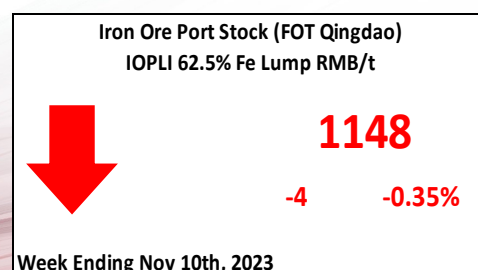
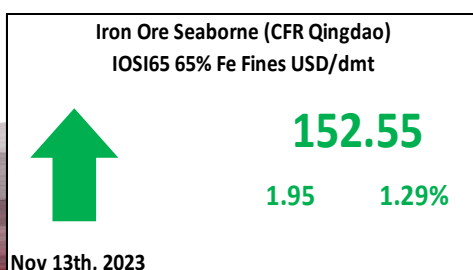
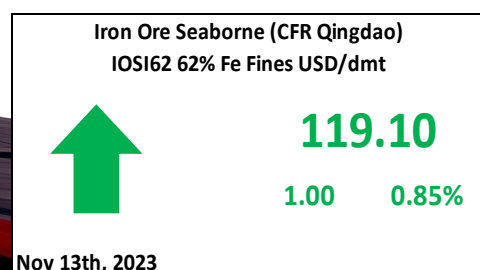
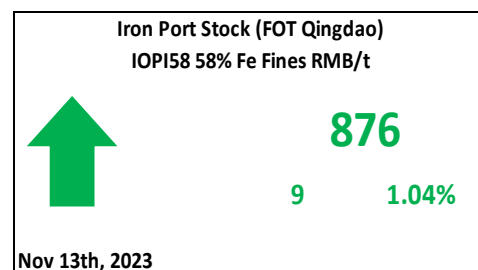
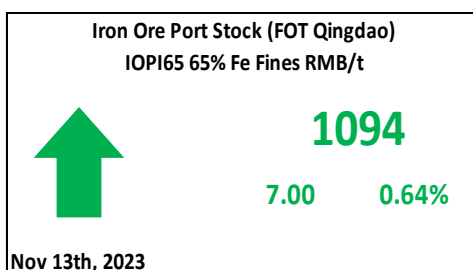
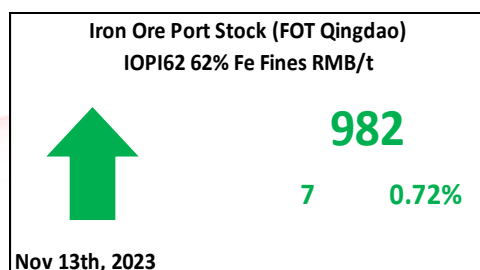


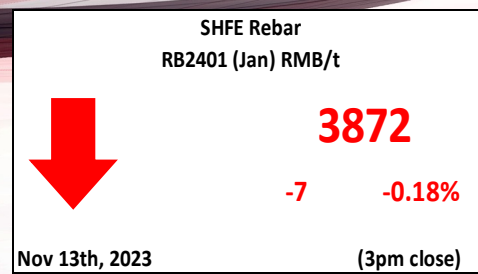
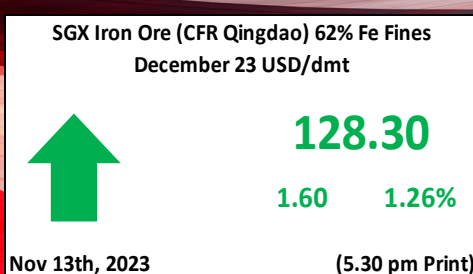
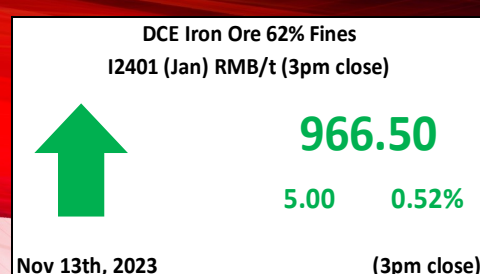


