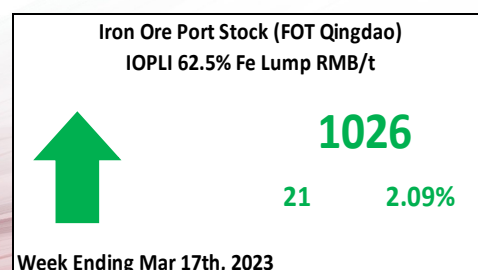
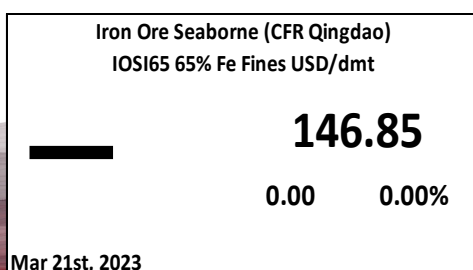
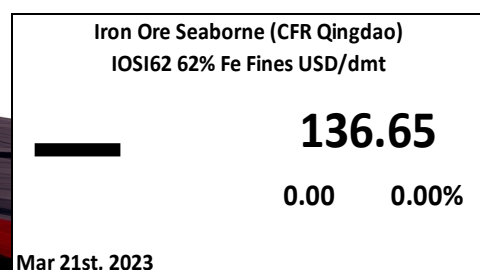
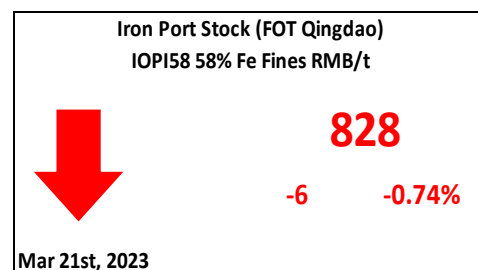
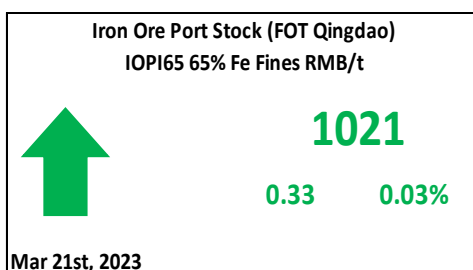
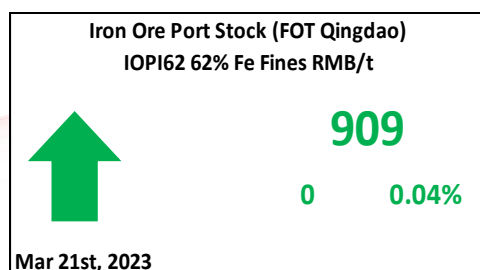


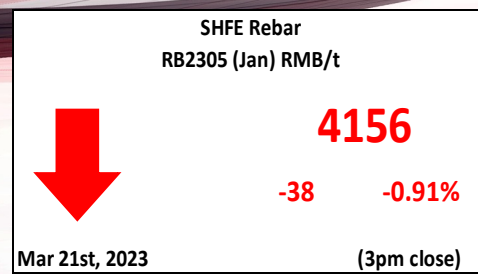
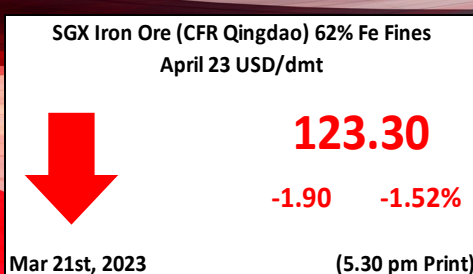
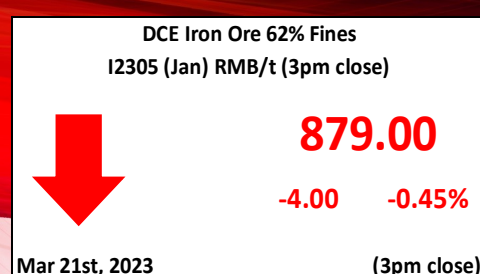


