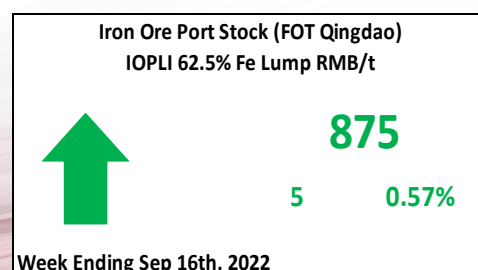
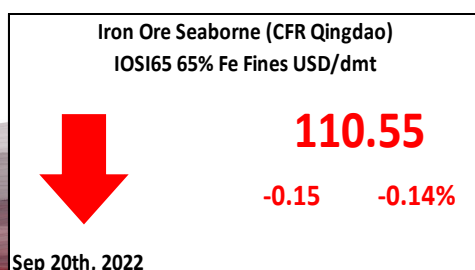
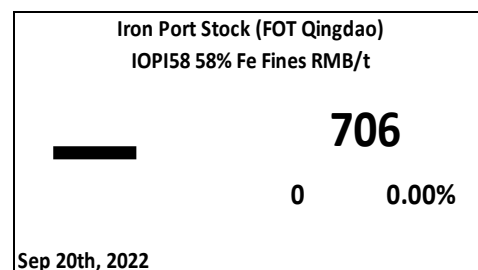
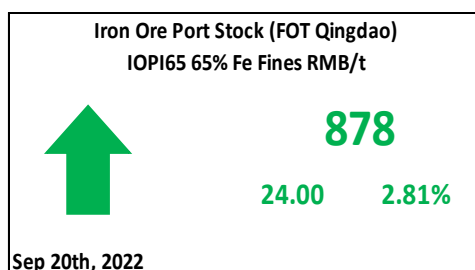
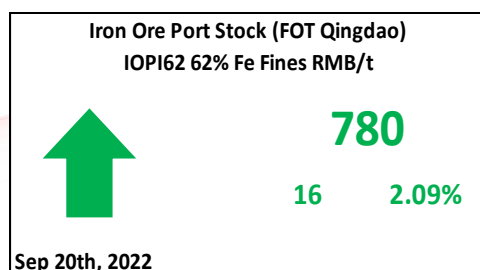


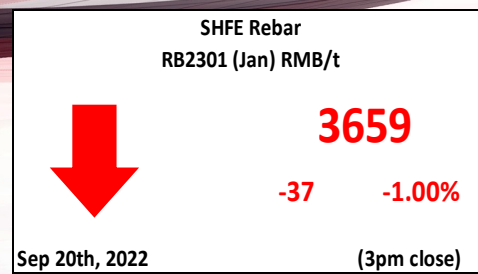
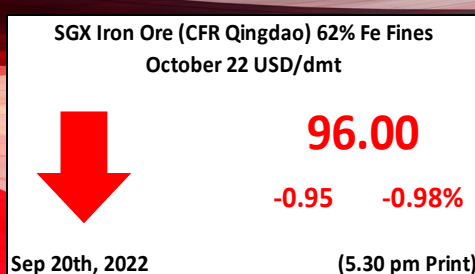
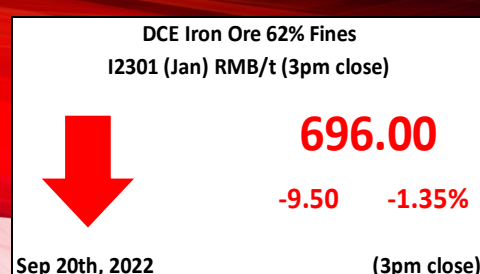