MMi Dashboard

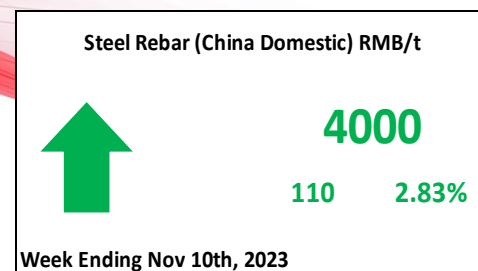
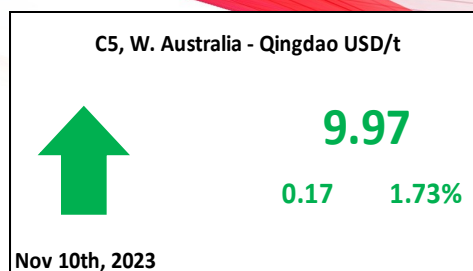
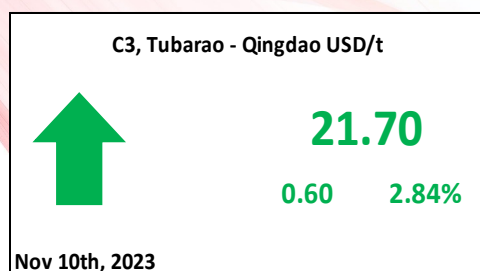
Iron Ore Price Indices



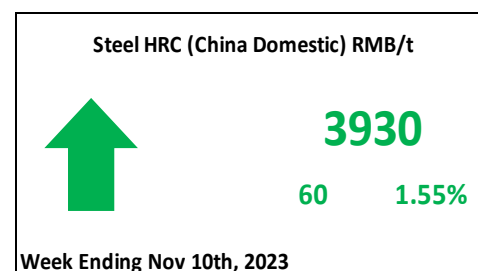
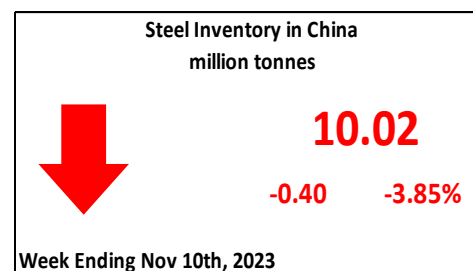
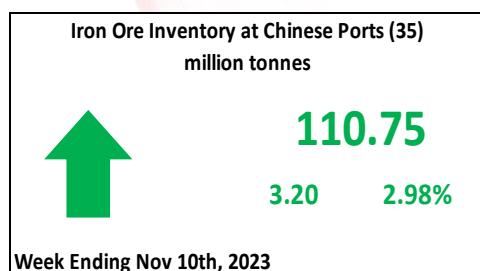
Exchange Traded Contracts



Freight Rates



Inventory Levels



IRON ORE PORT STOCK INDEX (IOPI)

Nov 13th, 2023		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	982	7.0	0.72%	869	880	858	892	127.86	0.94	0.7%	120.06	120.58	117.93	122.93
IOPI58	58% Fe Fines	876	9.0	1.04%	813	798	761	793	114.91	1.23	1.1%	113.29	110.17	105.29	110.04
IOPI65	65% Fe Fines	1094	7.0	0.64%	981	992	970	1003	142.87	0.94	0.7%	136.05	136.43	133.84	138.73

IRON ORE SEABORNE INDEX (IOSI)

MARKET COMMENTARY

Nov 13th, 2023		CFR Qingdao, USD/dry tonne							DCE iron ore futures rose by 1.68 % today, the main contract closed at 966.5. The steel mills are not active to purchase. The overall trading sentiment of the market is general. PBF at Shandong port deal 985-990 yuan/mt. PBF at Tangshan port deal 993-998 yuan/mt, increase 5-7 yuan/mt. According to shipping data tracked by SMM, global shipping data has slightly decreased this week due to the fire incident in Vale last week. Vale stated that the accident will not affect the quarterly production plan and is expected to resume freight transportation in the short term, so the impact is relatively small. The arrival volume at major ports in China has also slightly decreased. Due to macroeconomic improvement, mining prices continue to rise; The fundamentals are not significant this week, so the price logic remains focused on the expected level. There are still important meetings in the short term, and we need to pay attention to the direction of emotions. It is expected that the short-term fluctuations in mining prices will be the main trend.
Index	Fe Content	Price	Change	Change %	MTD	YTD	Low ²	High ²	
IOSI62	62% Fe Fines	119.10	1.00	0.85%	113.22	113.22	92.30	146.75	
IOSI65	65% Fe Fines	152.55	1.95	1.29%	125.67	125.67	103.35	152.55	

IRON ORE PORT LUMP INDEX (IOPLI)

