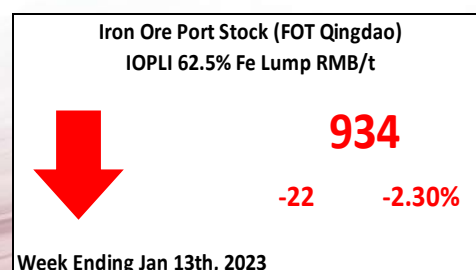
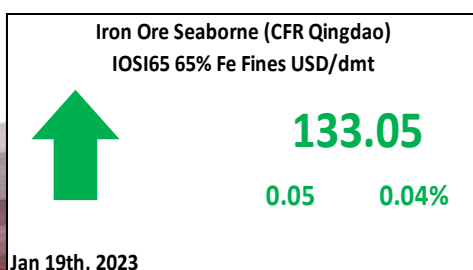
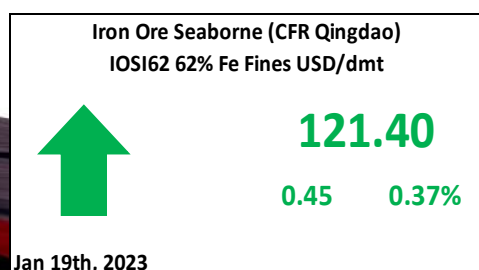
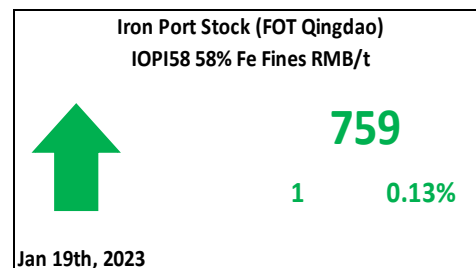
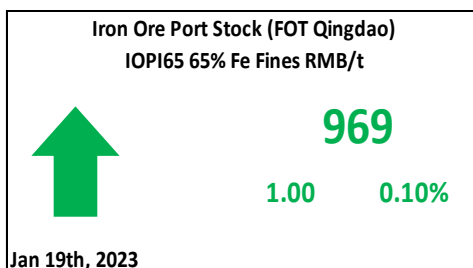
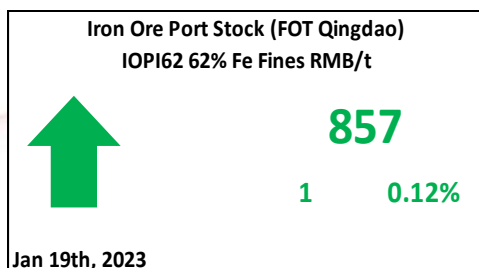


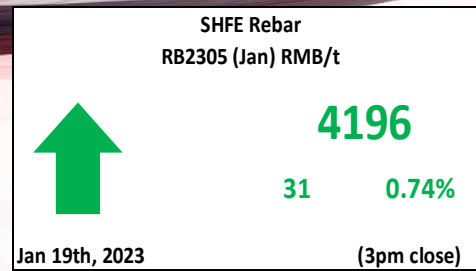
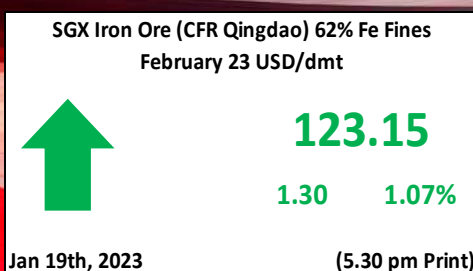
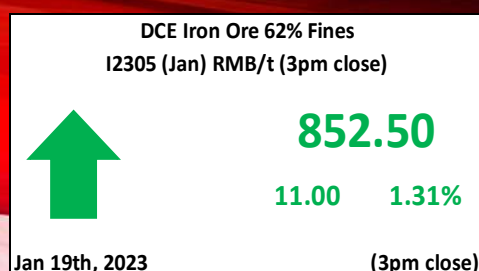