MMi Dashboard

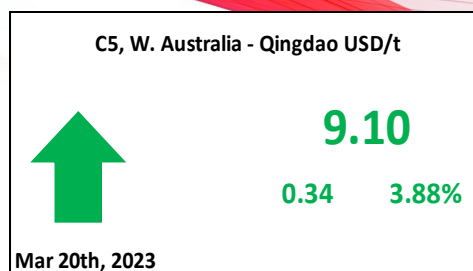
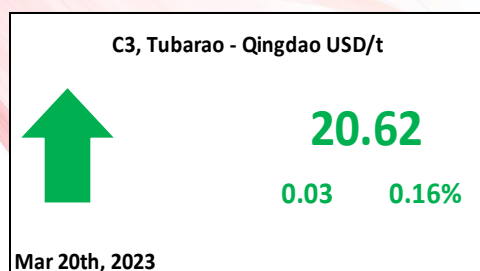
Iron Ore Price Indices



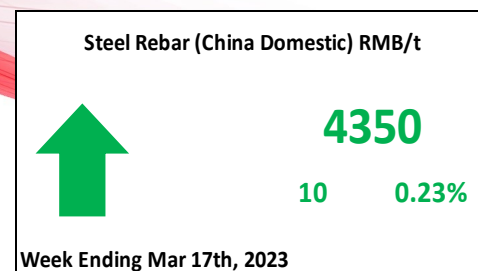
Exchange Traded Contracts



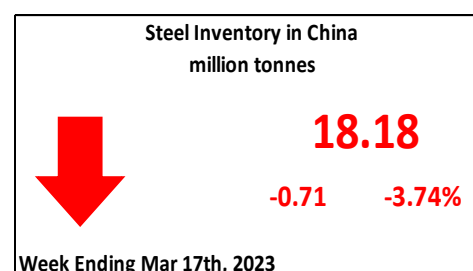
Freight Rates



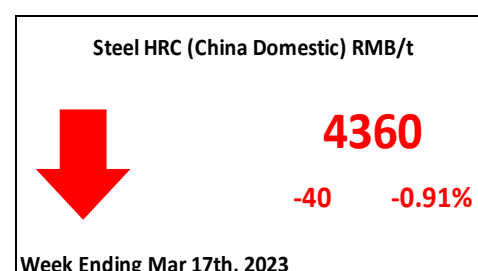
Steel Price



Inventory Levels



Steel Price



IRON ORE PORT STOCK INDEX (IOPI)

Mar 21st, 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	909.08	0	0.0%	869	880	858	892	123.25	-0.08	-0.1%	120.06	120.58	117.93	122.93
IOPI58	58% Fe Fines	827.6	-6	-0.7%	813	798	761	793	113.08	-0.99	-0.9%	113.29	110.17	105.29	110.04
IOPI65	65% Fe Fines	1020.78	0	0.0%	981	992	970	1003	138.88	-0.09	-0.1%	136.05	136.43	133.84	138.73

IRON ORE SEABORNE INDEX (IOSI)

MARKET COMMENTARY

Mar 21st, 2023		CFR Qingdao, USD/dry tonne							DCE iron ore futures fell today, the main contract I2305 closed 879, an decrease of 2.22% throughout the day; part of the business quotation shipping mentality turn weak, steel mills purchased on demand, total transactions remained insipid, PBF at Tangshan port dealt 897-906 yuan/mt; decreased 3-10 yuan/mt over yesterday, PBF at Tangshan port dealt 915 yuan/mt; the decreased 2 yuan/mt over yesterday Today, there is another news in the market that crude steel will reduce production, and the pessimism has increased. Coupled with the impact of the Federal Reserve's interest rate hike and external macro factors, the iron ore market has been weak today. Considering the current high level of molten iron production as a support for ore prices, it is expected that the short-term downward space for iron ore prices is limited.
Index	Fe Content	Price	Change	Change %	MTD	YTD	Low ²	High ²	
IOSI62	62% Fe Fines	136.65	0.00	0.00%	110.38	122.92	83.90	159.45	
IOSI65	65% Fe Fines	146.85	0.00	0.00%	121.09	139.77	94.45	185.82	

IRON ORE PORT LUMP INDEX (IOPLI)

