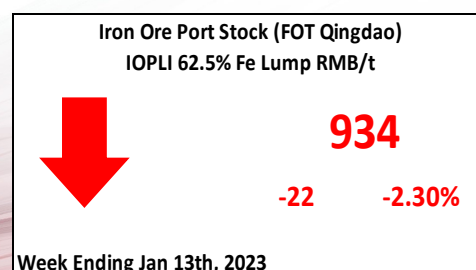
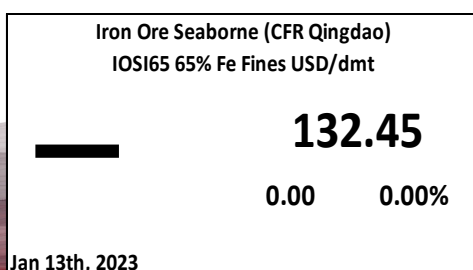
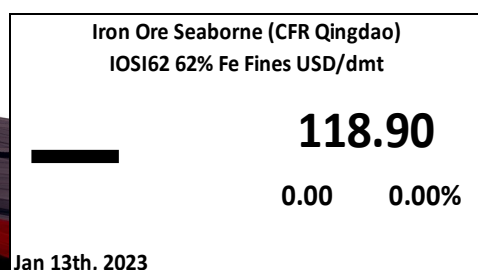
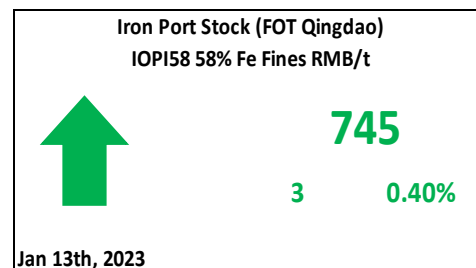
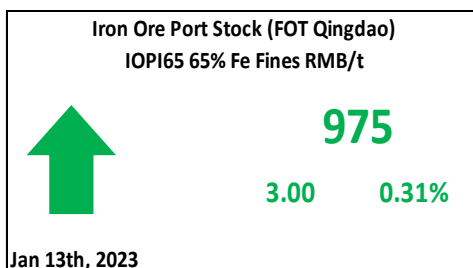
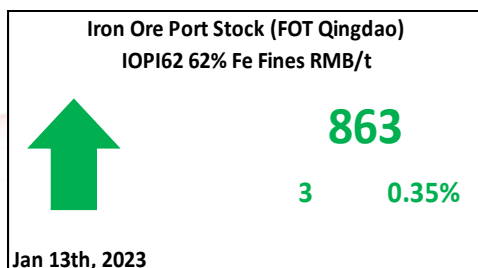


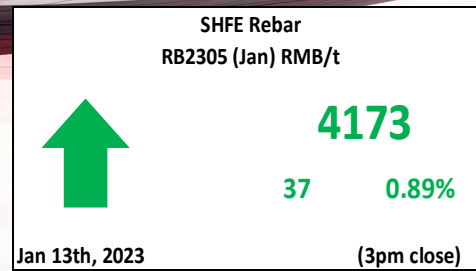
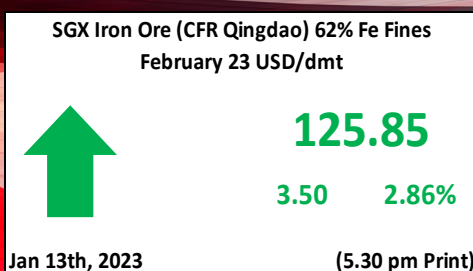
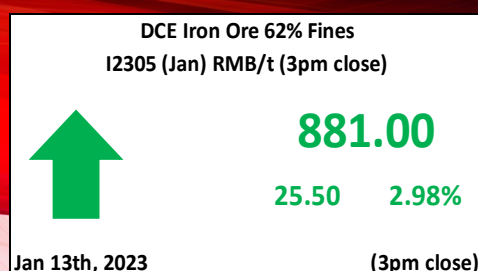


MMi Dashboard

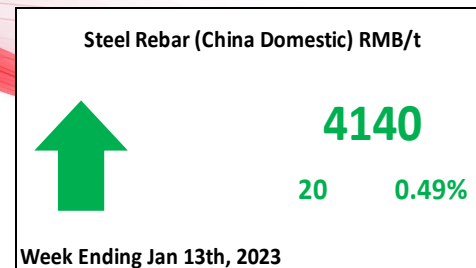
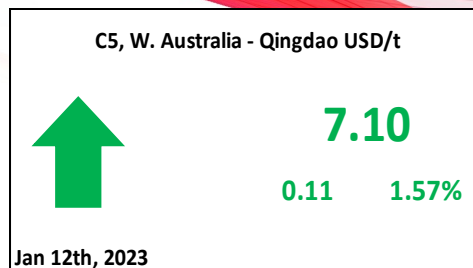
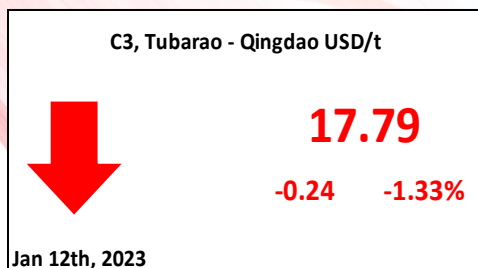
Iron Ore Price Indices