MMi Dashboard

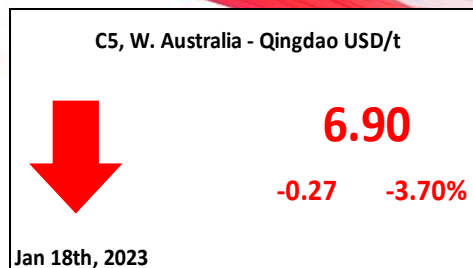
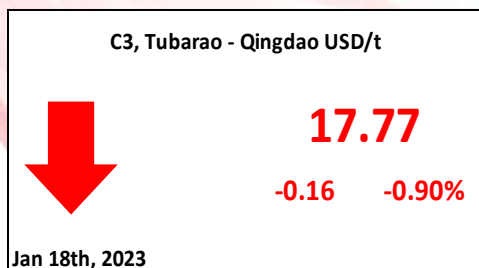
Iron Ore Price Indices



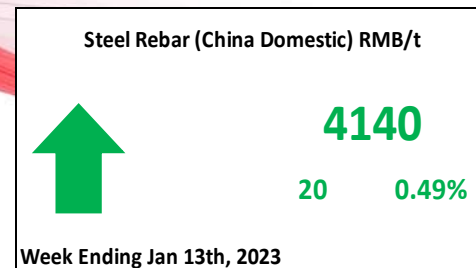
Exchange Traded Contracts



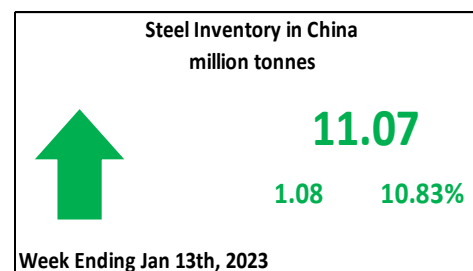
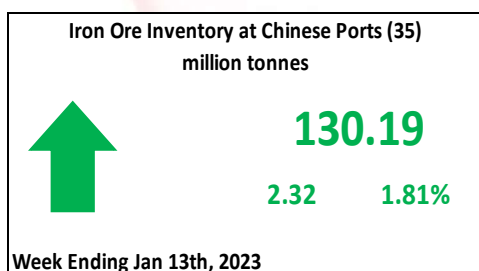
Freight Rates



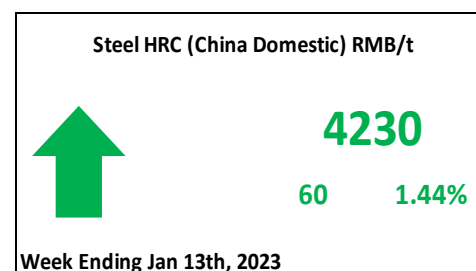
Steel Price



Inventory Levels



Steel Price



IRON ORE PORT STOCK INDEX (IOPI)

Jan 19th, 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	857	1	0.1%	774	862	643	1083	117.83	0.01	0.0%	102.98	119.90	82.29	159.06
IOPI58	58% Fe Fines	759	1	0.1%	689	732	604	907	105.05	0.04	0.0%	92.24	102.16	77.29	134.15
IOPI65	65% Fe Fines	969	1	0.1%	900	1014	811	1265	133.75	0.00	0.0%	120.36	141.88	108.78	187.25

IRON ORE SEABORNE INDEX (IOSI)

MARKET COMMENTARY

Jan 19th, 2023		CFR Qingdao, USD/dry tonne						
Index	Fe Content	Price	Change	Change %	MTD	YTD	Low ²	High ²
IOSI62	62% Fe Fines	121.40	0.45	0.37%	103.84	122.03	83.90	159.45
IOSI65	65% Fe Fines	133.05	0.05	0.04%	114.20	139.73	94.45	185.82

DCE iron ore futures rose by 1.55% today, the main contract closed 852.5. The traders' willingness to ship is less. The steel mills are wait and see. The overall trading sentiment of the market is worse. PBF at Shandong port deal 855 yuan/mt, increase 11-15 yuan/mt. According to the inventory data of ten ports tracked by SMM, the total inventory of ten ports decreased by 0.8% to 89.21 million tons this week. In terms of varieties, except for lump ore, the other three types of ports have declined slightly. As the Spring Festival approaches, the market procurement demand has been greatly reduced, and there is no obvious contradiction in the fundamentals. It is expected that the iron ore price will fluctuate in the short term.

