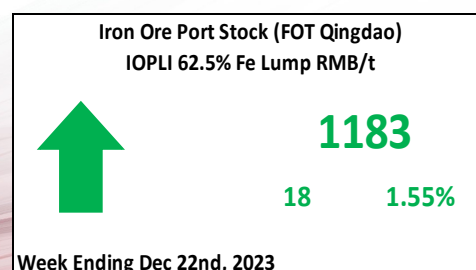
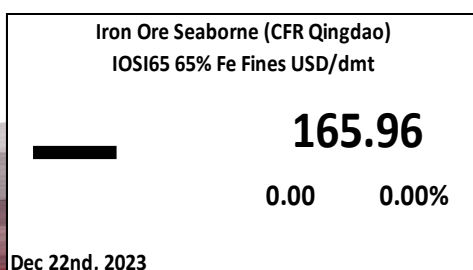
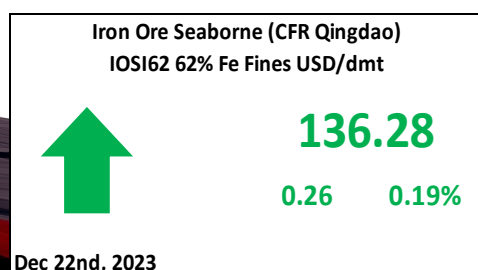
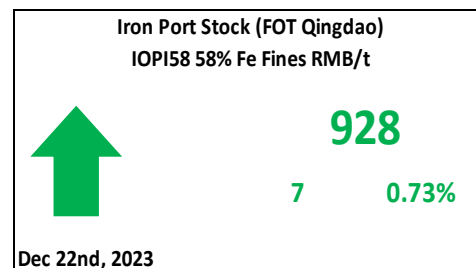
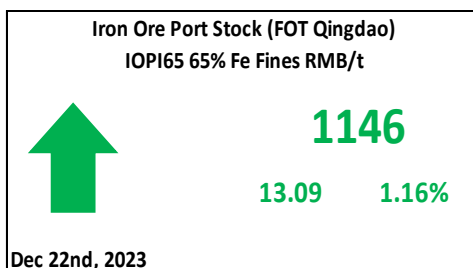
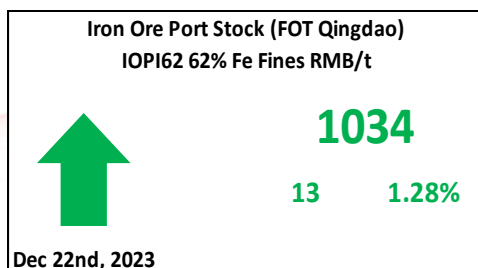


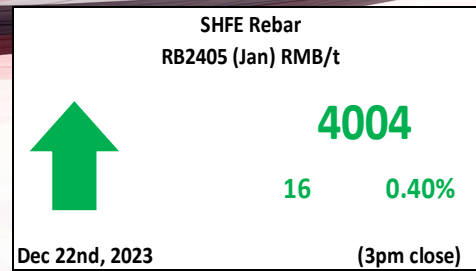
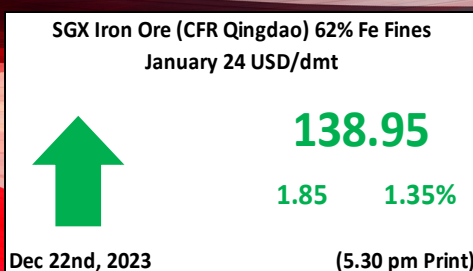
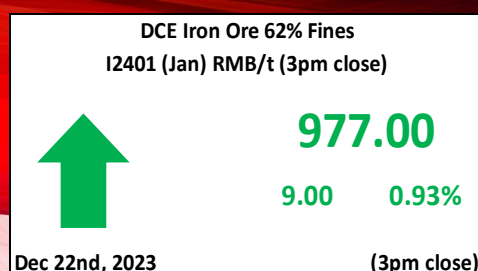


MMi Dashboard

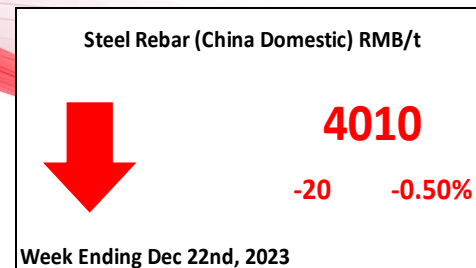
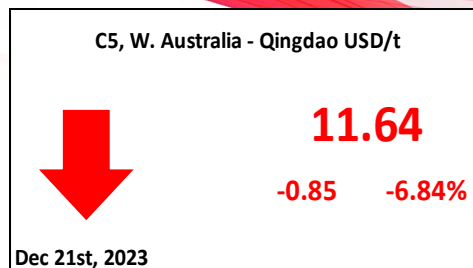
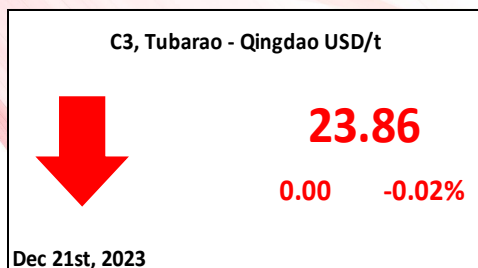
Iron Ore Price Indices



