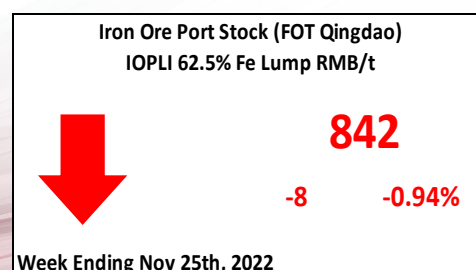
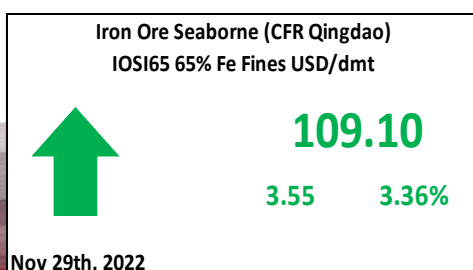
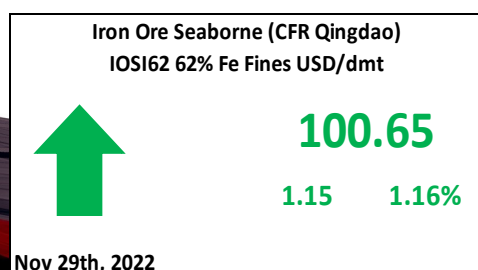
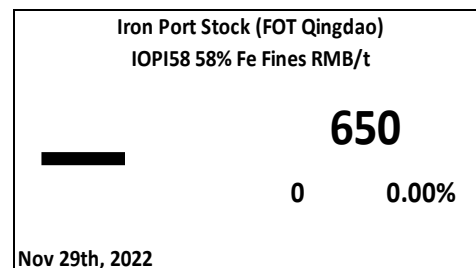
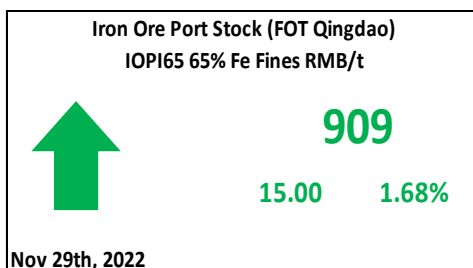
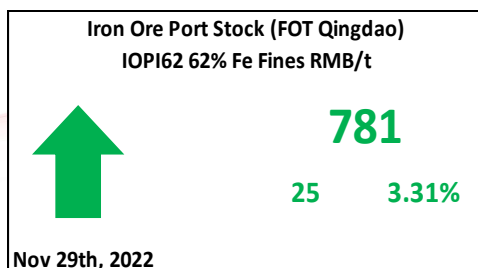


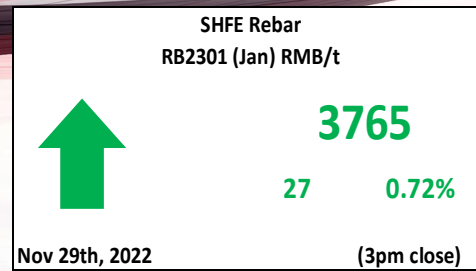
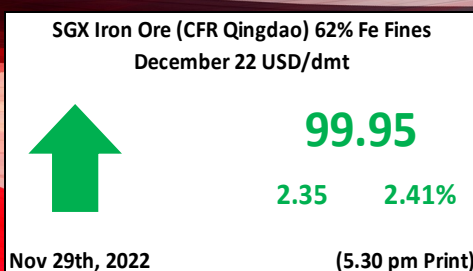
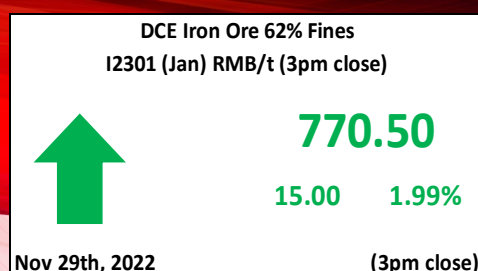


MMi Dashboard

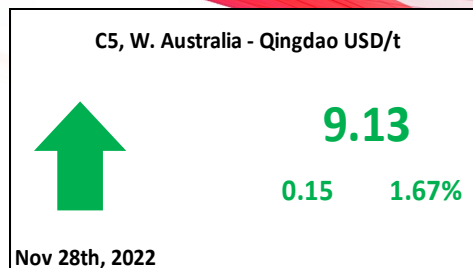
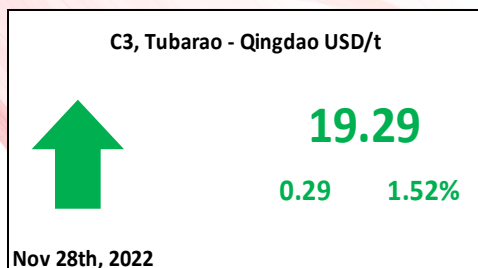
Iron Ore Price Indices



