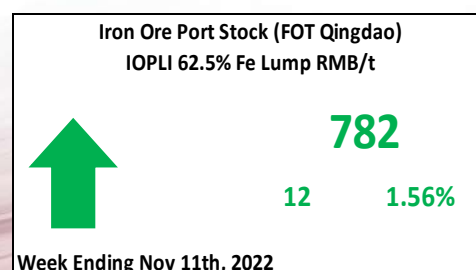
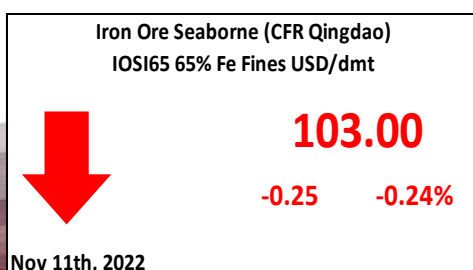
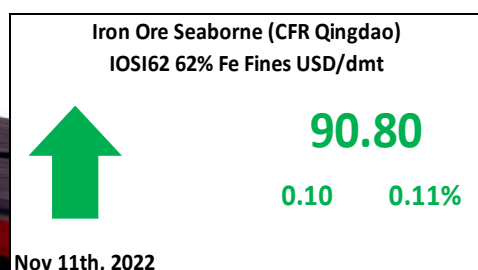
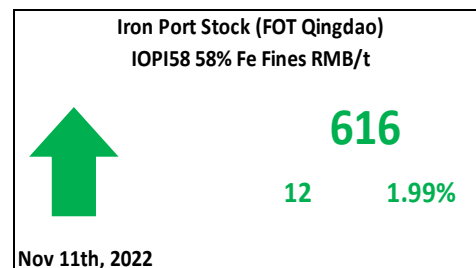
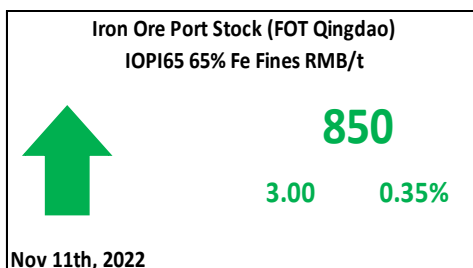
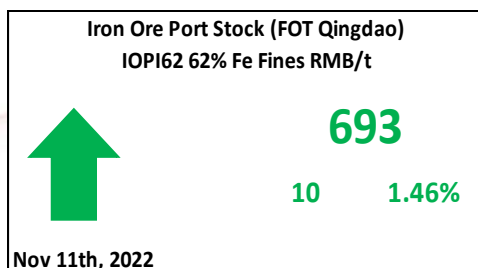


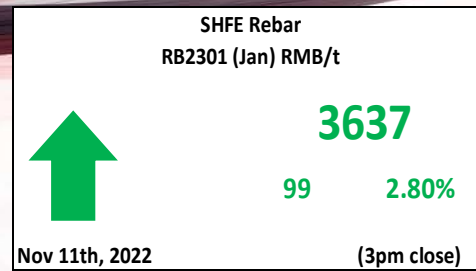
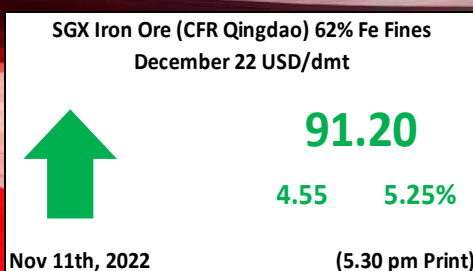
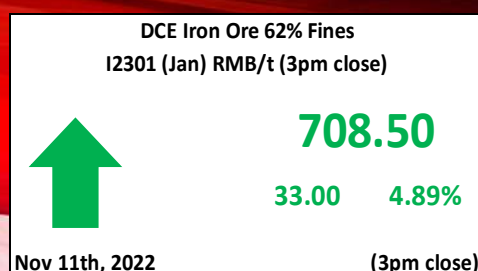


