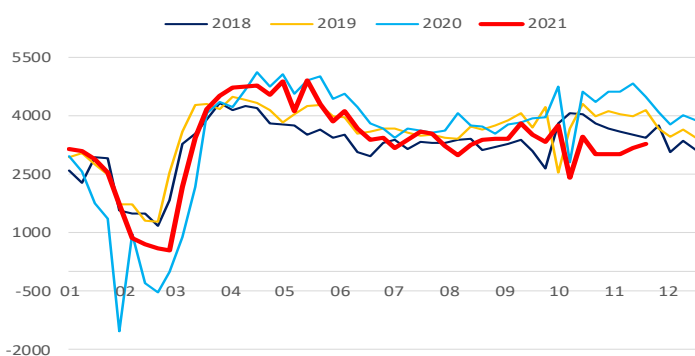
CHINESE STEEL MILL PROFITABILITY—Rebar



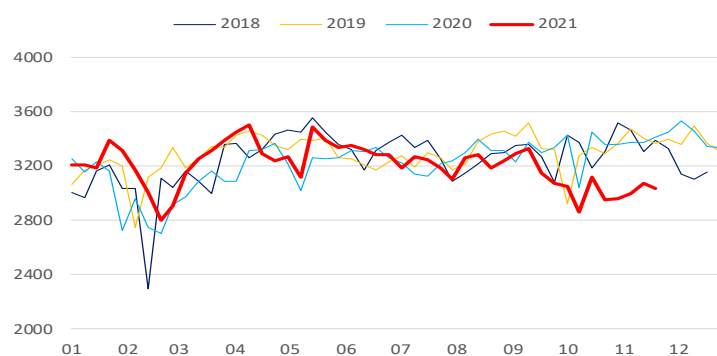
CHINESE STEEL MILL PROFITABILITY—Hot-rolled Coil



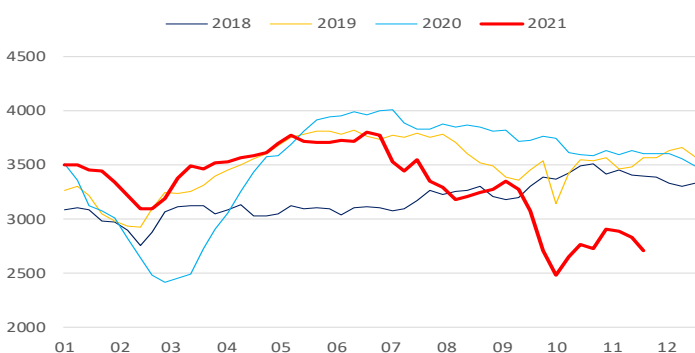
CHINESE STEEL CONSUMPTION—Rebar



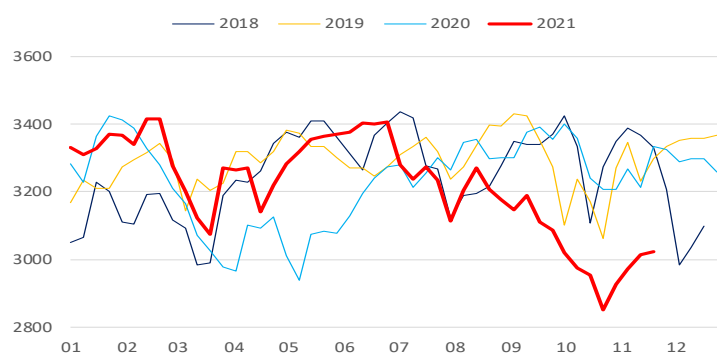
CHINESE STEEL CONSUMPTION—Hot-rolled Coil



CHINESE STEEL PRODUCTION—Rebar



CHINESE STEEL PRODUCTION—Hot-rolled Coil





## 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	
Fe %	65.00	62.00	58.00	62.50	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>
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>					
Port Index	0	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					
Nov 23rd, 2021	Specifications applied for 62% brand assessments						Specifications applied for 62% brand assessments				
	Fe	Alumina	Silica	Phos	Moisture		Fe	Alumina	Silica	Phos	Moisture
Roy Hill	60.88%	2.35%	4.45%	0.055%	9.26%	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	61.64%	2.31%	3.87%	0.099%	9.45%	PB Fines 62%	62.00%	2.60%	4.30%	0.090%	9.50%
Newman Fines	62.49%	2.31%	3.98%	0.090%	7.72%	Newman Fines	62.30%	2.40%	4.40%	0.090%	8.00%
MAC Fines	60.43%	2.38%	4.64%	0.078%	7.57%	MAC Fines	60.80%	2.35%	4.70%	0.080%	7.80%
Jimblebar Blended Fines	60.87%	2.95%	4.53%	0.111%	7.32%	Jimblebar Blended Fines	60.50%	3.00%	4.50%	0.120%	8.00%
Carajas Fines	64.90%	1.39%	1.82%	0.080%	7.78%	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	62.56%	1.58%	4.79%	0.091%	8.72%	Brazilian Blend Fines	63.00%	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%
Nov 23rd, 2021	Specifications applied for 58% brand assessments						Specifications applied for 58% brand assessments				
	Fe	Alumina	Silica	Phos	Moisture		Fe	Alumina	Silica	Phos	Moisture
SSF	56.49%	3.20%	6.19%	0.065%	9.18%						
FMG Blended Fines	58.20%	2.43%	5.54%	0.057%	8.29%						
Robe River	56.44%	3.16%	5.73%	0.042%	8.44%						
Western Fines	57.88%	2.87%	7.50%	0.062%	7.45%						
Atlas Fines	58.00%	1.85%	5.50%	0.090%	9.00%						
Yandi	56.87%	1.58%	6.41%	0.042%	9.53%						

## BLOOMBERG TICKERS

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

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