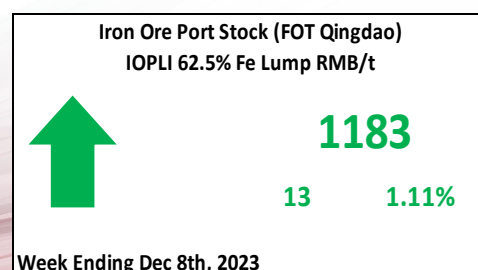
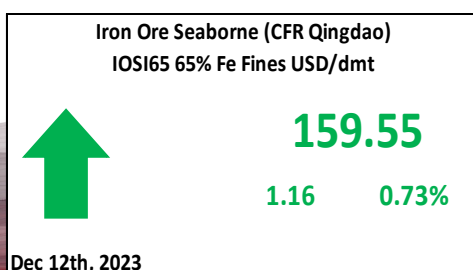
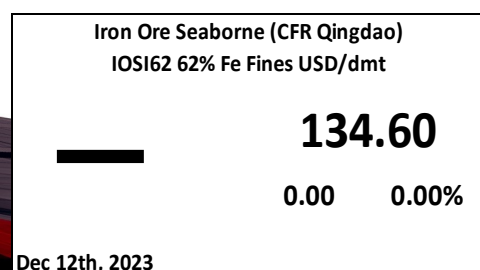
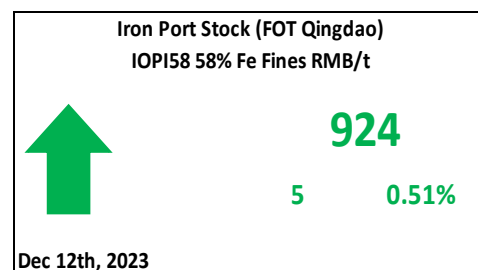
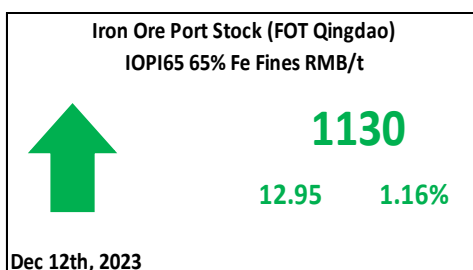
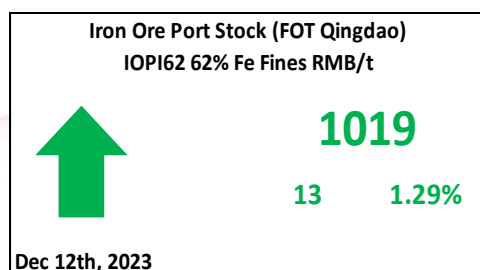


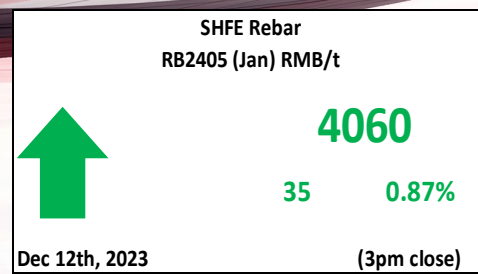
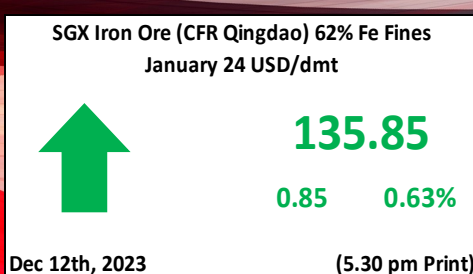
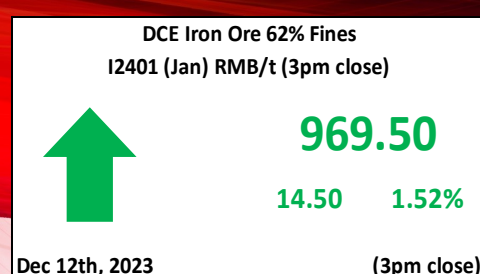