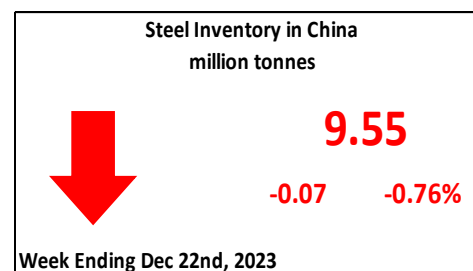
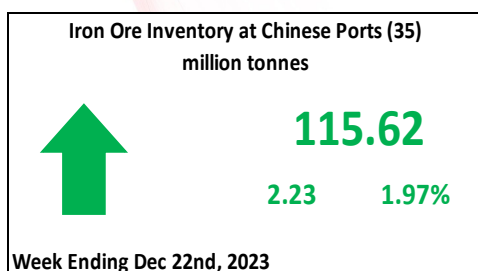
Exchange Traded Contracts



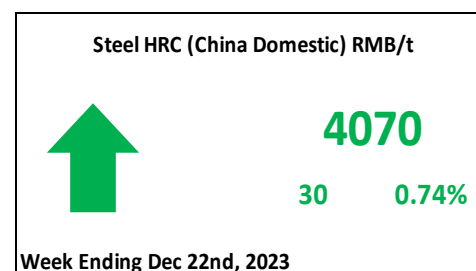
Freight Rates



Inventory Levels



Steel Price



IRON ORE PORT STOCK INDEX (IOPI)

Dec 22nd, 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	1034	13.1	1.28%	862	884	770	1034	136.36	1.89	1.4%	114.14	119.91	100.95	136.36
IOPI58	58% Fe Fines	928	6.7	0.73%	766	767	680	928	123.42	1.03	0.8%	102.11	104.56	89.86	123.42
IOPI65	65% Fe Fines	1146	13.1	1.16%	979	1017	881	1146	151.51	1.90	1.3%	130.06	138.68	116.19	151.51

IRON ORE SEABORNE INDEX (IOSI)

Dec 22nd, 2023		CFR Qingdao, USD/dry tonne						
Index	Fe Content	Price	Change	Change %	MTD	YTD	Low ²	High ²
IOSI62	62% Fe Fines	136.28	0.26	0.19%	115.01	115.01	99.20	146.75
IOSI65	65% Fe Fines	165.96	0.00	0.00%	128.50	128.50	114.90	165.96

MARKET COMMENTARY

DCE iron ore futures market rose by 3%, the main contract 12405 closed 977, some traders were negative to sell, but steel mills are cautious and cautious, resulting in a decrease in inquiries. PPI at Shandong port closed 1022 1027 yuan/mt, increased 7.12 yuan/mt over yesterday. PPI at Tangshan port closed 1040 1045 yuan/mt, increased 12.16 yuan/mt over yesterday. As of December 22, the total inventory of 35 ports tracked by SMM was 115.62 million tons, with a cumulative inventory of 2.22 million tons compared to last week. The daily clearance volume of imported ore in this period decreased by 46000 tons to 2.466 million tons on a weekly basis. The situation of port congestion has improved this week, but some ports are still relatively serious. Moreover, the cold wave weather in the north has a lower unloading efficiency for some northern steel mills, which has a certain impact on the transportation of iron ore. In addition, steel mills have had poor profits recently, but the price of iron ore remains relatively high, and steel mills have a weak willingness to purchase; This has led to a significant decrease in the volume of port unloading compared to the previous month, and the port inventory has shown an accumulation trend. Next week, according to SMM tracking the operating rate of blast furnaces, there will be an increase in seasonal maintenance of blast furnaces in steel mills towards the end of the year, and the daily average iron content may significantly decrease, posing a risk of weakening demand for iron powder; In addition, the profits of steel mills continue to be under pressure, mainly through on-demand procurement, and it is not obvious to replenish inventory before holidays; It is expected that the port clearance volume will not increase next week, and there is still a possibility of port inventory accumulation. However, considering the strong macro expectations, it is expected that mining prices may continue to fluctuate.