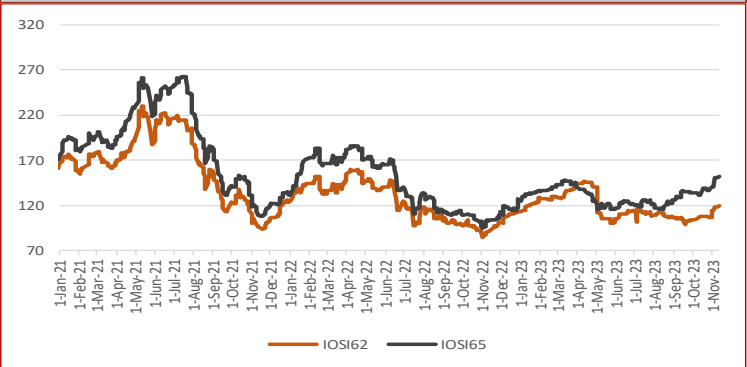
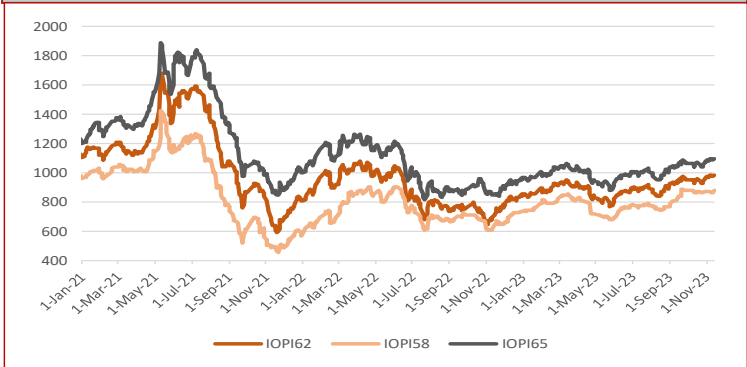
Week Ending Nov 10th, 2023		FOT Qingdao (inc. 13% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 13% VAT), USD/dry tonne ³						
Index	Fe Content	Price	W-o-W	Change %	MTD	YTD	Low ²	High ²	Price	W-o-W	Change %	MTD	YTD	Low ²	High ²
IOPLI62	62.5% Fe Lump	1148	-4	-0.3%	955	1023	782	1148	143.85	-0.49	-0.34%	122.16	134.89	96.23	143.85

IRON ORE DOMESTIC CONCENTRATE SPOT PRICE ASSESSMENTS AND COMPOSITE INDEX

Week Ending Nov 10th, 2023				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	1111	4.0%	779	1645	154.79	4.04%	110.31	255.69
Hebei	Qian'an	65% Fe Concentrate	Dry	1130	1.3%	780	1630	157.44	1.36%	110.51	251.57
Liaoning	Anshan	65% Fe Concentrate	Wet	820	1.2%	620	1310	114.25	1.25%	87.40	202.32
Shandong	Zibo	65% Fe Concentrate	Dry	1184	4.2%	800	1752	164.96	4.24%	117.19	272.32
Week Ending Nov 10th, 2023				This week	Change %	Low ²	High ²	¹ Exchange rate applied: RMB/USD = 6.7522 ² Last 12 months ³ Weekly exchange rate applied: RMB/USD = 6.87528			
China Mines Concentrate Composite Index RMB/WT				1010.75	1.73%	706.36	1511.22				

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 13th, 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	869	881	880	116.58	113.28	122.79	123.14	120.06	120.90	120.58
IOPI58	58% Fe Fines	777	759	838	869	813	792	798	101.68	99.13	109.67	113.94	113.29	109.35	110.17
IOPI65	65% Fe Fines	1008	985	1057	1059	981	993	992	131.57	128.31	137.74	138.13	136.05	136.72	136.43

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

FREIGHT RATES

Nov 13th, 2023		CFR Qingdao, USD/dry tonne							Nov 10th, 2023						
Index	Fe Content	July	August	September	October	MTD	QTD	YTD	Route	Designation	Change	Change %	Low ²	High ²	
IOSI62	62% Fe Fines	108.57	109.02	104.25	106.44	112.14	112.34	113.22	W. Australia - Qingdao	C5	9.97	0.17	1.73%	3.57	16.77
IOSI65	65% Fe Fines	147.39	119.61	132.40	135.69	122.86	124.72	125.67	Tubarao - Qingdao	C3	21.70	0.60	2.84%	6.70	36.40