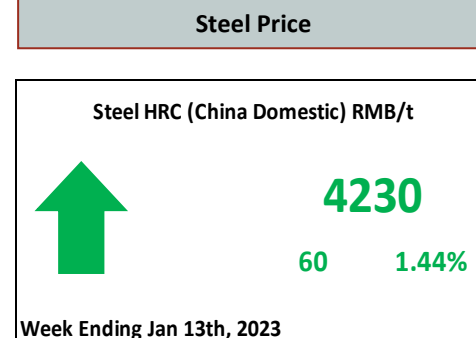
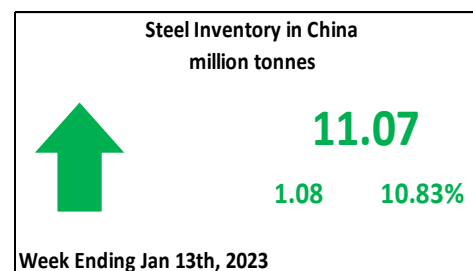
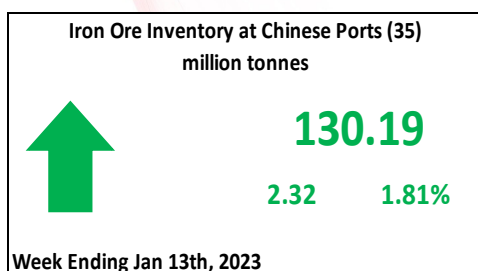
Exchange Traded Contracts



Freight Rates



Inventory Levels



IRON ORE PORT STOCK INDEX (IOPI)

Jan 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	863	3	0.3%	771	862	643	1083	119.36	1.11	0.9%	102.47	119.94	82.29	159.06
IOPI58	58% Fe Fines	745	3	0.4%	687	732	604	907	103.62	1.03	1.0%	91.83	102.13	77.29	134.15
IOPI65	65% Fe Fines	975	3	0.3%	898	1015	811	1265	135.37	1.20	0.9%	119.91	142.02	108.78	187.25

IRON ORE SEABORNE INDEX (IOSI)

MARKET COMMENTARY

Jan 13th, 2023		CFR Qingdao, USD/dry tonne							DCE iron ore futures rose by 3.4 % today, the main contract closed 881. The traders' willingness to ship is general. The steel mills are wait and see. The overall trading sentiment of the market is worse. PBF at Shandong port deal 860-872 yuan/mt, increase 10-29 yuan/mt; PBF at Tangshan port deal 872-875 yuan/mt, increase 11-14 yuan/mt. As of January 13, the inventory of 35 ports tracked by SMM totaled 130.19 million tons, up from 2320000 tons last week and down from 198.9 million tons last year. The average daily port dredging volume of imported ore in this period increased by 133000 tons to 3.144 million tons on a weekly basis. The price of imported ore was relatively strong this week, but speculative demand picked up and some market participants were still active. From the perspective of supply side, the port centralized unloading before the Spring Festival, and the arrival volume of China's main ports this week increased by 6.1881 million tons on a month-on-month basis, with an obvious increase. On the demand side, the average output of molten iron rebounded this Sunday, driving the volume of port dredging. In the future, the replenishment of steel mills is nearing the end, traders' willingness to trade may weaken, and the							
Index	Fe Content	Price	Change	Change %	MTD	YTD	Low ²	High ²								
IOSI62	62% Fe Fines	118.90	0.00	0.00%	103.25	122.05	83.90	159.45								
IOSI65	65% Fe Fines	132.45	0.00	0.00%	113.53	139.84	94.45	185.82								

IRON ORE PORT LUMP INDEX (IOPLI)

