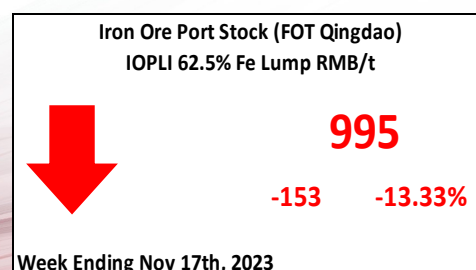
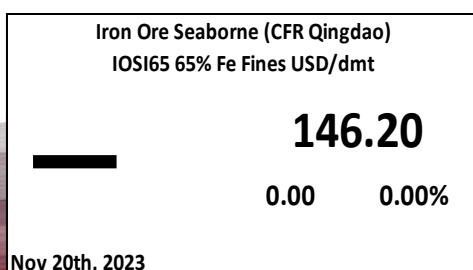
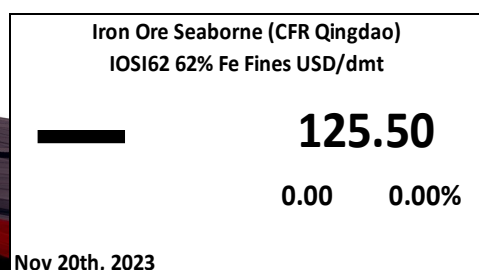
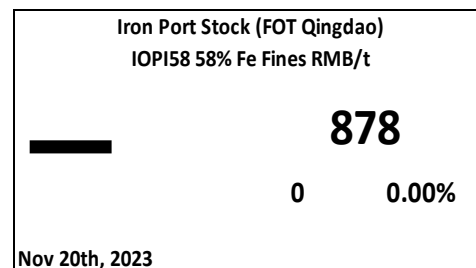
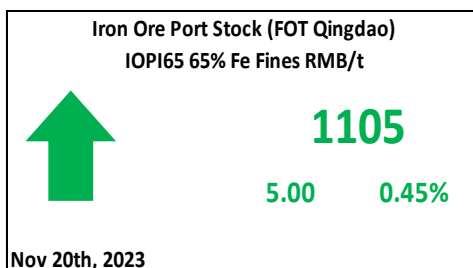
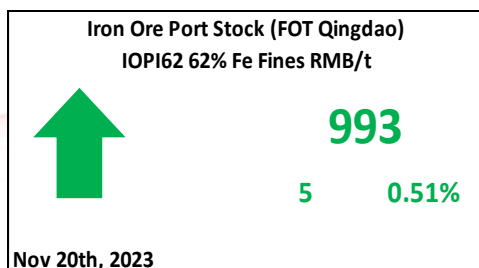


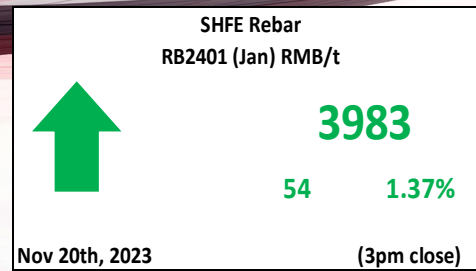
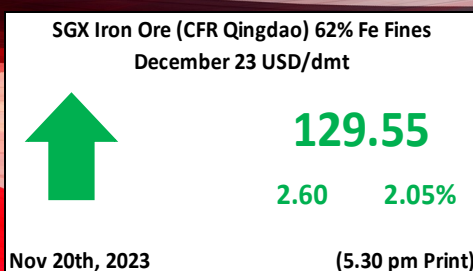
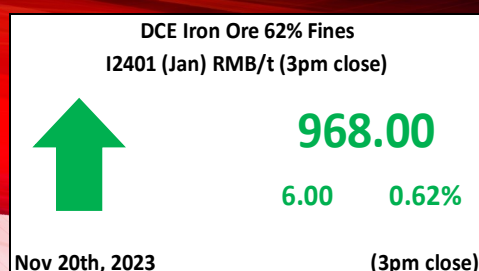


## MMi Dashboard

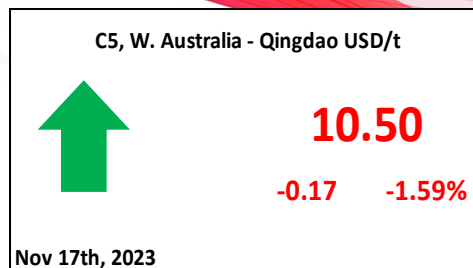
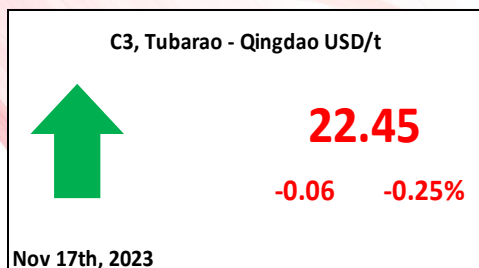
## Iron Ore Price Indices



