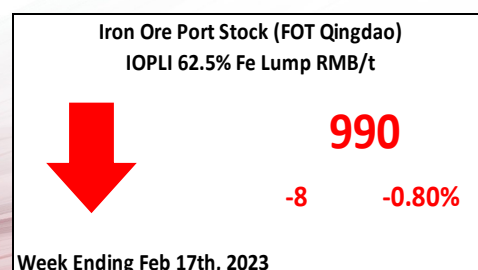
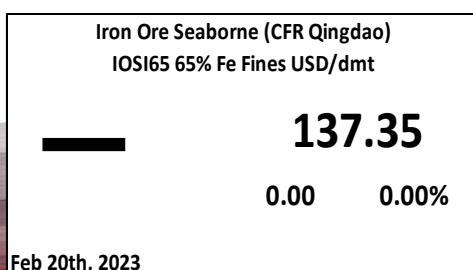
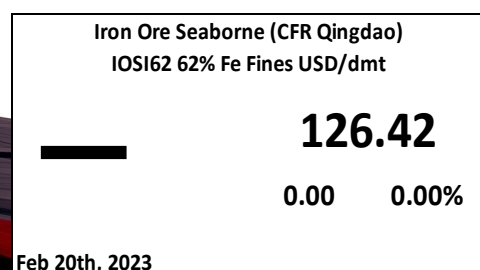
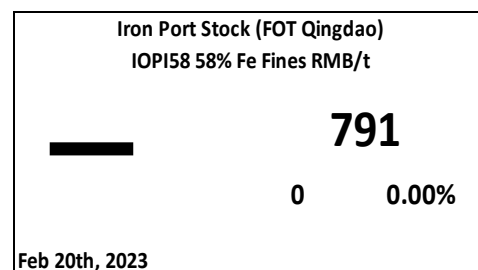
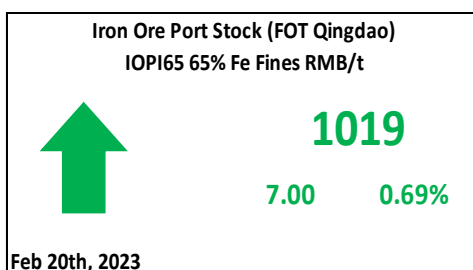
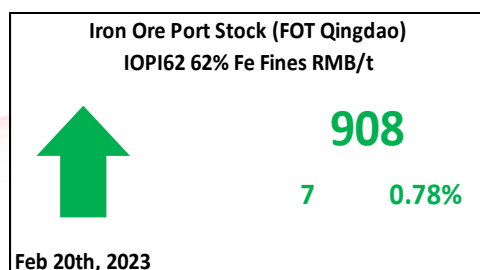


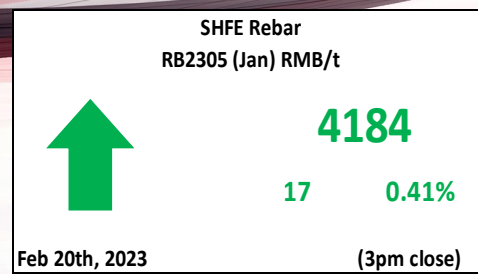
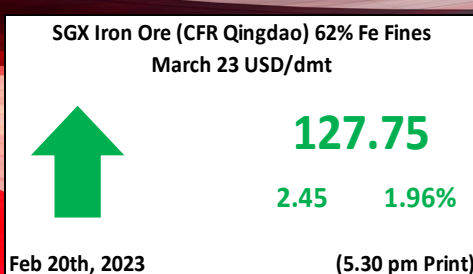
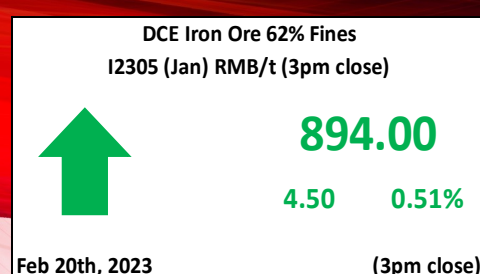


