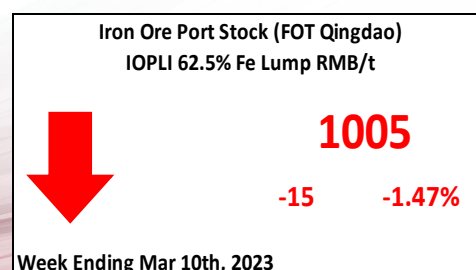
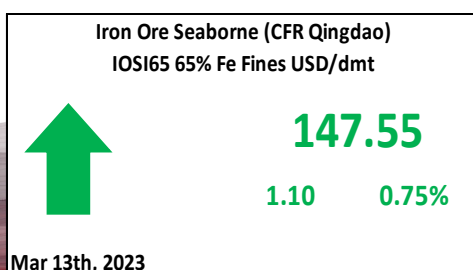
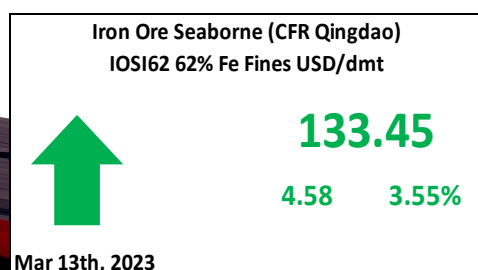
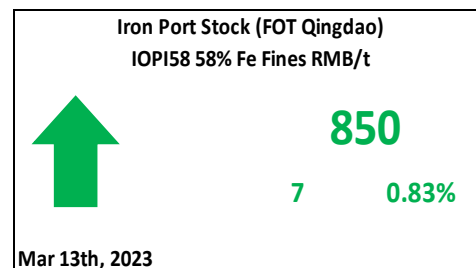
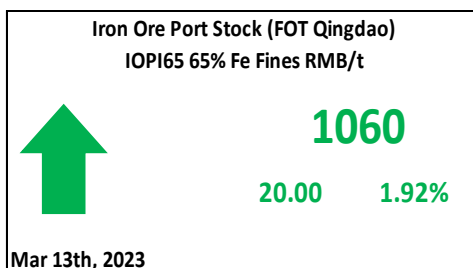
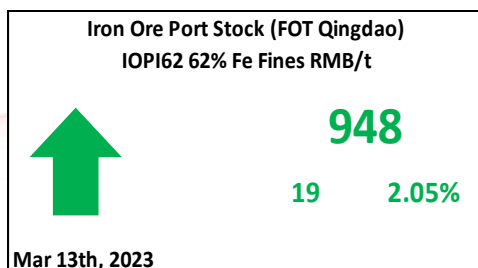


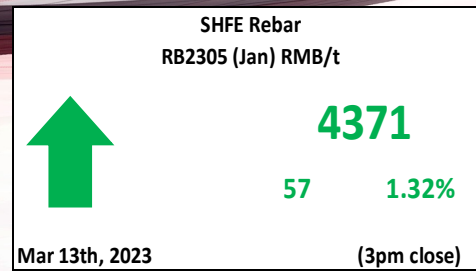
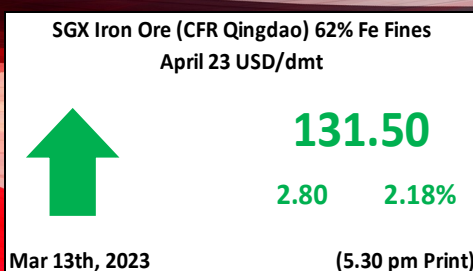
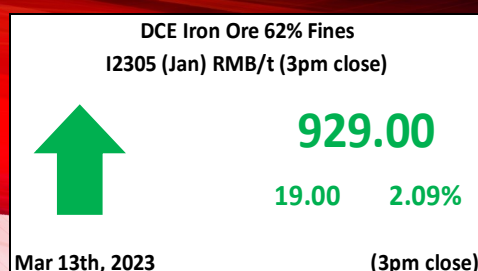


## MMi Dashboard

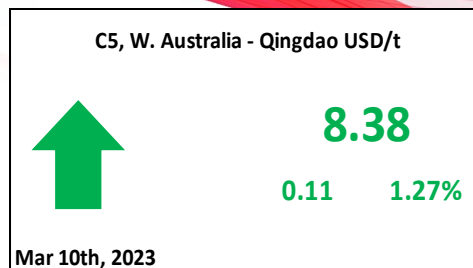
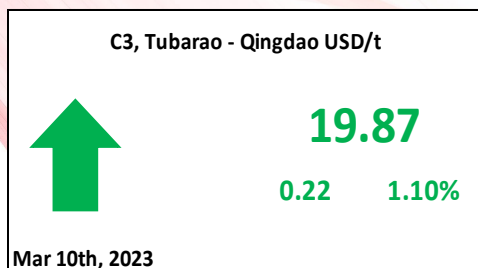
## Iron Ore Price Indices