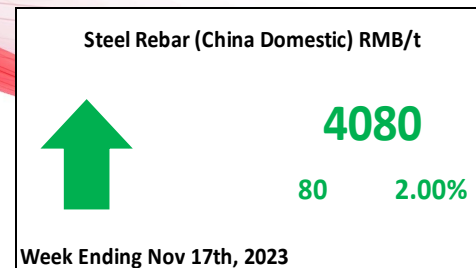
## Exchange Traded Contracts



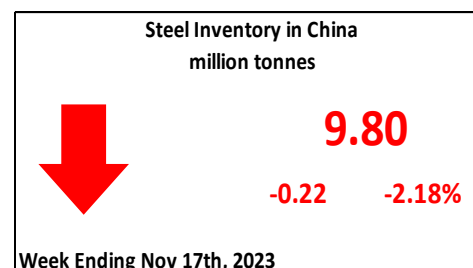
## Freight Rates



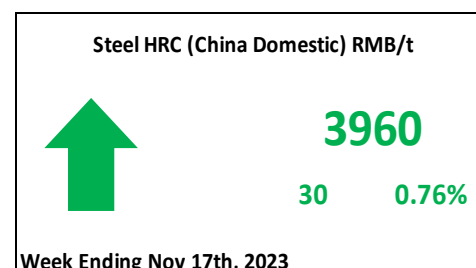
## Steel Price



## Inventory Levels



## Steel Price



## IRON ORE PORT STOCK INDEX (IOPI)

Nov 20th, 2023		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	993	5.0	0.51%	851	877	733	1000	129.64	0.90	0.7%	112.78	119.27	95.00	130.00
IOPI58	58% Fe Fines	878	0.0	0.00%	755	759	647	886	115.43	0.19	0.2%	100.66	103.66	84.00	116.00
IOPI65	65% Fe Fines	1105	5.0	0.45%	969	1012	837	1112	144.64	0.88	0.6%	128.82	138.28	109.00	145.00

## IRON ORE SEABORNE INDEX (IOSI)

Nov 20th, 2023		CFR Qingdao, USD/dry tonne							MARKET COMMENTARY							
Index	Fe Content	Price	Change	Change %	MTD	YTD	Low <sup>2</sup>	High <sup>2</sup>	DCE iron ore futures rose today by 0.47%, the main contract I2401 closed 968. Traders ship according to market conditions. Some steel mills tended to be wait-and-see, and purchasing enthusiasm is not high, total transactions is poor. PBF at Shandong port dealt 992 yuan/mt; increased 7 yuan/mt over yesterday. PBF at Tangshan port dealt 988-1000 yuan/mt; increased 8-10 yuan/mt over yesterday. SMM shipping data shows that the total global iron ore shipment volume is 30.84 million tons, an increase of 7% month on month. Among them, Australia shipped 18.28 million tons, an increase of 5.4% month on month; 15.43 million tons were shipped from Australia to China, accounting for 84.4% of the total shipment to Australia, an increase of 15.8% compared to the previous month. Brazil shipped 6.28 million tons, an increase of 16.9% month on month; 266 tons were shipped from Brazil to China, accounting for 42.4% of the total shipment from Brazil, a decrease of 17.9% compared to the previous month. However, due to the impact of weather on unloading efficiency, SMM China's total iron ore arrival at the port was 22.5832 million tons, a decrease of 4.85% compared to the previous month. In the current situation of low port inventory, there is still some support. However, considering the high valuation of iron ore and stricter regulation, it is expected that the short-term price of iron ore may be mainly weak and volatile.							
IOSI62	62% Fe Fines	125.50	0.00	0.00%	113.43	113.43	96.50	146.75								
IOSI65	65% Fe Fines	146.20	0.00	0.00%	126.08	126.08	103.35	155.80								

## IRON ORE PORT LUMP INDEX (IOPLI)

Week Ending Nov 17th, 2023		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	995	-153	-13.3%	955	1023	842	1148	124.24	-19.61	-13.63%	122.20	134.77	105.00	144.00