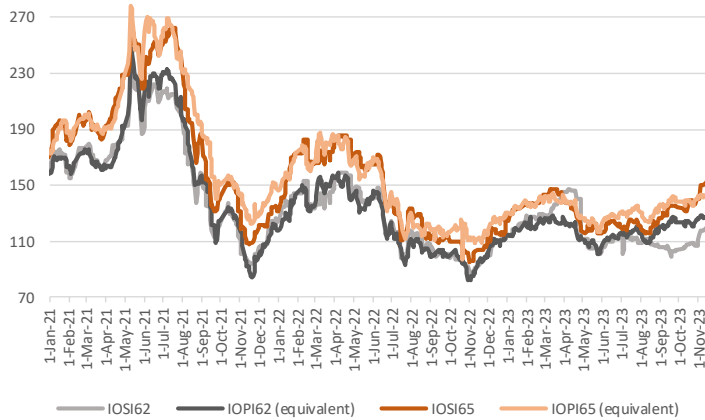
IRON ORE PORT LUMP INDEX MONTHLY, QUARTERLY AND YEAR-TO-DATE AVERAGES

Week Ending Nov 10th, 2023		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	980	951	1043	1113	933	951	1017	122.51	118.96	130.25	139.38	119.96	122.02	134.98

IRON ORE INDEX PREMIUMS/DISCOUNTS

Nov 13th, 2023		PORT STOCK INDEX (RMB/WT)		Nov 13th, 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	-106	-10.79%	IOSI65	65% Fe Fines	33.45	28.09%
IOPI65	65% Fe Fines	112	11.41%				

IRON ORE INDEX COMPARISONS (USD/DMT)



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



IRON ORE BRAND SPOT PRICE ASSESSMENTS

Nov 13th, 2023				Nov 13th, 2023			
PORT STOCK INDEX (RMB/WT)				SEABORNE INDEX (USD/DMT)			
	Price	Change	Diff to IOPI62		Price	Change	Diff to IOSI62
Roy Hill	925	7	-57	Roy Hill	114.60	1.00	-4.50
SIMEC Fines	857	7	-125	SIMEC Fines	111.10	1.00	-8.00
PB Fines	949	7	-33	PB Fines	115.35	1.00	-3.75
Newman Fines	952	7	-30	Newman Fines	118.25	1.00	-0.85
MAC Fines	932	7	-50	MAC Fines	115.35	1.00	-3.75
Jimblebar Blended Fines	848	7	-134	Jimblebar Blended Fines	107.75	1.00	-11.35
Carajas Fines	1163	7	181	Carajas Fines	148.65	1.00	29.55
Brazilian SSF	948	7	-34	Brazilian SSF	122.85	1.00	3.75
Brazilian Blend Fines	962	7	-20	Brazilian Blend Fines	124.50	1.00	5.40
RTX Fines	866	7	-116	RTX Fines	109.00	1.00	-10.10
West Pilbara Fines	893	7	-89	West Pilbara Fines	113.35	1.00	-5.75

Nov 13th, 2023			
PORT STOCK INDEX (RMB/WT)			
	Price	Change	Diff to IOPI58
SSF	876	9	0
FMG Blended Fines	887	9	11
Robe River	888	9	12
Western Fines	891	9	15
Atlas Fines	884	9	8
Yandi	868	9	-8

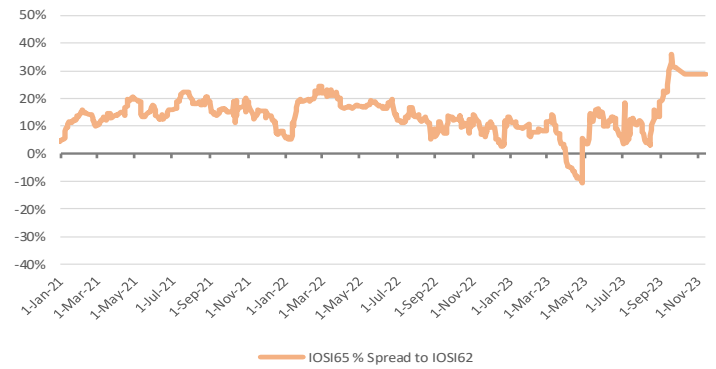
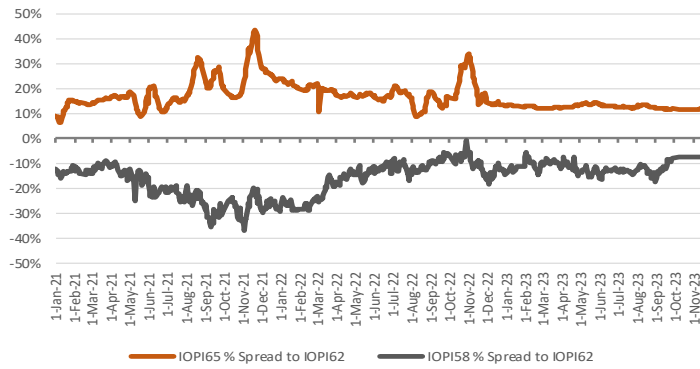
IRON ORE INDEX NORMALISATION DIFFERENTIALS