MMi Dashboard

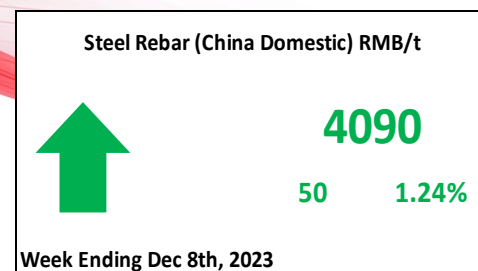
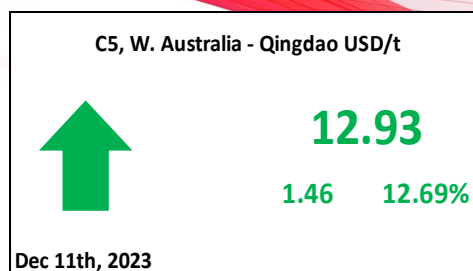
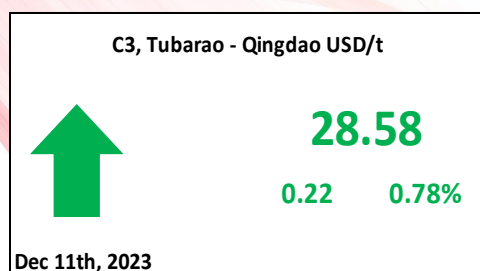
Iron Ore Price Indices



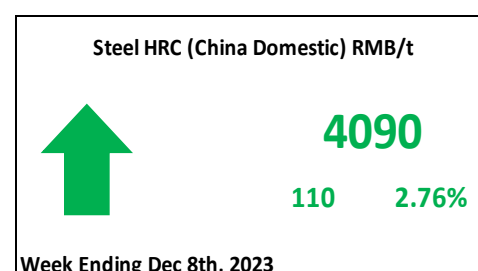
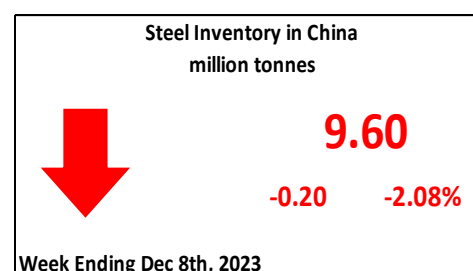
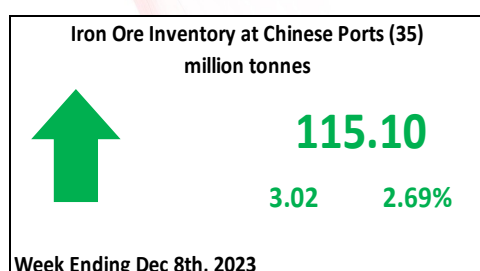
Exchange Traded Contracts