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

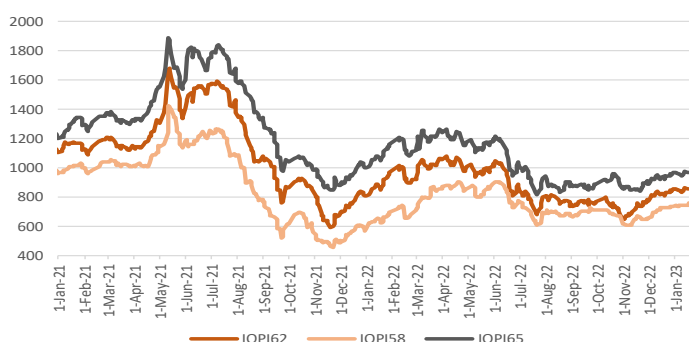
IRON ORE DOMESTIC CONCENTRATE SPOT PRICE ASSESSMENTS AND COMPOSITE INDEX

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 months
³ 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 19th, 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	774	773	862	101.14	95.56	92.18	109.43	102.98	103.44	119.90
IOPI58	58% Fe Fines	697	683	635	711	689	688	732	93.56	89.34	82.39	95.17	92.24	92.57	102.16
IOPI65	65% Fe Fines	875	918	865	935	900	903	1014	117.19	120.08	112.37	124.90	120.36	121.33	141.88

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

FREIGHT RATES

Jan 19th, 2023		CFR Qingdao, USD/dry tonne							Jan 18th, 2023						
Index	Fe Content	September	October	November	December	MTD	QTD	YTD	FREIGHT RATES - DRY BULK US\$/wet tonne						
IOSI62	62% Fe Fines	101.12	95.80	93.05	108.92	103.84	104.75	122.03	Route	Designation	Change	Change %	Low ²	High ²	
IOSI65	65% Fe Fines	111.57	106.70	102.40	116.83	114.20	115.71	139.73	W. Australia - Qingdao	C5	6.90	-0.27	-3.70%	3.57	16.77
									Tubarao - Qingdao	C3	17.77	-0.16	-0.90%	6.70	36.40

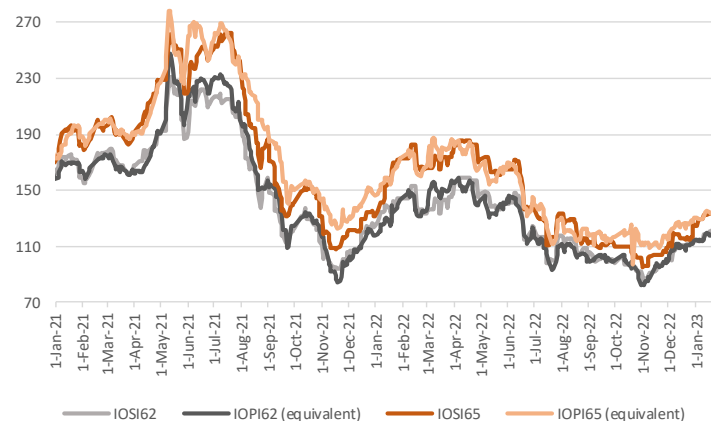
IRON ORE PORT LUMP INDEX MONTHLY, QUARTERLY AND YEAR-TO-DATE AVERAGES

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 19th, 2023		PORT STOCK INDEX (RMB/WT)		Jan 19th, 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	-98	-11.44%	IOSI65	65% Fe Fines	11.65	9.60%
IOPI65	65% Fe Fines	112	13.07%				

IRON ORE INDEX COMPARISONS (USD/DMT)