MMi Dashboard

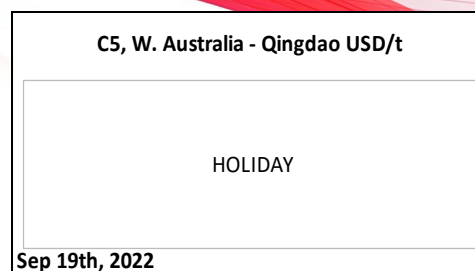
Iron Ore Price Indices



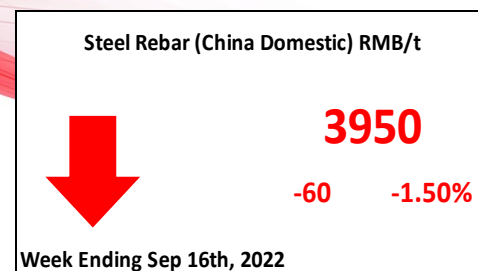
Exchange Traded Contracts



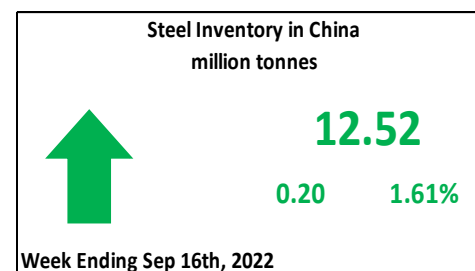
Freight Rates



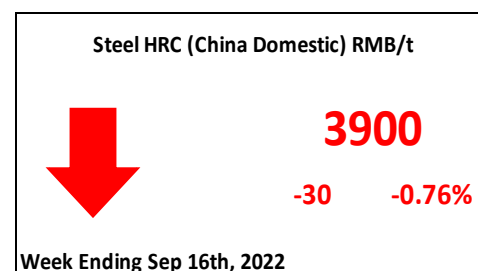
Steel Price



Inventory Levels



Steel Price



IRON ORE PORT STOCK INDEX (IOPI)

Sep 20th, 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	780	16	2.1%	773	903	587	1083	104.13	2.11	2.1%	104.90	128.22	84.25	159.06
IOPI58	58% Fe Fines	706	0	0.0%	687	752	454	907	94.91	-0.10	-0.1%	93.73	107.11	64.78	134.15
IOPI65	65% Fe Fines	878	24	2.8%	878	1063	811	1265	117.70	3.21	2.8%	119.57	151.78	111.38	187.25

IRON ORE SEABORNE INDEX (IOSI)

MARKET COMMENTARY

Sep 20th, 2022		CFR Qingdao, USD/dry tonne							DCE iron ore futures declined by 3.06% today, the main contract closed 696. Some traders were general attitude to sell. More steel mills tended to wait and see, and purchasing enthusiasm is not high. Total transactions returned to positive. PBF at Shandong port dealt 744-750 yuan/mt; decreased 10 yuan/mt than last week. PBF at Tangshan port dealt 755-765 yuan/mt. On the macro side, the PBOC released the LPR quotation for September today, and the 1-year and 5-year interest rates remained unchanged. The market mentality was temporarily stable. The news that the Federal Reserve raised interest rates on Thursday may consume market confidence in advance, and the bearish sentiment of the market increased. At present, the profits of steel plants are still on the edge of profit and loss, the enthusiasm for production is relatively general, and the demand for raw materials has not increased significantly. In addition, the overseas mines are operating normally. After the shipment was reduced last week, the shipment was increased, and the port inventory may be accumulated this week. In the short term, the demand in the peak season is still to be verified, and the upward support of the mineral price is insufficient. It is expected that the mineral price
Index	Fe Content	Price	Change	Change %	MTD	YTD	Low ²	High ²	
IOSI62	62% Fe Fines	100.44	-2.66	-2.58%	107.49	131.27	93.75	159.45	
IOSI65	65% Fe Fines	110.55	-0.15	-0.14%	118.03	152.47	102.05	185.82	

IRON ORE PORT LUMP INDEX (IOPLI)

Week Ending Sep 16th, 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	875	5	0.6%	889	1111	730	1405	113.18	0.65	0.58%	116.18	152.24	101.00	199.00