Freight Rates



Inventory Levels

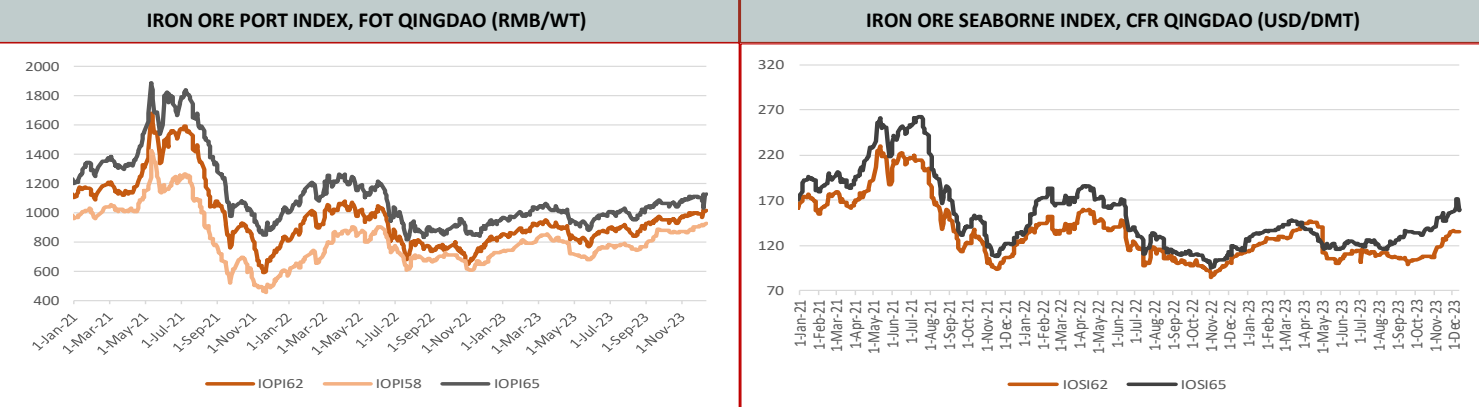


IRON ORE PORT STOCK INDEX (IOPI)															
Dec 12th, 2023		FOT Qingdao (inc. 13% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 13% VAT), USD/dry tonne ¹						
Index	Fe Content	Price	Change	Change %	MTD	YTD	Low ²	High ²	Price	Change	Change %	MTD	YTD	Low ²	High ²
IOPI62	62% Fe Fines	1019	13.0	1.29%	859	881	770	1020	133.88	1.73	1.3%	113.66	119.68	100.95	134.14
IOPI58	58% Fe Fines	924	4.7	0.51%	763	765	680	924	122.47	0.62	0.5%	101.63	104.27	89.86	122.47
IOPI65	65% Fe Fines	1130	13.0	1.16%	975	1015	881	1130	148.97	1.73	1.2%	129.60	138.50	116.19	148.97

IRON ORE SEABORNE INDEX (IOSI)								MARKET COMMENTARY							
Dec 12th, 2023		CFR Qingdao, USD/dry tonne							DCE iron ore futures rose today by 1.52%, the main contract I2405 closed 969.5, some traders quotation is still stronger. steel mills purchased on demand, today's overall market transaction atmosphere in general. PBF at Shandong port dealt 1004-1010 yuan/mt; increased 5-10 yuan/mt over yesterday. SSF at Tangshan port dealt 897-899 increased 5 yuan/mt over yesterday. According to SMM statistics, the impact of blast furnace maintenance on molten iron this week was 1.6708 million tons, a decrease of 50000 tons compared to last week's maintenance. The production of molten iron has shown a slight increase this week. However, the small increase combined with an increase in port volume has resulted in a relatively small impact of supply and demand structure on prices. Considering that both iron ore port inventory and steel mill inventory are low, it is expected to replenish inventory before the holiday in advance. The market still has expectations for the central economic conference, and it is expected that short-term mining prices may continue to fluctuate strongly.						
Index	Fe Content	Price	Change	Change %	MTD	YTD	Low ²	High ²							
IOSI62	62% Fe Fines	134.60	0.00	0.00%	114.50	114.50	99.20	146.75							
IOSI65	65% Fe Fines	159.55	1.16	0.73%	127.66	127.66	114.75	162.60							

IRON ORE PORT LUMP INDEX (IOPLI)															
Week Ending Dec 8th, 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	13	1.1%	968	1029	903	1183	149.72	1.63	1.10%	122.26	134.96	114.47	149.72

IRON ORE DOMESTIC CONCENTRATE SPOT PRICE ASSESSMENTS AND COMPOSITE INDEX											
Week Ending Dec 8th, 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	1150	-2.0%	779	1645	161.71	-2.00%	110.31	255.69
Hebei	Qian'an	65% Fe Concentrate	Dry	1190	1.7%	780	1630	167.33	1.67%	110.51	251.57
Liaoning	Anshan	65% Fe Concentrate	Wet	900	1.1%	620	1310	126.55	1.09%	87.40	202.32
Shandong	Zibo	65% Fe Concentrate	Dry	1208	-2.1%	800	1752	169.86	-2.14%	0.00	272.32
Week Ending Dec 8th, 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				1070.89	0.38%	706.36	1511.22				



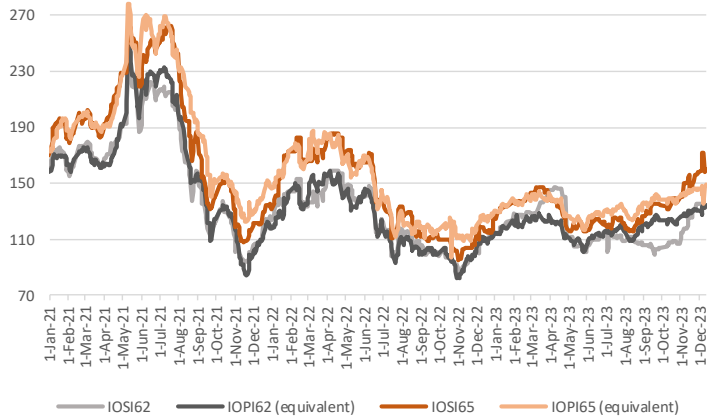
IRON ORE PORT STOCK INDEX MONTHLY, QUARTERLY AND YEAR-TO-DATE AVERAGES															
Dec 12th, 2023		FOT Qingdao (inc. 13% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 13% VAT), USD/dry tonne						
Index	Fe Content	August	September	October	November	MTD	QTD	YTD	August	September	October	November	MTD	QTD	YTD
IOPI62	62% Fe Fines	873	945	947	988	859	853	881	113.28	122.79	123.14	129.07	113.66	113.20	119.68
IOPI58	58% Fe Fines	759	838	869	884	763	758	765	99.13	109.67	113.94	116.42	101.63	101.17	104.27
IOPI65	65% Fe Fines	985	1057	1059	1100	975	972	1015	128.31	137.74	138.13	144.10	129.60	129.41	138.50