MMi Dashboard

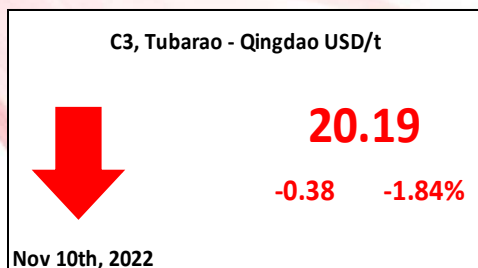
Iron Ore Price Indices



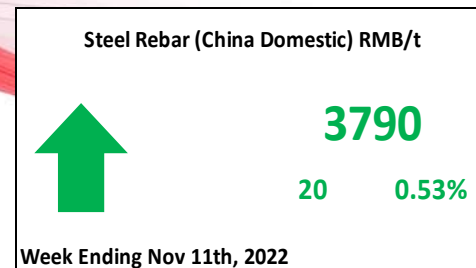
Exchange Traded Contracts



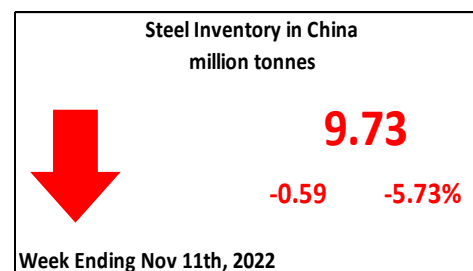
Freight Rates



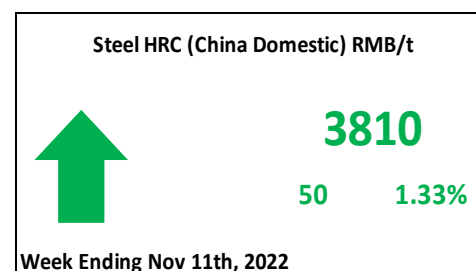
Steel Price



Inventory Levels



Steel Price



IRON ORE PORT STOCK INDEX (IOPI)

Nov 11th, 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	693	10	1.5%	750	874	587	1083	88.96	1.96	2.3%	99.65	122.72	82.29	159.06
IOPI58	58% Fe Fines	616	12	2.0%	678	739	454	907	79.52	2.18	2.8%	90.74	103.97	64.78	134.15
IOPI65	65% Fe Fines	850	3	0.4%	884	1036	811	1265	109.96	1.18	1.1%	118.09	146.13	108.78	187.25

IRON ORE SEABORNE INDEX (IOSI)

MARKET COMMENTARY

Nov 11th, 2022		CFR Qingdao, USD/dry tonne							DCE iron ore futures rose by 4.91% today, the main contract closed 662.5. The traders' willingness to ship is more. The steel mills are purchase on demand. The overall trading sentiment of the market is more. PBF at Shandong port dealt 665-680 yuan/mt, increase 5-25yuan/mt. PBF at Tangshan port dealt 655-680 yuan/mt, increase 25 yuan/mt. As of November 4, the inventory of 35 ports tracked by SMM totaled 128.73 million tons, 2.56 million tons more than last week, 17.39 million tons less than the same period last year. The average daily port dredging volume of imported ore in this period decreased by 202,000 tons to 2.765 million tons on a weekly basis. The port inventory accumulation in this period is mainly due to the substantial increase in overseas shipment volume this week, and part of the increase in arrival is due to the concentration of sea drift goods in the port. In addition, the economic recession and the European energy crisis have weakened the demand for iron ore in other overseas countries, and the shipment direction of overseas mines has shifted to China. However, the sharp drop in port dredging volume is affected by the drop in hot metal production for blast furnace maintenance, and it is difficult for iron ore
Index	Fe Content	Price	Change	Change %	MTD	YTD	Low ²	High ²	
IOSI62	62% Fe Fines	90.80	0.10	0.11%	101.12	125.24	83.90	159.45	
IOSI65	65% Fe Fines	103.00	-0.25	-0.24%	111.99	144.79	94.45	185.82	

IRON ORE PORT LUMP INDEX (IOPLI)

Week Ending Nov 11th, 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	782	12	1.6%	868	1067	730	1405	96.23	1.51	1.60%	111.11	144.54	95.00	199.00