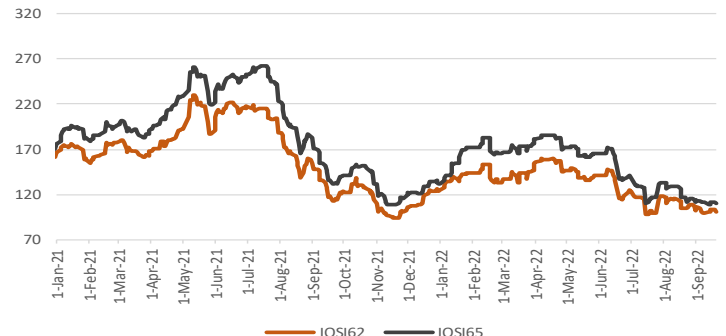
IRON ORE DOMESTIC CONCENTRATE SPOT PRICE ASSESSMENTS AND COMPOSITE INDEX

Week Ending Sep 16th, 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	909	1.0%	779	1645		131.52	0.98%	110.31	255.69	
Hebei	Qian'an	65% Fe Concentrate	Dry	905	2.3%	780	1630		130.95	2.24%	110.51	251.57	
Liaoning	Anshan	65% Fe Concentrate	Wet	710	0.0%	620	1310		102.73	-0.02%	87.40	202.32	
Shandong	Zibo	65% Fe Concentrate	Dry	932	1.0%	800	1752		134.85	0.96%	122.55	272.32	
Week Ending Sep 16th, 2022				This week	Change %	Low ²	High ²						
China Mines Concentrate Composite Index RMB/WT				835.90	1.17%	706.36	1511.22						
										¹ Exchange rate applied: RMB/USD = 6.7522 ² Last 12 months ³ Weekly exchange rate applied: RMB/USD = 6.91125			

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

Sep 20th, 2022		FOT Qingdao (inc. 13% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 13% VAT), USD/dry tonne						
Index	Fe Content	May	June	July	August	MTD	QTD	YTD	May	June	June	August	MTD	QTD	YTD
IOPI62	62% Fe Fines	981	934	770	781	773	772	903	136.86	130.13	106.01	106.64	104.90	105.30	128.22
IOPI58	58% Fe Fines	841	823	682	685	687	685	752	118.11	115.45	94.43	94.05	93.73	93.99	107.11
IOPI65	65% Fe Fines	1152	1086	915	878	878	891	1063	161.44	151.89	126.73	120.31	119.57	122.21	151.78

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

FREIGHT RATES

Sep 20th, 2022		CFR Qingdao, USD/dry tonne							Sep 19th, 2022						
Index	Fe Content	May	June	July	August	MTD	QTD	YTD	Route	Designation	Change	Change %	Low ²	High ²	
IOSI62	62% Fe Fines	141.17	131.96	110.07	110.64	107.49	108.43	131.27	W. Australia - Qingdao	C5	8.85	0.00	0.00%	3.57	16.77
IOSI65	65% Fe Fines	166.30	154.17	124.60	112.53	118.03	120.42	152.47	Tubarao - Qingdao	C3	21.92	0.00	0.00%	6.70	36.40

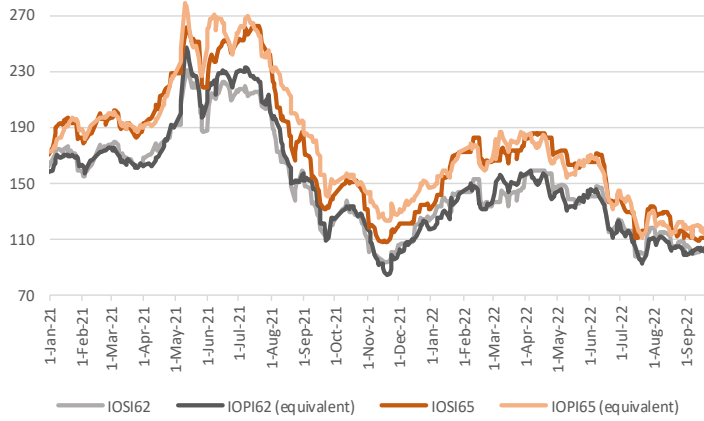
IRON ORE PORT LUMP INDEX MONTHLY, QUARTERLY AND YEAR-TO-DATE AVERAGES

Week Ending Sep 16th, 2022		FOT Qingdao (inc. 13% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 13% VAT), USD/dry tonne ¹						
Index	Fe Content	May	June	July	August	MTD	QTD	YTD	May	June	July	August	MTD	QTD	YTD
IOPLI62	62.5% Fe Lump	1232	1189	906	900	889	896	1111	164.53	159.78	120.36	118.50	116.18	117.92	152.24

IRON ORE INDEX PREMIUMS/DISCOUNTS

Sep 20th, 2022		PORT STOCK INDEX (RMB/WT)		Sep 20th, 2022		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	-74	-9.49%	IOSI65	65% Fe Fines	10.11	10.07%
IOPI65	65% Fe Fines	98	12.56%				

IRON ORE INDEX COMPARISONS (USD/DMT)