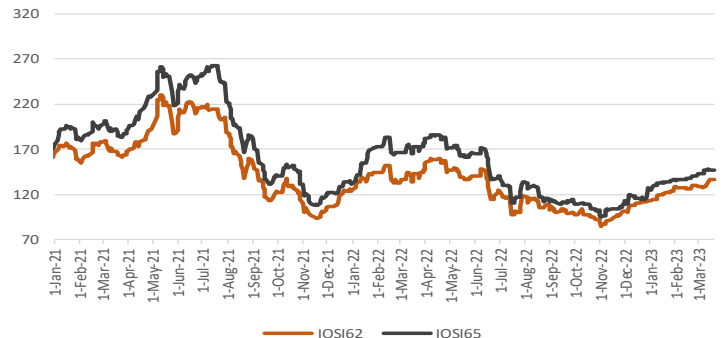
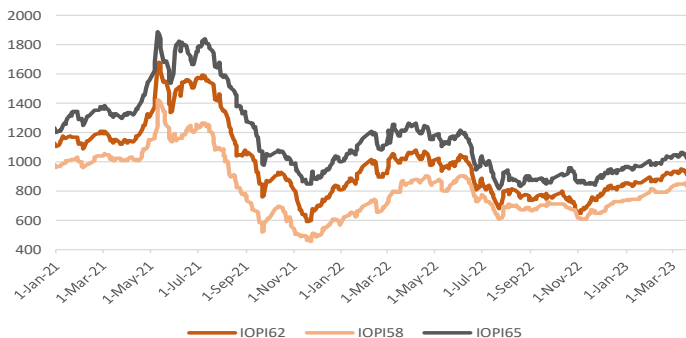
Week Ending Mar 17th, 2023		FOT Qingdao (inc. 13% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 13% VAT), USD/dry tonne ³						
Index	Fe Content	Price	W-o-W	Change %	MTD	YTD	Low ²	High ²	Price	W-o-W	Change %	MTD	YTD	Low ²	High ²
IOPLI62	62.5% Fe Lump	1026	21	2.1%	914	1034	770	1405	133.25	3.26	2.51%	117.76	138.40	94.72	199.13

IRON ORE DOMESTIC CONCENTRATE SPOT PRICE ASSESSMENTS AND COMPOSITE INDEX

Week Ending Mar 17th, 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	1082	1.7%	779	1645	156.72	2.21%	110.31	255.69
Hebei	Qian'an	65% Fe Concentrate	Dry	1095	0.0%	780	1630	158.60	0.51%	110.51	251.57
Liaoning	Anshan	65% Fe Concentrate	Wet	845	3.7%	620	1310	122.39	4.21%	87.40	202.32
Shandong	Zibo	65% Fe Concentrate	Dry	1104	1.8%	800	1752	159.90	2.36%	117.19	272.32
Week Ending Mar 17th, 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 =6.92832			
China Mines Concentrate Composite Index RMB/WT				984.38	1.46%	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

Mar 21st, 2023		FOT Qingdao (inc. 13% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 13% VAT), USD/dry tonne						
Index	Fe Content	November	December	January	February	MTD	QTD	YTD	November	December	January	February	MTD	QTD	YTD
IOPI62	62% Fe Fines	714	822	856	892	869	881	880	92.18	109.43	117.00	121.64	120.06	120.90	120.58
IOPI58	58% Fe Fines	635	711	751	799	813	792	798	82.39	95.17	103.34	109.79	113.29	109.35	110.17
IOPI65	65% Fe Fines	865	935	968	1003	981	993	992	112.37	124.90	132.80	137.36	136.05	136.72	136.43

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

FREIGHT RATES

Mar 21st, 2023		CFR Qingdao, USD/dry tonne							Mar 20th, 2023		FREIGHT RATES - DRY BULK US\$/wet tonne				
Index	Fe Content	November	December	January	February	MTD	QTD	YTD	Route	Designation	Change	Change %	Low ²	High ²	
IOSI62	62% Fe Fines	93.05	108.92	119.76	127.73	110.38	110.35	122.92	W. Australia - Qingdao	C5	9.10	0.34	3.88%	3.57	16.77
IOSI65	65% Fe Fines	102.40	116.83	132.39	138.06	121.09	121.48	139.77	Tubarao - Qingdao	C3	20.62	0.03	0.16%	6.70	36.40