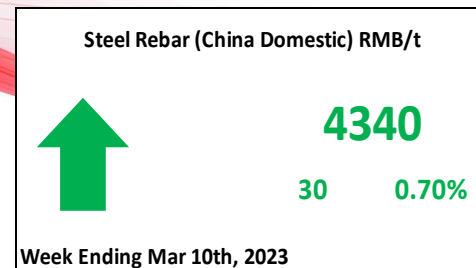
## Exchange Traded Contracts



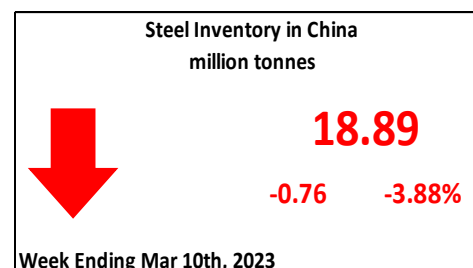
## Freight Rates



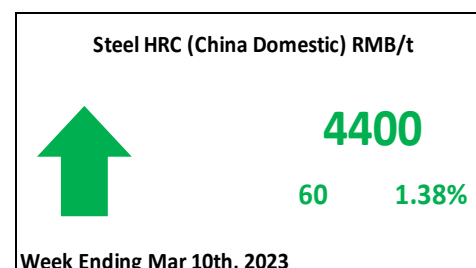
## Steel Price



## Inventory Levels



## Steel Price



## IRON ORE PORT STOCK INDEX (IOPI)

Mar 13th, 2023		FOT Qingdao (inc. 13% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 13% VAT), USD/dry tonne <sup>1</sup>						
Index	Fe Content	Price	Change	Change %	MTD	YTD	Low <sup>2</sup>	High <sup>2</sup>	Price	Change	Change %	MTD	YTD	Low <sup>2</sup>	High <sup>2</sup>
IOPI62	62% Fe Fines	948	19	2.0%	869	880	858	892	127.56	3.14	2.5%	120.06	120.58	117.93	122.93
IOPI58	58% Fe Fines	850	7	0.8%	813	798	761	793	115.23	1.44	1.3%	113.29	110.17	105.29	110.04
IOPI65	65% Fe Fines	1060	20	1.9%	981	992	970	1003	143.09	3.34	2.4%	136.05	136.43	133.84	138.73

## IRON ORE SEABORNE INDEX (IOSI)

## MARKET COMMENTARY

Mar 13th, 2023		CFR Qingdao, USD/dry tonne						
Index	Fe Content	Price	Change	Change %	MTD	YTD	Low <sup>2</sup>	High <sup>2</sup>
IOSI62	62% Fe Fines	133.45	4.58	3.55%	109.39	122.65	83.90	159.45
IOSI65	65% Fe Fines	147.55	1.10	0.75%	120.09	139.63	94.45	185.82

DCE iron ore futures rose by 0.49% today, the main contract closed at 929. The traders' willingness to ship is more. The steel mills are more active to purchase. The overall trading sentiment of the market is better. PBF at Shandong port deal 930-935 yuan/mt, PBF at Tangshan port deal 947-950 yuan/mt, increase 2-5 yuan/mt. According to the shipping data tracked by SMM, the total global iron ore shipments this week increased slightly by 1.9% to 31.45 million tons, of which Australia shipments decreased slightly and Brazil shipments rebounded significantly. This week, the arrival volume of China's major ports also increased significantly. On the demand side, the impact of blast furnace maintenance counted by SMM is still decreasing. According to the current port inventory reduction, there is no obvious contradiction between supply and demand, and the iron ore price may still be greatly affected by the news. The voice frequency of relevant national departments has increased, and whether the follow-up control of the ore price is still a risk factor for the ore price. In the short term, the iron ore price is still dominated by volatility.