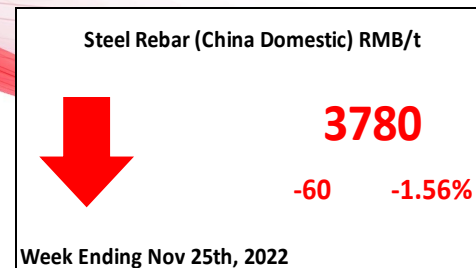
Exchange Traded Contracts



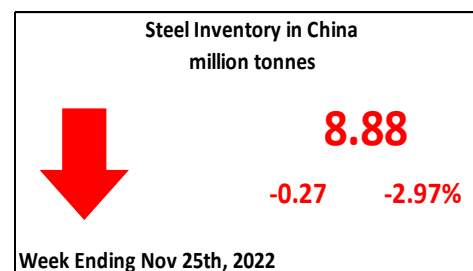
Freight Rates



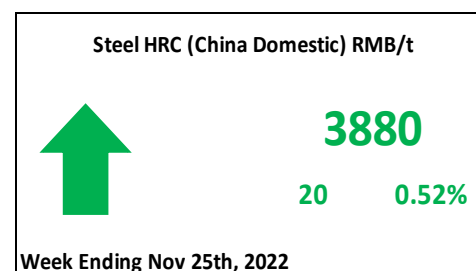
Steel Price



Inventory Levels



Steel Price



IRON ORE PORT STOCK INDEX (IOPI)

Nov 29th, 2022		FOT Qingdao (inc. 13% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 13% VAT), USD/dry tonne ¹						
Index	Fe Content	Price	Change	Change %	MTD	YTD	Low ²	High ²	Price	Change	Change %	MTD	YTD	Low ²	High ²
IOPI62	62% Fe Fines	781	25	3.3%	749	867	643	1083	100.61	2.84	2.9%	99.19	121.28	82.29	159.06
IOPI58	58% Fe Fines	650	0	0.0%	674	734	493	907	84.02	-0.44	-0.5%	89.94	102.94	70.95	134.15
IOPI65	65% Fe Fines	909	15	1.7%	881	1026	811	1265	117.72	1.40	1.2%	117.37	144.32	108.78	187.25

IRON ORE SEABORNE INDEX (IOSI)

Nov 29th, 2022		CFR Qingdao, USD/dry tonne						
Index	Fe Content	Price	Change	Change %	MTD	YTD	Low ²	High ²
IOSI62	62% Fe Fines	100.65	1.15	1.16%	100.34	123.67	83.90	159.45
IOSI65	65% Fe Fines	109.10	3.55	3.36%	110.90	142.63	94.45	185.82

MARKET COMMENTARY

DCE iron ore futures rose by 2.26% today, the main contract closed 770.5. The traders' willingness to ship is less. The steel mills are wait and see. The overall trading sentiment of the market is general. PBF at Shandong port dealt 760-779 yuan/mt, increase 10-20 yuan/mt; SSF at Tangshan port dealt 645 yuan/mt. Influenced by macro news, the optimization of real estate related policies has brought hope and confidence to the market. Fundamentally speaking, according to SMM statistics, the impact of this week's blast furnace maintenance on molten iron was 190.23 tons, 59300 tons less than last week's maintenance; According to the recent production of the blast furnace, it is expected that the impact of blast furnace maintenance will continue to narrow next week. Therefore, the demand for iron ore may rise slightly. However, considering that the cold wave may affect downstream demand and public health will continue to affect many places, it is expected that the iron ore price will still fluctuate.

IRON ORE PORT LUMP INDEX (IOPLI)

Week Ending Nov 25th, 2022		FOT Qingdao (inc. 13% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 13% VAT), USD/dry tonne ³						
Index	Fe Content	Price	W-o-W	Change %	MTD	YTD	Low ²	High ²	Price	W-o-W	Change %	MTD	YTD	Low ²	High ²
IOPLI62	62.5% Fe Lump	842	-8	-0.9%	865	1057	770	1405	105.17	-2.03	-1.89%	110.49	142.79	95.00	199.00