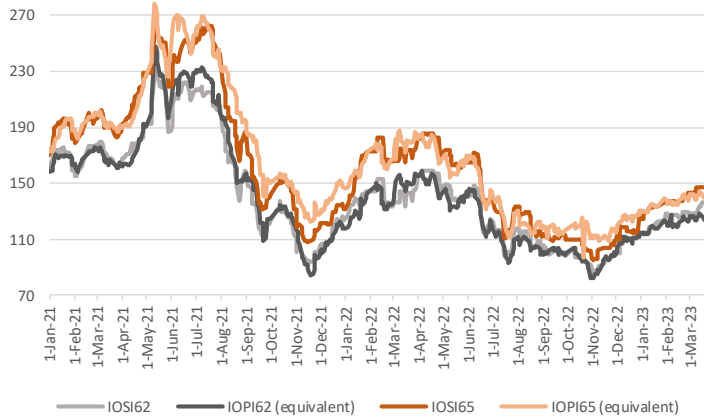
IRON ORE PORT LUMP INDEX MONTHLY, QUARTERLY AND YEAR-TO-DATE AVERAGES

Week Ending Mar 17th, 2023		FOT Qingdao (inc. 13% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 13% VAT), USD/dry tonne ¹						
Index	Fe Content	November	December	January	February	MTD	QTD	YTD	November	December	January	February	MTD	QTD	YTD
IOPLI62	62.5% Fe Lump	811	922	964	988	914	913	1034	100.83	117.06	126.47	129.95	117.76	118.12	138.40

IRON ORE INDEX PREMIUMS/DISCOUNTS

Mar 21st, 2023		PORT STOCK INDEX (RMB/WT)		Mar 21st, 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	-81	-8.96%	IOSI65	65% Fe Fines	10.20	7.46%
IOPI65	65% Fe Fines	112	12.29%				

IRON ORE INDEX COMPARISONS (USD/DMT)



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



IRON ORE BRAND SPOT PRICE ASSESSMENTS

Mar 21st, 2023	PORT STOCK INDEX (RMB/WT)			Mar 21st, 2023	SEABORNE INDEX (USD/DMT)		
	Price	Change	Diff to IOPI62		Price	Change	Diff to IOSI62
Roy Hill	852	0	-57	Roy Hill	132.15	0.00	-4.50
SIMEC Fines	782	0	-127	SIMEC Fines	128.65	0.00	-8.00
PB Fines	877	0	-32	PB Fines	132.90	0.00	-3.75
Newman Fines	878	0	-31	Newman Fines	135.80	0.00	-0.85
MAC Fines	859	0	-50	MAC Fines	132.90	0.00	-3.75
Jimblebar Blended Fines	774	0	-135	Jimblebar Blended Fines	125.30	0.00	-11.35
Carajas Fines	1090	0	181	Carajas Fines	166.20	0.00	29.55
Brazilian SSF	874	0	-35	Brazilian SSF	140.40	0.00	3.75
Brazilian Blend Fines	890	0	-19	Brazilian Blend Fines	142.05	0.00	5.40
RTX Fines	792	0	-117	RTX Fines	126.55	0.00	-10.10
West Pilbara Fines	820	0	-89	West Pilbara Fines	130.90	0.00	-5.75

Mar 21st, 2023	PORT STOCK INDEX (RMB/WT)		
	Price	Change	Diff to IOPI58
SSF	828	-6	0
FMG Blended Fines	838	-6	10
Robe River	839	-6	11
Western Fines	842	-6	14
Atlas Fines	835	-7	7
Yandi	820	-6	-8

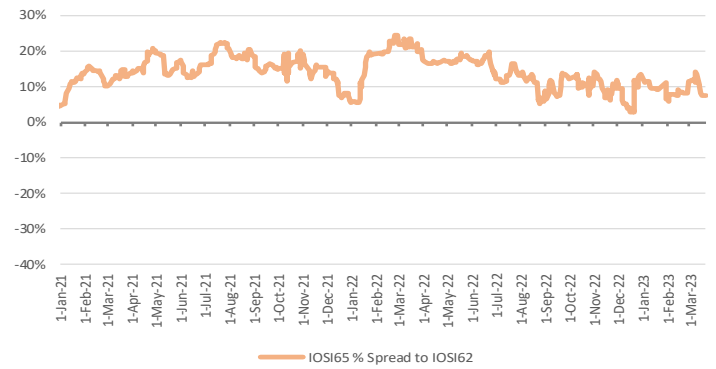
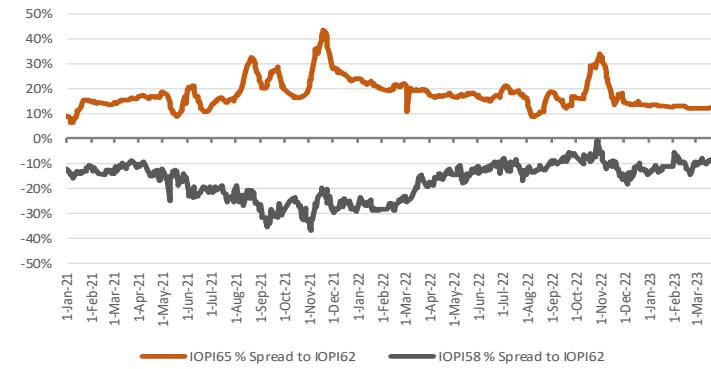
IRON ORE INDEX NORMALISATION DIFFERENTIALS