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



IRON ORE BRAND SPOT PRICE ASSESSMENTS

Sep 20th, 2022	PORT STOCK INDEX (RMB/WT)			Sep 20th, 2022	SEABORNE INDEX (USD/DMT)		
	Price	Change	Diff to IOPI62		Price	Change	Diff to IOSI62
Roy Hill	723	16	-57	Roy Hill	95.95	-2.65	-4.49
SIMEC Fines	650	16	-130	SIMEC Fines	92.45	-2.65	-7.99
PB Fines	749	15	-31	PB Fines	96.70	-2.65	-3.74
Newman Fines	748	16	-32	Newman Fines	99.60	-2.65	-0.84
MAC Fines	730	16	-50	MAC Fines	96.70	-2.65	-3.74
Jimblebar Blended Fines	644	16	-136	Jimblebar Blended Fines	89.10	-2.65	-11.34
Carajas Fines	960	16	180	Carajas Fines	130.00	-2.65	29.56
Brazilian SSF	742	16	-38	Brazilian SSF	104.20	-2.65	3.76
Brazilian Blend Fines	763	16	-17	Brazilian Blend Fines	105.80	-2.70	5.36
RTX Fines	663	17	-117	RTX Fines	90.30	-2.70	-10.14
West Pilbara Fines	692	16	-88	West Pilbara Fines	94.70	-2.65	-5.74
Sep 20th, 2022	PORT STOCK INDEX (RMB/WT)						
	Price	Change	Diff to IOPI58				
SSF	706	0	0				
FMG Blended Fines	715	0	9				
Robe River	715	0	9				
Western Fines	718	0	12				
Atlas Fines	712	0	6				
Yandi	699	0	-7				

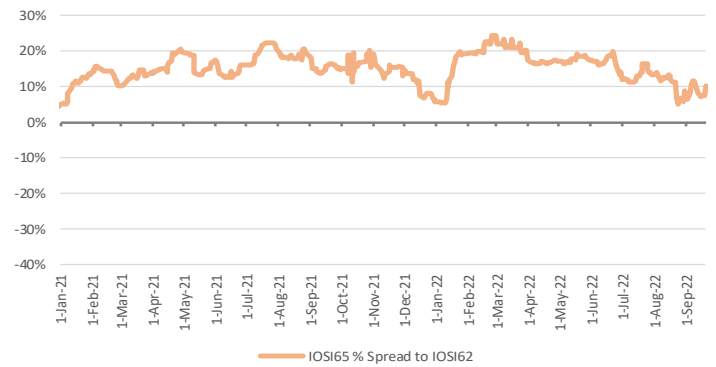
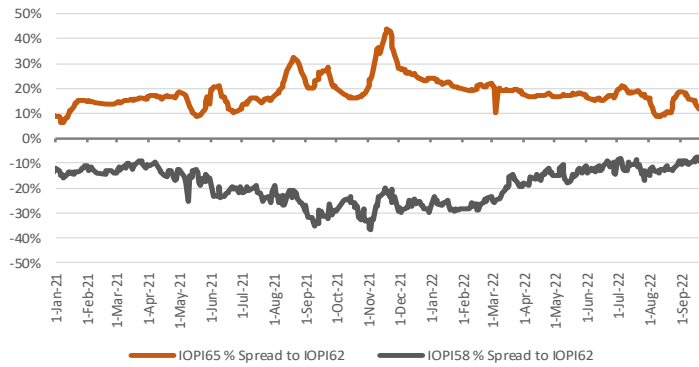
IRON ORE INDEX NORMALISATION DIFFERENTIALS

Port Stock Index Product Differentials (RMB/wet tonne)				Seaborne Index Product Differentials (USD/dry tonne)			
	Applicable range	Value	Change		Applicable range	Value	Change
1% Fe	High Grade Fe 60 - 63%	4.00	1.00	1% Fe	High Grade Fe 60 - 63%	4.00	0.75
	High Grade Fe 63 - 64%	37.00	5.00		High Grade Fe 63 - 64%	0.50	0.00
	High Grade Fe 64 - 65%	37.00	5.00		High Grade Fe 64 - 65%	0.50	0.00
	High Grade Fe 65 - 65.5%	37.00	5.00		High Grade Fe 65 - 65.5%	0.50	0.00
1% Alumina	Low Grade Fe	11.00	0.00	1% Alumina	High Fe Grade Al <2.25%	0.50	0.25
	High Fe Grade Al <2.25%	8.00	-2.00		High Fe Grade Al 2.25-4%	2.50	2.25
	High Fe Grade Al 2.25-4%	5.00	0.00				
	Low Fe Grade Al <2.25%	24.00	2.00				
1% Silica	Low Fe Grade Al 2.25-4%	10.00	0.00	1% Silica	High Fe Grade Si <4%	2.50	0.00
	High Fe Grade Si <4%	5.00	-1.00		High Fe Grade Si 4 - 6.5%	2.00	0.25
	High Fe Grade Si 4 - 6.5%	21.00	0.00				
	Low Fe Grade	20.00	0.00				
0.01% Phosphorus	High Fe Grade 0.09%<P<0.115%	7.00	0.00	0.01% Phosphorus	High Fe Grade 0.09%<P<0.115%	1.75	0.25
	High Fe Grade 0.115%<P<0.15%	7.00	0.00		High Fe Grade 0.115%<P<0.15%	3.25	0.00
	Low Fe Grade 0.09%<P<0.1%	5.00	0.00				