IRON ORE DOMESTIC CONCENTRATE SPOT PRICE ASSESSMENTS AND COMPOSITE INDEX

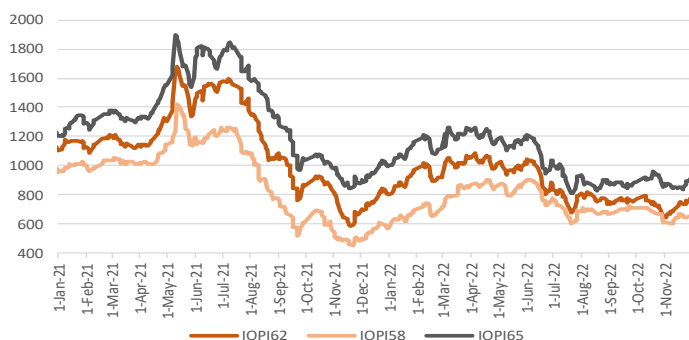
Week Ending Nov 25th, 2022				RMB/tonne (excluding tax) ³				USD/tonne (excluding tax) ³			
Province	Region	Product	Basis	This week	Change %	Low ²	High ²	This week	Change %	Low ²	High ²
Hebei	Hanxing	66% Fe Concentrate	Dry	912	4.9%	779	1645	127.82	3.99%	110.31	255.69
Hebei	Qian'an	65% Fe Concentrate	Dry	930	2.2%	780	1630	130.35	1.26%	110.51	251.57
Liaoning	Anshan	65% Fe Concentrate	Wet	700	-0.7%	620	1310	98.11	-1.62%	87.40	202.32
Shandong	Zibo	65% Fe Concentrate	Dry	935	4.8%	800	1752	131.05	3.86%	117.19	272.32

Week Ending Nov 25th, 2022

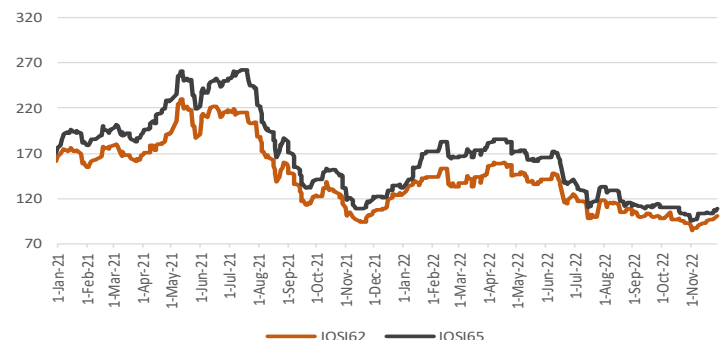
	This week	Change %	Low ²	High ²
China Mines Concentrate Composite Index RMB/WT	821.25	2.49%	706.36	1511.22

¹ Exchange rate applied: RMB/USD = 6.7522 ² Last 12 months
³ Weekly exchange rate applied: RMB/USD = 7.13488

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 29th, 2022		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	June	August	September	October	MTD	QTD	YTD
IOPI62	62% Fe Fines	770	781	759	736	749	753	867	106.01	106.64	101.14	95.56	99.19	100.59	121.28
IOPI58	58% Fe Fines	682	685	697	683	674	676	734	94.43	94.05	93.56	89.34	89.94	90.86	102.94
IOPI65	65% Fe Fines	915	878	875	918	881	888	1026	126.73	120.31	117.19	120.08	117.37	119.29	144.32

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

Nov 29th, 2022		CFR Qingdao, USD/dry tonne							FREIGHT RATES - DRY BULK US\$/wet tonne						
Index	Fe Content	July	August	September	October	MTD	QTD	YTD	Route	Designation	Change	Change %	Low ²	High ²	
IOSI62	62% Fe Fines	110.07	110.64	101.12	95.80	100.34	102.25	123.67	W. Australia - Qingdao	C5	9.13	0.15	1.67%	3.57	16.77
IOSI65	65% Fe Fines	124.60	112.53	111.57	106.70	110.90	113.59	142.63	Tubarao - Qingdao	C3	19.29	0.29	1.52%	6.70	36.40

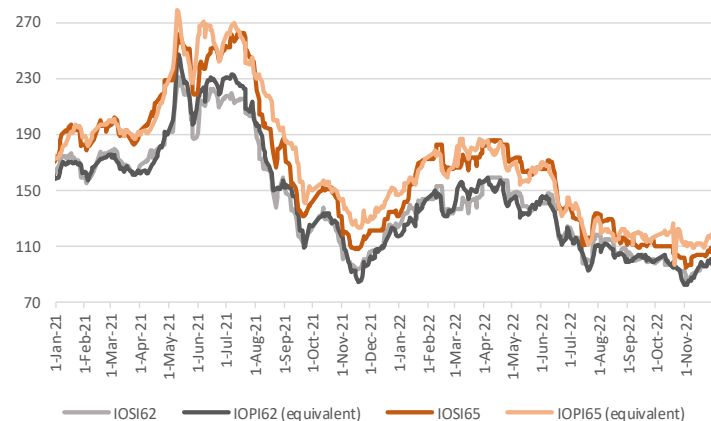
IRON ORE PORT LUMP INDEX MONTHLY, QUARTERLY AND YEAR-TO-DATE AVERAGES

Week Ending Nov 25th, 2022		FOT Qingdao (inc. 13% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 13% VAT), USD/dry tonne ¹						
Index	Fe Content	July	August	September	October	MTD	QTD	YTD	July	August	September	October	MTD	QTD	YTD
IOPLI62	62.5% Fe Lump	906	900	873	877	865	875	1057	120.36	118.50	112.75	109.81	110.49	112.84	142.79