IRON ORE PORT LUMP INDEX (IOPLI)

Week Ending Dec 22nd, 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	1183	18	1.5%	976	1032	903	1183	150.02	2.61	1.77%	124.81	135.67	114.47	150.02

IRON ORE DOMESTIC CONCENTRATE SPOT PRICE ASSESSMENTS AND COMPOSITE INDEX

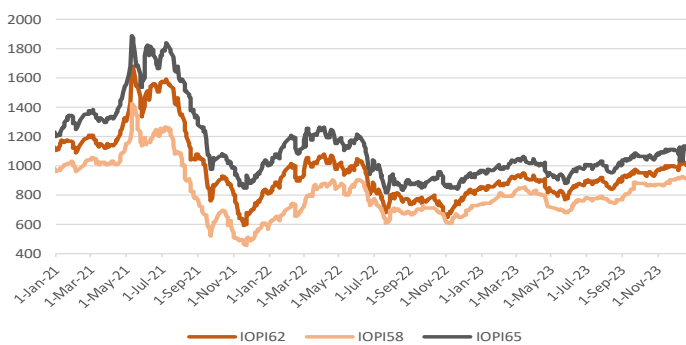
Week Ending Dec 22nd, 2023		RMB/tonne (excluding tax) ³							USD/tonne (excluding tax) ³			
Province	Region	Product	Basis	This week	Change %	Low ²	High ²	This week	Change %	Low ²	High ²	
Hebei	Hanxing	66% Fe Concentrate	Dry	1183	1.5%	779	1645	166.69	1.65%	110.31	255.69	
Hebei	Qian'an	65% Fe Concentrate	Dry	1215	0.8%	780	1630	171.20	1.02%	110.51	251.57	
Liaoning	Anshan	65% Fe Concentrate	Wet	935	1.1%	620	1310	131.75	1.27%	87.40	202.32	
Shandong	Zibo	65% Fe Concentrate	Dry	1245	1.5%	800	1752	175.43	1.74%	0.00	272.32	

Week Ending Dec 22nd, 2023

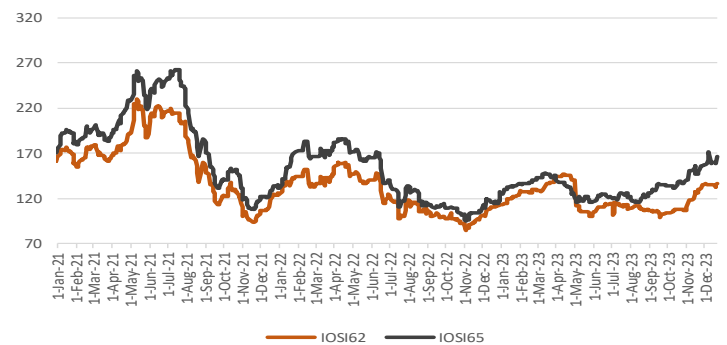
China Mines Concentrate Composite Index RMB/WT	This week	Change %	Low ²	High ²
	1094.27	2.18%	706.36	1511.22

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

Dec 22nd, 2023		FOT Qingdao (inc. 13% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 13% VAT), USD/dry tonne						
Index	Fe Content	August	September	October	November	MTD	QTD	YTD	August	September	October	November	MTD	QTD	YTD
IOPI62	62% Fe Fines	873	945	947	988	862	857	884	113.28	122.79	123.14	129.07	114.14	113.65	119.91
IOPI58	58% Fe Fines	759	838	869	884	766	761	767	99.13	109.67	113.94	116.42	102.11	101.63	104.56
IOPI65	65% Fe Fines	985	1057	1059	1100	979	975	1017	128.31	137.74	138.13	144.10	130.06	129.84	138.68

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

Dec 22nd, 2023		CFR Qingdao, USD/dry tonne							FREIGHT RATES - DRY BULK US\$/wet tonne						
Index	Fe Content	August	September	October	November	MTD	QTD	YTD	Route	Designation	Change	Change %	Low ²	High ²	
IOSI62	62% Fe Fines	109.02	104.25	106.44	124.61	112.14	113.92	115.01	W. Australia - Qingdao	C5	11.64	-0.85	-6.84%	3.57	16.77
IOSI65	65% Fe Fines	119.61	132.40	135.69	150.46	122.86	127.18	128.50	Tubarao - Qingdao	C3	23.86	0.00	-0.02%	6.70	36.40