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%	2.25	0.00
	High Grade Fe 63 - 64%	23.00	6.00		High Grade Fe 63 - 64%	1.75	0.00
	High Grade Fe 64 - 65%	23.00	6.00		High Grade Fe 64 - 65%	1.75	0.00
	High Grade Fe 65 - 65.5%	23.00	6.00		High Grade Fe 65 - 65.5%	1.75	0.00
1% Alumina	Low Grade Fe	15.00	1.00	1% Alumina	High Fe Grade Al <2.25%	2.50	0.00
	High Fe Grade Al <2.25%	25.00	-5.00		High Fe Grade Al 2.25-4%	2.50	0.00
	High Fe Grade Al 2.25-4%	5.00	0.00		High Fe Grade Si <4%	3.00	0.00
	Low Fe Grade Al <2.25%	32.00	4.00		High Fe Grade Si 4 - 6.5%	1.50	0.00
1% Silica	Low Fe Grade Al 2.25-4%	44.00	-2.00	1% Silica	High Fe Grade Si <4%	3.00	0.00
	High Fe Grade Si <4%	5.00	0.00		High Fe Grade Si 4 - 6.5%	1.50	0.00
	High Fe Grade Si 4 - 6.5%	11.00	-2.00	0.01% Phosphorus	High Fe Grade 0.09%<P<0.115%	1.25	0.00
0.01% Phosphorus	Low Fe Grade	5.00	0.00		High Fe Grade 0.115%<P<0.15%	4.75	0.00
	High Fe Grade 0.09%<P<0.115%	5.00	0.00		Low Fe Grade 0.09%<P<0.1%	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				

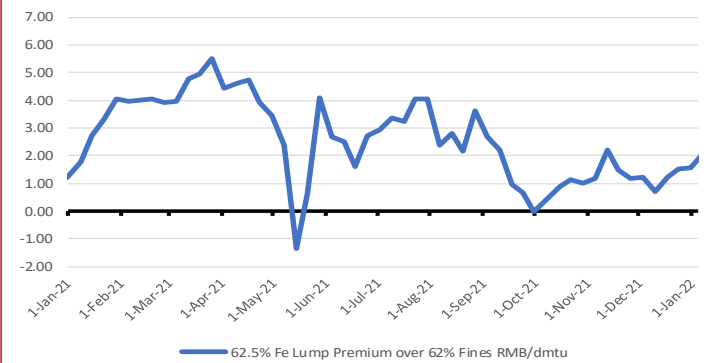
Port Stock Price Differentials to Qingdao Port for PB Fines (RMB/wet tonne)

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	-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	0.00	0.00

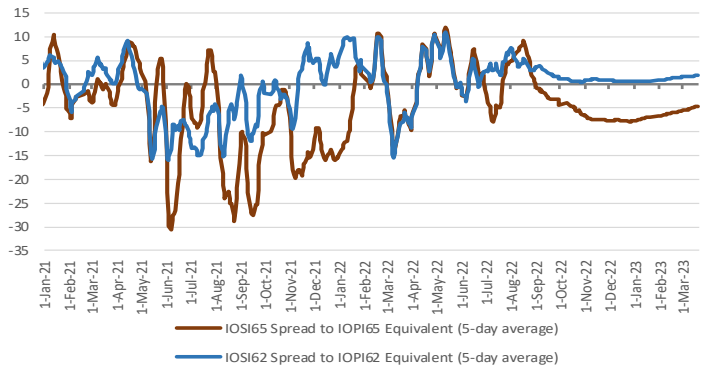
IRON ORE INDEX PREMIUMS/DISCOUNTS



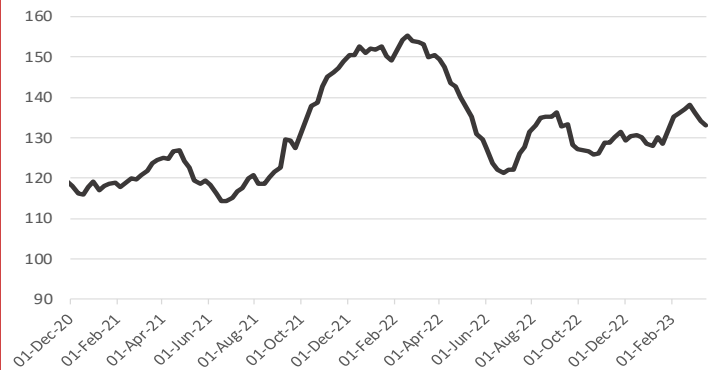
WEEKLY IRON ORE PORT STOCK LUMP PREMIUM (RMB/DMTU)