IRON ORE SEABORNE INDEX MONTHLY, QUARTERLY AND YEAR-TO-DATE AVERAGES								FREIGHT RATES							
Dec 12th, 2023		CFR Qingdao, USD/dry tonne							Dec 11th, 2023		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	113.47	114.50	W. Australia - Qingdao	C5	12.93	1.46	12.69%	3.57	16.77
IOSI65	65% Fe Fines	119.61	132.40	135.69	150.46	122.86	126.45	127.66	Tubarao - Qingdao	C3	28.58	0.22	0.78%	6.70	36.40

IRON ORE PORT LUMP INDEX MONTHLY, QUARTERLY AND YEAR-TO-DATE AVERAGES															
Week Ending Dec 8th, 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	964	1017	118.96	130.25	139.38	145.07	119.96	121.96	134.98

IRON ORE INDEX PREMIUMS/DISCOUNTS							
Dec 12th, 2023		PORT STOCK INDEX (RMB/WT)				Dec 12th, 2023	
Index	Fe Content	Spread to IOPI62	% Spread to IOPI62	Index	Fe Content	Spread to IOSI62	% Spread to IOSI62
OPI58	58% Fe Fines	-94	-9.26%	IOSI65	65% Fe Fines	24.95	18.54%
OPI65	65% Fe Fines	112	10.97%				

IRON ORE INDEX COMPARISONS (USD/DMT)



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



IRON ORE BRAND SPOT PRICE ASSESSMENTS

Dec 12th, 2023	PORT STOCK INDEX (RMB/WT)			Dec 12th, 2023	SEABORNE INDEX (USD/DMT)		
	Price	Change	Diff to IOPI62		Price	Change	Diff to IOSI62
Roy Hill	962	13	-57	Roy Hill	130.10	0.00	-4.50
SIMEC Fines	894	12	-125	SIMEC Fines	126.60	0.00	-8.00
PB Fines	985	13	-34	PB Fines	130.85	0.00	-3.75
Newman Fines	989	13	-30	Newman Fines	133.75	0.00	-0.85
MAC Fines	969	13	-50	MAC Fines	130.85	0.00	-3.75
Jimblebar Blended Fines	885	13	-134	Jimblebar Blended Fines	123.25	0.00	-11.35
Carajas Fines	1200	13	181	Carajas Fines	164.15	0.00	29.55
Brazilian SSF	986	13	-33	Brazilian SSF	138.35	0.00	3.75
Brazilian Blend Fines	999	13	-20	Brazilian Blend Fines	139.95	0.00	5.35
RTX Fines	903	13	-116	RTX Fines	124.45	0.00	-10.15
West Pilbara Fines	929	13	-90	West Pilbara Fines	128.85	0.00	-5.75

Dec 12th, 2023	PORT STOCK INDEX (RMB/WT)		
	Price	Change	Diff to IOPI58
SSF	924	4	0
FMG Blended Fines	935	4	11
Robe River	936	4	12
Western Fines	940	4	16
Atlas Fines	932	4	8
Yandi	915	4	-9

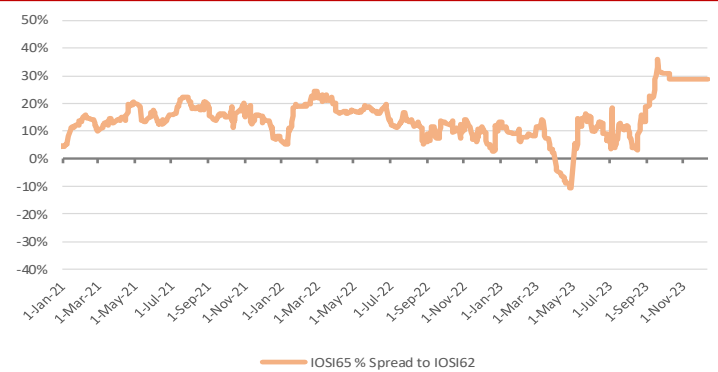
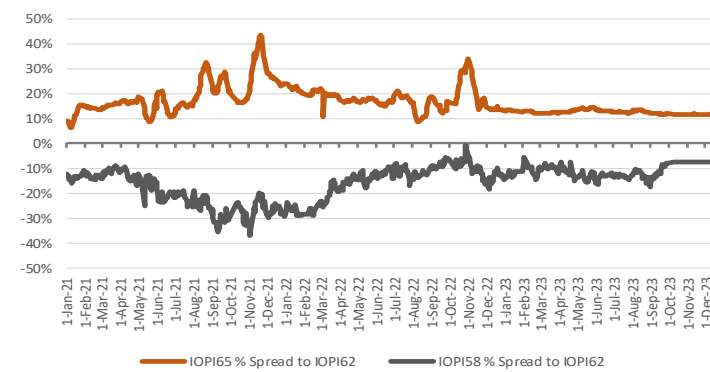
IRON ORE INDEX NORMALISATION DIFFERENTIALS