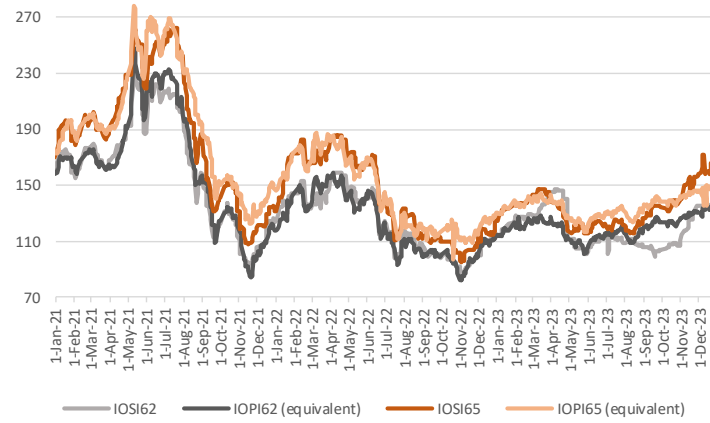
IRON ORE PORT LUMP INDEX MONTHLY, QUARTERLY AND YEAR-TO-DATE AVERAGES

Week Ending Dec 22nd, 2023		FOT Qingdao (inc. 13% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 13% VAT), USD/dry tonne ¹						
Index	Fe Content	August	September	October	November	MTD	QTD	YTD	August	September	October	November	MTD	QTD	YTD
IOPLI62	62.5% Fe Lump	951	1043	1113	1155	933	971	1017	118.96	130.25	139.38	145.07	119.96	124.40	134.98

IRON ORE INDEX PREMIUMS/DISCOUNTS

Dec 22nd, 2023		PORT STOCK INDEX (RMB/WT)				Dec 22nd, 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	-105		-10.19%		IOSI65	65% Fe Fines	29.68		21.78%	
IOPI65	65% Fe Fines	112		10.80%							

IRON ORE INDEX COMPARISONS (USD/DMT)



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



IRON ORE BRAND SPOT PRICE ASSESSMENTS

Dec 22nd, 2023				Dec 22nd, 2023			
PORT STOCK INDEX (RMB/WT)				SEABORNE INDEX (USD/DMT)			
	Price	Change	Diff to IOPI62		Price	Change	Diff to IOSI62
Roy Hill	977	13	-57	Roy Hill	131.80	0.30	-4.48
SIMEC Fines	910	14	-124	SIMEC Fines	128.30	0.30	-7.98
PB Fines	1000	13	-34	PB Fines	132.55	0.30	-3.73
Newman Fines	1004	13	-30	Newman Fines	135.45	0.30	-0.83
MAC Fines	984	13	-50	MAC Fines	132.55	0.30	-3.73
Jimblebar Blended Fines	900	13	-134	Jimblebar Blended Fines	124.95	0.30	-11.33
Carajas Fines	1215	13	181	Carajas Fines	165.85	0.30	29.57
Brazilian SSF	1001	13	-33	Brazilian SSF	140.05	0.30	3.77
Brazilian Blend Fines	1014	13	-20	Brazilian Blend Fines	141.65	0.30	5.37
RTX Fines	918	13	-116	RTX Fines	126.15	0.30	-10.13
West Pilbara Fines	944	13	-90	West Pilbara Fines	130.55	0.30	-5.73

Dec 22nd, 2023			
PORT STOCK INDEX (RMB/WT)			
	Price	Change	Diff to IOPI58
SSF	929	7	1
FMG Blended Fines	940	7	12
Robe River	941	7	13
Western Fines	945	7	17
Atlas Fines	937	7	9
Yandi	920	7	-8

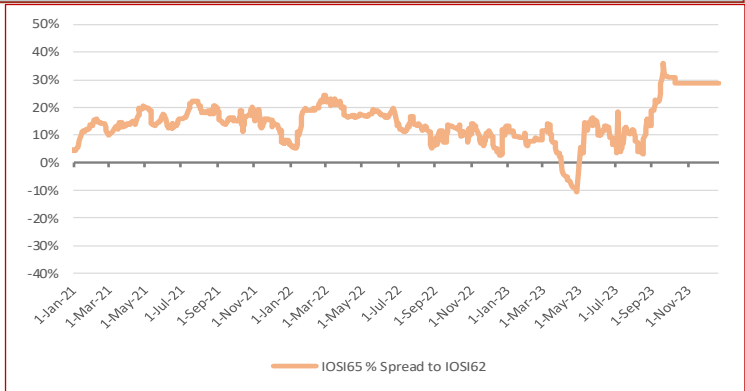
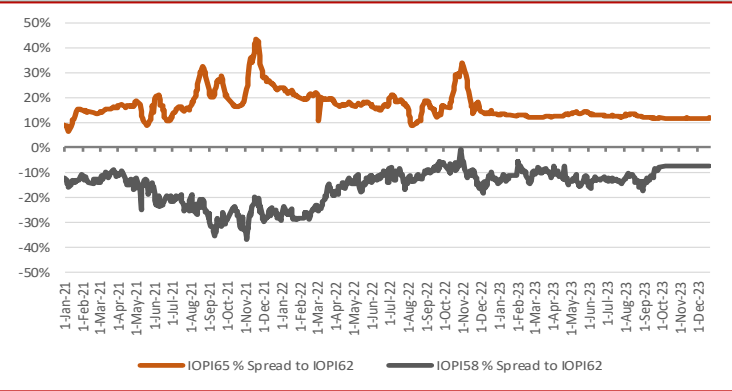
IRON ORE INDEX NORMALISATION DIFFERENTIALS