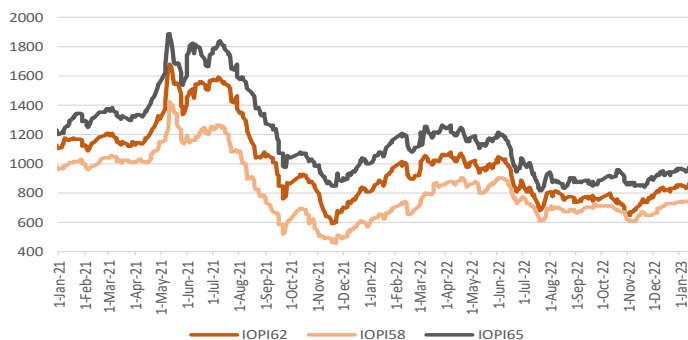
Week Ending Jan 13th, 2023		FOT Qingdao (inc. 13% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 13% VAT), USD/dry tonne ³						
Index	Fe Content	Price	W-o-W	Change %	MTD	YTD	Low ²	High ²	Price	W-o-W	Change %	MTD	YTD	Low ²	High ²
IOPLI62	62.5% Fe Lump	934	-22	-2.3%	884	1039	770	1405	123.57	-0.21	-0.17%	113.19	139.58	94.72	199.13

IRON ORE DOMESTIC CONCENTRATE SPOT PRICE ASSESSMENTS AND COMPOSITE INDEX

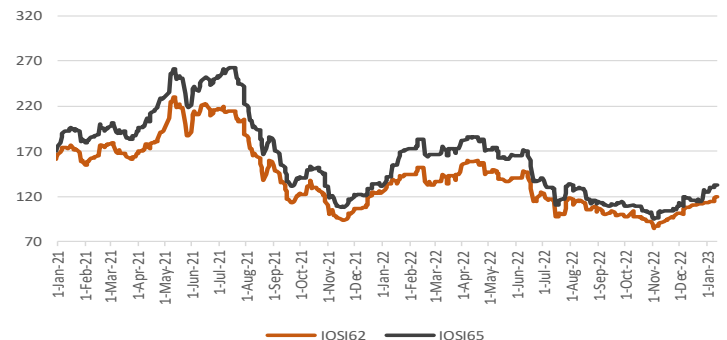
Week Ending Jan 13th, 2023				RMB/tonne (excluding tax) ³				USD/tonne (excluding tax) ³			
Province	Region	Product	Basis	This week	Change %	Low ²	High ²	This week	Change %	Low ²	High ²
Hebei	Hanxing	66% Fe Concentrate	Dry	1039	0.9%	779	1645	153.42	2.94%	110.31	255.69
Hebei	Qian'an	65% Fe Concentrate	Dry	1085	1.9%	780	1630	160.22	3.97%	110.51	251.57
Liaoning	Anshan	65% Fe Concentrate	Wet	760	1.3%	620	1310	112.23	3.41%	87.40	202.32
Shandong	Zibo	65% Fe Concentrate	Dry	1062	0.9%	800	1752	156.82	2.93%	117.19	272.32
Week Ending Jan 13th, 2023				This week	Change %	Low ²	High ²				
China Mines Concentrate Composite Index RMB/WT				932.40	1.58%	706.36	1511.22				

¹ Exchange rate applied: RMB/USD = 6.7522 ² Last 12 months³ Weekly exchange rate applied: RMB/USD = 6.77208

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

Jan 13th, 2023		FOT Qingdao (inc. 13% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 13% VAT), USD/dry tonne						
Index	Fe Content	September	October	November	December	MTD	QTD	YTD	September	October	November	December	MTD	QTD	YTD
IOPI62	62% Fe Fines	759	736	714	822	771	771	862	101.14	95.56	92.18	109.43	102.47	103.03	119.94
IOPI58	58% Fe Fines	697	683	635	711	687	686	732	93.56	89.34	82.39	95.17	91.83	92.23	102.13
IOPI65	65% Fe Fines	875	918	865	935	898	901	1015	117.19	120.08	112.37	124.90	119.91	120.98	142.02

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

FREIGHT RATES

Jan 13th, 2023		CFR Qingdao, USD/dry tonne							Jan 12th, 2023						
Index	Fe Content	September	October	November	December	MTD	QTD	YTD	FREIGHT RATES - DRY BULK US\$/wet tonne						
Index	Fe Content	September	October	November	December	MTD	QTD	YTD	Route	Designation	Change	Change %	Low ²	High ²	
IOSI62	62% Fe Fines	101.12	95.80	93.05	108.92	103.25	104.27	122.05	W. Australia - Qingdao	C5	7.10	0.11	1.57%	3.57	16.77
IOSI65	65% Fe Fines	111.57	106.70	102.40	116.83	113.53	115.19	139.84	Tubarao - Qingdao	C3	17.79	-0.24	-1.33%	6.70	36.40