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

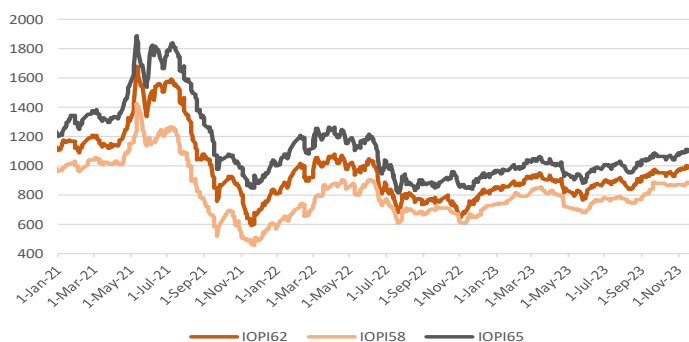
Week Ending Nov 17th, 2023				RMB/tonne (excluding tax) <sup>3</sup>				USD/tonne (excluding tax) <sup>3</sup>			
Province	Region	Product	Basis	This week	Change %	Low <sup>2</sup>	High <sup>2</sup>	This week	Change %	Low <sup>2</sup>	High <sup>2</sup>
Hebei	Hanxing	66% Fe Concentrate	Dry	1131	1.8%	779	1645	157.63	925.29%	110.31	255.69
Hebei	Qian'an	65% Fe Concentrate	Dry	1150	1.8%	780	1630	160.28	940.63%	110.51	251.57
Liaoning	Anshan	65% Fe Concentrate	Wet	850	3.7%	620	1310	118.47	872.54%	87.40	202.32
Shandong	Zibo	65% Fe Concentrate	Dry	1204	1.7%	800	1752	167.81	927.41%	117.19	272.32

Week Ending Nov 17th, 2023

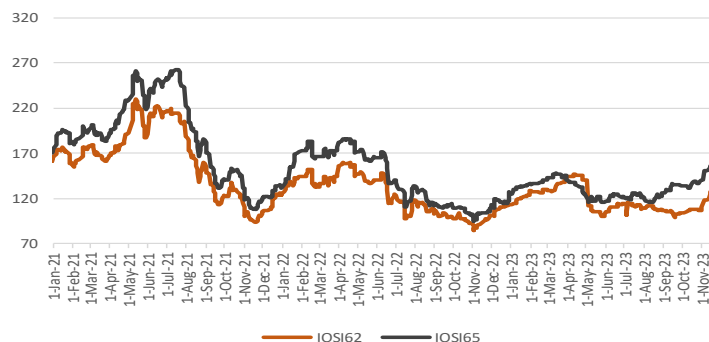
	This week	Change %	Low <sup>2</sup>	High <sup>2</sup>
China Mines Concentrate Composite Index RMB/WT	1161.00	14.87%	706.36	1511.22

<sup>1</sup> Exchange rate applied: RMB/USD = 6.7522    <sup>2</sup> Last 12 months  
<sup>3</sup> Weekly exchange rate applied: RMB/USD = 6.87528

## 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 20th, 2023		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	896	873	945	947	851	846	877	116.58	113.28	122.79	123.14	112.78	112.36	119.27
IOPI58	58% Fe Fines	777	759	838	869	755	750	759	101.68	99.13	109.67	113.94	100.66	100.27	103.66
IOPI65	65% Fe Fines	1008	985	1057	1059	969	965	1012	131.57	128.31	137.74	138.13	128.82	128.68	138.28

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

Nov 20th, 2023		CFR Qingdao, USD/dry tonne							FREIGHT RATES							
Index	Fe Content	July	August	September	October	MTD	QTD	YTD	Nov 17th, 2023				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	108.57	109.02	104.25	106.44	112.14	112.52	113.43	W. Australia - Qingdao	C5	10.50	-0.17	-1.59%	3.57	16.77	
IOSI65	65% Fe Fines	147.39	119.61	132.40	135.69	122.86	125.07	126.08	Tubarao - Qingdao	C3	22.45	-0.06	-0.25%	6.70	36.40	

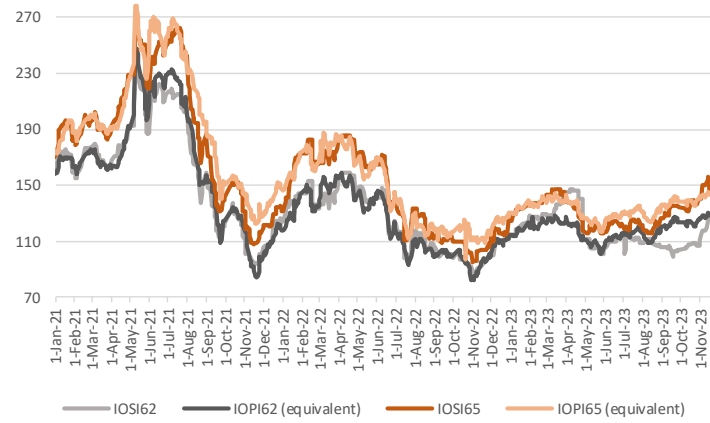
## IRON ORE PORT LUMP INDEX MONTHLY, QUARTERLY AND YEAR-TO-DATE AVERAGES

Week Ending Nov 17th, 2023		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	980	951	1043	1113	933	952	1017	122.51	118.96	130.25	139.38	119.96	122.05	134.98