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



IRON ORE BRAND SPOT PRICE ASSESSMENTS

Jan 19th, 2023				Jan 19th, 2023			
PORT STOCK INDEX (RMB/WT)				SEABORNE INDEX (USD/DMT)			
	Price	Change	Diff to IOPI62		Price	Change	Diff to IOSI62
Roy Hill	800	1	-57	Roy Hill	116.90	0.45	-4.50
SIMEC Fines	729	1	-128	SIMEC Fines	113.40	0.45	-8.00
PB Fines	825	1	-32	PB Fines	117.65	0.45	-3.75
Newman Fines	826	1	-31	Newman Fines	120.55	0.45	-0.85
MAC Fines	807	1	-50	MAC Fines	117.65	0.45	-3.75
Jimblebar Blended Fines	722	1	-135	Jimblebar Blended Fines	110.05	0.45	-11.35
Carajas Fines	1037	1	180	Carajas Fines	150.95	0.45	29.55
Brazilian SSF	821	1	-36	Brazilian SSF	125.15	0.45	3.75
Brazilian Blend Fines	839	1	-18	Brazilian Blend Fines	126.80	0.45	5.40
RTX Fines	740	1	-117	RTX Fines	111.30	0.45	-10.10
West Pilbara Fines	768	1	-89	West Pilbara Fines	115.65	0.45	-5.75

Jan 19th, 2023			
PORT STOCK INDEX (RMB/WT)			
	Price	Change	Diff to IOPI58
SSF	759	1	0
FMG Blended Fines	768	1	9
Robe River	769	1	10
Western Fines	772	1	13
Atlas Fines	766	1	7
Yandi	752	1	-7

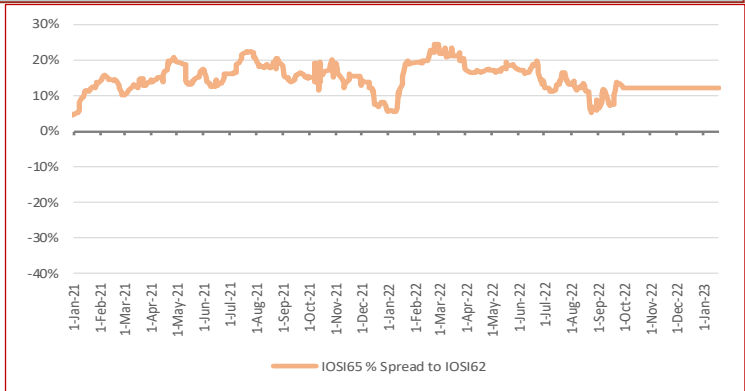
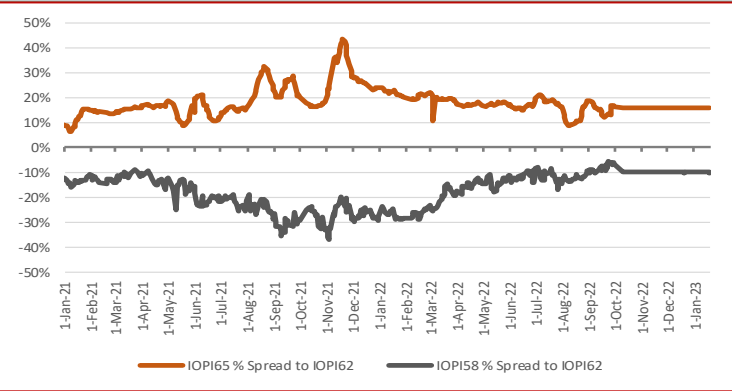
IRON ORE INDEX NORMALISATION DIFFERENTIALS