IRON ORE INDEX PREMIUMS/DISCOUNTS

Nov 29th, 2022		PORT STOCK INDEX (RMB/WT)		SEABORNE INDEX (USD/DMT)	
Index	Fe Content	Spread to IOPI62	% Spread to IOPI62	Index	Fe Content
IOPI58	58% Fe Fines	-131	-16.77%	IOSI65	65% Fe Fines
IOPI65	65% Fe Fines	128	16.39%		

IRON ORE INDEX COMPARISONS (USD/DMT)



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



IRON ORE BRAND SPOT PRICE ASSESSMENTS

Nov 29th, 2022				Nov 29th, 2022			
PORT STOCK INDEX (RMB/WT)				SEABORNE INDEX (USD/DMT)			
	Price	Change	Diff to IOPI62		Price	Change	Diff to IOSI62
Roy Hill	724	25	-57	Roy Hill	96.15	1.15	-4.50
SIMEC Fines	651	25	-130	SIMEC Fines	92.65	1.15	-8.00
PB Fines	750	24	-31	PB Fines	96.90	1.15	-3.75
Newman Fines	749	25	-32	Newman Fines	99.80	1.15	-0.85
MAC Fines	731	25	-50	MAC Fines	96.90	1.15	-3.75
Jimblebar Blended Fines	645	25	-136	Jimblebar Blended Fines	89.30	1.15	-11.35
Carajas Fines	961	25	180	Carajas Fines	130.20	1.15	29.55
Brazilian SSF	743	25	-38	Brazilian SSF	104.40	1.15	3.75
Brazilian Blend Fines	764	25	-17	Brazilian Blend Fines	106.05	1.15	5.40
RTX Fines	664	26	-117	RTX Fines	90.55	1.15	-10.10
West Pilbara Fines	693	25	-88	West Pilbara Fines	94.90	1.15	-5.75

Nov 29th, 2022			
PORT STOCK INDEX (RMB/WT)			
	Price	Change	Diff to IOPI58
SSF	650	0	0
FMG Blended Fines	658	0	8
Robe River	659	0	9
Western Fines	661	0	11
Atlas Fines	656	0	6
Yandi	644	0	-6

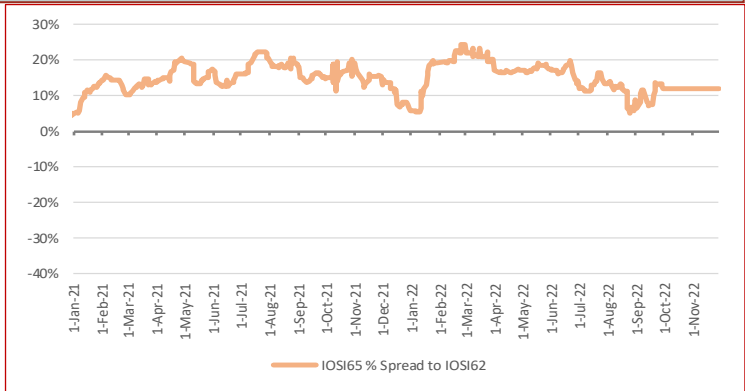
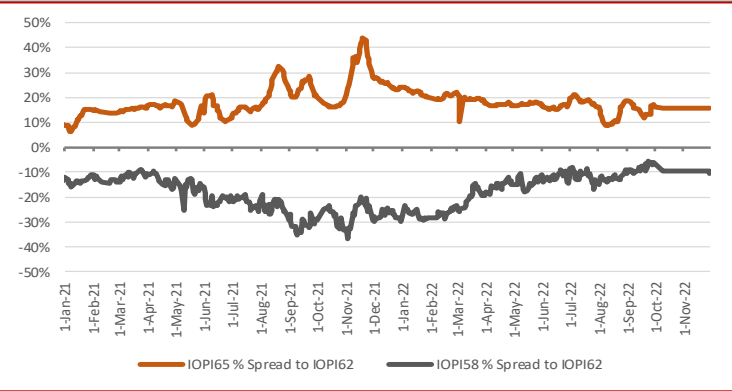
IRON ORE INDEX NORMALISATION DIFFERENTIALS

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%	12.00	-1.00	1% Fe	High Grade Fe 60 - 63%	0.50	0.00
	High Grade Fe 63 - 64%	5.00	0.00		High Grade Fe 63 - 64%	2.25	0.00
	High Grade Fe 64 - 65%	5.00	0.00		High Grade Fe 64 - 65%	2.25	0.00
	High Grade Fe 65 - 65.5%	5.00	0.00		High Grade Fe 65 - 65.5%	2.25	0.00
1% Alumina	Low Grade Fe	20.00	-2.00	1% Alumina	High Fe Grade Al <2.25%	2.25	0.25
	High Fe Grade Al <2.25%	60.00	-4.00		High Fe Grade Al 2.25-4%	1.00	-0.25
	High Fe Grade Al 2.25-4%	12.00	0.00				
	Low Fe Grade Al <2.25%	23.00	5.00				
1% Silica	Low Fe Grade Al 2.25-4%	5.00	0.00	1% Silica	High Fe Grade Si <4%	2.25	0.25
	High Fe Grade Si <4%	22.00	-2.00		High Fe Grade Si 4 - 6.5%	0.25	0.00
0.01% Phosphorus	High Fe Grade Si 4-6.5%	28.00	1.00	0.01% Phosphorus	High Fe Grade 0.09%<P<0.115%	3.00	0.25
	Low Fe Grade	5.00	0.00		High Fe Grade 0.115%<P<0.15%	3.25	-0.25
	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<0.15%	5.00	0.00				