## IRON ORE INDEX PREMIUMS/DISCOUNTS

Nov 20th, 2023		PORT STOCK INDEX (RMB/WT)				Nov 20th, 2023		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	-115		-11.58%		IOSI65	65% Fe Fines	20.70		16.49%	
IOPI65	65% Fe Fines	112		11.28%							

## IRON ORE INDEX COMPARISONS (USD/DMT)



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



## IRON ORE BRAND SPOT PRICE ASSESSMENTS

Nov 20th, 2023				Nov 20th, 2023			
PORT STOCK INDEX (RMB/WT)				SEABORNE INDEX (USD/DMT)			
	Price	Change	Diff to IOPI62		Price	Change	Diff to IOSI62
Roy Hill	936	5	-57	Roy Hill	121.00	0.00	-4.50
SIMEC Fines	868	5	-125	SIMEC Fines	117.50	0.00	-8.00
PB Fines	959	5	-34	PB Fines	121.75	0.00	-3.75
Newman Fines	963	5	-30	Newman Fines	124.65	0.00	-0.85
MAC Fines	943	5	-50	MAC Fines	121.75	0.00	-3.75
Jimblebar Blended Fines	859	5	-134	Jimblebar Blended Fines	114.15	0.00	-11.35
Carajas Fines	1174	5	181	Carajas Fines	155.05	0.00	29.55
Brazilian SSF	960	5	-33	Brazilian SSF	129.25	0.00	3.75
Brazilian Blend Fines	973	5	-20	Brazilian Blend Fines	130.90	0.00	5.40
RTX Fines	877	5	-116	RTX Fines	115.40	0.00	-10.10
West Pilbara Fines	904	5	-89	West Pilbara Fines	119.75	0.00	-5.75

Nov 20th, 2023			
PORT STOCK INDEX (RMB/WT)			
	Price	Change	Diff to IOPI58
SSF	878	0	0
FMG Blended Fines	889	0	11
Robe River	890	0	12
Western Fines	893	0	15
Atlas Fines	886	0	8
Yandi	870	0	-8

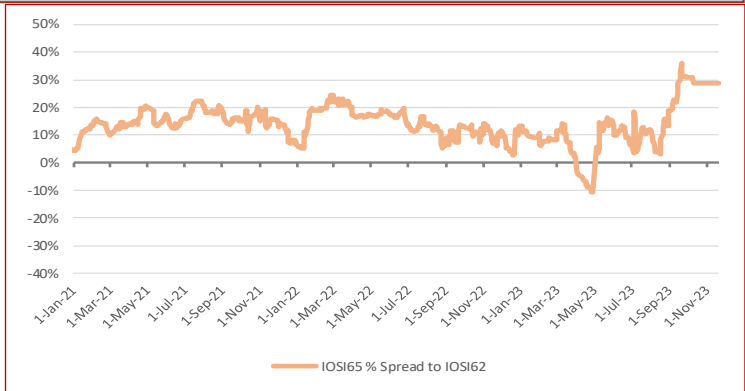
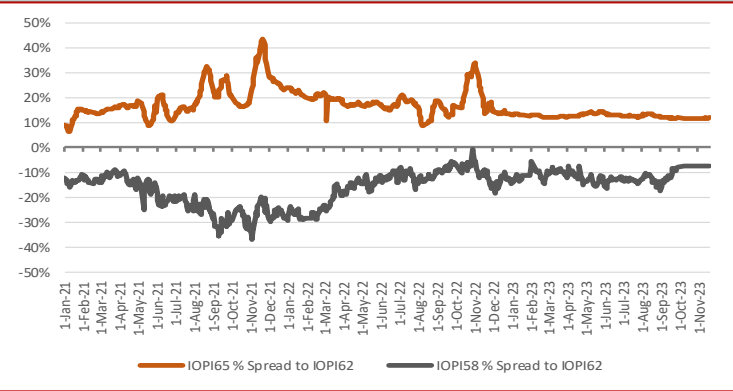
## IRON ORE INDEX NORMALISATION DIFFERENTIALS