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%	6.00	-4.00	1% Fe	High Grade Fe 60 - 63%	2.00	0.50
	High Grade Fe 63 - 64%	37.00	5.00		High Grade Fe 63 - 64%	2.50	0.50
	High Grade Fe 64 - 65%	37.00	5.00		High Grade Fe 64 - 65%	2.50	0.50
	High Grade Fe 65 - 65.5%	37.00	5.00		High Grade Fe 65 - 65.5%	2.50	0.50
1% Alumina	Low Grade Fe	30.00	-1.00	1% Alumina	High Fe Grade Al <2.25%	2.25	0.50
	High Fe Grade Al <2.25%	110.00	-7.00		High Fe Grade Al 2.25-4%	0.50	0.00
	High Fe Grade Al 2.25-4%	5.00	-5.00				
	Low Fe Grade Al <2.25%	26.00	5.00				
1% Silica	Low Fe Grade Al 2.25-4%	41.00	-4.00	1% Silica	High Fe Grade Si <4%	2.50	0.50
	High Fe Grade Si <4%	32.00	-3.00		High Fe Grade Si 4 - 6.5%	1.50	0.00
0.01% Phosphorus	High Fe Grade Si 4-6.5%	40.00	-4.00	0.01% Phosphorus	High Fe Grade 0.09%<P<0.115%	2.75	0.25
	Low Fe Grade	30.00	0.00		High Fe Grade 0.115%<P<0.15%	4.75	-0.25
	High Fe Grade 0.09%<P<0.115%	10.00	-1.00		Low Fe Grade 0.09%<P<0.1%	5.00	0.00

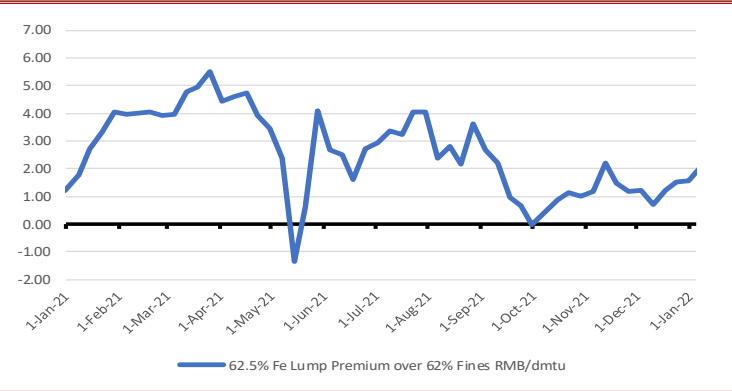
Port Stock Price Differentials to Qingdao Port for PB Fines (RMB/wet tonne)

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	-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

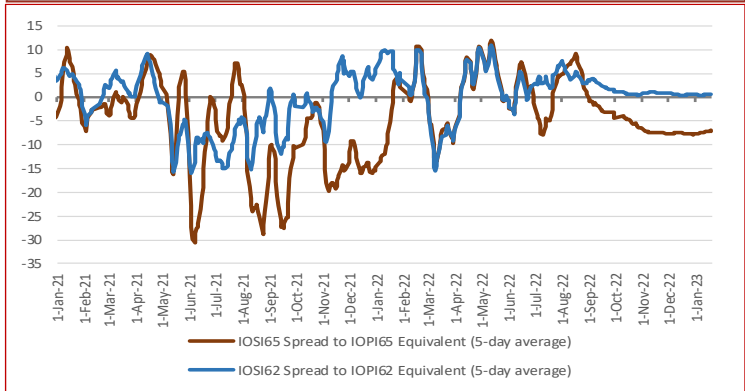
IRON ORE INDEX PREMIUMS/DISCOUNTS



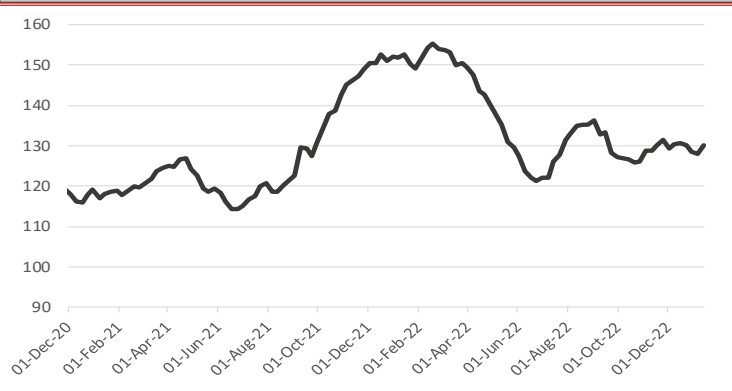
WEEKLY IRON ORE PORT STOCK LUMP PREMIUM (RMB/DMTU)