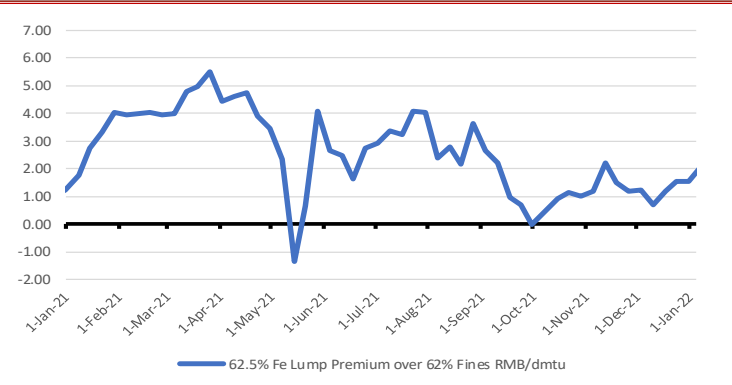
Port Stock Price Differentials to Qingdao Port for PB Fines (RMB/wet tonne)

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	-30.00	0.00	Lianyungang	0.00	0.00	Shekou	0.00	0.00
Caofeidian	-10.00	0.00	Jingtang	-20.00	0.00	Majishan	0.00	0.00	Taichang	-30.00	0.00
Dalian	0.00	0.00	Lanqiao	0.00	0.00	Qingdao	0.00	0.00	Tianjin	-10.00	0.00

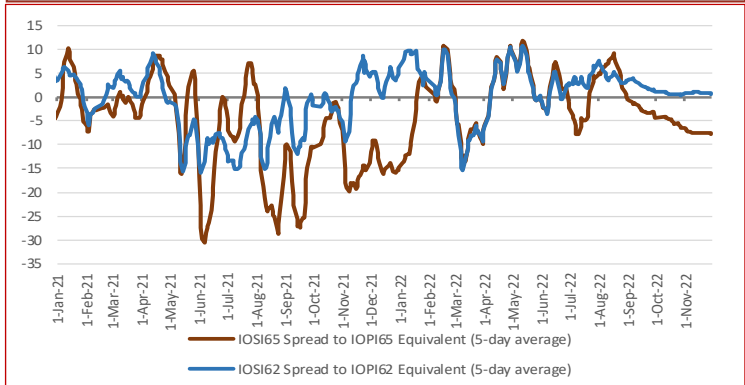
IRON ORE INDEX PREMIUMS/DISCOUNTS



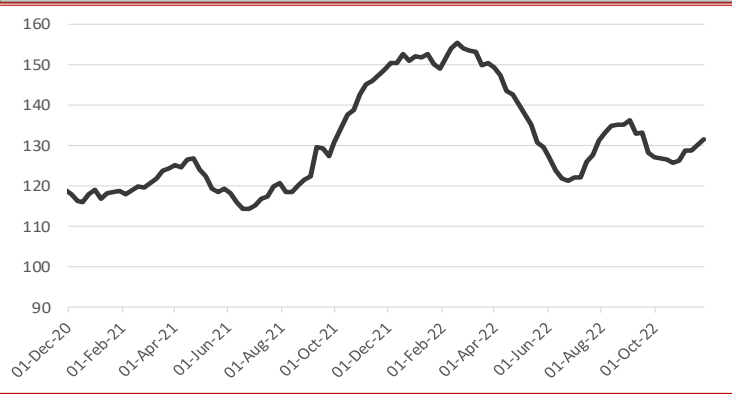
WEEKLY IRON ORE PORT STOCK LUMP PREMIUM (RMB/DMTU)



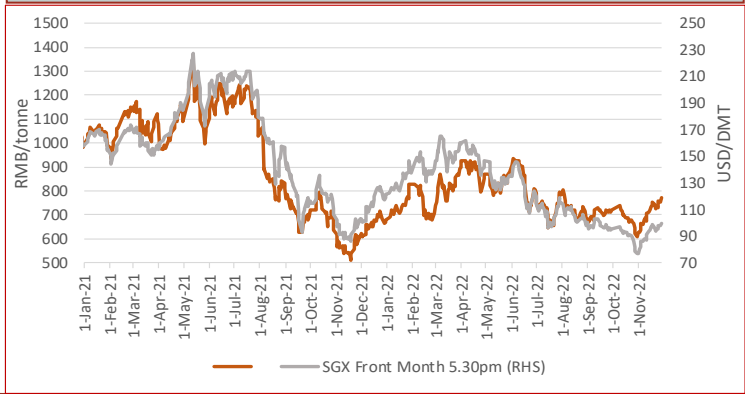
IRON ORE SEABORNE TO PORT STOCK PRICE SPREADS (USD/DMT)