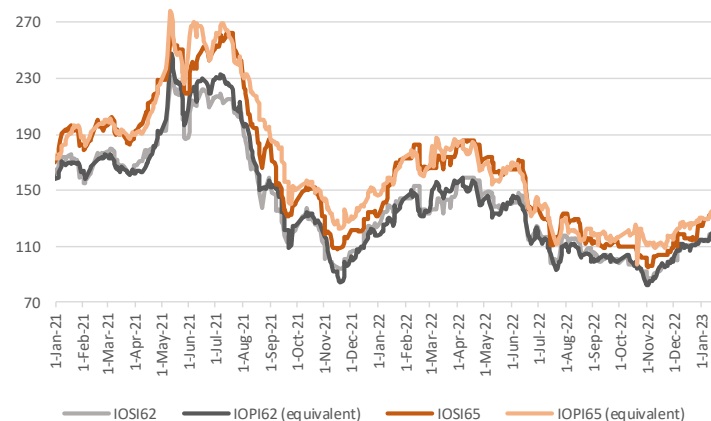
IRON ORE PORT LUMP INDEX MONTHLY, QUARTERLY AND YEAR-TO-DATE AVERAGES

Week Ending Jan 13th, 2023		FOT Qingdao (inc. 13% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 13% VAT), USD/dry tonne ¹						
Index	Fe Content	September	October	November	December	MTD	QTD	YTD	October	October	November	December	MTD	QTD	YTD
IOPLI62	62.5% Fe Lump	873	877	811	922	884	888	1039	112.75	109.81	100.83	117.06	113.19	114.47	139.58

IRON ORE INDEX PREMIUMS/DISCOUNTS

Jan 13th, 2023		PORT STOCK INDEX (RMB/WT)		Jan 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	-118	-13.67%	IOSI65	65% Fe Fines	13.55	11.40%
IOPI65	65% Fe Fines	112	12.98%				

IRON ORE INDEX COMPARISONS (USD/DMT)



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



IRON ORE BRAND SPOT PRICE ASSESSMENTS

Jan 13th, 2023				Jan 13th, 2023			
PORT STOCK INDEX (RMB/WT)				SEABORNE INDEX (USD/DMT)			
	Price	Change	Diff to IOPI62		Price	Change	Diff to IOSI62
Roy Hill	806	3	-57	Roy Hill	114.40	0.00	-4.50
SIMEC Fines	735	3	-128	SIMEC Fines	110.90	0.00	-8.00
PB Fines	831	3	-32	PB Fines	115.15	0.00	-3.75
Newman Fines	832	3	-31	Newman Fines	118.05	0.00	-0.85
MAC Fines	813	3	-50	MAC Fines	115.15	0.00	-3.75
Jimblebar Blended Fines	728	3	-135	Jimblebar Blended Fines	107.55	0.00	-11.35
Carajas Fines	1043	3	180	Carajas Fines	148.45	0.00	29.55
Brazilian SSF	827	3	-36	Brazilian SSF	122.65	0.00	3.75
Brazilian Blend Fines	845	3	-18	Brazilian Blend Fines	124.30	0.00	5.40
RTX Fines	746	3	-117	RTX Fines	108.80	0.00	-10.10
West Pilbara Fines	774	3	-89	West Pilbara Fines	113.15	0.00	-5.75

Jan 13th, 2023			
PORT STOCK INDEX (RMB/WT)			
	Price	Change	Diff to IOPI58
SSF	745	3	0
FMG Blended Fines	754	3	9
Robe River	755	3	10
Western Fines	758	3	13
Atlas Fines	752	3	7
Yandi	738	3	-7

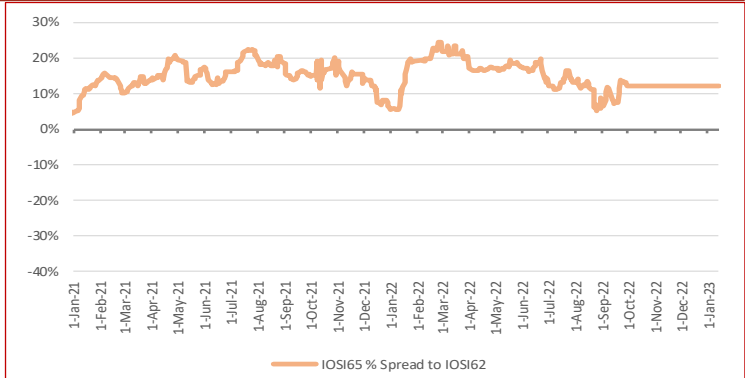
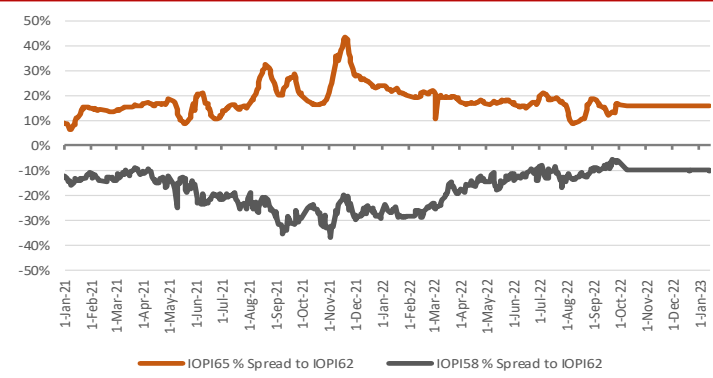
IRON ORE INDEX NORMALISATION DIFFERENTIALS