## IRON ORE PORT LUMP INDEX (IOPLI)

Week Ending Mar 10th, 2023		FOT Qingdao (inc. 13% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 13% VAT), USD/dry tonne <sup>3</sup>						
Index	Fe Content	Price	W-o-W	Change %	MTD	YTD	Low <sup>2</sup>	High <sup>2</sup>	Price	W-o-W	Change %	MTD	YTD	Low <sup>2</sup>	High <sup>2</sup>
IOPLI62	62.5% Fe Lump	1005	-15	-1.5%	911	1034	770	1405	129.99	-2.00	-1.51%	117.24	138.49	94.72	199.13

## IRON ORE DOMESTIC CONCENTRATE SPOT PRICE ASSESSMENTS AND COMPOSITE INDEX

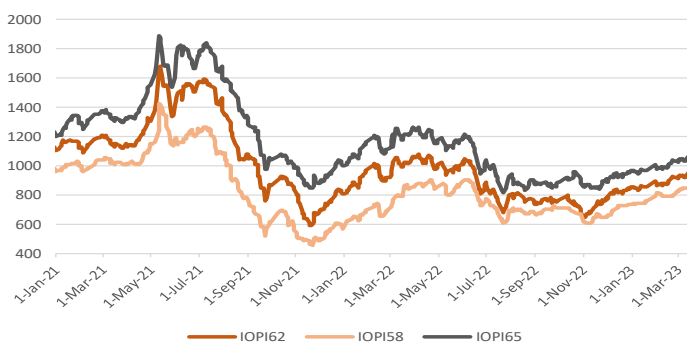
Week Ending Mar 10th, 2023				RMB/tonne (excluding tax) <sup>3</sup>				USD/tonne (excluding tax) <sup>3</sup>			
Province	Region	Product	Basis	This week	Change %	Low <sup>2</sup>	High <sup>2</sup>	This week	Change %	Low <sup>2</sup>	High <sup>2</sup>
Hebei	Hanxing	66% Fe Concentrate	Dry	1064	-2.1%	779	1645	153.33	-2.27%	110.31	255.69
Hebei	Qian'an	65% Fe Concentrate	Dry	1095	0.9%	780	1630	157.80	0.77%	110.51	251.57
Liaoning	Anshan	65% Fe Concentrate	Wet	815	0.0%	620	1310	117.45	-0.15%	87.40	202.32
Shandong	Zibo	65% Fe Concentrate	Dry	1084	-2.3%	800	1752	156.22	-2.49%	117.19	272.32

Week Ending Mar 10th, 2023

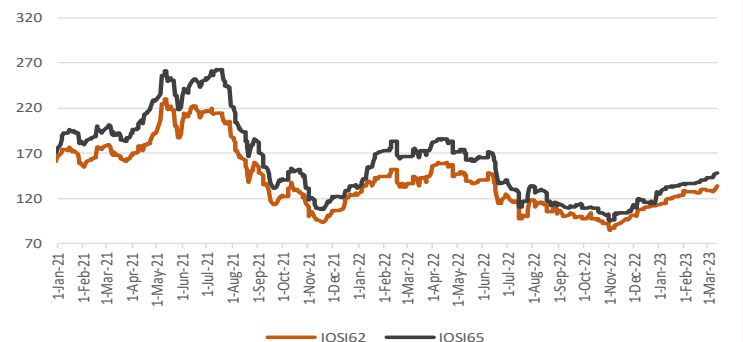
This week	Change %	Low <sup>2</sup>	High <sup>2</sup>	
China Mines Concentrate Composite Index RMB/WT	970.20	0.11%	706.36	1511.22

<sup>1</sup> Exchange rate applied: RMB/USD = 6.7522    <sup>2</sup> Last 12 months  
<sup>3</sup> Weekly exchange rate applied: RMB/USD = 6.92832

## 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 13th, 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 13th, 2023		CFR Qingdao, USD/dry tonne							Mar 10th, 2023							
Index	Fe Content	November	December	January	February	MTD	QTD	YTD	Route		Designation	Change	Change %	Low <sup>2</sup>	High <sup>2</sup>	
IOSI62	62% Fe Fines	93.05	108.92	119.76	127.73	109.39	109.47	122.65	W. Australia - Qingdao		C5	8.38	0.11	1.27%	3.57	16.77
IOSI65	65% Fe Fines	102.40	116.83	132.39	138.06	120.09	120.60	139.63	Tubarao - Qingdao		C3	19.87	0.22	1.10%	6.70	36.40