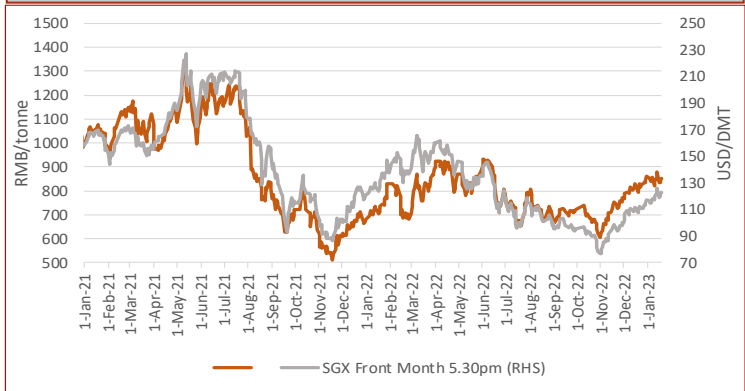
IRON ORE SEABORNE TO PORT STOCK PRICE SPREADS (USD/DMT)



TOTAL IRON ORE INVENTORIES AT CHINA PORTS (MILLION TONNES)



FUTURE TRADING—FRONT MONTH CLOSING PRICE



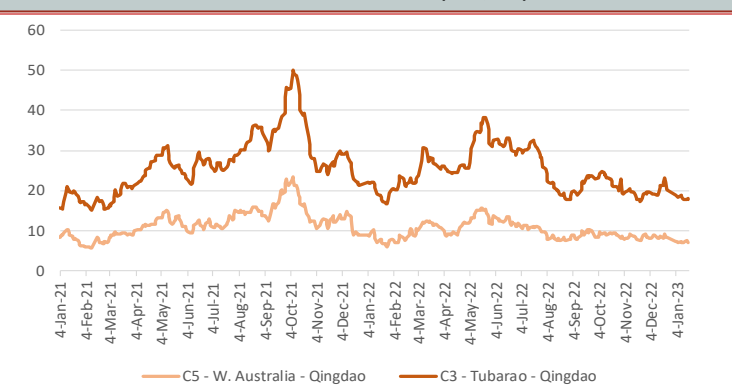
IRON ORE PORT INVENTORIES (MILLION TONNES)

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

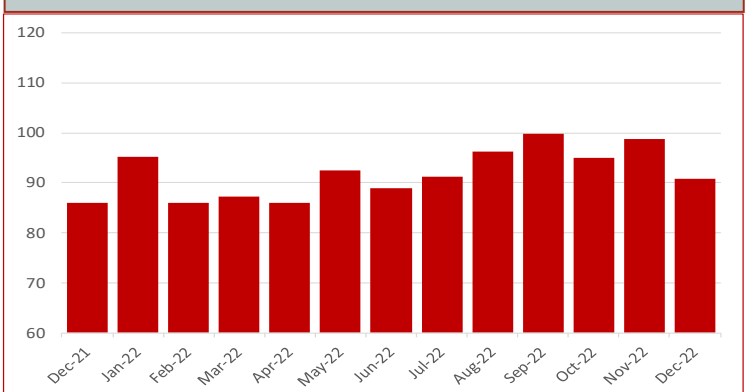
IRON ORE FUTURES CONTRACTS

Closing Date	DCE (RMB/WMT)			SGX (USD/DMT)		
	Jan 19th, 3pm close			Jan 19th, 5:30pm		
Contract	12305	Change	Change %	Feb. 23	Change	Change %
Closing Price	852.50	11.00	1.31%	123.15	1.30	1.07%
Vol traded ('000 lots)	61.70	-0.50	-0.81%	5.25	0.83	18.66%
Open positions ('000 lots)	80.63	-2.67	-3.20%	30.90	-0.61	-1.94%
Day Low	842.0	10.50	1.26%	122.00	1.95	1.62%
Day High	859.5	11.00	1.30%	124.30	1.55	1.26%

DRY BULK FREIGHT RATES (USD/MT)



TOTAL CHINA IRON ORE IMPORT VOLUMES (MILLION TONNES)