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%	5.00	0.00	1% Fe	High Grade Fe 60 - 63%	0.75	-0.25
	High Grade Fe 63 - 64%	27.00	-2.00		High Grade Fe 63 - 64%	2.75	0.00
	High Grade Fe 64 - 65%	27.00	-2.00		High Grade Fe 64 - 65%	2.75	0.00
	High Grade Fe 65 - 65.5%	27.00	-2.00		High Grade Fe 65 - 65.5%	2.75	0.00
1% Alumina	Low Grade Fe	22.00	0.00	1% Alumina	High Fe Grade Al <2.25%	6.75	0.25
	High Fe Grade Al <2.25%	34.00	1.00		High Fe Grade Al 2.25-4%	2.25	0.50
	High Fe Grade Al 2.25-4%	10.00	-3.00				
	Low Fe Grade Al <2.25%	88.00	4.00				
1% Silica	Low Fe Grade Al 2.25-4%	35.00	4.00	1% Silica	High Fe Grade Si <4%	4.75	0.75
	High Fe Grade Si <4%	21.00	1.00		High Fe Grade Si 4 - 6.5%	4.75	0.75
0.01% Phosphorus	High Fe Grade Si 4-6.5%	12.00	-4.00	0.01% Phosphorus	High Fe Grade 0.09%<P<0.115%	0.25	0.00
	Low Fe Grade	26.00	4.00		High Fe Grade 0.115%<P<0.15%	1.00	0.00
	High Fe Grade 0.09%<P<0.115%	9.00	0.00		Low Fe Grade 0.09%<P<0.1%	5.00	0.00

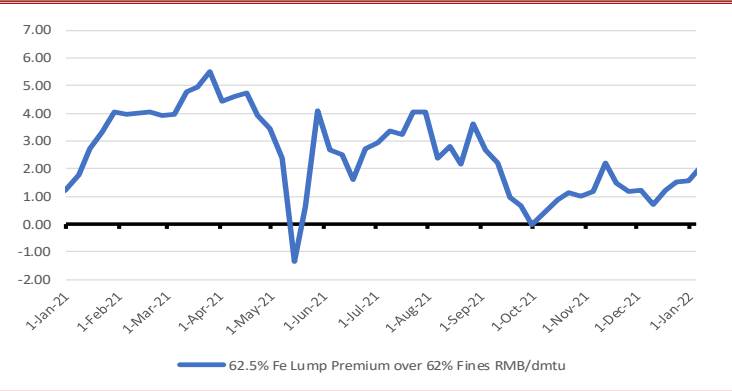
Port Stock Price Differentials to Qingdao Port for PB Fines (RMB/wet tonne)

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	-15.00	-5.00	Jingtang	-15.00	-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	-40.00	0.00

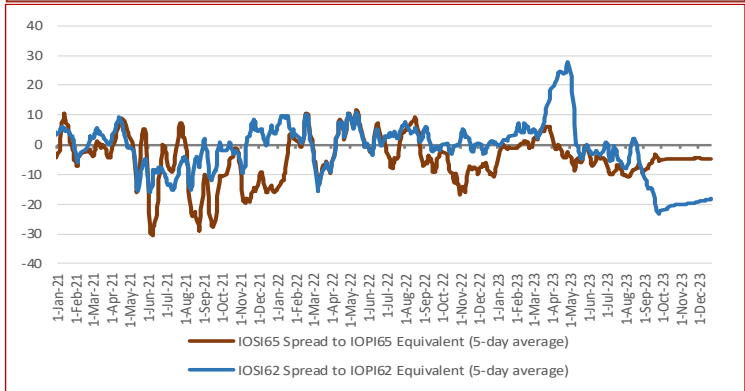
IRON ORE INDEX PREMIUMS/DISCOUNTS



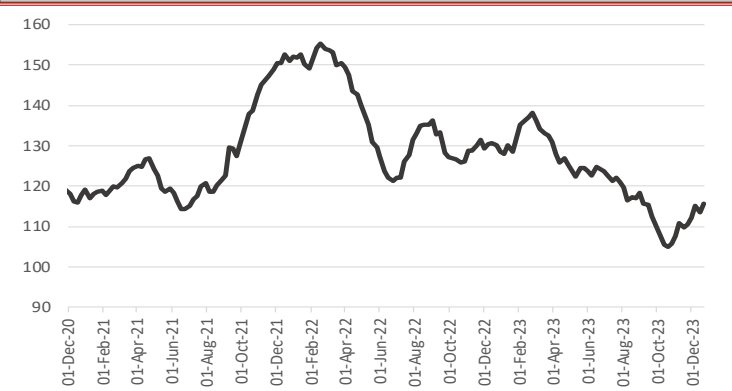
WEEKLY IRON ORE PORT STOCK LUMP PREMIUM (RMB/DMTU)