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%	5.00	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	25.00	0.00	1% Alumina	High Fe Grade Al <2.25%	7.25	0.00
	High Fe Grade Al <2.25%	24.00	3.00		High Fe Grade Al 2.25-4%	0.75	0.00
	High Fe Grade Al 2.25-4%	15.00	0.00				
	Low Fe Grade Al <2.25%	100.00	-7.00				
1% Silica	Low Fe Grade Al 2.25-4%	33.00	-1.00	1% Silica	High Fe Grade Si <4%	2.00	-0.75
	High Fe Grade Si <4%	8.00	1.00		High Fe Grade Si 4 - 6.5%	2.00	-0.75
	High Fe Grade Si 4-6.5%	32.00	4.00				
	Low Fe Grade	28.00	-2.00				
0.01% Phosphorus	High Fe Grade 0.09%<P<0.115%	5.00	0.00	0.01%	High Fe Grade 0.09%<P<0.115%	0.25	0.00
	High Fe Grade 0.115%<P<0.15%	5.00	0.00	Phosphorus	High Fe Grade 0.115%<P<0.15%	3.50	1.00
	Low Fe Grade 0.09<P<0.1%	5.00	0.00				

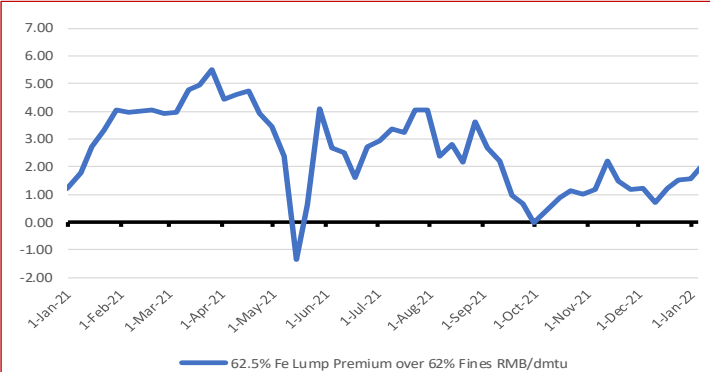
Port Stock Price Differentials to Qingdao Port for PB Fines (RMB/wet tonne)

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	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

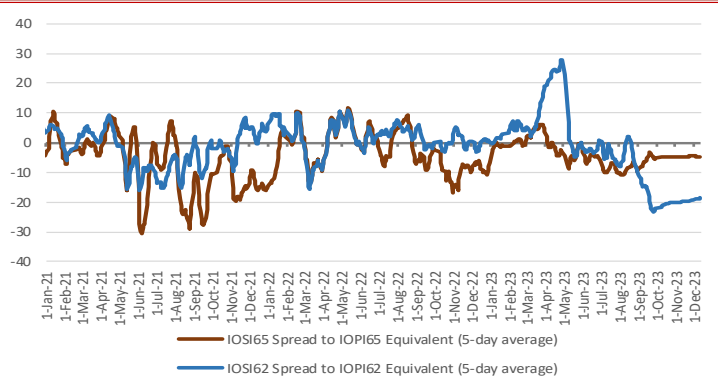
IRON ORE INDEX PREMIUMS/DISCOUNTS



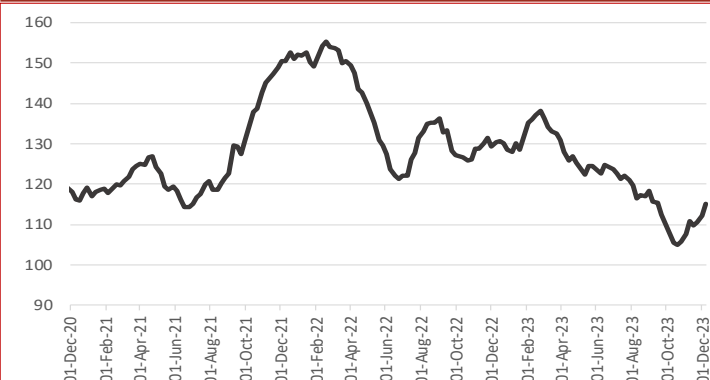
WEEKLY IRON ORE PORT STOCK LUMP PREMIUM (RMB/DMTU)