MMi Dashboard

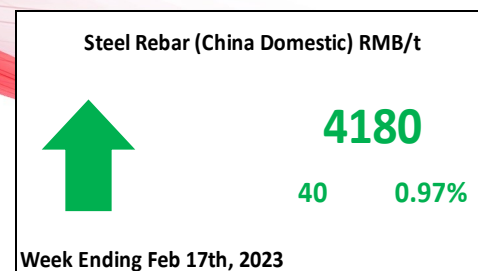
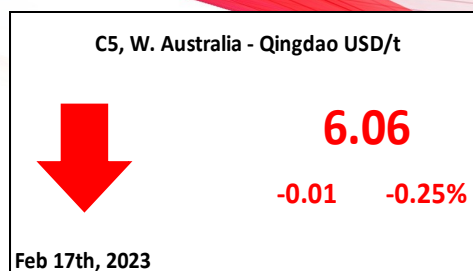
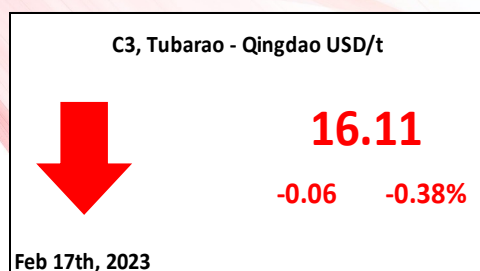
Iron Ore Price Indices



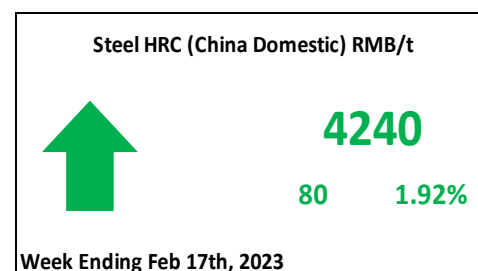
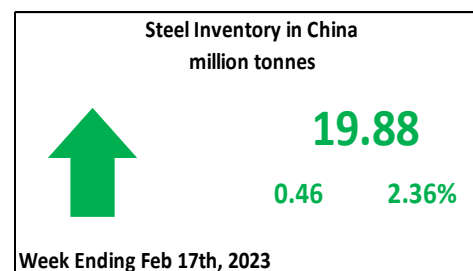
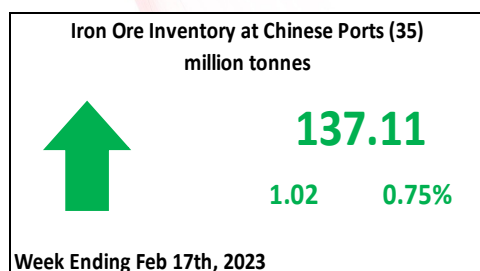
Exchange Traded Contracts



Freight Rates



Inventory Levels



Steel Price

Steel Price

IRON ORE PORT STOCK INDEX (IOPI)

Feb 20th, 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	908	7	0.8%	869	880	858	892	123.32	0.85	0.7%	120.06	120.58	117.93	122.93
IOPI58	58% Fe Fines	791	0	0.0%	813	798	761	793	108.10	-0.12	-0.1%	113.29	110.17	105.29	110.04
IOPI65	65% Fe Fines	1019	7	0.7%	981	992	970	1003	138.87	0.83	0.6%	136.05	136.43	133.84	138.73

IRON ORE SEABORNE INDEX (IOSI)

MARKET COMMENTARY

Feb 20th, 2023		CFR Qingdao, USD/dry tonne							DCE iron ore futures open lower and go higher, the main contract I2305 closed 894, an increase of 1.02% throughout the day. Some traders were active to sell, some steel procurement more cautious, the continuation of a small number of multi-frequency procurement strategy. today's overall market transaction atmosphere in general: PBF at Shandong port dealt 895-900 yuan/mt; increased 5-10 yuan/mt from last Friday, PBF at Tangshan port dealt 905-910 yuan/mt; increased 8-10 yuan/mt from last Friday. According to SMM, the global iron ore shipments totaled 27.02 million tons, up 7.8% week-on-week. Among them, Australia shipped 15.15 million tons, an increase of 7.1% over the previous week. Brazil shipped 5.87 million tons, up 5.8% week-on-week. However, affected by the reduction in the volume of Australia and Pakistan shipments in the early stage, the volume of arrivals in the current period was 28.52 million tons, down 1.06% week-on-week. Although the shipment volume has slightly increased this week, it remains at the annual low level. It is said in the market today that the heavy rain in Brazil has led to another flood in some regions, which may have an impact on the shipment of Brazilian iron ore.
Index	Fe Content	Price	Change	Change %	MTD	YTD	Low ²	High ²	
IOSI62	62% Fe Fines	126.42	0.00	0.00%	107.27	122.31	83.90	159.45	
IOSI65	65% Fe Fines	137.35	0.00	0.00%	117.64	139.45	94.45	185.82	

IRON ORE PORT LUMP INDEX (IOPLI)