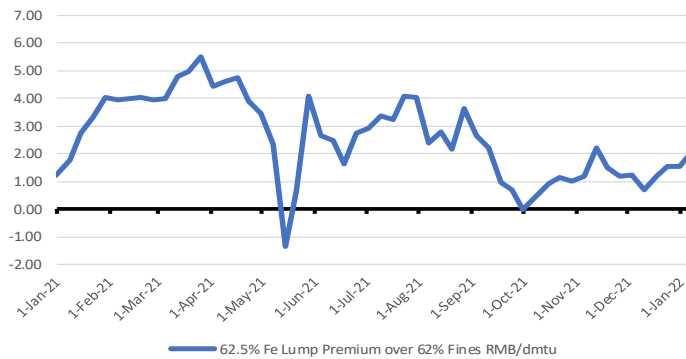
Port Stock Price Differentials to Qingdao Port for PB Fines (RMB/wet tonne)

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	-30.00	0.00	Lianyungang	0.00	0.00	Shekou	0.00	0.00
Caofeidian	-10.00	0.00	Jingtang	-5.00	0.00	Majishan	0.00	0.00	Taicang	-40.00	0.00
Dalian	0.00	0.00	Lanqiao	0.00	0.00	Qingdao	0.00	0.00	Tianjin	-20.00	0.00

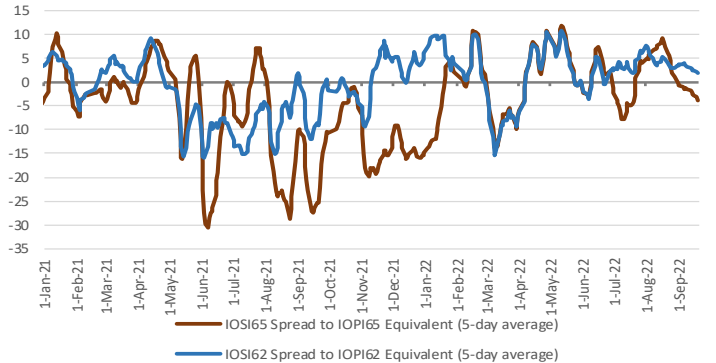
IRON ORE INDEX PREMIUMS/DISCOUNTS



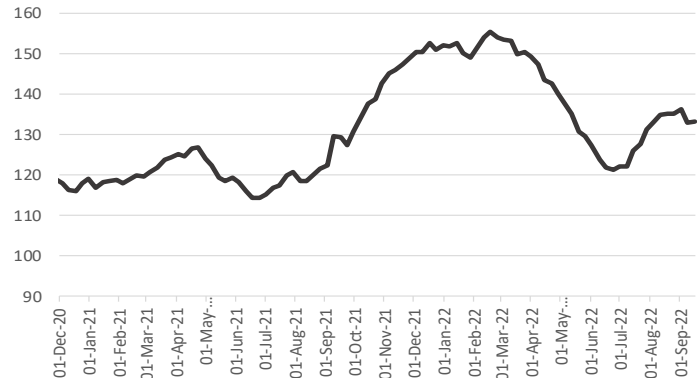
WEEKLY IRON ORE PORT STOCK LUMP PREMIUM (RMB/DMTU)