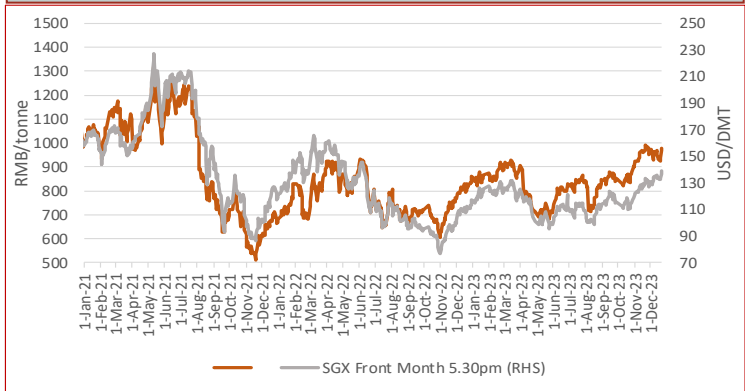
IRON ORE SEABORNE TO PORT STOCK PRICE SPREADS (USD/DMT)



TOTAL IRON ORE INVENTORIES AT CHINA PORTS (MILLION TONNES)



FUTURE TRADING—FRONT MONTH CLOSING PRICE



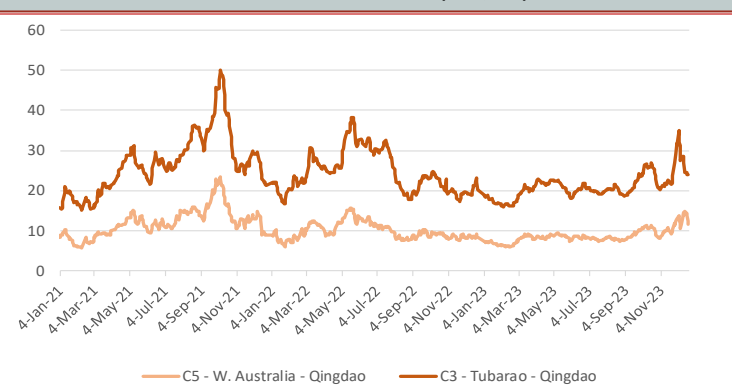
IRON ORE PORT INVENTORIES (MILLION TONNES)

Week Ending Dec 22nd, 2023				
Province	This week	Change %	Low ²	High ²
Jingtang	9.03	2.96%	8.41	19.20
Qingdao	23.56	-2.20%	9.41	26.24
Caofeidian	10.72	-0.37%	7.56	16.29
Tianjin	8.94	6.68%	6.49	12.97
Rizhao	13.81	2.45%	9.44	19.26
Total (35 Ports)	115.62	1.97%	98.80	155.39

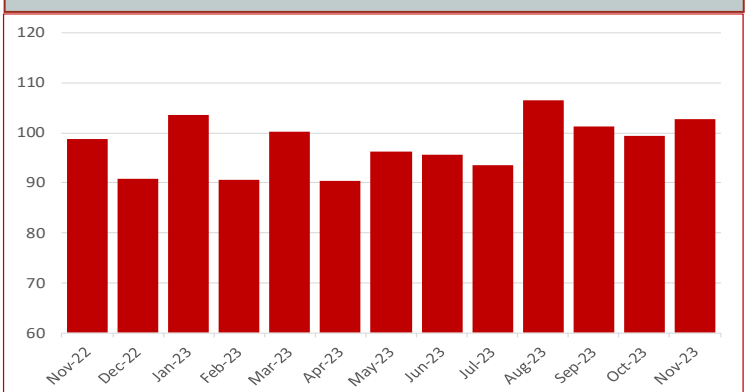
IRON ORE FUTURES CONTRACTS

Closing Date	DCE (RMB/WMT)			SGX (USD/DMT)		
	Dec 22nd, 3pm close			Dec 22nd, 5:30pm		
Contract	12405	Change	Change %	Jan. 24	Change	Change %
Closing Price	977.00	9.00	0.93%	138.95	1.85	1.35%
Vol traded ('000 lots)	29.73	2.62	9.65%	10.43	1.36	15.04%
Open positions ('000 lots)	52.42	0.13	0.24%	31.23	-0.12	-0.38%
Day Low	965.5	32.00	3.43%	136.70	3.35	2.51%
Day High	984.0	16.00	1.65%	139.75	1.85	1.34%