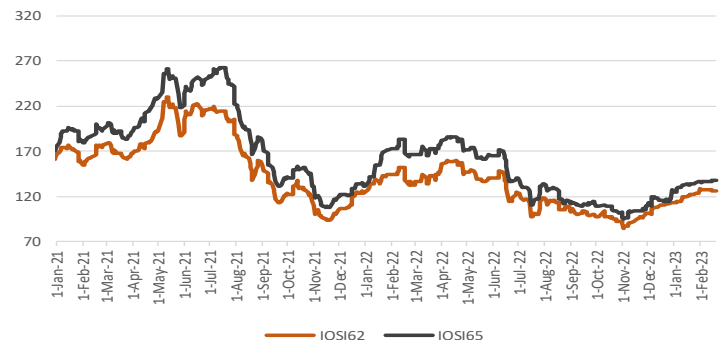
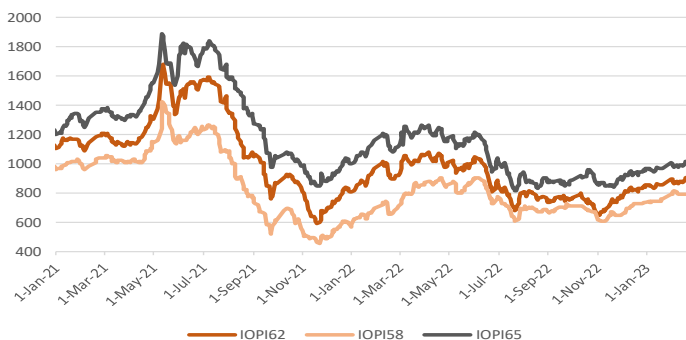
Week Ending Feb 17th, 2023		FOT Qingdao (inc. 13% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 13% VAT), USD/dry tonne ³						
Index	Fe Content	Price	W-o-W	Change %	MTD	YTD	Low ²	High ²	Price	W-o-W	Change %	MTD	YTD	Low ²	High ²
IOPLI62	62.5% Fe Lump	990	-8	-0.8%	899	1036	770	1405	129.74	-1.99	-1.51%	115.69	138.89	94.72	199.13

IRON ORE DOMESTIC CONCENTRATE SPOT PRICE ASSESSMENTS AND COMPOSITE INDEX

Week Ending Feb 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	1036	-4.3%	779	1645	151.62	-4.34%	110.31	255.69
Hebei	Qian'an	65% Fe Concentrate	Dry	1055	1.0%	780	1630	154.40	0.96%	110.51	251.57
Liaoning	Anshan	65% Fe Concentrate	Wet	790	0.0%	620	1310	115.62	0.00%	87.40	202.32
Shandong	Zibo	65% Fe Concentrate	Dry	1059	-4.2%	800	1752	154.98	-4.25%	117.19	272.32
Week Ending Feb 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 = 6.7849			
China Mines Concentrate Composite Index RMB/WT				937.76	-1.07%	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

Feb 20th, 2023		FOT Qingdao (inc. 13% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 13% VAT), USD/dry tonne						
Index	Fe Content	October	November	December	January	MTD	QTD	YTD	October	November	December	January	MTD	QTD	YTD
IOPI62	62% Fe Fines	736	714	822	856	869	881	880	95.56	92.18	109.43	117.00	120.06	120.90	120.58
IOPI58	58% Fe Fines	683	635	711	751	813	792	798	89.34	82.39	95.17	103.34	113.29	109.35	110.17
IOPI65	65% Fe Fines	918	865	935	968	981	993	992	120.08	112.37	124.90	132.80	136.05	136.72	136.43

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

FREIGHT RATES

Feb 20th, 2023		CFR Qingdao, USD/dry tonne							Feb 17th, 2023						
Index	Fe Content	October	November	December	January	MTD	QTD	YTD	Route	Designation	Change	Change %	Low ²	High ²	
IOSI62	62% Fe Fines	95.80	93.05	108.92	119.76	107.27	107.62	122.31	W. Australia - Qingdao	C5	6.06	-0.01	-0.25%	3.57	16.77
IOSI65	65% Fe Fines	106.70	102.40	116.83	132.39	117.64	118.51	139.45	Tubarao - Qingdao	C3	16.11	-0.06	-0.38%	6.70	36.40