TOTAL IRON ORE INVENTORIES AT CHINA PORTS (MILLION TONNES)



FUTURE TRADING—FRONT MONTH CLOSING PRICE



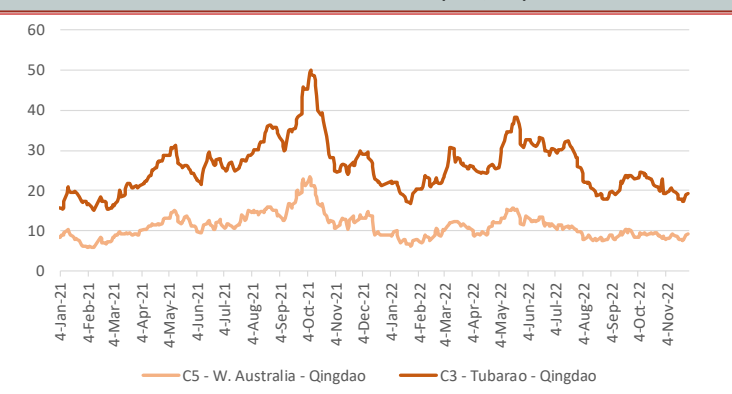
IRON ORE PORT INVENTORIES (MILLION TONNES)

Week Ending Nov 25th, 2022				
Province	This week	Change %	Low ²	High ²
Jingtang	13.34	1.83%	9.84	19.20
Qingdao	25.05	1.21%	9.41	26.24
Caofeidian	11.25	2.27%	9.05	16.29
Tianjin	9.18	-3.67%	7.14	12.97
Rizhao	18.37	2.45%	9.44	19.26
Total (35 Ports)	131.54	1.03%	98.80	155.39

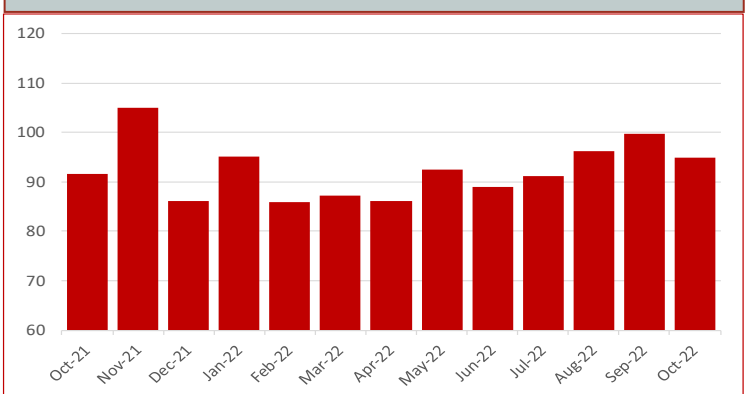
IRON ORE FUTURES CONTRACTS

Closing Date	DCE (RMB/WMT)			SGX (USD/DMT)		
	Nov 29th, 3pm close			Nov 29th, 5:30pm		
Contract	I2301	Change	Change %	Dec. 22	Change	Change %
Closing Price	770.50	15.00	1.99%	99.95	2.35	2.41%
Vol traded ('000 lots)	75.13	-4.98	-6.22%	5.11	0.21	4.21%
Open positions ('000 lots)	61.60	-3.32	-5.12%	28.41	-1.29	-4.33%
Day Low	757.0	14.00	1.88%	98.20	2.25	2.34%
Day High	780.5	16.00	2.09%	101.40	1.20	1.20%

DRY BULK FREIGHT RATES (USD/MT)



TOTAL CHINA IRON ORE IMPORT VOLUMES (MILLION TONNES)



STEEL SPOT MARKET PRICES—CHINA

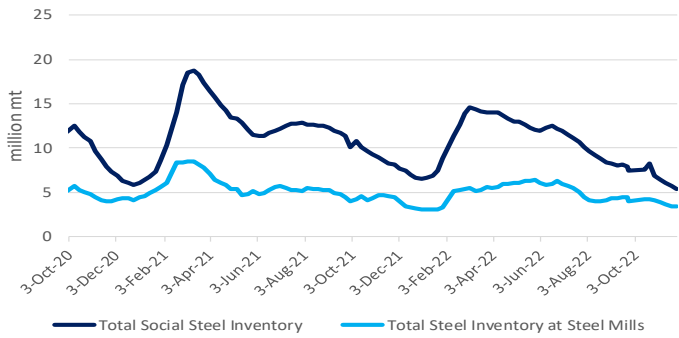
Steel Spot Market RMB/tonne			
Product	2022/11/25	Change	Change %
ReBar HRB400 φ18mm	3,780	-60	-1.56%
Wirerod Q300 φ6.5mm	4,290	-50	-1.15%
HRC Q235/SS400 5.5mm*1500*C	3,880	20	0.52%
CRC SPCC/ST12 1.0mm*1250*2500	4,340	-30	-0.69%
Medium & Heavy Plate Q235B 20mm	3,890	-20	-0.51%
GI ST02Z 1.0mm*1000*C	4,630	0	0.00%
Colour Coated Plate	7,500	0	0.00%