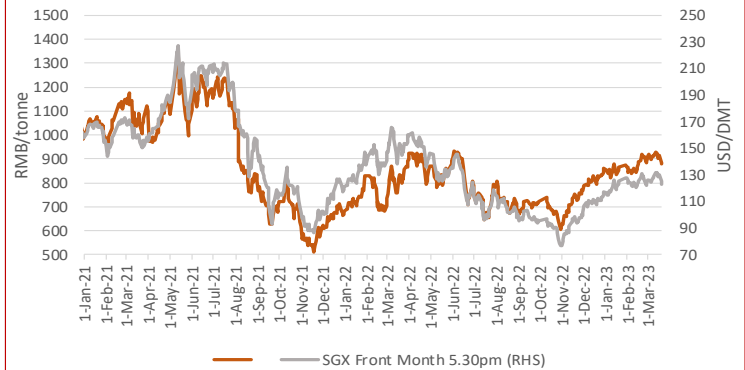
IRON ORE SEABORNE TO PORT STOCK PRICE SPREADS (USD/DMT)



TOTAL IRON ORE INVENTORIES AT CHINA PORTS (MILLION TONNES)



FUTURE TRADING—FRONT MONTH CLOSING PRICE



IRON ORE PORT INVENTORIES (MILLION TONNES)

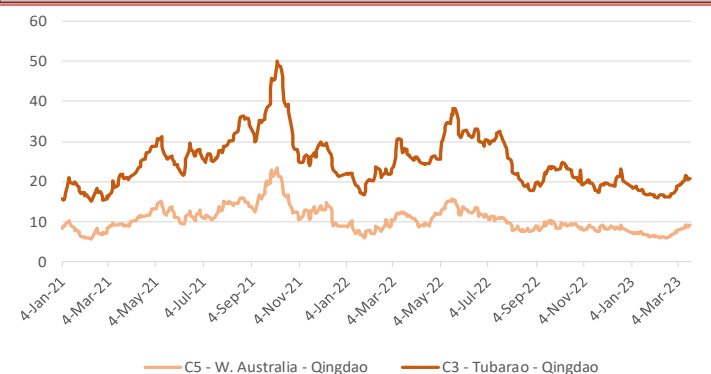
Week Ending Mar 17th, 2023

Province	This week	Change %	Low ²	High ²
Jingtang	13.18	6.20%	9.84	19.20
Qingdao	25.15	-0.40%	9.41	26.24
Caofeidian	11.67	-3.15%	9.05	16.29
Tianjin	10.13	-3.06%	7.14	12.97
Rizhao	18.87	-0.79%	9.44	19.26
Total (35 Ports)	133.12	-0.70%	98.80	155.39

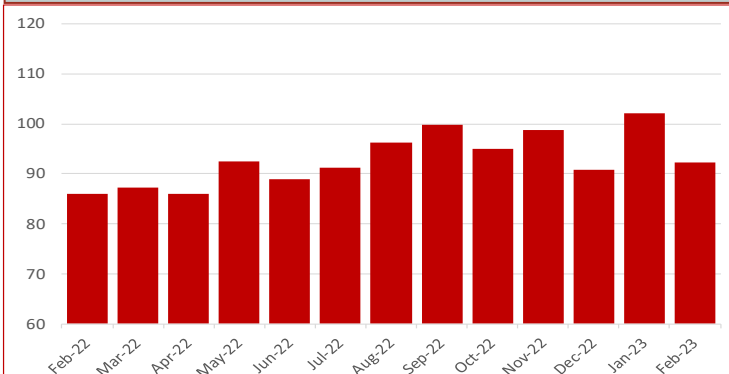
IRON ORE FUTURES CONTRACTS

Closing Date	DCE (RMB/WMT)			SGX (USD/DMT)		
	Mar 21st, 3pm close			Mar 21st, 5:30pm		
Contract	I2305	Change	Change %	Apr. 23	Change	Change %
Closing Price	879.00	-4.00	-0.45%	123.30	-1.90	-1.52%
Vol traded ('000 lots)	63.61	-14.19	-18.24%	6.84	0.75	12.26%
Open positions ('000 lots)	69.02	-3.24	-4.48%	29.65	-0.58	-1.92%
Day Low	877.5	-4.50	-0.51%	122.85	-1.65	-1.33%
Day High	894.0	-21.00	-2.30%	127.35	-3.30	-2.53%