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%	16.00	-2.00	1% Fe	High Grade Fe 60 - 63%	8.00	1.00
	High Grade Fe 63 - 64%	5.00	0.00		High Grade Fe 63 - 64%	2.75	0.00
	High Grade Fe 64 - 65%	5.00	0.00		High Grade Fe 64 - 65%	2.75	0.00
	High Grade Fe 65 - 65.5%	5.00	0.00		High Grade Fe 65 - 65.5%	2.75	0.00
1% Alumina	Low Grade Fe	36.00	0.00	1% Alumina	High Fe Grade Al <2.25%	10.00	0.00
	High Fe Grade Al <2.25%	12.00	1.00		High Fe Grade Al 2.25-4%	0.50	-0.50
	High Fe Grade Al 2.25-4%	18.00	0.00				
	Low Fe Grade Al <2.25%	45.00	5.00				
1% Silica	Low Fe Grade Al 2.25-4%	45.00	5.00	1% Silica	High Fe Grade Si <4%	0.25	0.00
	High Fe Grade Si <4%	5.00	0.00		High Fe Grade Si 4 - 6.5%	5.00	0.00
	High Fe Grade Si 4-6.5%	20.00	8.00				
0.01% Phosphorus	Low Fe Grade	11.00	2.00	0.01% Phosphorus	High Fe Grade 0.09%<P<0.115%	0.25	0.00
	High Fe Grade 0.09%<P<0.115%	5.00	0.00		High Fe Grade 0.115%<P<0.15%	0.25	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

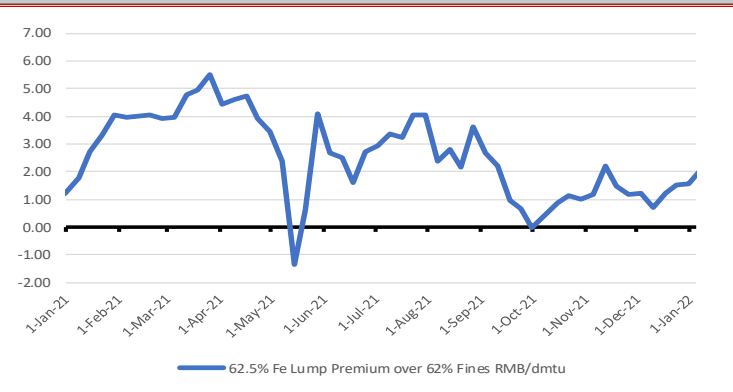
## Port Stock Price Differentials to Qingdao Port for PB Fines (RMB/wet tonne)

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	-20.00	0.00	Lianyungang	0.00	0.00	Shekou	0.00	0.00
Caofeidian	-10.00	0.00	Jingtang	-10.00	5.00	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	-30.00	0.00

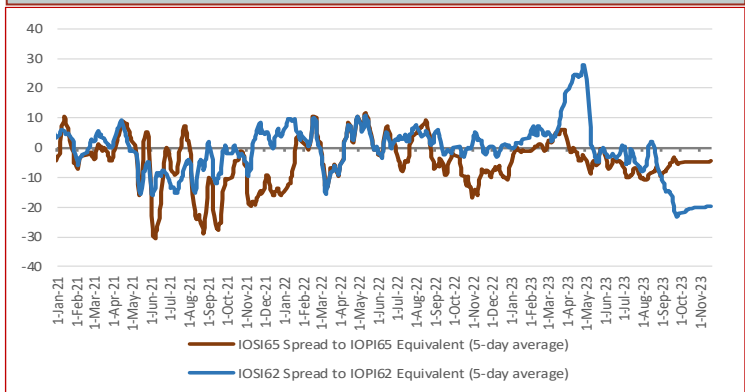
IRON ORE INDEX PREMIUMS/DISCOUNTS



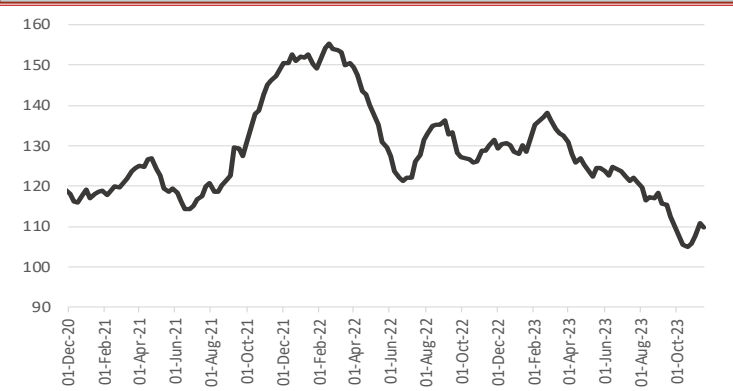
WEEKLY IRON ORE PORT STOCK LUMP PREMIUM (RMB/DMTU)