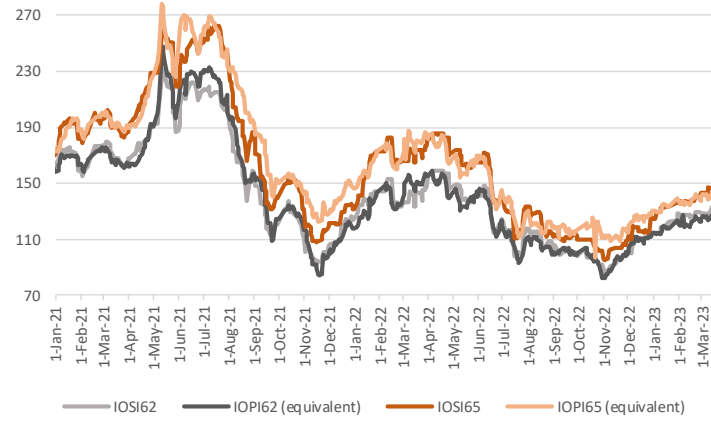
## IRON ORE PORT LUMP INDEX MONTHLY, QUARTERLY AND YEAR-TO-DATE AVERAGES

Week Ending Mar 10th, 2023		FOT Qingdao (inc. 13% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 13% VAT), USD/dry tonne <sup>1</sup>						
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	911	910	1034	100.83	117.06	126.47	129.95	117.24	117.69	138.49

## IRON ORE INDEX PREMIUMS/DISCOUNTS

Mar 13th, 2023				PORT STOCK INDEX (RMB/WT)		Mar 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	-98		-10.34%		IOSI65	65% Fe Fines	14.10		10.57%	
IOPI65	65% Fe Fines	112		11.81%							

## IRON ORE INDEX COMPARISONS (USD/DMT)



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



## IRON ORE BRAND SPOT PRICE ASSESSMENTS

Mar 13th, 2023				Mar 13th, 2023			
PORT STOCK INDEX (RMB/WT)				SEABORNE INDEX (USD/DMT)			
	Price	Change	Diff to IOPI62		Price	Change	Diff to IOSI62
Roy Hill	891	19	-57	Roy Hill	128.95	4.45	-4.50
SIMEC Fines	822	19	-126	SIMEC Fines	125.45	4.45	-8.00
PB Fines	915	19	-33	PB Fines	129.70	4.45	-3.75
Newman Fines	917	19	-31	Newman Fines	132.60	4.45	-0.85
MAC Fines	898	19	-50	MAC Fines	129.70	4.45	-3.75
Jimblebar Blended Fines	814	20	-134	Jimblebar Blended Fines	122.10	4.45	-11.35
Carajas Fines	1129	19	181	Carajas Fines	163.00	4.45	29.55
Brazilian SSF	914	20	-34	Brazilian SSF	137.20	4.45	3.75
Brazilian Blend Fines	929	19	-19	Brazilian Blend Fines	138.85	4.45	5.40
RTX Fines	831	19	-117	RTX Fines	123.35	4.45	-10.10
West Pilbara Fines	859	19	-89	West Pilbara Fines	127.70	4.45	-5.75

Mar 13th, 2023			
PORT STOCK INDEX (RMB/WT)			
	Price	Change	Diff to IOPI58
SSF	850	7	0
FMG Blended Fines	861	8	11
Robe River	861	7	11
Western Fines	864	7	14
Atlas Fines	858	7	8
Yandi	842	7	-8

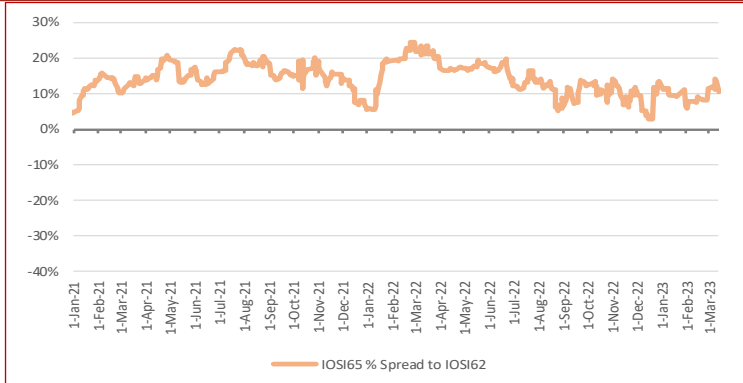
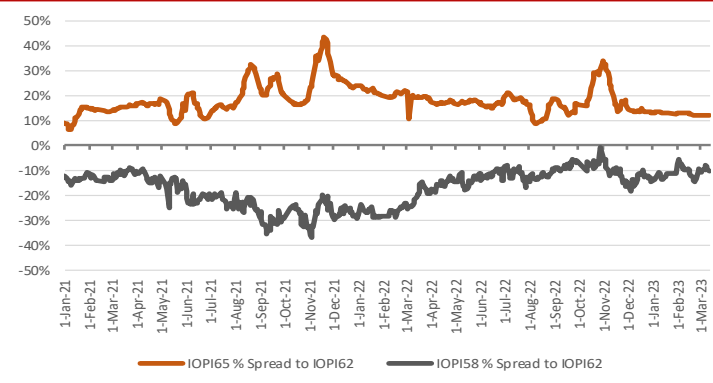
## IRON ORE INDEX NORMALISATION DIFFERENTIALS