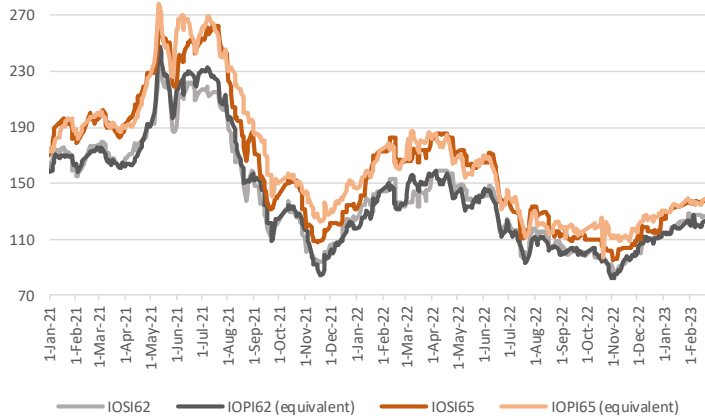
IRON ORE PORT LUMP INDEX MONTHLY, QUARTERLY AND YEAR-TO-DATE AVERAGES

Week Ending Feb 17th, 2023		FOT Qingdao (inc. 13% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 13% VAT), USD/dry tonne ¹						
Index	Fe Content	October	November	December	January	MTD	QTD	YTD	October	November	December	January	MTD	QTD	YTD
IOPLI62	62.5% Fe Lump	877	811	922	964	899	900	1036	109.81	100.83	117.06	126.47	115.69	116.42	138.89

IRON ORE INDEX PREMIUMS/DISCOUNTS

Feb 20th, 2023		PORT STOCK INDEX (RMB/WT)		Feb 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	-117	-12.89%	IOSI65	65% Fe Fines	10.93	8.65%
IOPI65	65% Fe Fines	111	12.22%				

IRON ORE INDEX COMPARISONS (USD/DMT)



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



IRON ORE BRAND SPOT PRICE ASSESSMENTS

Feb 20th, 2023	PORT STOCK INDEX (RMB/WT)			Feb 20th, 2023	SEABORNE INDEX (USD/DMT)		
	Price	Change	Diff to IOPI62		Price	Change	Diff to IOSI62
Roy Hill	851	7	-57	Roy Hill	121.90	0.00	-4.52
SIMEC Fines	781	7	-127	SIMEC Fines	118.40	0.00	-8.02
PB Fines	876	7	-32	PB Fines	122.70	0.00	-3.72
Newman Fines	877	7	-31	Newman Fines	125.55	0.00	-0.87
MAC Fines	858	7	-50	MAC Fines	122.70	0.00	-3.72
Jimblebar Blended Fines	773	7	-135	Jimblebar Blended Fines	115.05	0.00	-11.37
Carajas Fines	1089	7	181	Carajas Fines	155.95	0.00	29.53
Brazilian SSF	873	8	-35	Brazilian SSF	130.15	0.00	3.73
Brazilian Blend Fines	889	7	-19	Brazilian Blend Fines	131.05	0.00	4.63
RTX Fines	791	7	-117	RTX Fines	116.30	0.00	-10.12
West Pilbara Fines	819	7	-89	West Pilbara Fines	125.65	0.00	-0.77

Feb 20th, 2023	PORT STOCK INDEX (RMB/WT)		
	Price	Change	Diff to IOPI58
SSF	791	0	0
FMG Blended Fines	801	0	10
Robe River	802	1	11
Western Fines	804	0	13
Atlas Fines	798	0	7
Yandi	784	0	-7

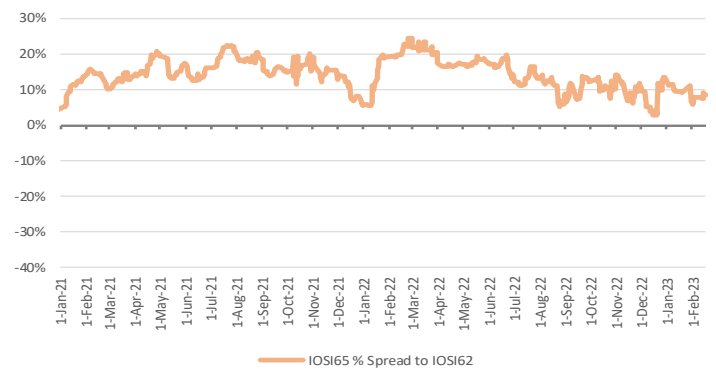
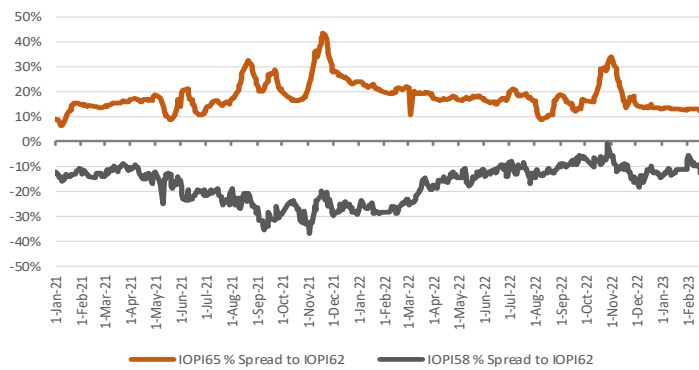
IRON ORE INDEX NORMALISATION DIFFERENTIALS