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%	17.00	-2.00	1% Fe	High Grade Fe 60 - 63%	0.75	0.00
	High Grade Fe 63 - 64%	31.00	0.00		High Grade Fe 63 - 64%	1.00	-0.25
	High Grade Fe 64 - 65%	31.00	0.00		High Grade Fe 64 - 65%	1.00	-0.25
	High Grade Fe 65 - 65.5%	31.00	0.00		High Grade Fe 65 - 65.5%	1.00	-0.25
1% Alumina	Low Grade Fe	31.00	1.00	1% Alumina	High Fe Grade Al <2.25%	1.75	-0.50
	High Fe Grade Al <2.25%	122.00	3.00		High Fe Grade Al 2.25-4%	0.25	0.00
	High Fe Grade Al 2.25-4%	24.00	-5.00				
	Low Fe Grade Al <2.25%	8.00	2.00				
1% Silica	Low Fe Grade Al 2.25-4%	46.00	5.00	1% Silica	High Fe Grade Si <4%	0.75	0.00
	High Fe Grade Si <4%	38.00	0.00		High Fe Grade Si 4 - 6.5%	0.50	0.25
	High Fe Grade Si 4-6.5%	34.00	2.00				
0.01% Phosphorus	Low Fe Grade	35.00	0.00	0.01% Phosphorus	High Fe Grade 0.09%<P<0.115%	1.50	0.25
	High Fe Grade 0.09%<P<0.115%	13.00	-1.00		High Fe Grade 0.115%<P<0.15%	5.25	0.00
	High Fe Grade 0.115%<P<0.15%	13.00	-1.00		Low Fe Grade 0.09<P<0.1%	5.00	0.00
	Low Fe Grade 0.09<P<0.1%	5.00	0.00				

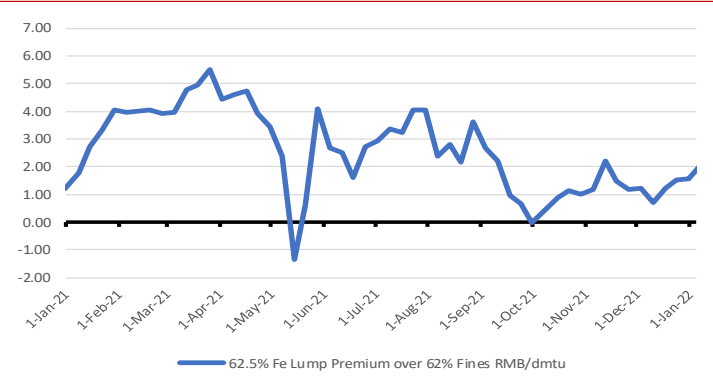
Port Stock Price Differentials to Qingdao Port for PB Fines (RMB/wet tonne)

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	-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