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%	1.50	0.00
	High Grade Fe 63 - 64%	5.00	0.00		High Grade Fe 63 - 64%	1.75	-0.50
	High Grade Fe 64 - 65%	5.00	0.00		High Grade Fe 64 - 65%	1.75	-0.50
	High Grade Fe 65 - 65.5%	5.00	0.00		High Grade Fe 65 - 65.5%	1.75	-0.50
1% Alumina	Low Grade Fe	16.00	-3.00	1% Alumina	High Fe Grade Al <2.25%	2.00	-0.25
	High Fe Grade Al <2.25%	50.00	0.00		High Fe Grade Al 2.25-4%	0.50	0.00
	High Fe Grade Al 2.25-4%	5.00	0.00				
	Low Fe Grade Al <2.25%	11.00	-2.00				
1% Silica	Low Fe Grade Al 2.25-4%	24.00	5.00	1% Silica	High Fe Grade Si <4%	3.25	-0.75
	High Fe Grade Si <4%	10.00	1.00		High Fe Grade Si 4 - 6.5%	0.25	0.00
0.01% Phosphorus	High Fe Grade Si 4-6.5%	7.00	0.00	0.01% Phosphorus	High Fe Grade 0.09%<P<0.115%	0.50	0.00
	Low Fe Grade	10.00	-3.00		High Fe Grade 0.115%<P<0.15%	4.80	0.05
	High Fe Grade 0.09%<P<0.115%	5.00	-2.00				
	High Fe Grade 0.115%<P<0.15%	5.00	-2.00				
	Low Fe Grade 0.09%<P<0.1%	5.00	0.00				

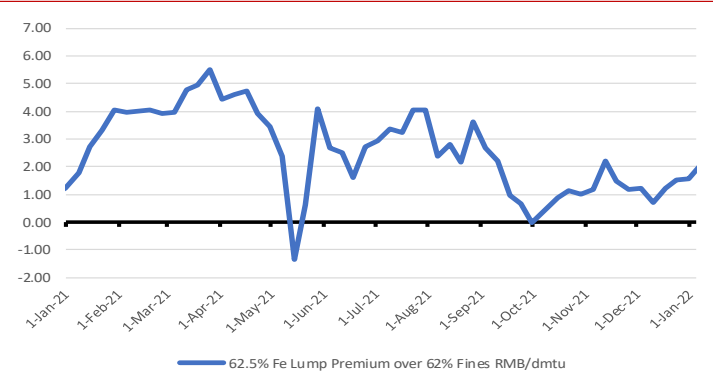
## Port Stock Price Differentials to Qingdao Port for PB Fines (RMB/wet tonne)

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	-15.00	-5.00	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

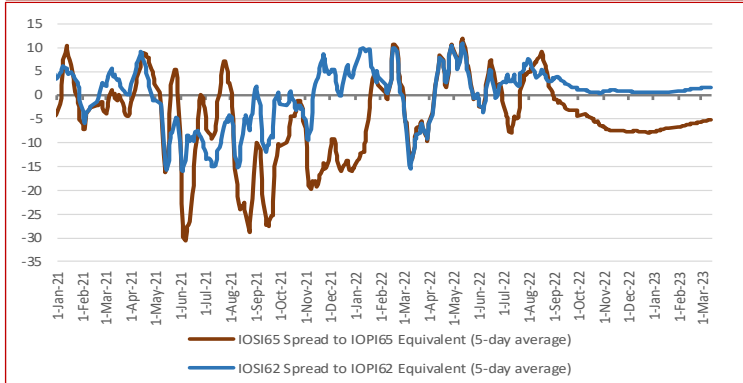
IRON ORE INDEX PREMIUMS/DISCOUNTS



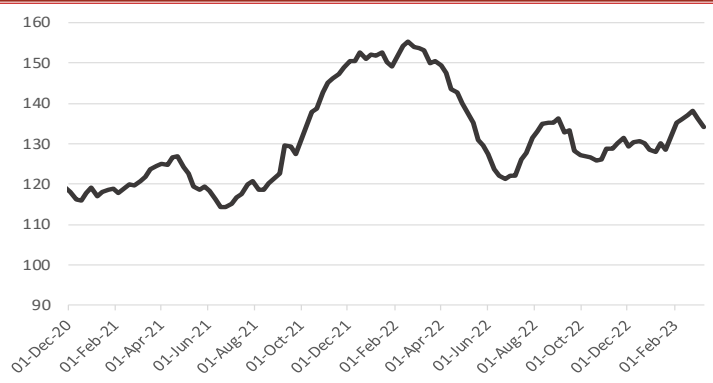
WEEKLY IRON ORE PORT STOCK LUMP PREMIUM (RMB/DMTU)