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	2023/3/17	Change	Change %
ReBar HRB400 ϕ 18mm	4,350	10	0.23%
Wirerod Q300 ϕ 6.5mm	4,560	-10	-0.22%
HRC Q235/SS400 5.5mm*1500*C	4,360	-40	-0.91%
CRC SPCC/ST12 1.0mm*1250*2500	4,800	-30	-0.62%
Medium & Heavy Plate Q235B 20mm	4,520	40	0.89%
GI ST02Z 1.0mm*1000*C	5,130	30	0.59%
Colour Coated Plate	7,550	0	0.00%

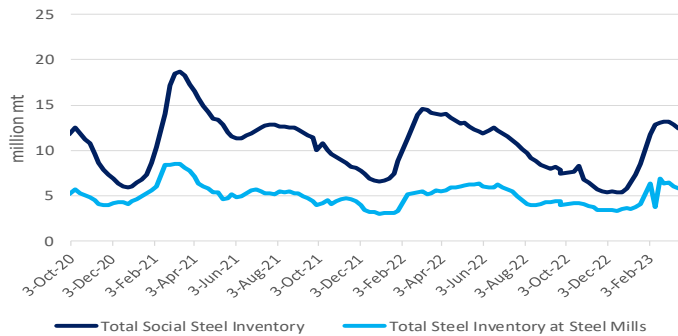
CHINESE STEEL MILL PROFITABILITY

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

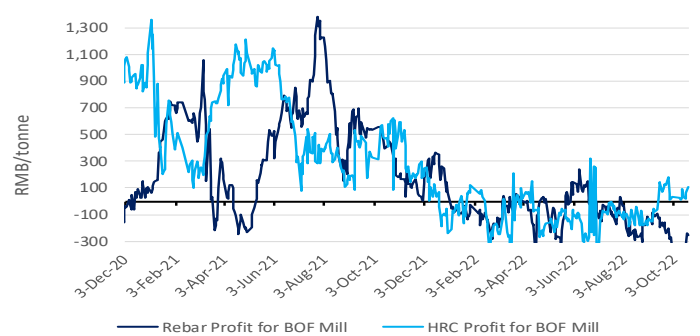
Category	Price	Change (WoW)	Note
MMi (Fe 62%), USD/mt excluding tax	136.65	8	Mmi CFR Equivalent index for 1st Feb
Coke	2,960	0	2nd grade met coke, Tangshan, incl. tax
Steel Scrap	3,230	30	steel scrap (6mm) in Zhangjiagang, excl. tax
Billet Cost	3,700	33	Q234, incl. tax
Rebar cost - Blast furnace	4,214	37	calculated based on theoretical weight, incl. tax
Rebar profit - Blast furnace	46	-67	based on Shanghai prices, incl. tax
Hot-rolled coil cost - Blast furnace	4,221	36	based on actual weight, incl. tax
Hot-rolled coil profit - Blast furnace	159	-56	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