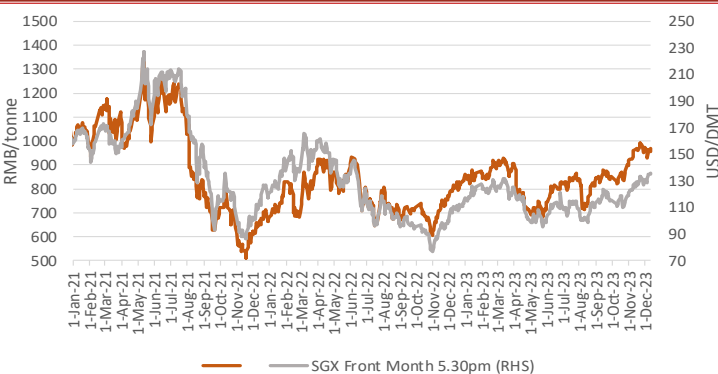
IRON ORE SEABORNE TO PORT STOCK PRICE SPREADS (USD/DMT)



TOTAL IRON ORE INVENTORIES AT CHINA PORTS (MILLION TONNES)



FUTURE TRADING—FRONT MONTH CLOSING PRICE



IRON ORE PORT INVENTORIES (MILLION TONNES)

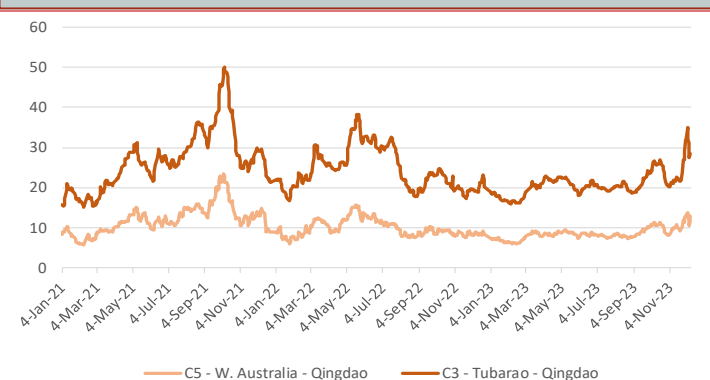
Week Ending Dec 8th, 2023

Province	This week	Change %	Low ²	High ²
Jingtang	9.35	1.96%	8.41	19.20
Qingdao	23.91	0.63%	9.41	26.24
Caofeidian	10.34	15.79%	7.56	16.29
Tianjin	8.12	5.73%	6.49	12.97
Rizhao	13.32	3.34%	9.44	19.26
Total (35 Ports)	115.10	2.69%	98.80	155.39

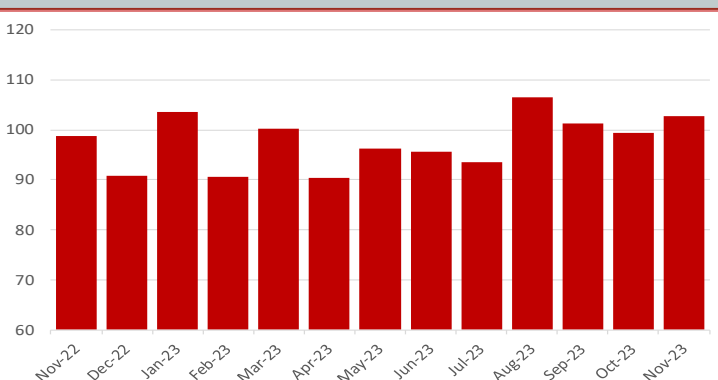
IRON ORE FUTURES CONTRACTS

Closing Date	DCE (RMB/WMT)			SGX (USD/DMT)		
	Dec 12th, 3pm close			Dec 12th, 5:30pm		
Contract	I2405	Change	Change %	Jan. 24	Change	Change %
Closing Price	969.50	14.50	1.52%	135.85	0.85	0.63%
Vol traded ('000 lots)	19.99	-4.50	-18.38%	5.39	-2.07	-27.73%
Open positions ('000 lots)	50.27	1.95	4.03%	41.98	-0.34	-0.80%
Day Low	951.5	8.00	0.85%	133.80	1.00	0.75%
Day High	971.5	5.50	0.57%	136.35	0.70	0.52%