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%	17.00	5.00	1% Fe	High Grade Fe 60 - 63%	3.50	0.00
	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	24.00	4.00	1% Alumina	High Fe Grade Al <2.25%	2.25	0.00
	High Fe Grade Al <2.25%	5.00	0.00		High Fe Grade Al 2.25-4%	1.75	0.00
	High Fe Grade Al 2.25-4%	19.00	2.00		High Fe Grade Si <4%	0.25	0.00
	Low Fe Grade Al <2.25%	32.00	0.00		High Fe Grade Si 4 - 6.5%	3.00	0.00
1% Silica	Low Fe Grade Al 2.25-4%	27.00	8.00	1% Silica	High Fe Grade Si <4%	0.25	0.00
	High Fe Grade Si <4%	5.00	-3.00		High Fe Grade Si 4 - 6.5%	3.00	0.00
	High Fe Grade Si 4 - 6.5%	12.00	6.00	0.01% Phosphorus	High Fe Grade 0.09%<P<0.115%	0.25	0.00
0.01% Phosphorus	Low Fe Grade	9.00	0.00		High Fe Grade 0.115%<P<0.15%	0.25	0.00
	High Fe Grade 0.09%<P<0.115%	5.00	0.00		Low Fe Grade 0.09%<P<0.1%	5.00	-1.00
	High Fe Grade 0.115%<P<0.15%	5.00	0.00				
	Low Fe Grade 0.09%<P<0.1%	5.00	-1.00				

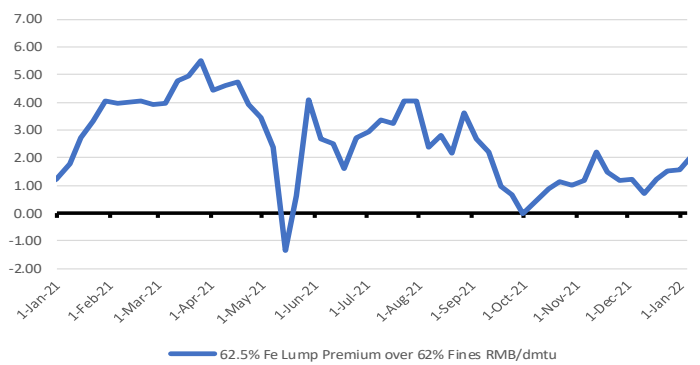
Port Stock Price Differentials to Qingdao Port for PB Fines (RMB/wet tonne)

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	-15.00	0.00	Jingtang	-15.00	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	-30.00	0.00

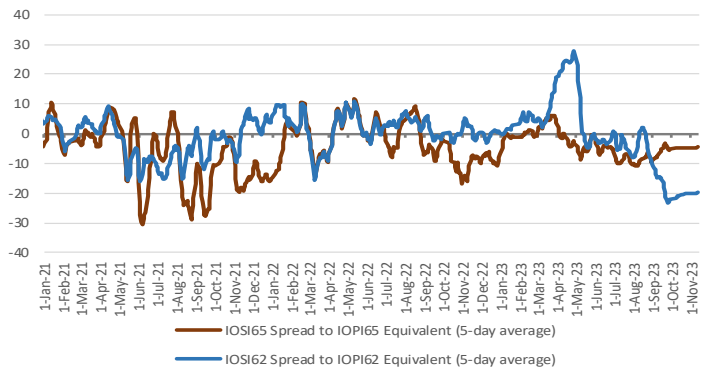
IRON ORE INDEX PREMIUMS/DISCOUNTS



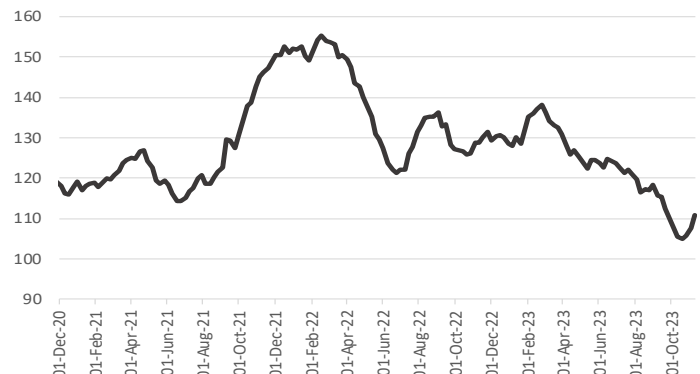
WEEKLY IRON ORE PORT STOCK LUMP PREMIUM (RMB/DMTU)