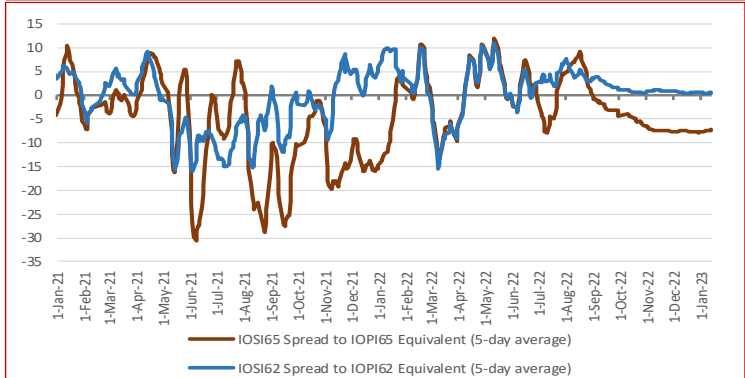
IRON ORE INDEX PREMIUMS/DISCOUNTS



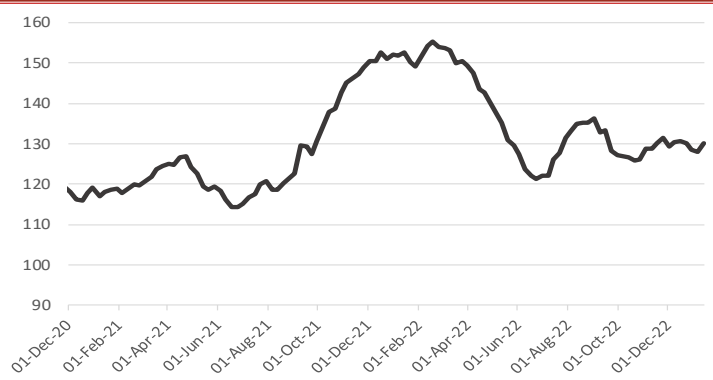
WEEKLY IRON ORE PORT STOCK LUMP PREMIUM (RMB/DMTU)



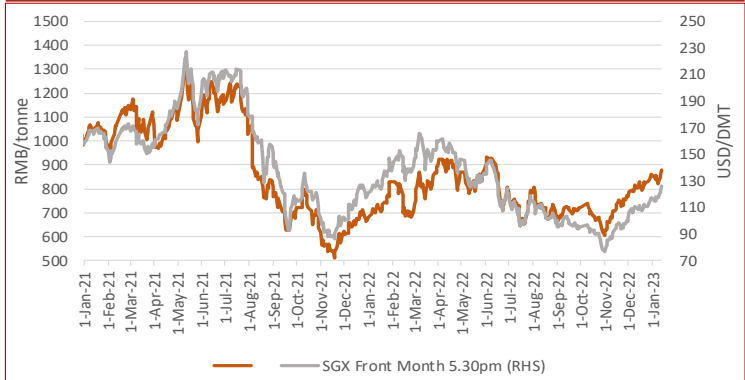
IRON ORE SEABORNE TO PORT STOCK PRICE SPREADS (USD/DMT)



TOTAL IRON ORE INVENTORIES AT CHINA PORTS (MILLION TONNES)



FUTURE TRADING—FRONT MONTH CLOSING PRICE



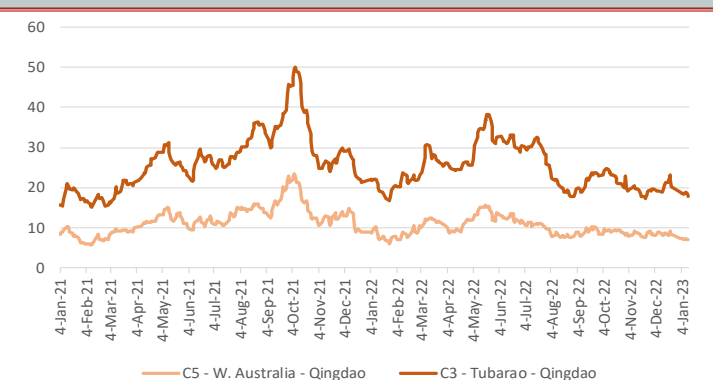
IRON ORE PORT INVENTORIES (MILLION TONNES)

Week Ending Jan 13th, 2023				
Province	This week	Change %	Low ²	High ²
Jingtang	11.91	-2.93%	9.84	19.20
Qingdao	25.05	-1.92%	9.41	26.24
Caofeidian	11.67	5.14%	9.05	16.29
Tianjin	10.73	2.78%	7.14	12.97
Rizhao	17.83	4.03%	9.44	19.26
Total (35 Ports)	130.19	1.81%	98.80	155.39

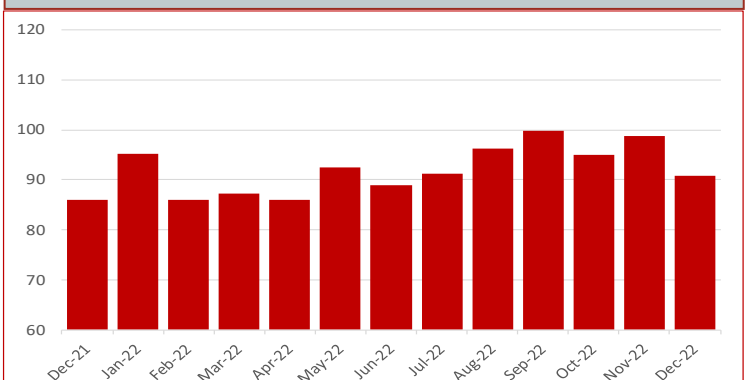
IRON ORE FUTURES CONTRACTS

Closing Date	DCE (RMB/WMT)			SGX (USD/DMT)		
	Jan 13th, 3pm close			Jan 13th, 5:30pm		
Contract	12305	Change	Change %	Feb. 23	Change	Change %
Closing Price	881.00	25.50	2.98%	125.85	3.50	2.86%
Vol traded ('000 lots)	74.85	10.88	17.00%	6.82	3.12	84.09%
Open positions ('000 lots)	95.33	2.35	2.52%	27.71	0.34	1.26%
Day Low	854.0	10.50	1.24%	121.90	1.40	1.16%
Day High	883.0	21.50	2.50%	126.40	3.15	2.56%