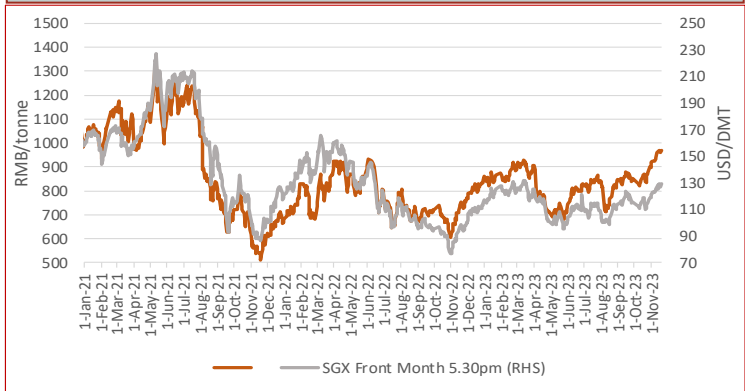
IRON ORE SEABORNE TO PORT STOCK PRICE SPREADS (USD/DMT)



TOTAL IRON ORE INVENTORIES AT CHINA PORTS (MILLION TONNES)



FUTURE TRADING—FRONT MONTH CLOSING PRICE



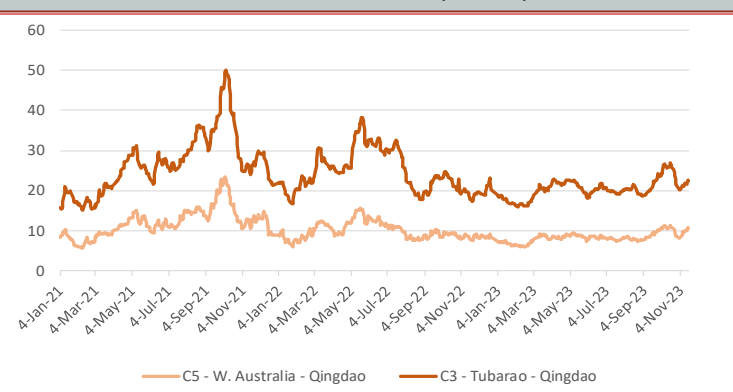
IRON ORE PORT INVENTORIES (MILLION TONNES)

Week Ending Nov 17th, 2023				
Province	This week	Change %	Low <sup>2</sup>	High <sup>2</sup>
Jingtang	8.62	2.50%	8.41	19.20
Qingdao	19.93	-12.47%	9.41	26.24
Caofeidian	9.14	12.15%	7.56	16.29
Tianjin	6.59	-13.06%	6.49	12.97
Rizhao	12.22	-6.86%	9.44	19.26
<b>Total (35 Ports)</b>	<b>109.85</b>	<b>-0.81%</b>	<b>98.80</b>	<b>155.39</b>

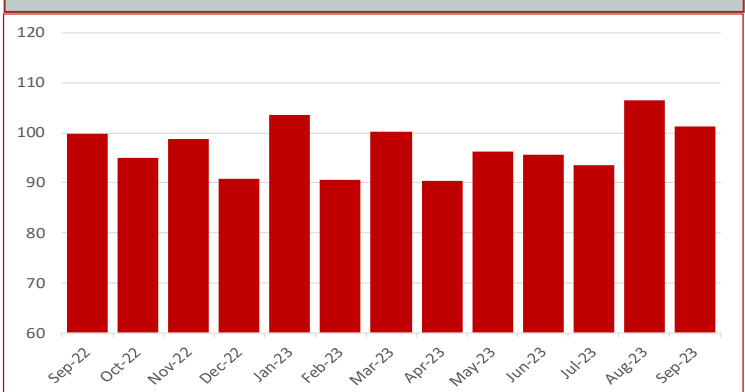
IRON ORE FUTURES CONTRACTS

Closing Date	DCE (RMB/WMT)			SGX (USD/DMT)		
	Nov 20th, 3pm close	Change	Change %	Nov 20th, 5:30pm	Change	Change %
Contract	12401			Dec. 23		
Closing Price	968.00	6.00	0.62%	129.55	2.60	2.05%
Vol traded ('000 lots)	33.81	-2.80	-7.65%	10.11	1.72	20.50%
Open positions ('000 lots)	76.94	-1.27	-1.62%	39.64	-1.89	-4.55%
Day Low	945.0	-5.00	-0.53%	127.85	1.85	1.47%
Day High	972.5	-4.50	-0.46%	131.35	1.66	1.28%