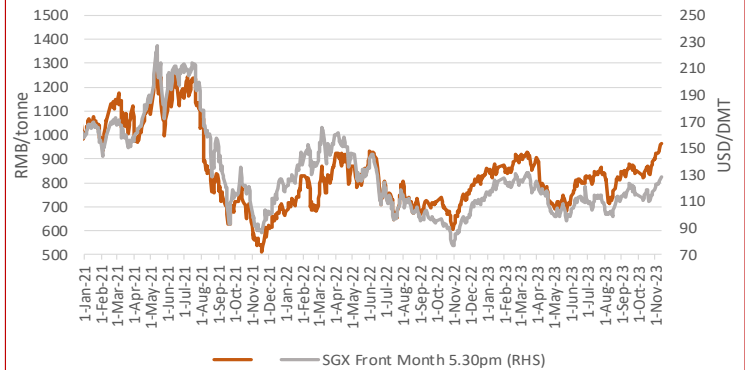
IRON ORE SEABORNE TO PORT STOCK PRICE SPREADS (USD/DMT)



TOTAL IRON ORE INVENTORIES AT CHINA PORTS (MILLION TONNES)



FUTURE TRADING—FRONT MONTH CLOSING PRICE



IRON ORE PORT INVENTORIES (MILLION TONNES)

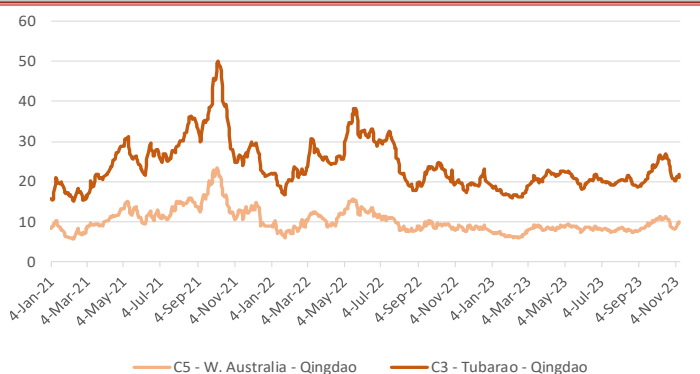
Week Ending Nov 10th, 2023

Province	This week	Change %	Low ²	High ²
Jingtang	8.41	-2.66%	8.41	19.20
Qingdao	22.77	0.13%	9.41	26.24
Caofeidian	8.15	-2.63%	7.56	16.29
Tianjin	7.58	8.13%	6.49	12.97
Rizhao	13.12	3.39%	9.44	19.26
Total (35 Ports)	110.75	2.98%	98.80	155.39

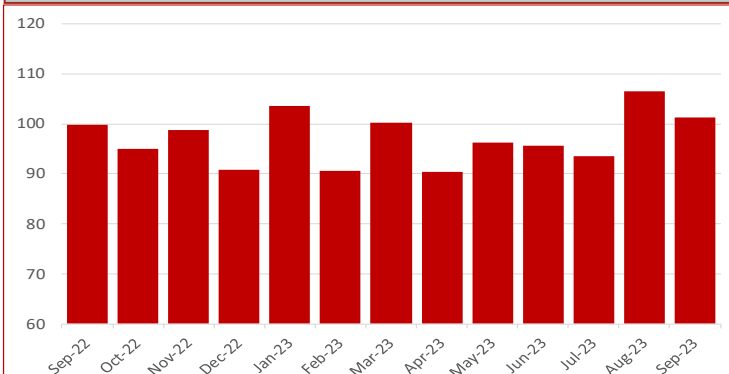
IRON ORE FUTURES CONTRACTS

Closing Date	DCE (RMB/WMT)			SGX (USD/DMT)		
	Nov 13th, 3pm close			Nov 13th, 5:30pm		
Contract	I2401	Change	Change %	Dec. 23	Change	Change %
Closing Price	966.50	5.00	0.52%	128.30	1.60	1.26%
Vol traded ('000 lots)	42.14	0.12	0.29%	4.71	-5.30	-52.98%
Open positions ('000 lots)	92.09	-2.08	-2.21%	42.75	0.51	1.20%
Day Low	954.5	15.50	1.65%	126.40	1.55	1.24%
Day High	973.5	11.50	1.20%	128.80	1.45	1.14%

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	2023/11/10	Change	Change %
ReBar HRB400 ϕ 18mm	4,000	110	2.83%
Wirerod Q300 ϕ 6.5mm	4,220	120	2.93%
HRC Q235/SS400 5.5mm*1500*C	3,930	60	1.55%
CRC SPCC/ST12 1.0mm*1250*2500	4,770	10	0.21%
Medium & Heavy Plate Q235B 20mm	3,880	40	1.04%
GI ST02Z 1.0mm*1000*C	5,040	0	0.00%
Colour Coated Plate	6,900	0	0.00%