IRON ORE DOMESTIC CONCENTRATE SPOT PRICE ASSESSMENTS AND COMPOSITE INDEX

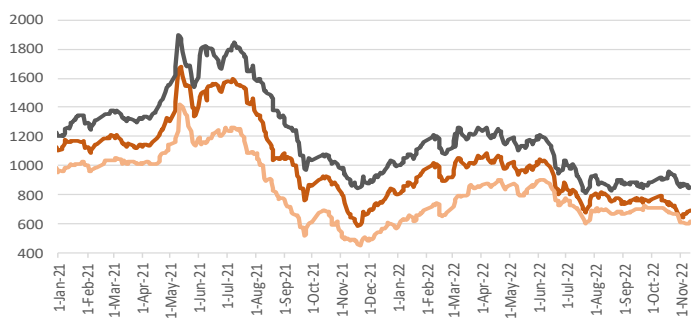
Week Ending Nov 11th, 2022				RMB/tonne (excluding tax) ³				USD/tonne (excluding tax) ³			
Province	Region	Product	Basis	This week	Change %	Low ²	High ²	This week	Change %	Low ²	High ²
Hebei	Hanxing	66% Fe Concentrate	Dry	823	-1.4%	779	1645	114.00	-1.41%	110.31	255.69
Hebei	Qian'an	65% Fe Concentrate	Dry	870	2.4%	780	1630	120.51	2.38%	110.51	251.57
Liaoning	Anshan	65% Fe Concentrate	Wet	705	0.0%	620	1310	97.66	0.03%	87.40	202.32
Shandong	Zibo	65% Fe Concentrate	Dry	846	-1.4%	800	1752	117.19	-1.37%	117.19	272.32

Week Ending Nov 11th, 2022

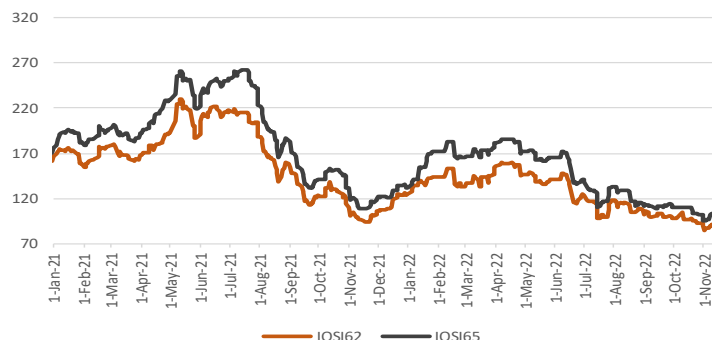
This week	Change %	Low ²	High ²
789.89	-2.63%	706.36	1511.22

¹ Exchange rate applied: RMB/USD = 6.7522 ² Last 12 months
³ Weekly exchange rate applied: RMB/USD = 7.2192

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 11th, 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	750	754	874	106.01	106.64	101.14	95.56	99.65	101.14	122.72
IOPI58	58% Fe Fines	682	685	697	683	678	679	739	94.43	94.05	93.56	89.34	90.74	91.60	103.97
IOPI65	65% Fe Fines	915	878	875	918	884	891	1036	126.73	120.31	117.19	120.08	118.09	120.11	146.13

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

FREIGHT RATES

Nov 11th, 2022		CFR Qingdao, USD/dry tonne							Nov 10th, 2022						
Index	Fe Content	July	August	September	October	MTD	QTD	YTD	FREIGHT RATES - DRY BULK US\$/wet tonne						
IOSI62	62% Fe Fines	110.07	110.64	101.12	95.80	101.12	103.11	125.24	Route	Designation	Change	Change %	Low ²	High ²	
IOSI65	65% Fe Fines	124.60	112.53	111.57	106.70	111.99	114.80	144.79	W. Australia - Qingdao	C5	9.23	0.20	2.16%	3.57	16.77
									Tubarao - Qingdao	C3	20.19	-0.38	-1.84%	6.70	36.40

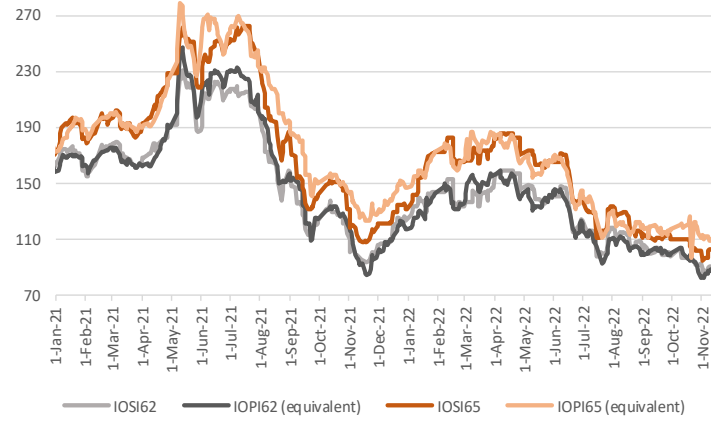
IRON ORE PORT LUMP INDEX MONTHLY, QUARTERLY AND YEAR-TO-DATE AVERAGES

Week Ending Nov 11th, 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	868	878	1067	120.36	118.50	112.75	109.81	111.11	113.54	144.54