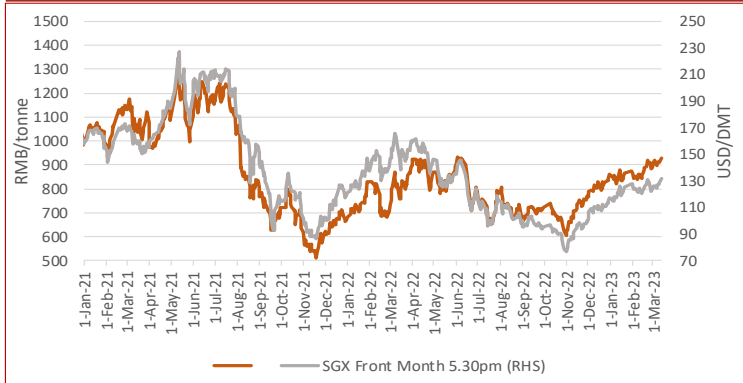
IRON ORE SEABORNE TO PORT STOCK PRICE SPREADS (USD/DMT)



TOTAL IRON ORE INVENTORIES AT CHINA PORTS (MILLION TONNES)



FUTURE TRADING—FRONT MONTH CLOSING PRICE



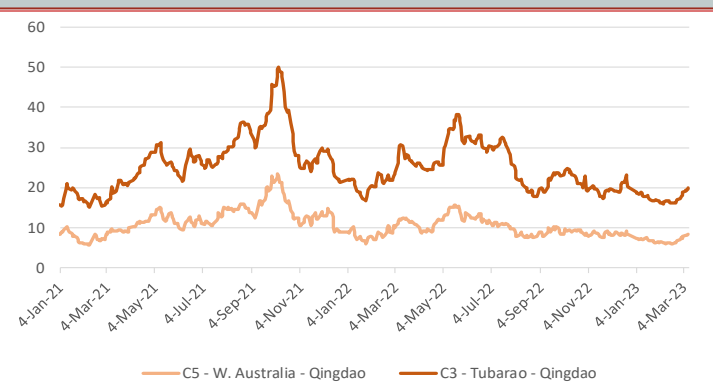
IRON ORE PORT INVENTORIES (MILLION TONNES)

Week Ending Mar 10th, 2023				
Province	This week	Change %	Low <sup>2</sup>	High <sup>2</sup>
Jingtang	12.41	2.06%	9.84	19.20
Qingdao	25.25	-1.90%	9.41	26.24
Caofeidian	12.05	-0.99%	9.05	16.29
Tianjin	10.45	-17.26%	7.14	12.97
Rizhao	19.02	-0.58%	9.44	19.26
<b>Total (35 Ports)</b>	<b>134.06</b>	<b>-1.61%</b>	<b>98.80</b>	<b>155.39</b>

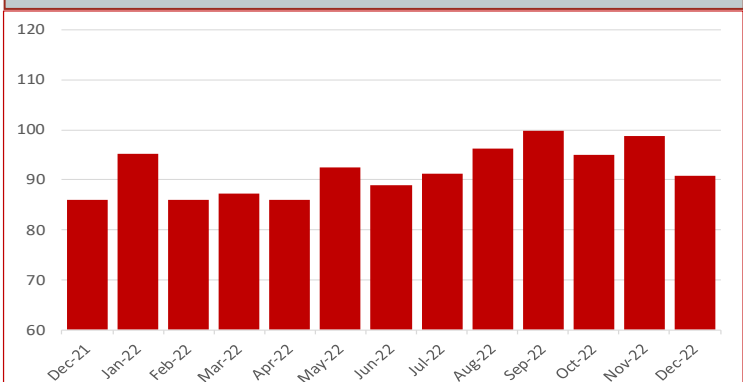
IRON ORE FUTURES CONTRACTS

Closing Date	DCE (RMB/WMT)			SGX (USD/DMT)		
	Mar 13th, 3pm close			Mar 13th, 5:30pm		
Contract	I2305	Change	Change %	Apr. 23	Change	Change %
Closing Price	929.00	19.00	2.09%	131.50	2.80	2.18%
Vol traded ('000 lots)	63.08	-13.81	-17.96%	6.16	-3.96	-39.12%
Open positions ('000 lots)	86.40	1.74	2.05%	30.75	1.34	4.54%
Day Low	913.0	4.00	0.44%	128.30	1.30	1.02%
Day High	930.0	-2.50	-0.27%	132.15	1.45	1.11%