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%	11.00	0.00	1% Fe	High Grade Fe 60 - 63%	2.00	0.25
	High Grade Fe 63 - 64%	5.00	0.00		High Grade Fe 63 - 64%	4.00	0.00
	High Grade Fe 64 - 65%	5.00	0.00		High Grade Fe 64 - 65%	4.00	0.00
	High Grade Fe 65 - 65.5%	5.00	0.00		High Grade Fe 65 - 65.5%	4.00	0.00
1% Alumina	Low Grade Fe	18.00	0.00	1% Alumina	High Fe Grade Al <2.25%	2.50	1.00
	High Fe Grade Al <2.25%	90.00	7.00		High Fe Grade Al 2.25-4%	2.00	1.00
	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%	50.00	0.00		High Fe Grade Si 4 - 6.5%	0.25	0.00
1% Silica	Low Fe Grade Al 2.25-4%	20.00	-5.00	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%	0.25	0.00
	High Fe Grade Si 4 - 6.5%	22.00	0.00		0.01% Phosphorus	2.50	1.00
	Low Fe Grade	15.00	0.00		High Fe Grade 0.115%<P<0.15%	4.50	0.25
0.01% Phosphorus	High Fe Grade 0.09%<P<0.115%	5.00	0.00				
	High Fe Grade 0.115%<P<0.15%	5.00	0.00				
	Low Fe Grade 0.09%<P<0.1%	14.00	6.00				

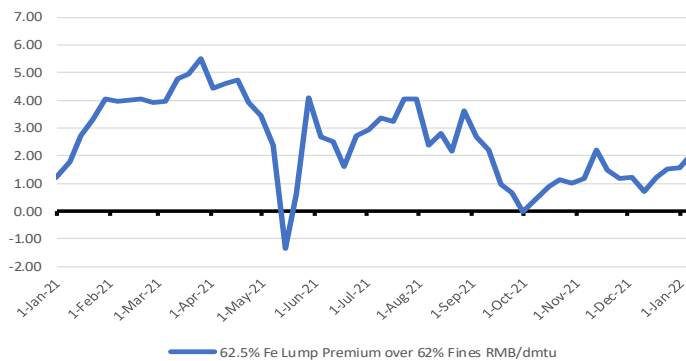
Port Stock Price Differentials to Qingdao Port for PB Fines (RMB/wet tonne)

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	5.00	0.00	Jingtang	-20.00	0.00	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	-10.00	0.00

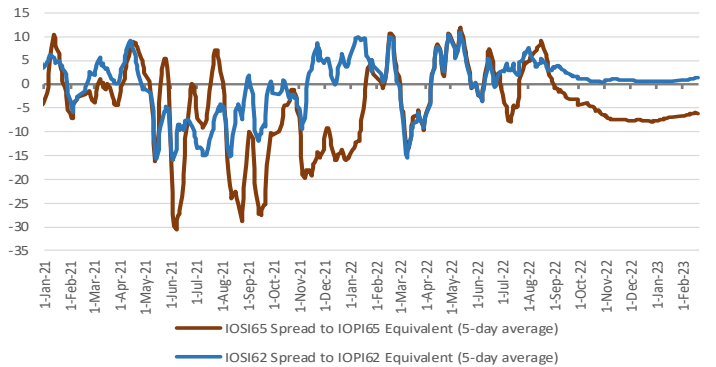
IRON ORE INDEX PREMIUMS/DISCOUNTS



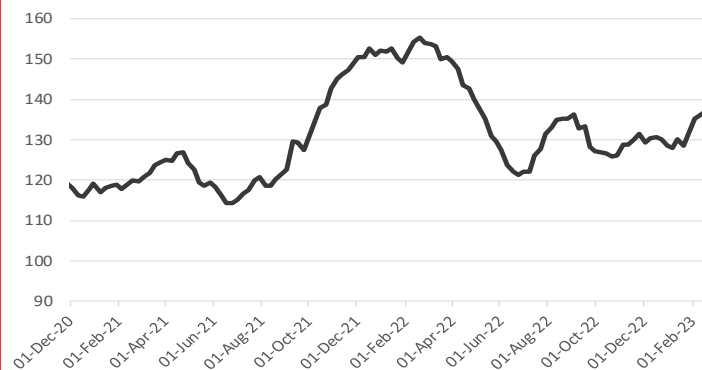
WEEKLY IRON ORE PORT STOCK LUMP PREMIUM (RMB/DMTU)