IRON ORE INDEX PREMIUMS/DISCOUNTS

Nov 11th, 2022				PORT STOCK INDEX (RMB/WT)		Nov 11th, 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	-77	-11.11%	IOSI65	65% Fe Fines	12.20	13.44%				
IOPI65	65% Fe Fines	157	22.66%								

IRON ORE INDEX COMPARISONS (USD/DMT)



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



IRON ORE BRAND SPOT PRICE ASSESSMENTS

Nov 11th, 2022				Nov 11th, 2022			
PORT STOCK INDEX (RMB/WT)				SEABORNE INDEX (USD/DMT)			
	Price	Change	Diff to IOPI62		Price	Change	Diff to IOSI62
Roy Hill	636	10	-57	Roy Hill	86.30	0.10	-4.50
SIMEC Fines	561	10	-132	SIMEC Fines	82.80	0.10	-8.00
PB Fines	664	10	-29	PB Fines	87.05	0.10	-3.75
Newman Fines	660	10	-33	Newman Fines	89.95	0.10	-0.85
MAC Fines	642	10	-51	MAC Fines	87.05	0.10	-3.75
Jimblebar Blended Fines	556	10	-137	Jimblebar Blended Fines	79.45	0.10	-11.35
Carajas Fines	873	10	180	Carajas Fines	120.35	0.10	29.55
Brazilian SSF	653	10	-40	Brazilian SSF	94.55	0.10	3.75
Brazilian Blend Fines	677	10	-16	Brazilian Blend Fines	96.20	0.10	5.40
RTX Fines	575	10	-118	RTX Fines	80.70	0.10	-10.10
West Pilbara Fines	605	10	-88	West Pilbara Fines	85.05	0.10	-5.75

Nov 11th, 2022			
PORT STOCK INDEX (RMB/WT)			
	Price	Change	Diff to IOPI58
SSF	616	12	0
FMG Blended Fines	624	13	8
Robe River	624	12	8
Western Fines	627	13	11
Atlas Fines	622	13	6
Yandi	610	12	-6

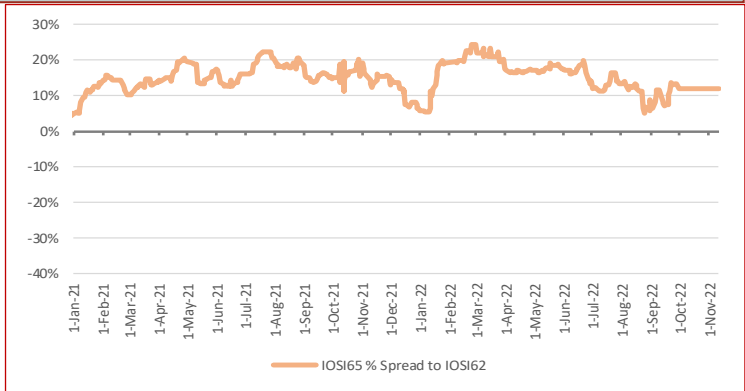
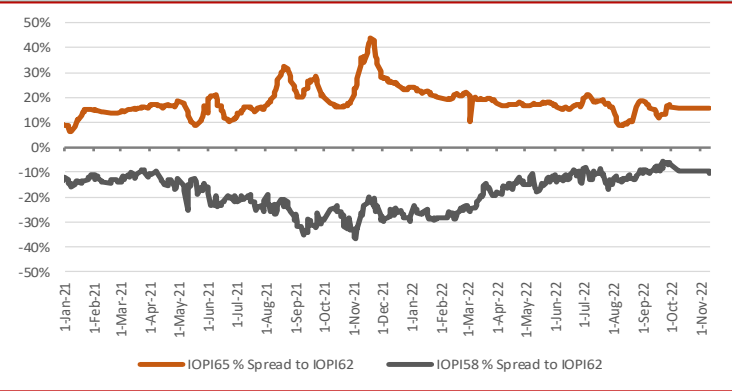
IRON ORE INDEX NORMALISATION DIFFERENTIALS