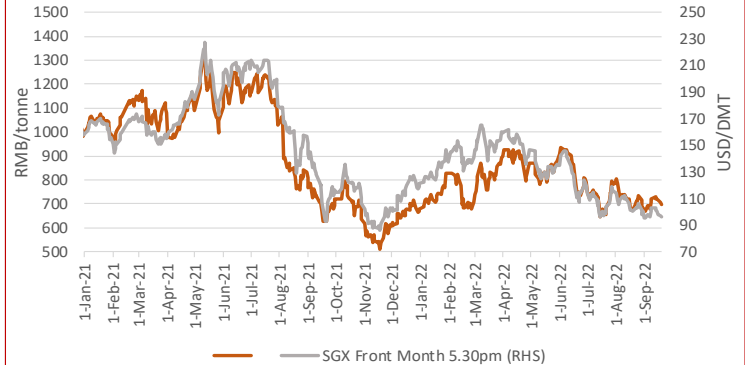
IRON ORE SEABORNE TO PORT STOCK PRICE SPREADS (USD/DMT)



TOTAL IRON ORE INVENTORIES AT CHINA PORTS (MILLION TONNES)



FUTURE TRADING—FRONT MONTH CLOSING PRICE



IRON ORE PORT INVENTORIES (MILLION TONNES)

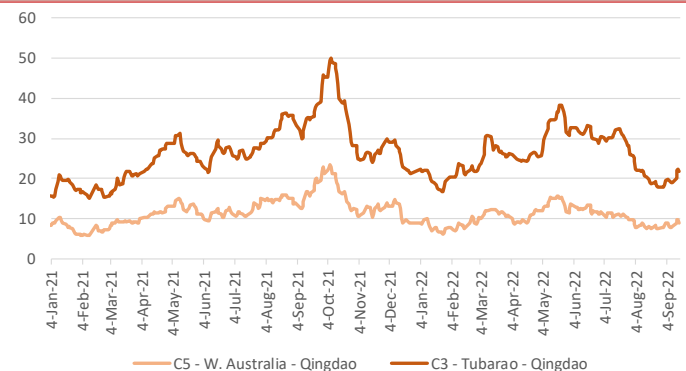
Week Ending Sep 16th, 2022

Province	This week	Change %	Low ²	High ²
Jingtang	12.27	-1.52%	9.84	19.20
Qingdao	24.95	1.63%	9.41	26.24
Caofeidian	12.50	2.46%	9.05	16.29
Tianjin	10.28	-2.84%	7.14	12.97
Rizhao	18.15	-1.89%	9.44	19.26
Total (35 Ports)	133.24	0.27%	98.80	155.39

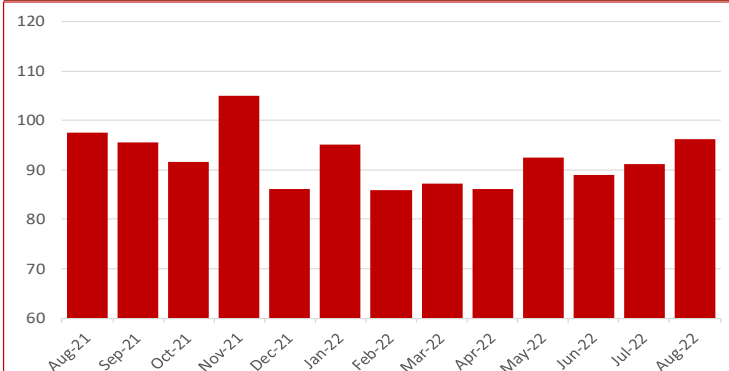
IRON ORE FUTURES CONTRACTS

Closing Date	DCE (RMB/WMT)			SGX (USD/DMT)		
	Sep 20th, 3pm close			Sep 20th, 5:30pm		
Contract	I2301	Change	Change %	Oct. 22	Change	Change %
Closing Price	696.00	-9.50	-1.35%	96.00	-0.95	-0.98%
Vol traded ('000 lots)	78.77	8.72	12.45%	3.28	-0.56	-14.59%
Open positions ('000 lots)	74.27	-2.42	-3.16%	28.24	0.01	0.04%
Day Low	695.5	-9.50	-1.35%	95.95	-0.55	-0.57%
Day High	720.0	-8.00	-1.10%	99.10	-1.25	-1.25%

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	2022/9/16	Change	Change %
ReBar HRB400 ϕ 18mm	3,950	-60	-1.50%
Wirerod Q300 ϕ 6.5mm	4,210	-70	-1.64%
HRC Q235/SS400 5.5mm*1500*C	3,900	-30	-0.76%
CRC SPCC/ST12 1.0mm*1250*2500	4,350	-10	-0.23%
Medium & Heavy Plate Q235B 20mm	4,090	0	0.00%
GI ST02Z 1.0mm*1000*C	4,650	10	0.22%
Colour Coated Plate	7,550	0	0.00%