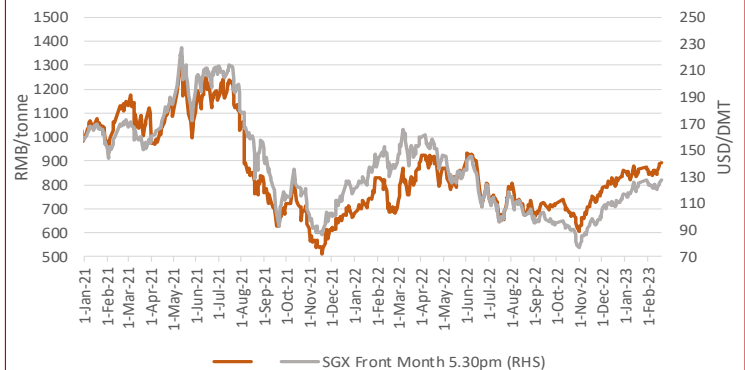
IRON ORE SEABORNE TO PORT STOCK PRICE SPREADS (USD/DMTU)



TOTAL IRON ORE INVENTORIES AT CHINA PORTS (MILLION TONNES)



FUTURE TRADING—FRONT MONTH CLOSING PRICE



IRON ORE PORT INVENTORIES (MILLION TONNES)

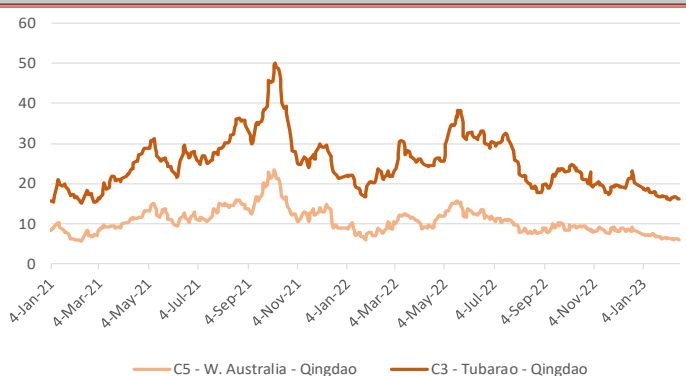
Week Ending Feb 17th, 2023

Province	This week	Change %	Low ²	High ²
Jingtang	12.14	1.34%	9.84	19.20
Qingdao	26.24	1.27%	9.41	26.24
Caofeidian	11.63	5.34%	9.05	16.29
Tianjin	11.88	0.25%	7.14	12.97
Rizhao	19.15	1.38%	9.44	19.26
Total (35 Ports)	137.11	0.75%	98.80	155.39

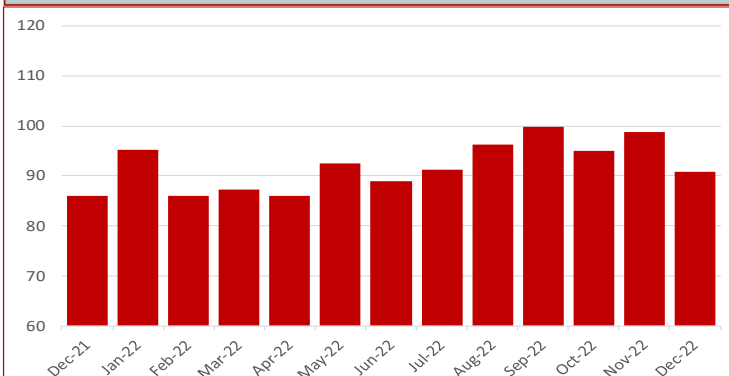
IRON ORE FUTURES CONTRACTS

Closing Date	DCE (RMB/WMT)			SGX (USD/DMT)		
	Feb 20th, 3pm close			Feb 20th, 5:30pm		
Contract	I2305	Change	Change %	Mar. 23	Change	Change %
Closing Price	894.00	4.50	0.51%	127.75	2.45	1.96%
Vol traded ('000 lots)	59.99	-4.76	-7.35%	4.82	-0.17	-3.49%
Open positions ('000 lots)	94.58	0.92	0.99%	31.55	0.65	2.09%
Day Low	879.0	-0.50	-0.06%	128.75	4.30	3.46%
Day High	898.5	5.50	0.62%	125.20	-1.50	-1.18%