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%	5.00	0.00	1% Fe	High Grade Fe 60 - 63%	2.25	0.00
	High Grade Fe 63 - 64%	7.00	-1.00		High Grade Fe 63 - 64%	2.25	-0.25
	High Grade Fe 64 - 65%	7.00	-1.00		High Grade Fe 64 - 65%	2.25	-0.25
	High Grade Fe 65 - 65.5%	7.00	-1.00		High Grade Fe 65 - 65.5%	2.25	-0.25
1% Alumina	Low Grade Fe	20.00	1.00	1% Alumina	High Fe Grade Al <2.25%	0.50	0.00
	High Fe Grade Al <2.25%	68.00	0.00		High Fe Grade Al 2.25-4%	2.75	0.25
	High Fe Grade Al 2.25-4%	5.00	0.00				
	Low Fe Grade Al <2.25%	8.00	2.00				
1% Silica	Low Fe Grade Al 2.25-4%	24.00	1.00	1% Silica	High Fe Grade Si <4%	1.50	-0.25
	High Fe Grade Si <4%	32.00	-2.00		High Fe Grade Si 4 - 6.5%	1.75	0.25
0.01% Phosphorus	High Fe Grade Si 4-6.5%	5.00	0.00	0.01% Phosphorus	High Fe Grade 0.09%<P<0.115%	2.00	-0.25
	Low Fe Grade	20.00	1.00		High Fe Grade 0.115%<P<0.15%	5.00	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<0.1%	5.00	0.00				

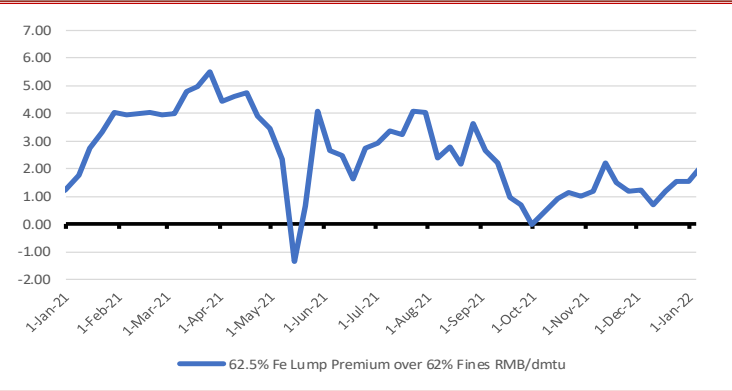
Port Stock Price Differentials to Qingdao Port for PB Fines (RMB/wet tonne)

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	-20.00	0.00	Majishan	0.00	0.00	Taicang	-30.00	0.00
Dalian	0.00	0.00	Lanqiao	0.00	0.00	Qingdao	0.00	0.00	Tianjin	-10.00	0.00

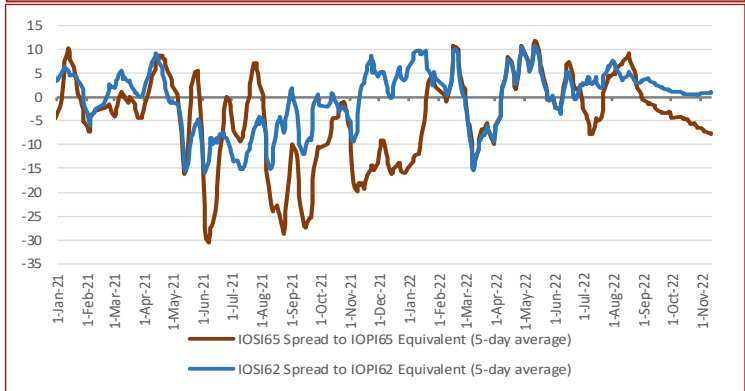
IRON ORE INDEX PREMIUMS/DISCOUNTS



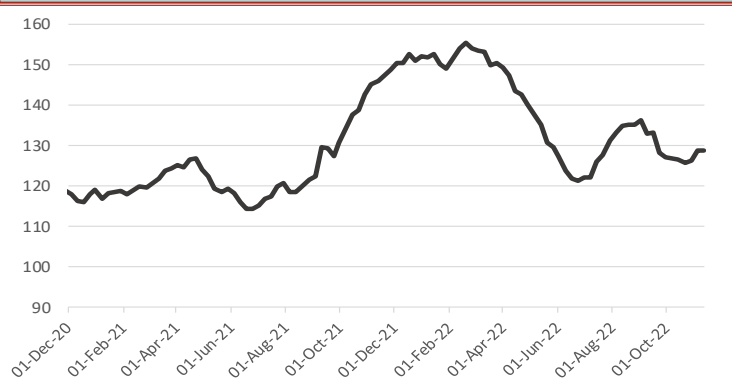
WEEKLY IRON ORE PORT STOCK LUMP PREMIUM (RMB/DMTU)