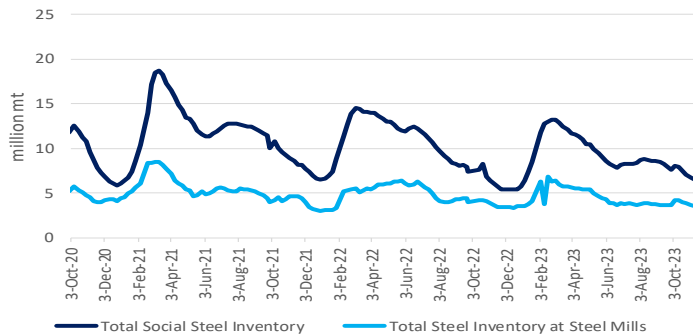
CHINESE STEEL MILL PROFITABILITY

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

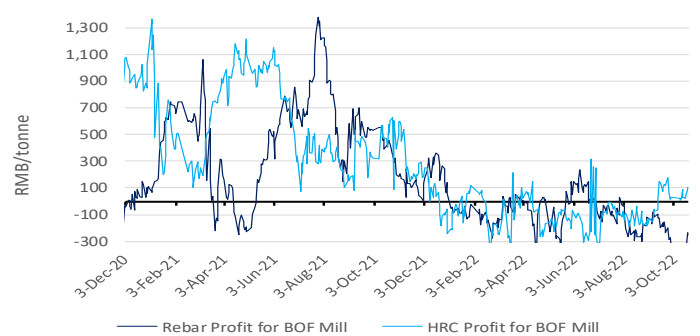
Category	Price	Change (WoW)	Note
MMi (Fe 62%), USD/mt excluding tax	118.10	4	Mmi CFR Equivalent index for 1st Feb
Coke	2,450	0	2nd grade met coke, Tangshan, incl. tax
Steel Scrap	2,910	50	steel scrap (6mm) in Zhangjiagang, excl. tax
Billet Cost	3,261	22	Q234, incl. tax
Rebar cost - Blast furnace	3,922	36	calculated based on theoretical weight, incl. tax
Rebar profit - Blast furnace	10	55	based on Shanghai prices, incl. tax
Hot-rolled coil cost - Blast furnace	3,966	25	based on actual weight, incl. tax
Hot-rolled coil profit - Blast furnace	-46	35	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