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	2023/2/17	Change	Change %
ReBar HRB400 ϕ 18mm	4,180	40	0.97%
Wirerod Q300 ϕ 6.5mm	4,430	40	0.91%
HRC Q235/SS400 5.5mm*1500*C	4,240	80	1.92%
CRC SPCC/ST12 1.0mm*1250*2500	4,620	30	0.65%
Medium & Heavy Plate Q235B 20mm	4,300	60	1.42%
GI ST02Z 1.0mm*1000*C	4,870	40	0.83%
Colour Coated Plate	7,580	80	1.07%

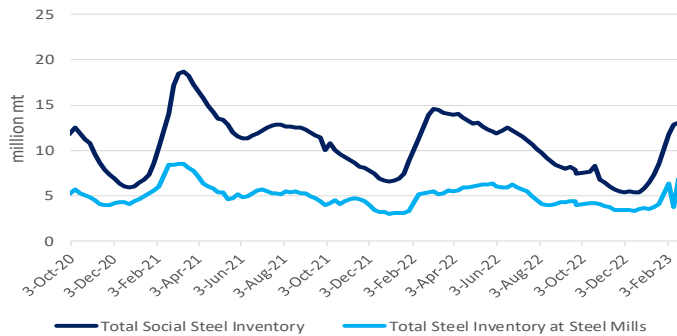
CHINESE STEEL MILL PROFITABILITY

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

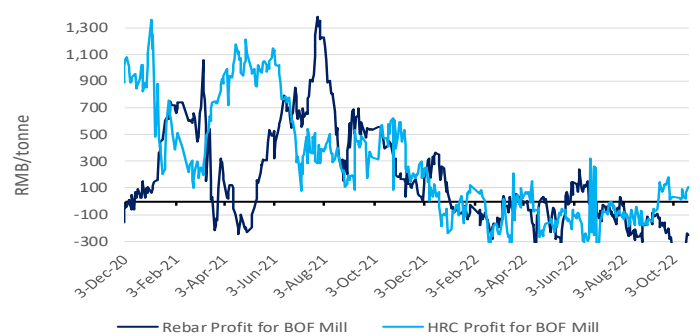
Category	Price	Change (WoW)	Note
MMi (Fe 62%), USD/mt excluding tax	127.10	0	Mmi CFR Equivalent index for 1st Feb
Coke	2,960	0	2nd grade met coke, Tangshan, incl. tax
Steel Scrap	3,150	-50	steel scrap (6mm) in Zhangjiagang, excl. tax
Billet Cost	3,613	1	Q234, incl. tax
Rebar cost - Blast furnace	4,126	11	calculated based on theoretical weight, incl. tax
Rebar profit - Blast furnace	64	79	based on Shanghai prices, incl. tax
Hot-rolled coil cost - Blast furnace	4,128	11	based on actual weight, incl. tax
Hot-rolled coil profit - Blast furnace	112	79	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