DRY BULK FREIGHT RATES (USD/MT)



TOTAL CHINA IRON ORE IMPORT VOLUMES (MILLION TONNES)



STEEL SPOT MARKET PRICES—CHINA

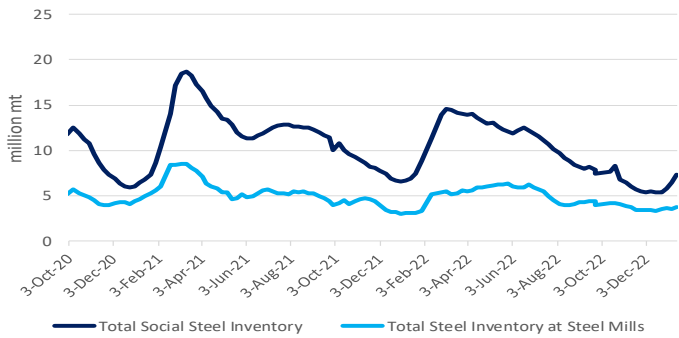
Product	2023/1/13	Change	Change %
ReBar HRB400 φ18mm	4,140	20	0.49%
Wirerod Q300 φ6.5mm	4,400	20	0.46%
HRC Q235/SS400 5.5mm*1500*C	4,230	60	1.44%
CRC SPCC/ST12 1.0mm*1250*2500	4,570	20	0.44%
Medium & Heavy Plate Q235B 20mm	4,210	60	1.45%
GI ST02Z 1.0mm*1000*C	4,780	0	0.00%
Colour Coated Plate	7,500	-30	-0.40%

CHINESE STEEL MILL PROFITABILITY

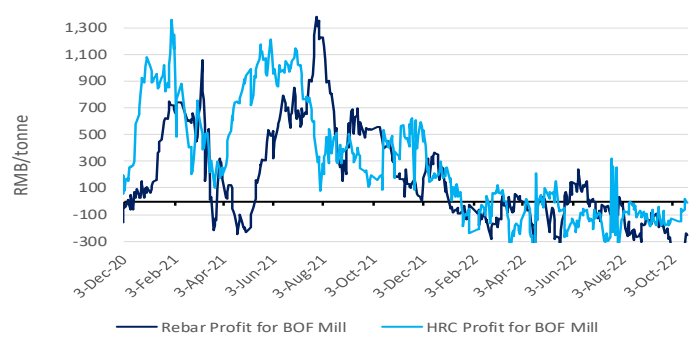
SMM Tracking of Steel Mill P&L - Rebar and Hot-rolled Coil (RMB/tonne)			
Category	Price	Change (WoW)	Note
MMi (Fe 62%), USD/mt excluding tax	118.90	5	Mmi CFR Equivalent index for 1st Feb
Coke	2,960	-110	2nd grade met coke, Tangshan, incl. tax
Steel Scrap	3,120	0	steel scrap (6mm) in Zhangjiagang, excl. tax
Billet Cost	3,756	9	Q234, incl. tax
Rebar cost - Blast furnace	4,278	10	calculated based on theoretical weight, incl. tax
Rebar profit - Blast furnace	-78	100	based on Shanghai prices, incl. tax
Hot-rolled coil cost - Blast furnace	4,233	7	based on actual weight, incl. tax
Hot-rolled coil profit - Blast furnace	-13	43	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