CHINESE STEEL MILL PROFITABILITY

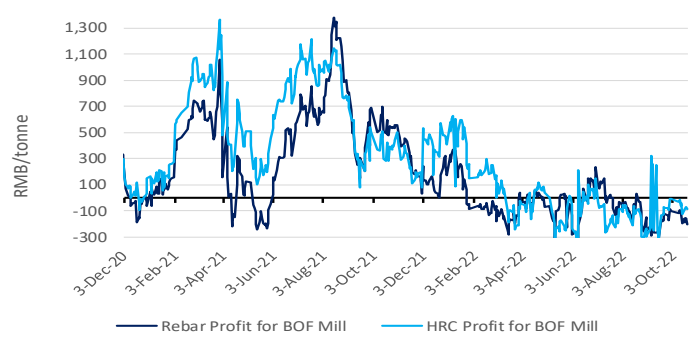
SMM Tracking of Steel Mill P&L - Rebar and Hot-rolled Coil (RMB/tonne)			
Category	Price	Change (WoW)	Note
MMi (Fe 62%), USD/mt excluding tax	96.50	4	Mmi CFR Equivalent index for 1st Feb
Coke	2,850	110	2nd grade met coke, Tangshan, incl. tax
Steel Scrap	2,910	0	steel scrap (6mm) in Zhangjiagang, ext. tax
Billet Cost	3,506	47	Q234, incl. tax
Rebar cost - Blast furnace	3,996	54	calculated based on theoretical weight, incl. tax
Rebar profit - Blast furnace	-206	-84	based on Shanghai prices, incl. tax
Hot-rolled coil cost - Blast furnace	3,960	54	based on actual weight, incl. tax
Hot-rolled coil profit - Blast furnace	-90	-54	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