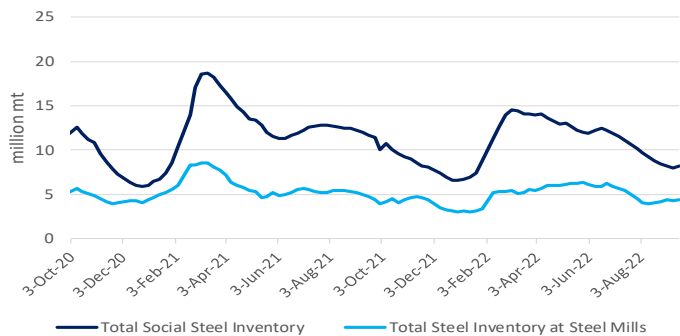
CHINESE STEEL MILL PROFITABILITY

SMM Tracking of Steel Mill P&L - Rebar and Hot-rolled Coil (RMB/tonne)

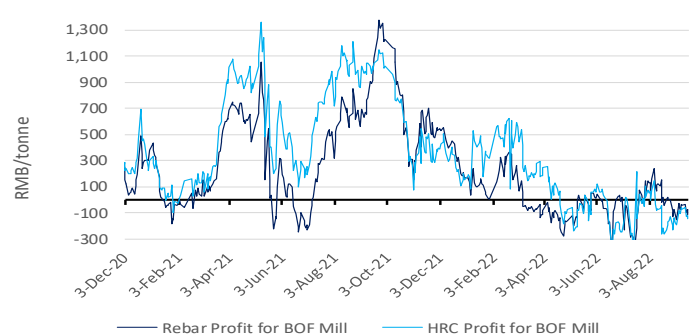
Category	Price	Change (WoW)	Note
MMi (Fe 62%), USD/mt excluding tax	103.50	4	Mmi CFR Equivalent index for 1st Feb
Coke	2,910	0	2nd grade met coke, Tangshan, incl. tax
Steel Scrap	3,140	0	steel scrap (6mm) in Zhangjiagang, excl. tax
Billet Cost	3,565	20	Q234, incl. tax
Rebar cost - Blast furnace	4,062	23	calculated based on theoretical weight, incl. tax
Rebar profit - Blast furnace	-112	-73	based on Shanghai prices, incl. tax
Hot-rolled coil cost - Blast furnace	4,028	22	based on actual weight, incl. tax
Hot-rolled coil profit - Blast furnace	-148	-72	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