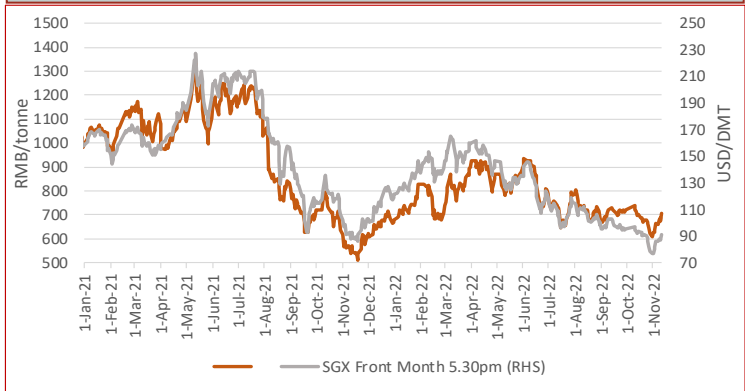
IRON ORE SEABORNE TO PORT STOCK PRICE SPREADS (USD/DMT)



TOTAL IRON ORE INVENTORIES AT CHINA PORTS (MILLION TONNES)



FUTURE TRADING—FRONT MONTH CLOSING PRICE



IRON ORE PORT INVENTORIES (MILLION TONNES)

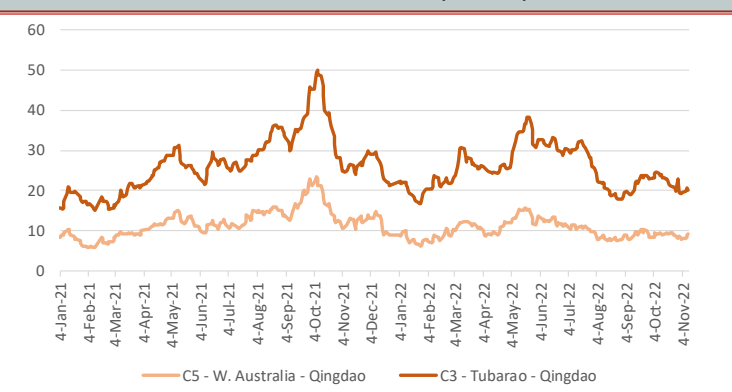
Week Ending Nov 11th, 2022

Province	This week	Change %	Low ²	High ²
Jingtang	12.90	1.18%	9.84	19.20
Qingdao	23.86	1.27%	9.41	26.24
Caofeidian	11.80	-1.83%	9.05	16.29
Tianjin	10.23	-1.16%	7.14	12.97
Rizhao	17.98	1.75%	9.44	19.26
Total (35 Ports)	128.73	0.00%	98.80	155.39

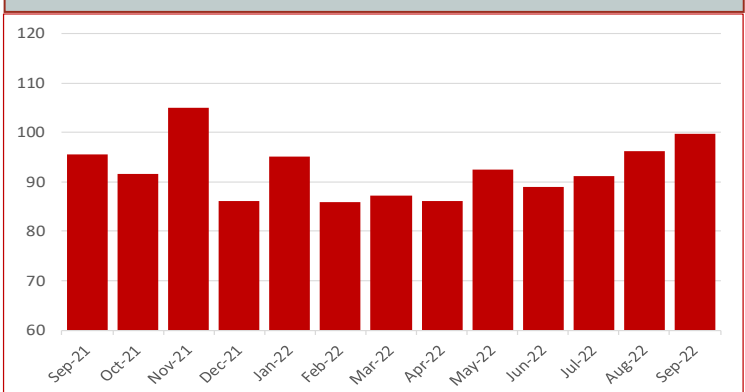
IRON ORE FUTURES CONTRACTS

Closing Date	DCE (RMB/WMT)			SGX (USD/DMT)		
	Nov 11th, 3pm close	Change	Change %	Nov 11th, 5:30pm	Change	Change %
Contract	I2301			Dec. 22		
Closing Price	708.50	33.00	4.89%	91.20	4.55	5.25%
Vol traded ('000 lots)	124.92	37.18	42.38%	6.94	2.68	62.73%
Open positions ('000 lots)	71.62	0.13	0.18%	30.33	0.51	1.73%
Day Low	667.0	-1.00	-0.15%	85.40	0.05	0.06%
Day High	720.0	36.44	5.33%	93.60	5.40	6.12%