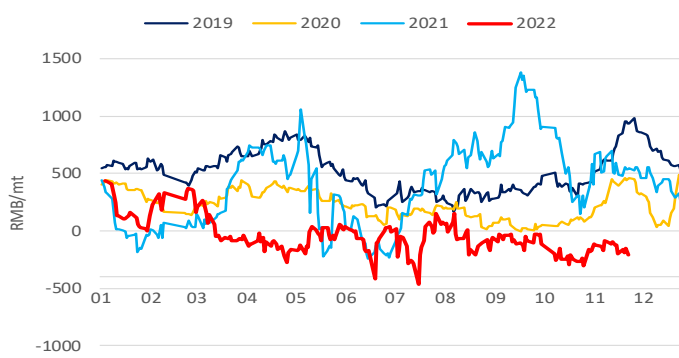
CHINESE STEEL INVENTORIES



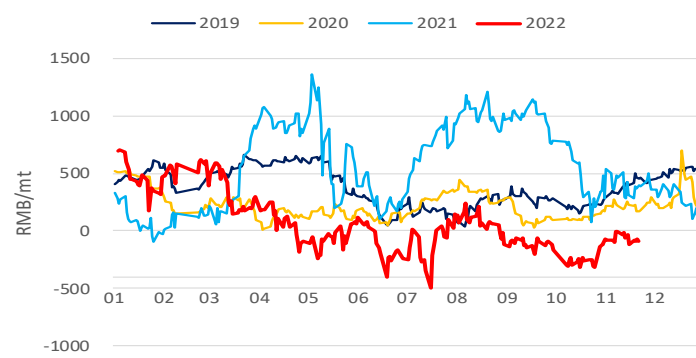
CHINESE STEEL MILL PROFITABILITY



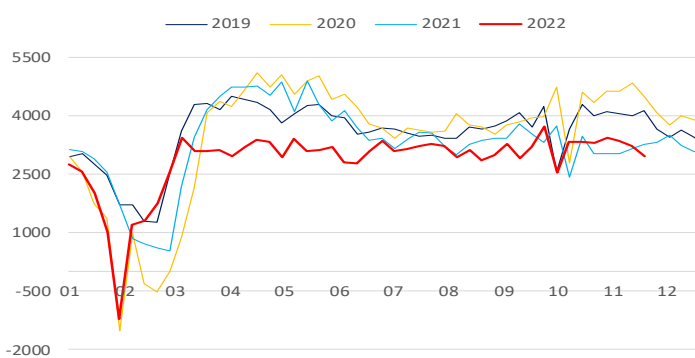
CHINESE STEEL MILL PROFITABILITY—Rebar



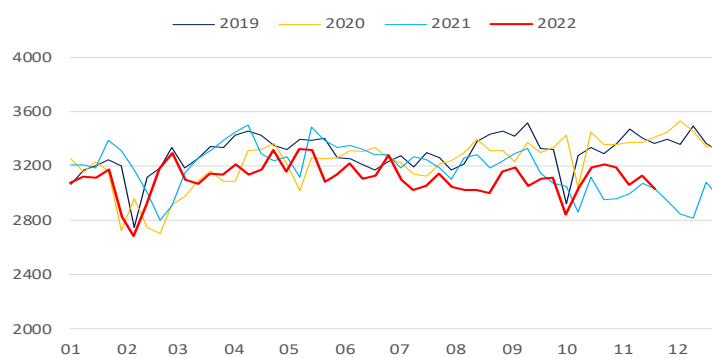
CHINESE STEEL MILL PROFITABILITY—Hot-rolled Coil



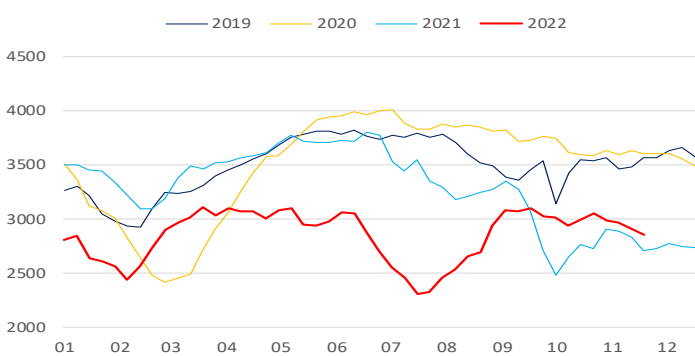
CHINESE STEEL CONSUMPTION—Rebar



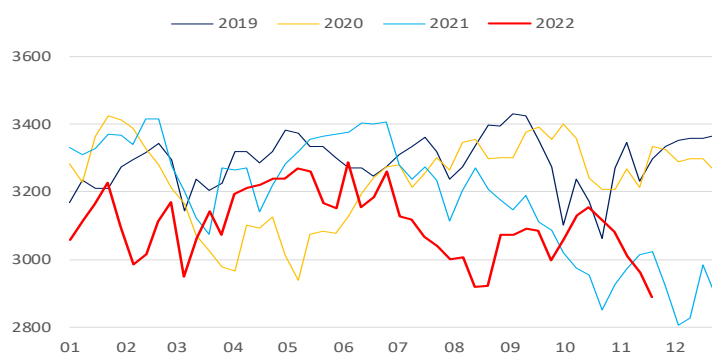
CHINESE STEEL CONSUMPTION—Hot-rolled Coil



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	<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: www.mmiprices.com</p> <table border="1"> <thead> <tr> <th colspan="4">Data Exclusions*</th> </tr> <tr> <th></th> <th>62%</th> <th>58%</th> <th>65%</th> </tr> </thead> <tbody> <tr> <td>Port Index</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Seaborne index</td> <td>0</td> <td></td> <td>0</td> </tr> <tr> <td>Lump Index 62.5</td> <td>0</td> <td></td> <td></td> </tr> </tbody> </table> <p>* Number of price submissions for iron ore indices that were excluded from index calculations today as they were anomalous and could not be verified</p>	Data Exclusions*					62%	58%	65%	Port Index	0	0	0	Seaborne index	0		0	Lump Index 62.5	0		
Data Exclusions*																									
	62%	58%	65%																						
Port Index	0	0	0																						
Seaborne index	0		0																						
Lump Index 62.5	0																								
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																						

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 29th, 2022	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%	4.30%	0.095%	8.00%
MAC Fines	60.43%	2.38%	4.64%	0.078%	7.57%	MAC Fines	60.80%	2.35%	4.40%	0.075%	7.80%
Jimblebar Blended Fines	60.87%	2.95%	4.53%	0.111%	7.32%	Jimblebar Blended Fines	60.50%	3.10%	4.80%	0.120%	7.80%
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 29th, 2022	Specifications applied for 58% brand assessments										
	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		

CONTACT US

MMI Singapore Office Details: Level 28, Manulife Tower, 8 Cross Street Singapore. Tel: + 65 6850 7629 E: prices@mmiprices.com
SMM Singapore Office Details: Level 28, Manulife Tower, 8 Cross Street Singapore. Tel: + 65 6850 7630 E: service.en@smm.cn
SMM Shanghai Office Details: 9th FL, Building 9, Lujiazui Software Park, No.20, Lane 91, Pudong, Shanghai Tel: +86 021 5155 0306 E: service.en@smm.cn

Visit 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.