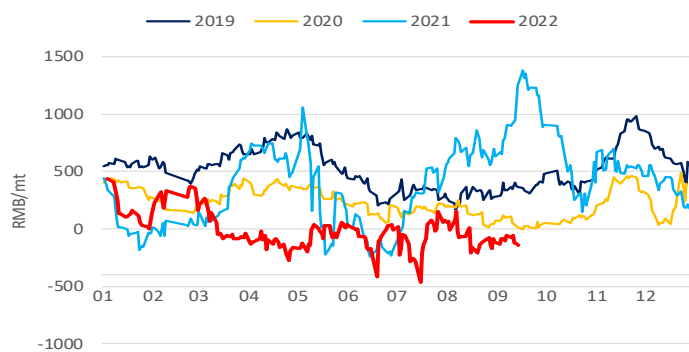
CHINESE STEEL INVENTORIES



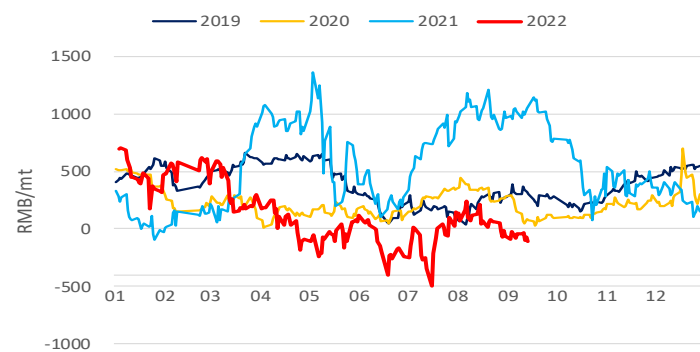
CHINESE STEEL MILL PROFITABILITY



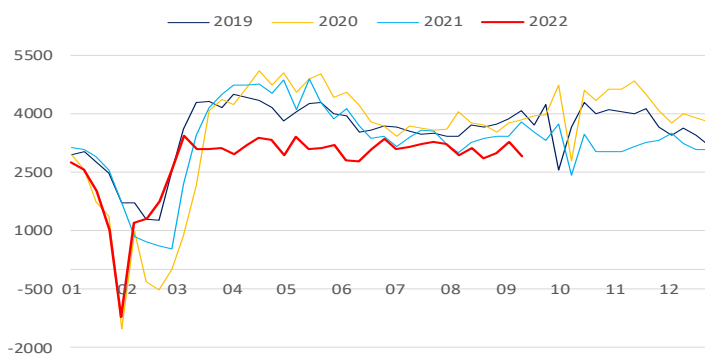
CHINESE STEEL MILL PROFITABILITY—Rebar



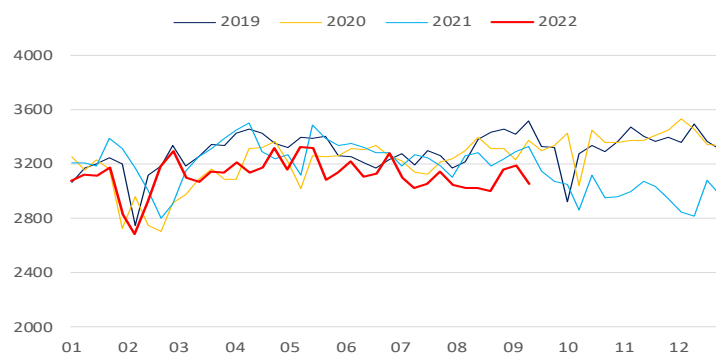
CHINESE STEEL MILL PROFITABILITY—Hot-rolled Coil



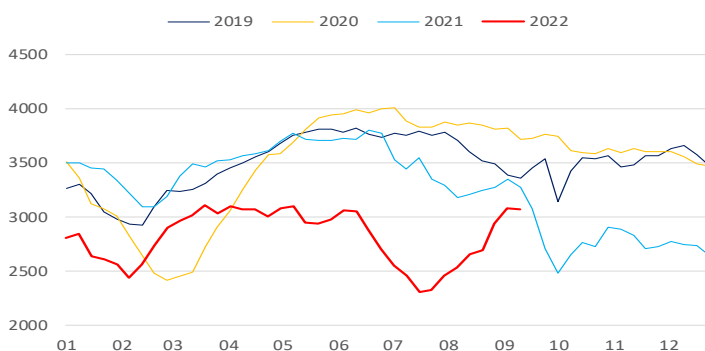
CHINESE STEEL CONSUMPTION—Rebar



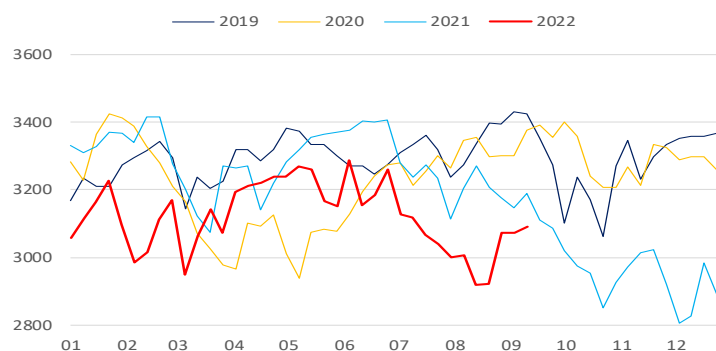
CHINESE STEEL CONSUMPTION—Hot-rolled Coil



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																
Fe %	65% Fe Fines	62% Fe Fines	58% Fe Fines	62.5% Fe Lump	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: www.mmiprices.com																
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																	
					<table><tr><th colspan="4">Data Exclusions*</th></tr><tr><td>Port Index</td><td>62%</td><td>58%</td><td>65%</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></table>	Data Exclusions*				Port Index	62%	58%	65%	Seaborne index	0		0	Lump Index 62.5	0		
Data Exclusions*																					
Port Index	62%	58%	65%																		
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					
Sep 20th, 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%
Sep 20th, 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	IOSI62	IRCN0034	
IOPI58	IRCNQ002	IRCNQ005	IOSI65	IRCN0035	
IOPI65	IRCNQ003	IRCNQ006			
IOPLI62	IRCN0036	IRCN0037			

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