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	2023/12/8	Change	Change %
ReBar HRB400 ϕ 18mm	4,090	50	1.24%
Wirerod Q300 ϕ 6.5mm	4,290	20	0.47%
HRC Q235/SS400 5.5mm*1500*C	4,090	110	2.76%
CRC SPCC/ST12 1.0mm*1250*2500	4,860	70	1.46%
Medium & Heavy Plate Q235B 20mm	4,050	100	2.53%
GI ST02Z 1.0mm*1000*C	5,050	0	0.00%
Colour Coated Plate	7,000	0	0.00%

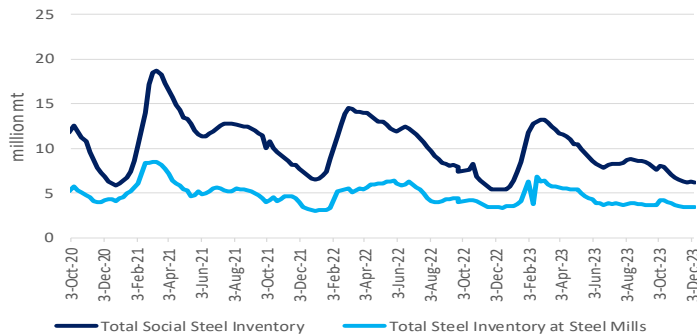
CHINESE STEEL MILL PROFITABILITY

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

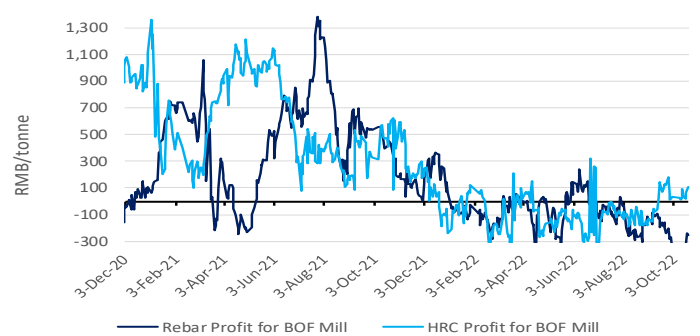
Category	Price	Change (WoW)	Note
MMi (Fe 62%), USD/mt excluding tax	135.65	0	Mmi CFR Equivalent index for 1st Feb
Coke	2,670	0	2nd grade met coke, Tangshan, incl. tax
Steel Scrap	2,910	0	steel scrap (6mm) in Zhangjiagang, excl. tax
Billet Cost	3,383	29	Q234, incl. tax
Rebar cost - Blast furnace	4,048	32	calculated based on theoretical weight, incl. tax
Rebar profit - Blast furnace	-18	28	based on Shanghai prices, incl. tax
Hot-rolled coil cost - Blast furnace	4,113	33	based on actual weight, incl. tax
Hot-rolled coil profit - Blast furnace	-33	67	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