DRY BULK FREIGHT RATES (USD/MT)



TOTAL CHINA IRON ORE IMPORT VOLUMES (MILLION TONNES)



STEEL SPOT MARKET PRICES—CHINA

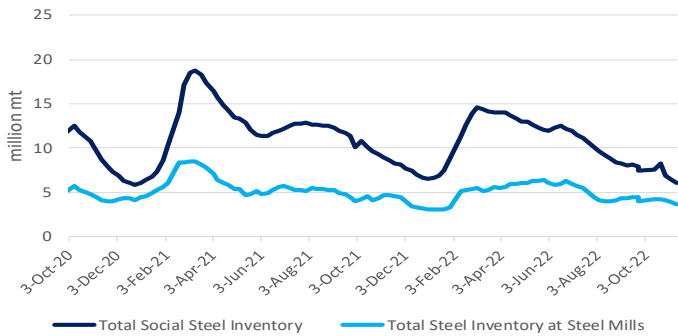
Product	2022/11/11	Change	Change %
ReBar HRB400 φ18mm	3,790	20	0.53%
Wirerod Q300 φ6.5mm	4,270	40	0.95%
HRC Q235/SS400 5.5mm*1500*C	3,810	50	1.33%
CRC SPCC/ST12 1.0mm*1250*2500	4,370	30	0.69%
Medium & Heavy Plate Q235B 20mm	3,870	-10	-0.26%
GI ST02Z 1.0mm*1000*C	4,610	40	0.88%
Colour Coated Plate	7,500	0	0.00%

CHINESE STEEL MILL PROFITABILITY

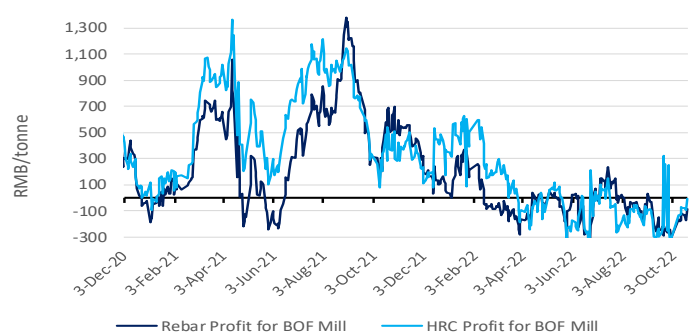
SMM Tracking of Steel Mill P&L - Rebar and Hot-rolled Coil (RMB/tonne)			
Category	Price	Change (WoW)	Note
MMi (Fe 62%), USD/mt excluding tax	90.70	4	Mmi CFR Equivalent index for 1st Feb
Coke	2,740	-220	2nd grade met coke, Tangshan, incl. tax
Steel Scrap	2,810	200	steel scrap (6mm) in Zhangjiagang, ext. tax
Billet Cost	3,380	-2	Q234, incl. tax
Rebar cost - Blast furnace	3,854	-2	calculated based on theoretical weight, incl. tax
Rebar profit - Blast furnace	-84	32	based on Shanghai prices, incl. tax
Hot-rolled coil cost - Blast furnace	3,819	-3	based on actual weight, incl. tax
Hot-rolled coil profit - Blast furnace	-9	63	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