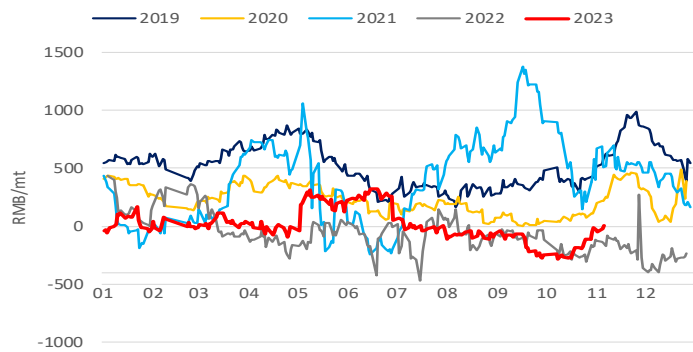
CHINESE STEEL INVENTORIES



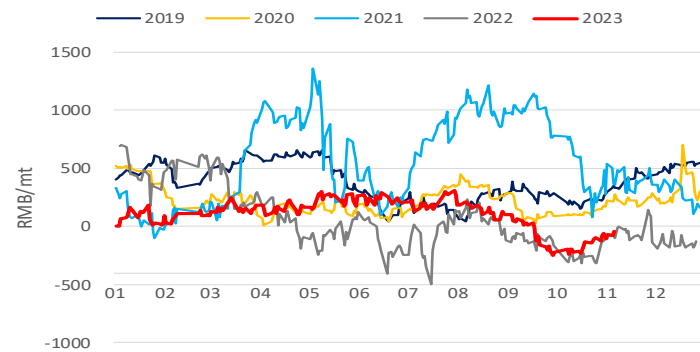
CHINESE STEEL MILL PROFITABILITY



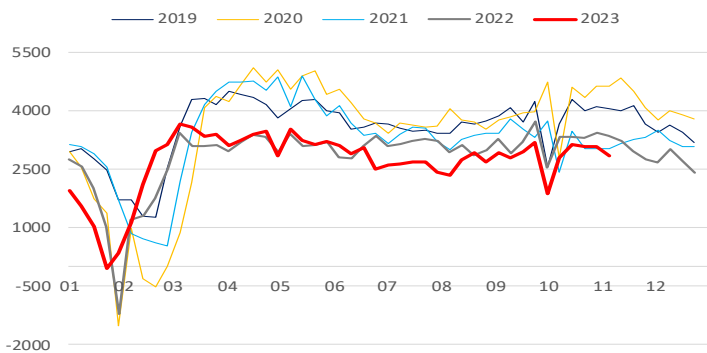
CHINESE STEEL MILL PROFITABILITY—Rebar



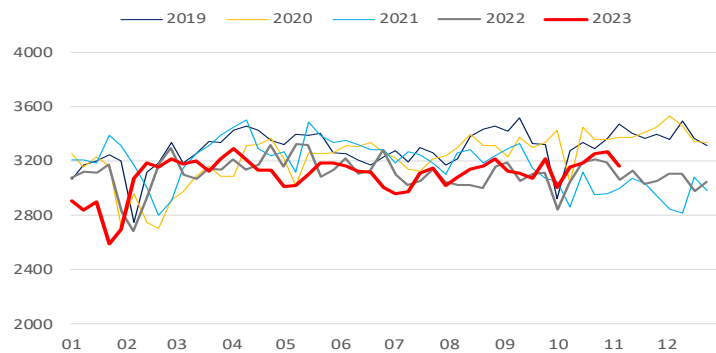
CHINESE STEEL MILL PROFITABILITY—Hot-rolled Coil



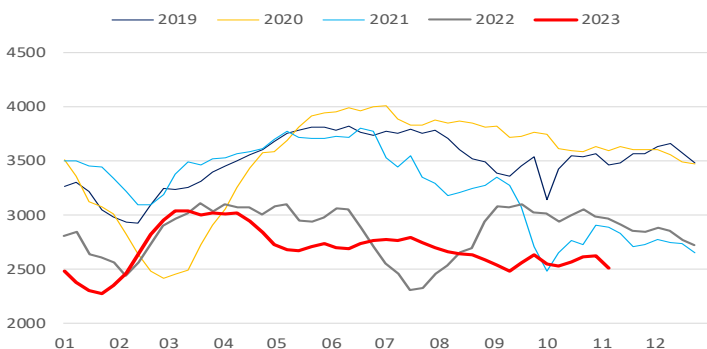
CHINESE STEEL CONSUMPTION—Rebar



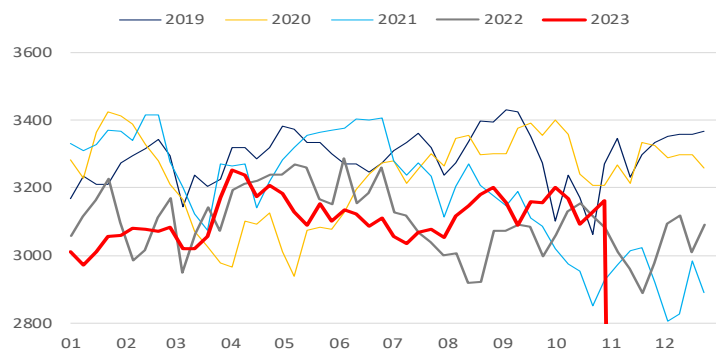
CHINESE STEEL CONSUMPTION—Hot-rolled Coil



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	

Data Exclusions*			
	62%	58%	65%
Port Index	0	0	0
Seaborne index	0		0
Lump Index 62.5	0		

* Number of price submissions for iron ore indices that were excluded from index calculations today as they were anomalous and could not be verified

IRON ORE DOMESTIC CONCENTRATE INDEX CALCULATION METHODOLOGY

The compilation method for price index generally refers to the compilation method of CPI price index and other price indices, breakdown the price data and calculate the average value according to a certain method, taking the vertical axis as the regional composite index (average of different grade index) and the horizontal axis as the grade composite index (average of different regional index), a total composite index for domestic ore can be output ultimately. The process system is also adopted in the calculation i.e. each sub-index can be obtained as well.

AVERAGE IRON ORE SPECIFICATIONS APPLIED FOR BRAND PRICE ASSESSMENTS

PORT STOCK BRANDS						SEABORNE BRANDS					
Nov 13th, 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 13th, 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	IOSI62	IRCN0034	
IOPI58	IRCNQ002	IRCNQ005	IOSI65	IRCN0035	
IOPI65	IRCNQ003	IRCNQ006			
IOPLI62	IRCN0036	IRCN0037			

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