DRY BULK FREIGHT RATES (USD/MT)



TOTAL CHINA IRON ORE IMPORT VOLUMES (MILLION TONNES)



STEEL SPOT MARKET PRICES—CHINA

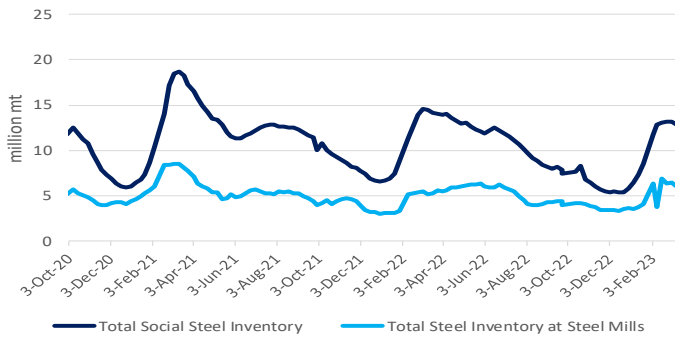
Steel Spot Market RMB/tonne			
Product	2023/3/10	Change	Change %
ReBar HRB400 φ18mm	4,340	30	0.70%
Wirerod Q300 φ6.5mm	4,570	20	0.44%
HRC Q235/SS400 5.5mm*1500*C	4,400	60	1.38%
CRC SPCC/ST12 1.0mm*1250*2500	4,830	50	1.05%
Medium & Heavy Plate Q235B 20mm	4,480	70	1.59%
GI ST02Z 1.0mm*1000*C	5,100	80	1.59%
Colour Coated Plate	7,550	50	0.67%

CHINESE STEEL MILL PROFITABILITY

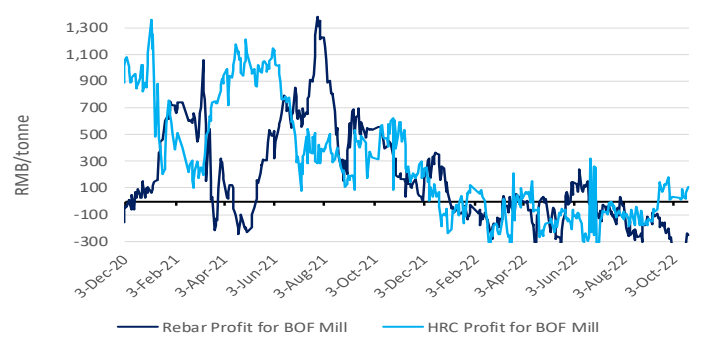
SMM Tracking of Steel Mill P&L - Rebar and Hot-rolled Coil (RMB/tonne)			
Category	Price	Change (WoW)	Note
MMi (Fe 62%), USD/mt excluding tax	128.59	0	Mmi CFR Equivalent index for 1st Feb
Coke	2,960	0	2nd grade met coke, Tangshan, incl. tax
Steel Scrap	3,200	0	steel scrap (6mm) in Zhangjiagang, excl. tax
Billet Cost	3,667	-18	Q234, incl. tax
Rebar cost - Blast furnace	4,178	-20	calculated based on theoretical weight, incl. tax
Rebar profit - Blast furnace	112	90	based on Shanghai prices, incl. tax
Hot-rolled coil cost - Blast furnace	4,185	-18	based on actual weight, incl. tax
Hot-rolled coil profit - Blast furnace	215	48	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