DRY BULK FREIGHT RATES (USD/MT)



TOTAL CHINA IRON ORE IMPORT VOLUMES (MILLION TONNES)



STEEL SPOT MARKET PRICES—CHINA

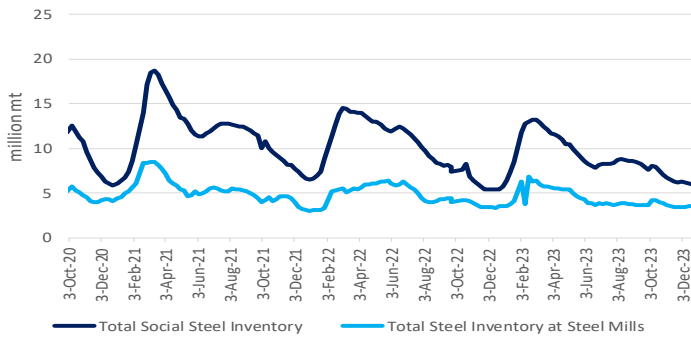
Product	2023/12/22	Change	Change %
Steel Spot Market RMB/tonne			
ReBar HRB400 φ18mm	4,010	-20	-0.50%
Wirerod Q300 φ6.5mm	4,190	-30	-0.71%
HRC Q235/SS400 5.5mm*1500*C	4,070	30	0.74%
CRC SPCC/ST12 1.0mm*1250*2500	4,850	10	0.21%
Medium & Heavy Plate Q235B 20mm	4,050	20	0.50%
GI ST02Z 1.0mm*1000*C	5,000	-40	-0.79%
Colour Coated Plate	6,950	-50	-0.71%

CHINESE STEEL MILL PROFITABILITY

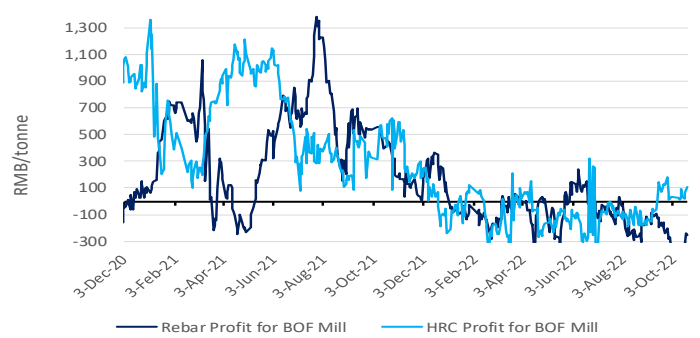
SMM Tracking of Steel Mill P&L - Rebar and Hot-rolled Coil (RMB/tonne)			
Category	Price	Change (WoW)	Note
MMi (Fe 62%), USD/mt excluding tax	136.02	1	Mmi CFR Equivalent index for 1st Feb
Coke	2,780	0	2nd grade met coke, Tangshan, incl. tax
Steel Scrap	2,910	0	steel scrap (6mm) in Zhangjiagang, excl. tax
Billet Cost	3,440	0	Q234, incl. tax
Rebar cost - Blast furnace	4,114	0	calculated based on theoretical weight, incl. tax
Rebar profit - Blast furnace	-184	0	based on Shanghai prices, incl. tax
Hot-rolled coil cost - Blast furnace	4,179	0	based on actual weight, incl. tax
Hot-rolled coil profit - Blast furnace	-169	0	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