DRY BULK FREIGHT RATES (USD/MT)



TOTAL CHINA IRON ORE IMPORT VOLUMES (MILLION TONNES)



STEEL SPOT MARKET PRICES—CHINA

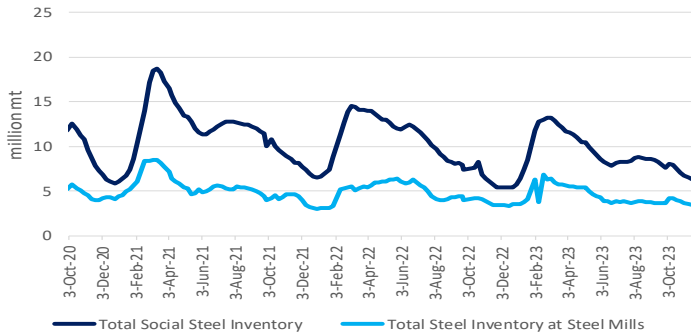
Steel Spot Market RMB/tonne			
Product	2023/11/17	Change	Change %
ReBar HRB400 φ18mm	4,080	80	2.00%
Wirerod Q300 φ6.5mm	4,300	80	1.90%
HRC Q235/SS400 5.5mm*1500*C	3,960	30	0.76%
CRC SPCC/ST12 1.0mm*1250*2500	4,790	20	0.42%
Medium & Heavy Plate Q235B 20mm	3,980	100	2.58%
GI ST02Z 1.0mm*1000*C	5,060	20	0.40%
Colour Coated Plate	6,950	50	0.72%

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	118.10	0	Mmi CFR Equivalent index for 1st Feb
Coke	2,450	0	2nd grade met coke, Tangshan, incl. tax
Steel Scrap	2,910	0	steel scrap (6mm) in Zhangjiagang, excl. tax
Billet Cost	3,270	9	Q234, incl. tax
Rebar cost - Blast furnace	3,922	-0	calculated based on theoretical weight, incl. tax
Rebar profit - Blast furnace	58	49	based on Shanghai prices, incl. tax
Hot-rolled coil cost - Blast furnace	3,978	13	based on actual weight, incl. tax
Hot-rolled coil profit - Blast furnace	-18	27	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