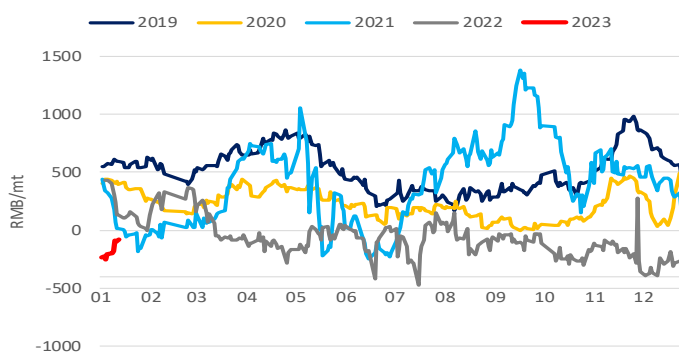
CHINESE STEEL INVENTORIES



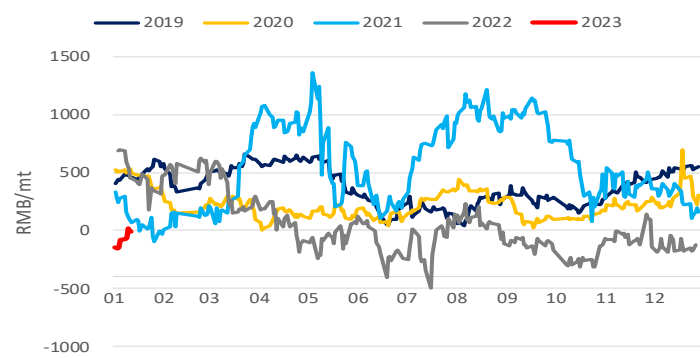
CHINESE STEEL MILL PROFITABILITY



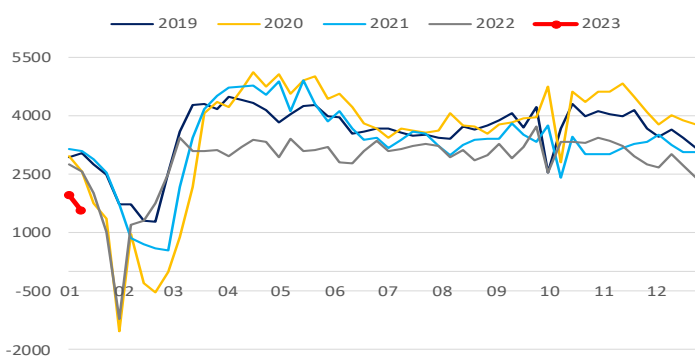
CHINESE STEEL MILL PROFITABILITY—Rebar



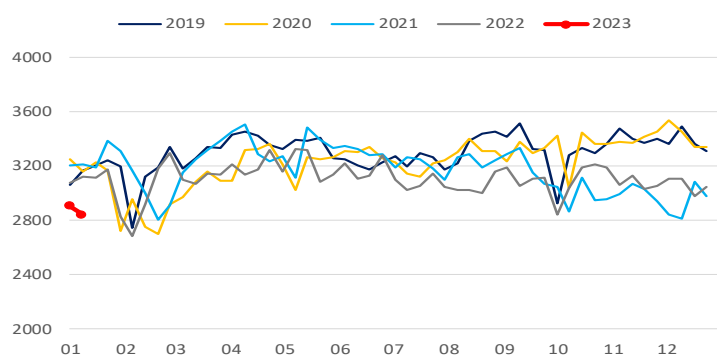
CHINESE STEEL MILL PROFITABILITY—Hot-rolled Coil



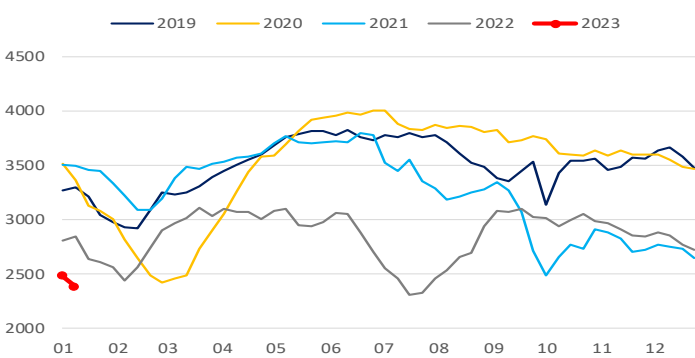
CHINESE STEEL CONSUMPTION—Rebar



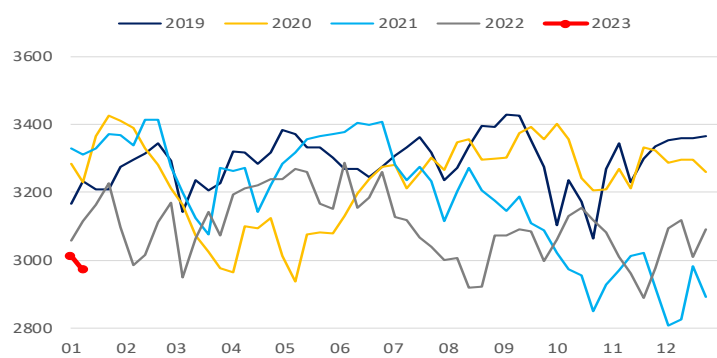
CHINESE STEEL CONSUMPTION—Hot-rolled Coil



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%	
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	0	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					
Jan 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%
Jan 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	IRCN0034	
IOPI58	IRCNQ002		IRCNQ005	IRCN0035	
IOPI65	IRCNQ003		IRCNQ006		
IOPLI62	IRCN0036		IRCN0037		

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