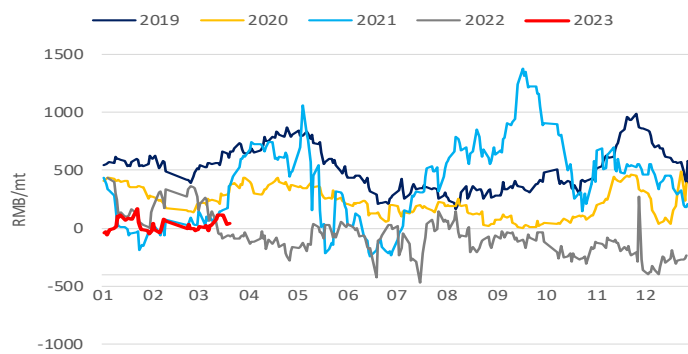
CHINESE STEEL INVENTORIES



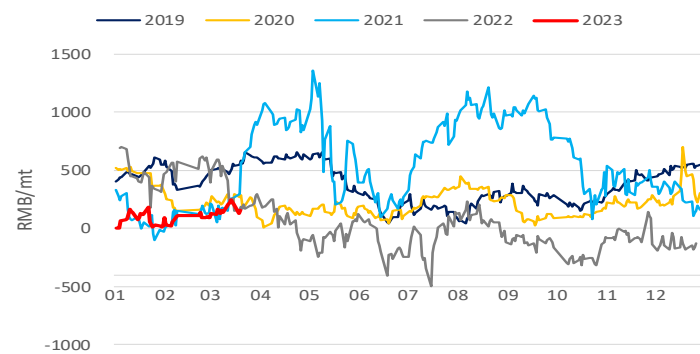
CHINESE STEEL MILL PROFITABILITY



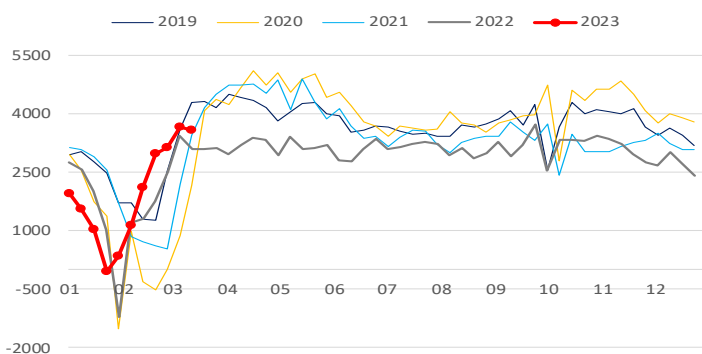
CHINESE STEEL MILL PROFITABILITY—Rebar



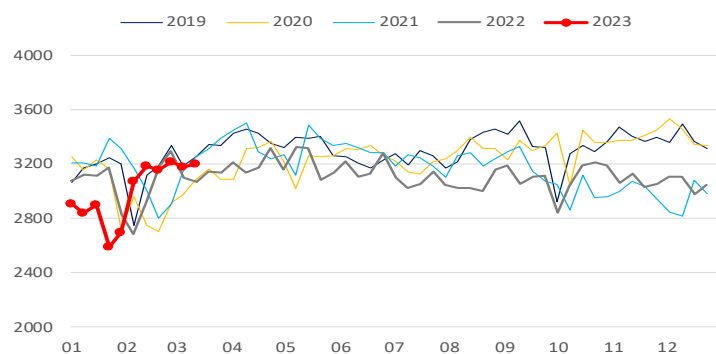
CHINESE STEEL MILL PROFITABILITY—Hot-rolled Coil



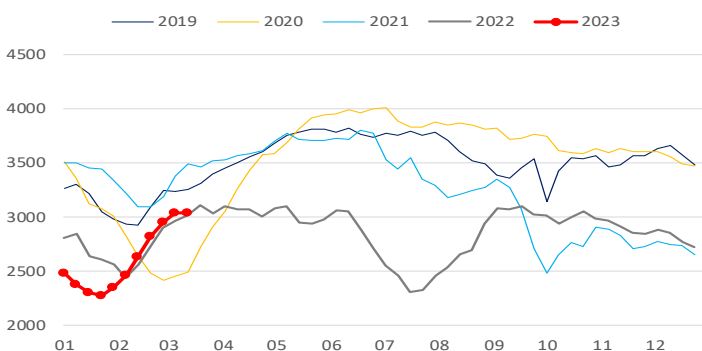
CHINESE STEEL CONSUMPTION—Rebar



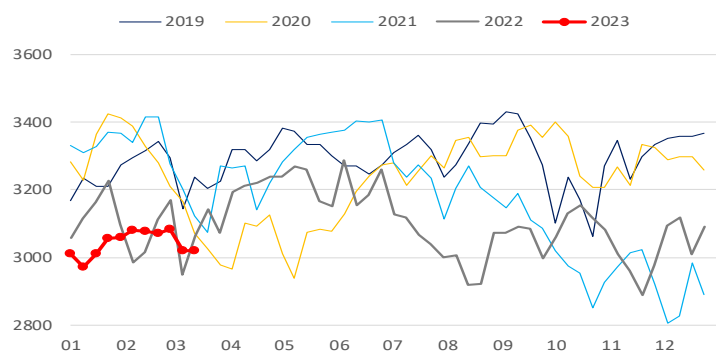
CHINESE STEEL CONSUMPTION—Hot-rolled Coil



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					
Mar 21st, 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%
Mar 21st, 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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