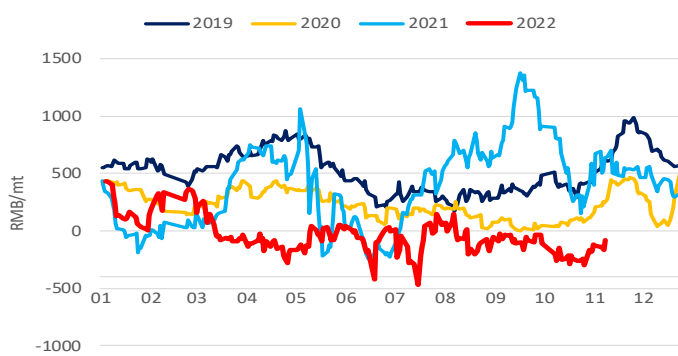
CHINESE STEEL INVENTORIES



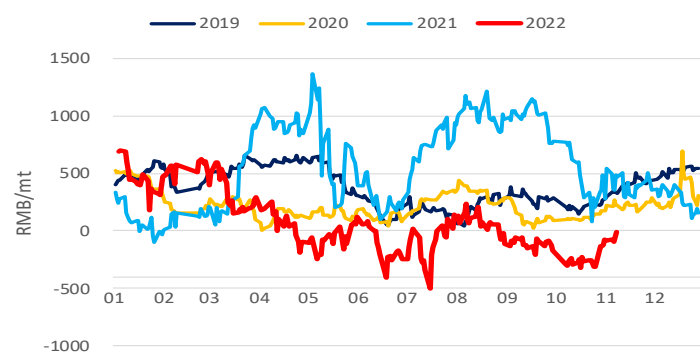
CHINESE STEEL MILL PROFITABILITY



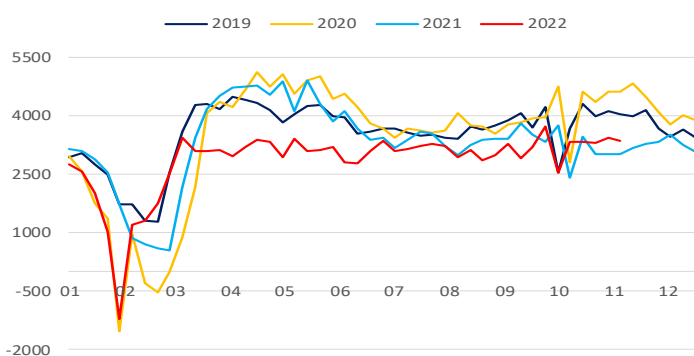
CHINESE STEEL MILL PROFITABILITY—Rebar



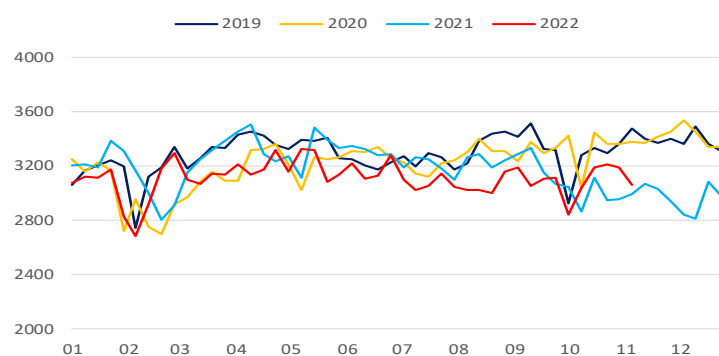
CHINESE STEEL MILL PROFITABILITY—Hot-rolled Coil



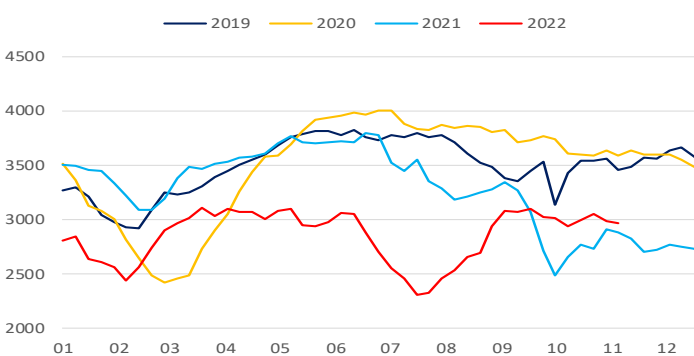
CHINESE STEEL CONSUMPTION—Rebar



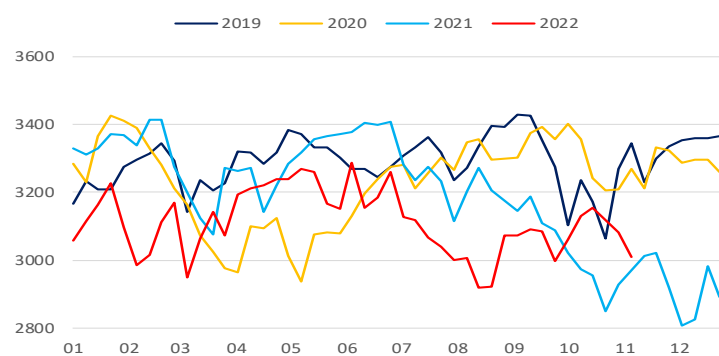
CHINESE STEEL CONSUMPTION—Hot-rolled Coil



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	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
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*			
Port Index	62%	58%	65%
Seaborne index	0	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 11th, 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 11th, 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		

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