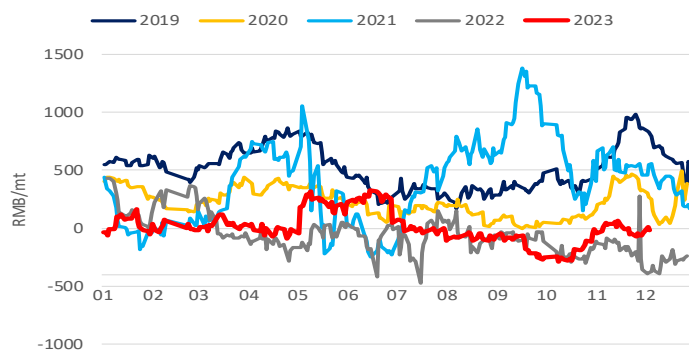
CHINESE STEEL INVENTORIES



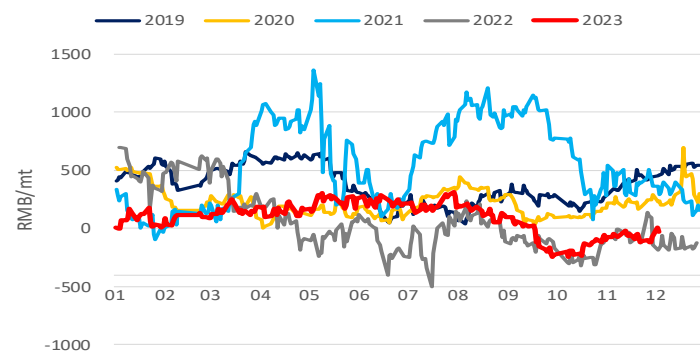
CHINESE STEEL MILL PROFITABILITY



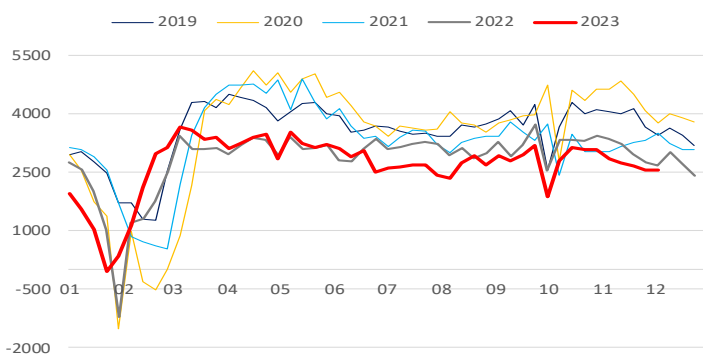
CHINESE STEEL MILL PROFITABILITY—Rebar



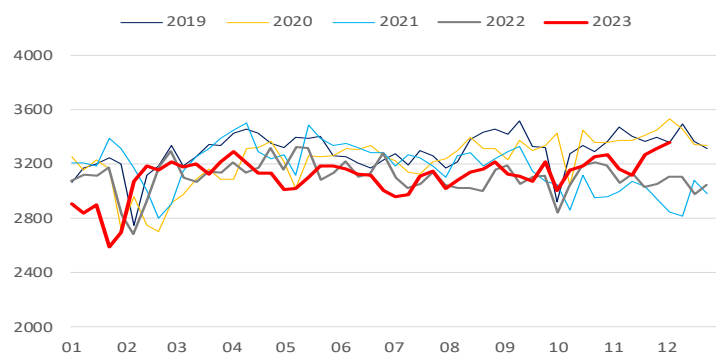
CHINESE STEEL MILL PROFITABILITY—Hot-rolled Coil



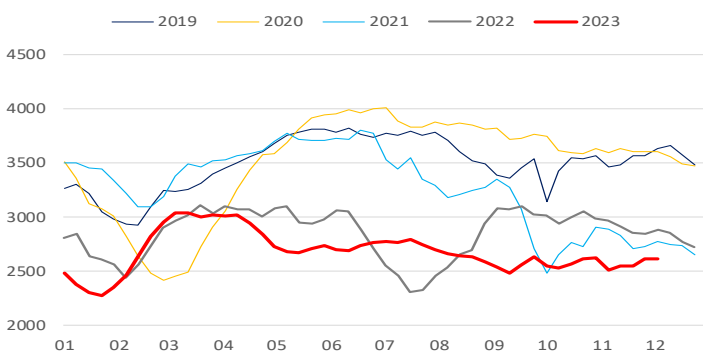
CHINESE STEEL CONSUMPTION—Rebar



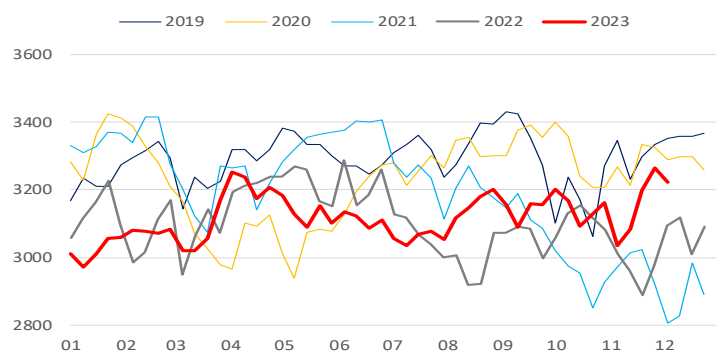
CHINESE STEEL CONSUMPTION—Hot-rolled Coil



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 %	65.00	62.00	58.00	62.50	
Silica%	1.40	2.25	2.25	1.50	
Phosphorus %	1.50	4.00	5.50	3.50	
Sulphur %	0.06	0.09	0.05	0.08	
Moisture %	0.01	0.02	0.02	0.02	
	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
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					
Dec 12th, 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 12th, 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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