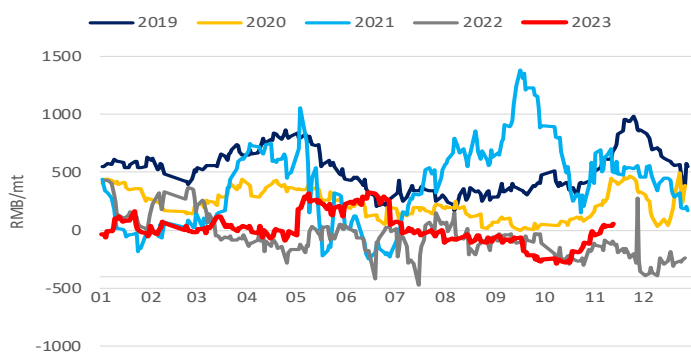
CHINESE STEEL INVENTORIES



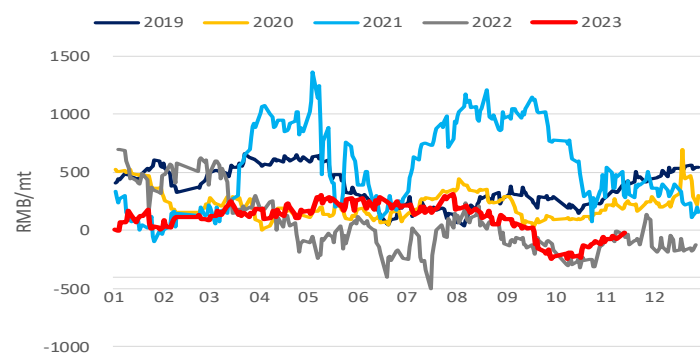
CHINESE STEEL MILL PROFITABILITY



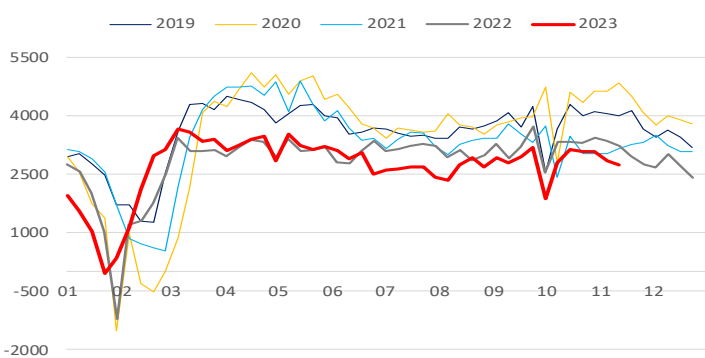
CHINESE STEEL MILL PROFITABILITY—Rebar



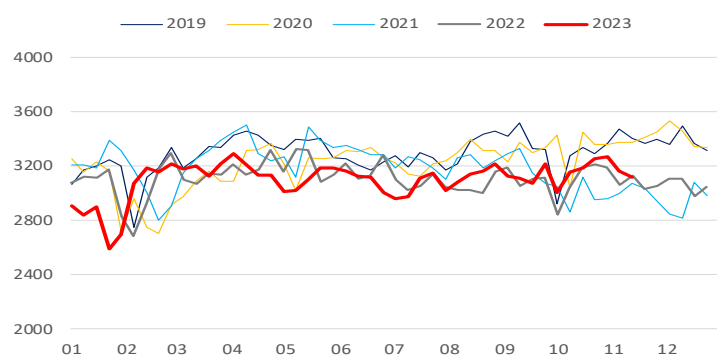
CHINESE STEEL MILL PROFITABILITY—Hot-rolled Coil



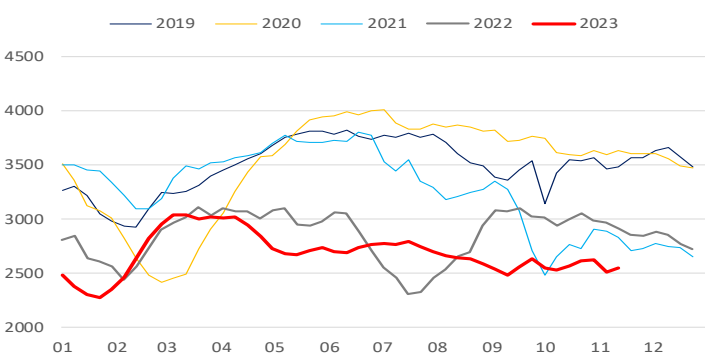
CHINESE STEEL CONSUMPTION—Rebar



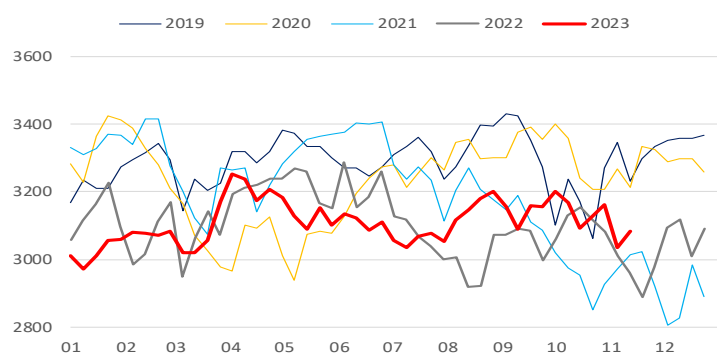
CHINESE STEEL CONSUMPTION—Hot-rolled Coil



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
	<b>65% Fe Fines</b>	<b>62% Fe Fines</b>	<b>58% Fe Fines</b>	<b>62.5% Fe Lump</b>	<p>MMi iron ore indices are compiled from data provided by companies that are part of the iron ore supply chain and involved in spot market transactions. The indices are calculated using detailed transaction-level data submitted to MMi by these companies. This data is normalised to the appropriate specifications and screened to remove outliers before volume-weighted average prices are calculated from the remaining core set of data.</p> <p>For more details on MMi's iron ore methodology please download the guide published on our website at: <a href="http://www.mmiprices.com">www.mmiprices.com</a></p>
Fe %	65.00	62.00	58.00	62.50	
Alumina %	1.40	2.25	2.25	1.50	
Silica%	1.50	4.00	5.50	3.50	
Phosphorus %	0.06	0.09	0.05	0.08	
Sulphur %	0.01	0.02	0.02	0.02	
Moisture %	8.00	8.00	9.00	4.00	
Sizing	Granular size below 10mm for at least 90% of cargo; maximum of 40% below 150 micron		Size below 6.3mm max 15% Size above 31.15mm max 25%		
Pricing Point	Qingdao Port (FOT and CFR respectively)		FOT Qingdao Port		
Timing (Seaborne)	Loading within 4 weeks, Delivery within 8 weeks		Delivery within 2 weeks		
Payment Terms	L/C at sight		L/C at sight or CAD		

Data Exclusions*			
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 20th, 2023	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 20th, 2023	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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