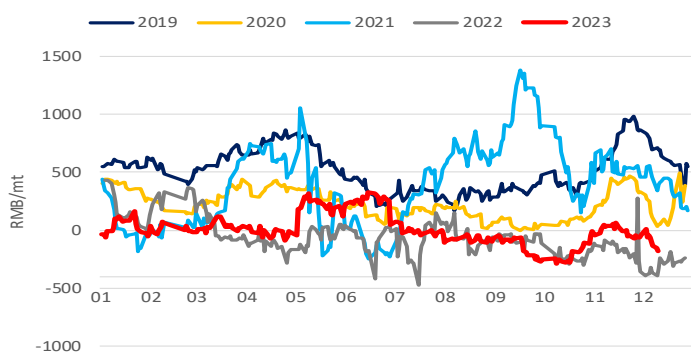
CHINESE STEEL INVENTORIES



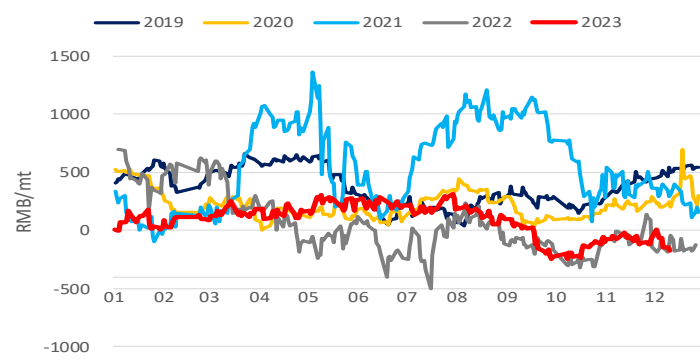
CHINESE STEEL MILL PROFITABILITY



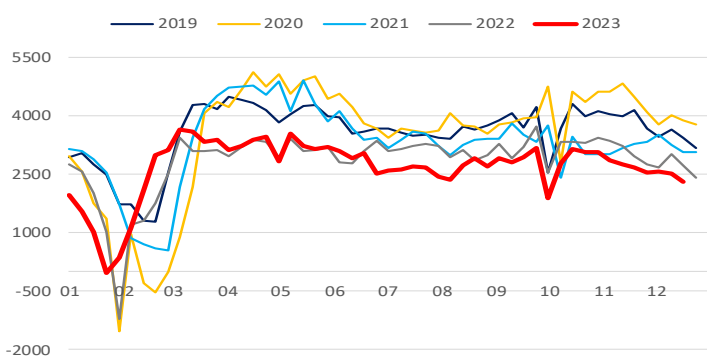
CHINESE STEEL MILL PROFITABILITY—Rebar



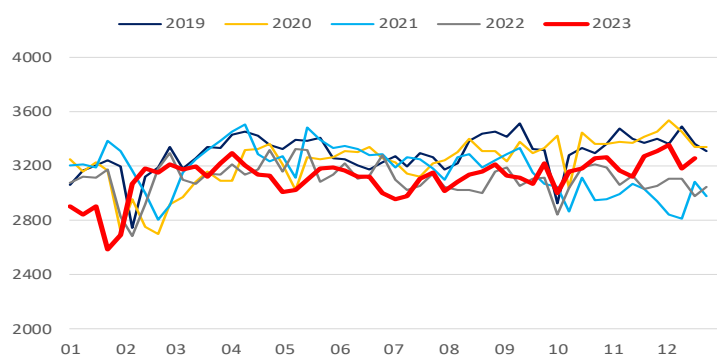
CHINESE STEEL MILL PROFITABILITY—Hot-rolled Coil



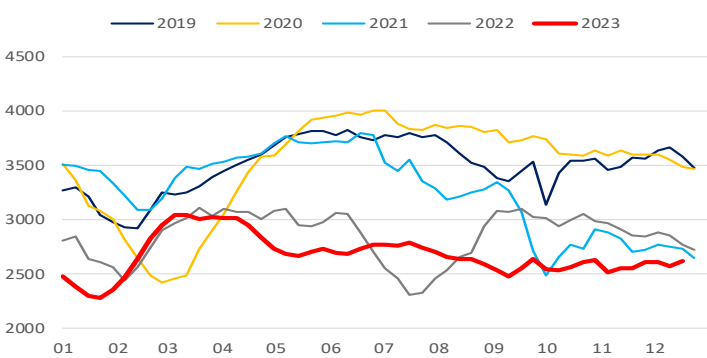
CHINESE STEEL CONSUMPTION—Rebar



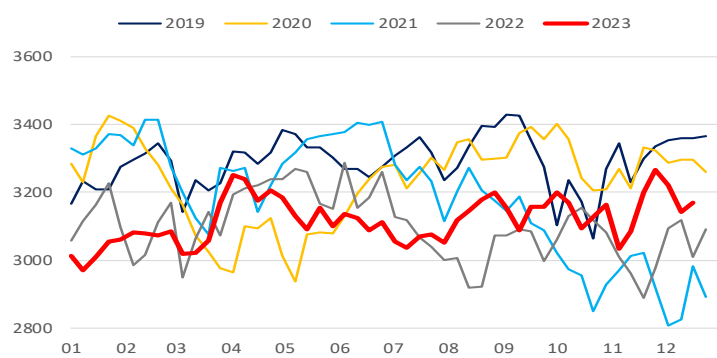
CHINESE STEEL CONSUMPTION—Hot-rolled Coil



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																					
Fe %	65.00	62.00	58.00	62.50	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%	<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																								
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					
Dec 22nd, 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%
Dec 22nd, 2023	Specifications applied for 58% brand assessments						Specifications applied for 58% brand assessments				
	Fe	Alumina	Silica	Phos	Moisture		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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