STEEL SPOT MARKET PRICES—CHINA

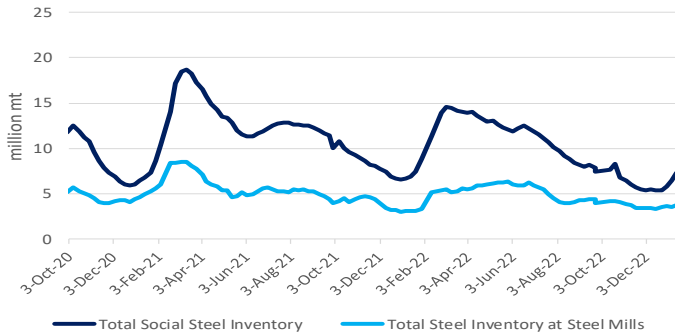
Steel Spot Market RMB/tonne			
Product	2023/1/13	Change	Change %
ReBar HRB400 φ18mm	4,140	20	0.49%
Wirerod Q300 φ6.5mm	4,400	20	0.46%
HRC Q235/SS400 5.5mm*1500*C	4,230	60	1.44%
CRC SPCC/ST12 1.0mm*1250*2500	4,570	20	0.44%
Medium & Heavy Plate Q235B 20mm	4,210	60	1.45%
GI ST02Z 1.0mm*1000*C	4,780	0	0.00%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

CHINESE STEEL MILL PROFITABILITY

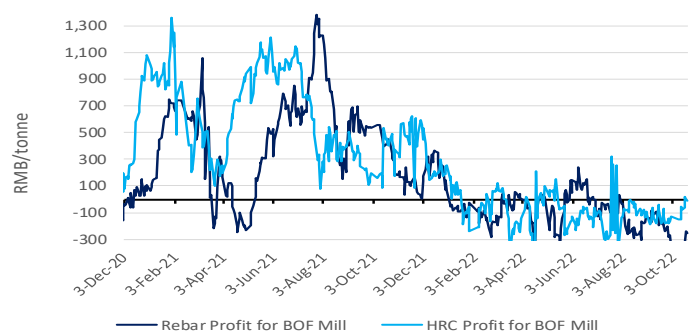
SMM Tracking of Steel Mill P&L - Rebar and Hot-rolled Coil (RMB/tonne)			
Category	Price	Change (WoW)	Note
MMi (Fe 62%), USD/mt excluding tax	118.90	5	Mmi CFR Equivalent index for 1st Feb
Coke	2,960	-110	2nd grade met coke, Tangshan, incl. tax
Steel Scrap	3,120	0	steel scrap (6mm) in Zhangjiagang, ext. 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