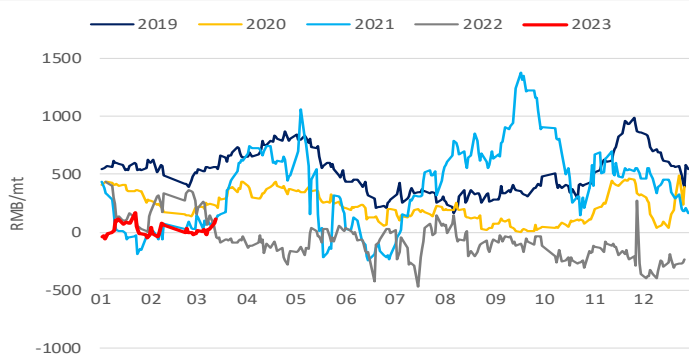
CHINESE STEEL INVENTORIES



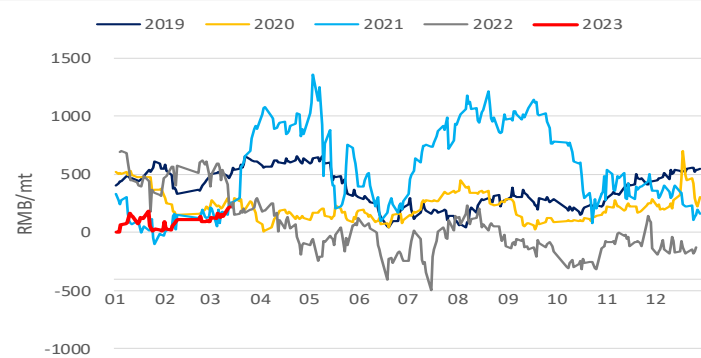
CHINESE STEEL MILL PROFITABILITY



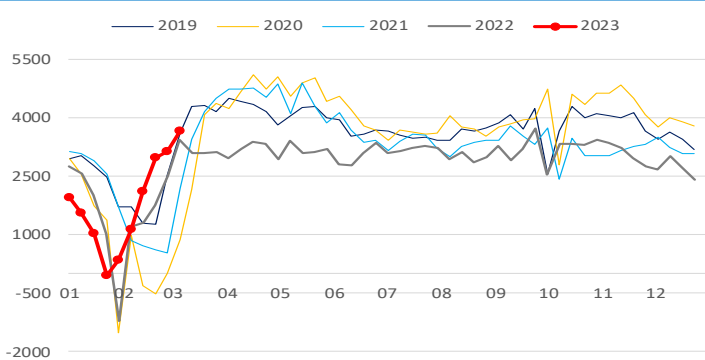
CHINESE STEEL MILL PROFITABILITY—Rebar



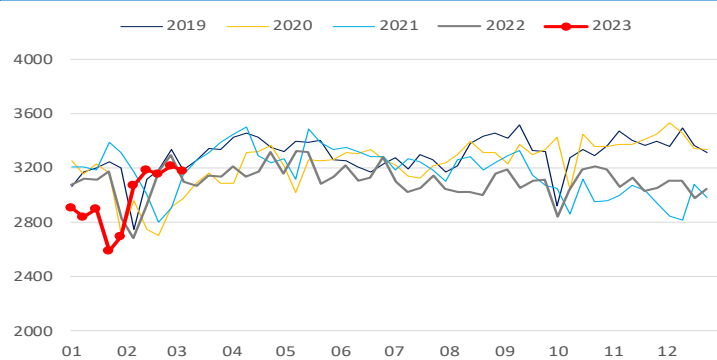
CHINESE STEEL MILL PROFITABILITY—Hot-rolled Coil



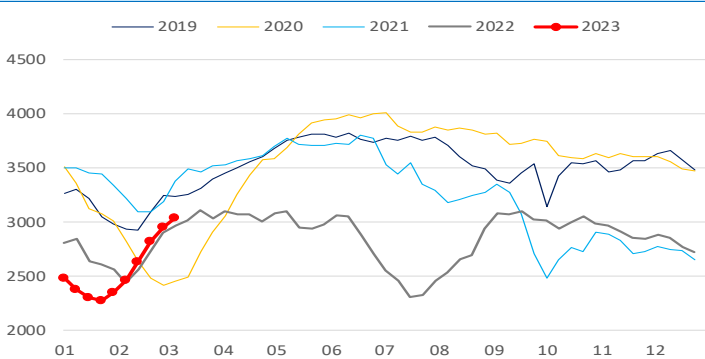
CHINESE STEEL CONSUMPTION—Rebar



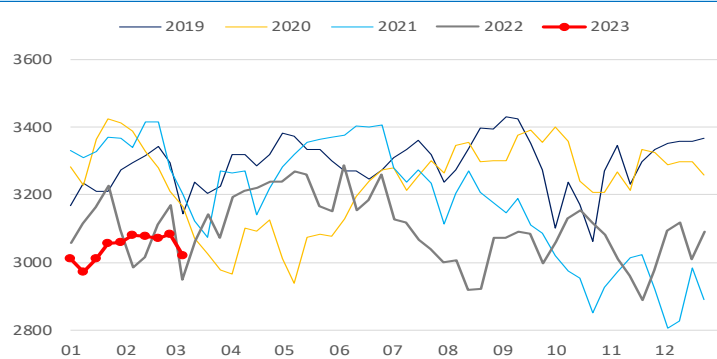
CHINESE STEEL CONSUMPTION—Hot-rolled Coil



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
	<b>65% Fe Fines</b>	<b>62% Fe Fines</b>	<b>58% Fe Fines</b>	<b>62.5% Fe Lump</b>	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: <a href="http://www.mmiprices.com">www.mmiprices.com</a>
Fe %	65.00	62.00	58.00	62.50	
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	62%	58%	65%
Seaborne index	0	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 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%
Mar 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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