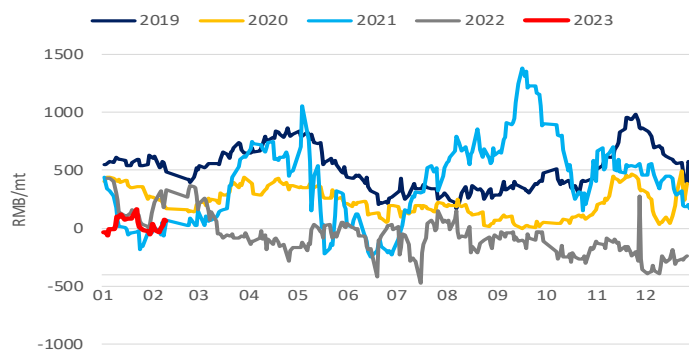
CHINESE STEEL INVENTORIES



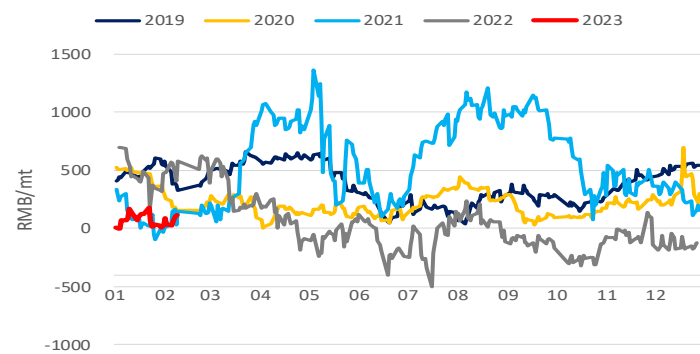
CHINESE STEEL MILL PROFITABILITY



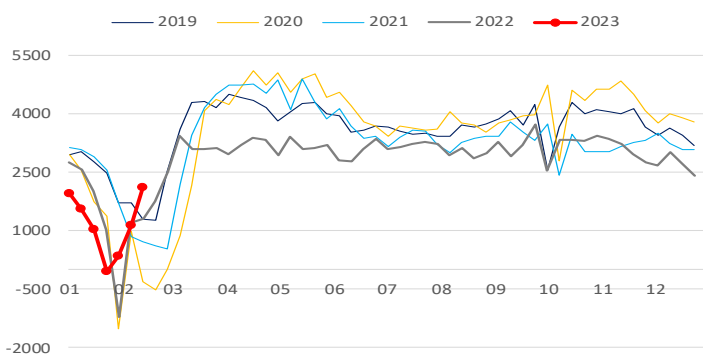
CHINESE STEEL MILL PROFITABILITY—Rebar



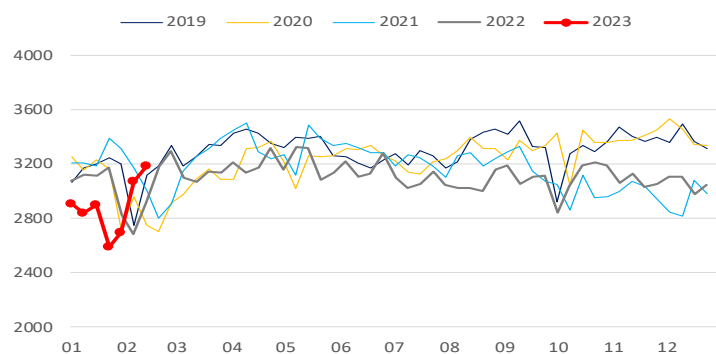
CHINESE STEEL MILL PROFITABILITY—Hot-rolled Coil



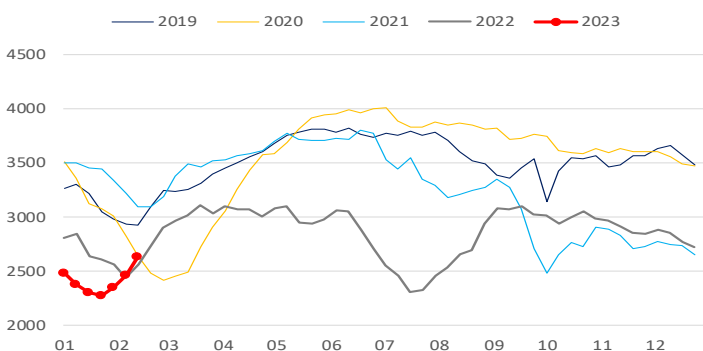
CHINESE STEEL CONSUMPTION—Rebar



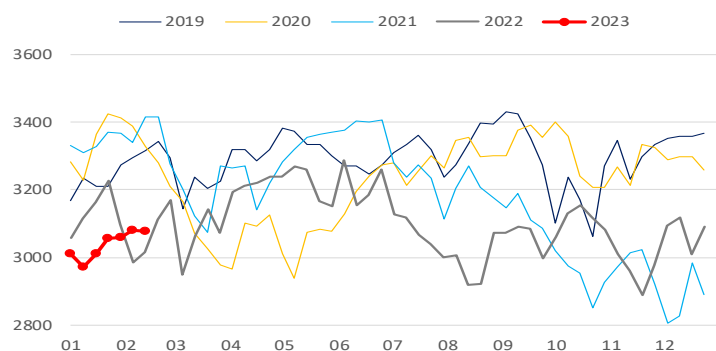
CHINESE STEEL CONSUMPTION—Hot-rolled Coil



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*			
	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					
Feb 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%
Feb 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	IOSI62	IRCN0034
IOPI58	IRCNQ002	IRCNQ005	IOSI65	IRCN0035
IOPI65	IRCNQ003	IRCNQ006		
IOPLI62	IRCN0036	IRCN0037		

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