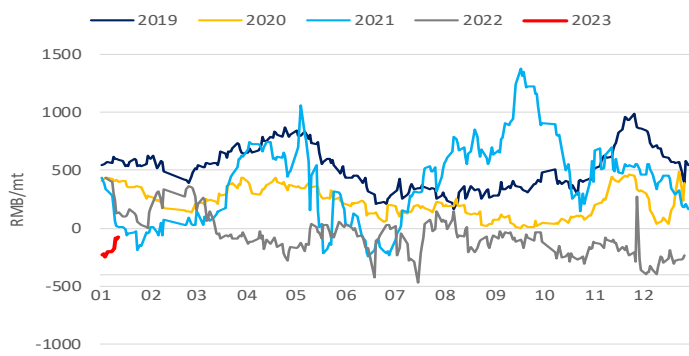
CHINESE STEEL INVENTORIES



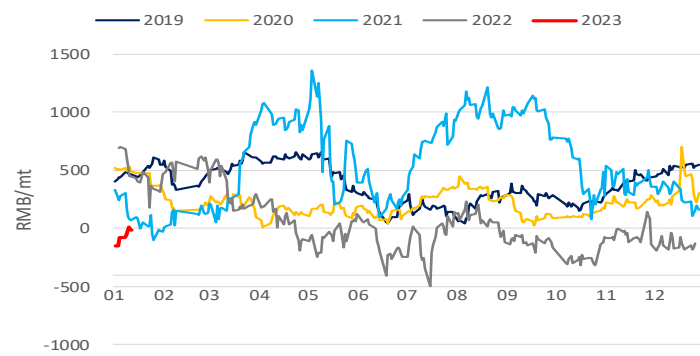
CHINESE STEEL MILL PROFITABILITY



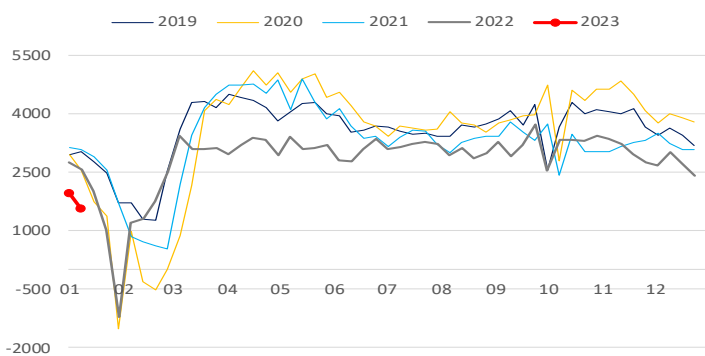
CHINESE STEEL MILL PROFITABILITY—Rebar



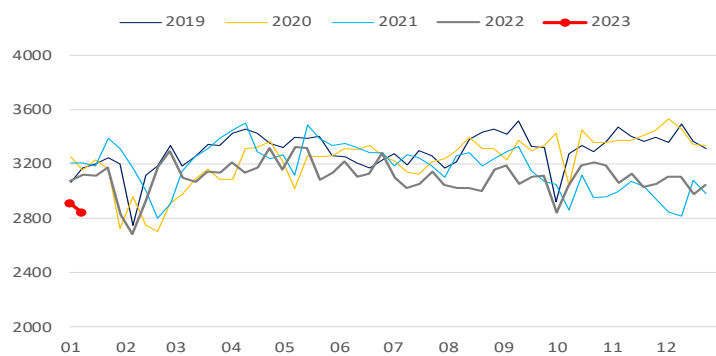
CHINESE STEEL MILL PROFITABILITY—Hot-rolled Coil



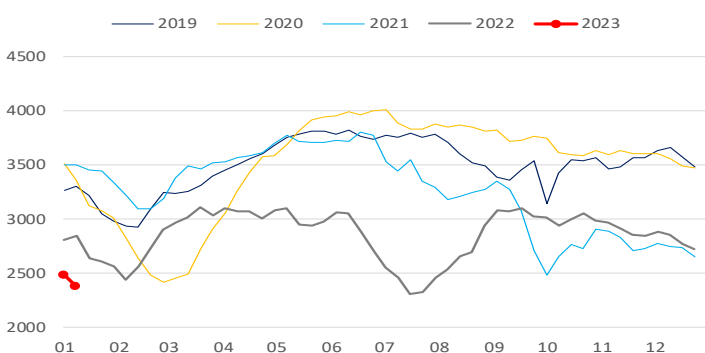
CHINESE STEEL CONSUMPTION—Rebar



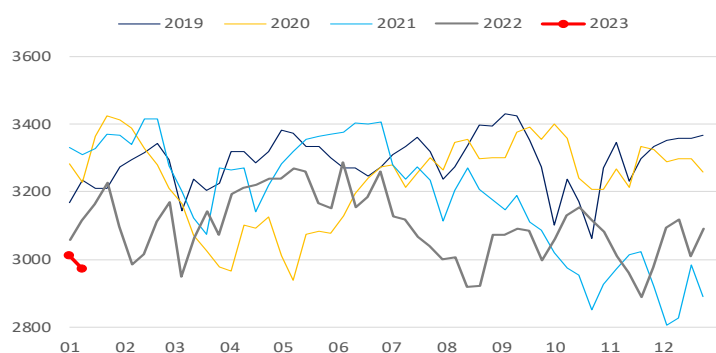
CHINESE STEEL CONSUMPTION—Hot-rolled Coil



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 19th, 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 19th, 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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