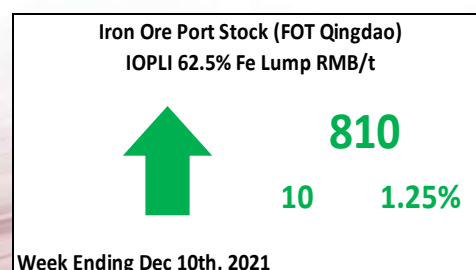
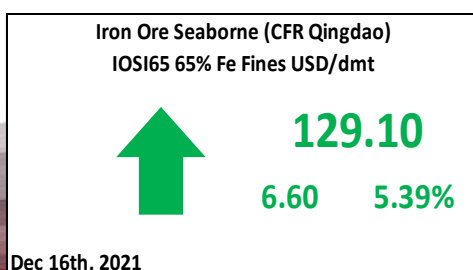
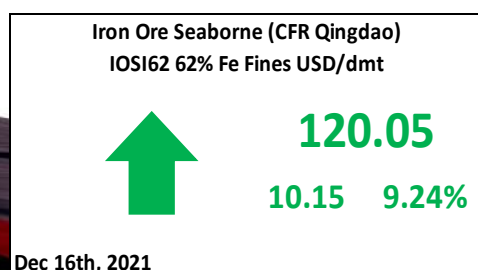
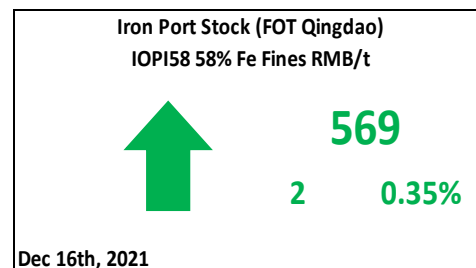
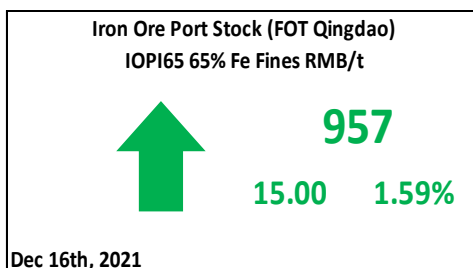
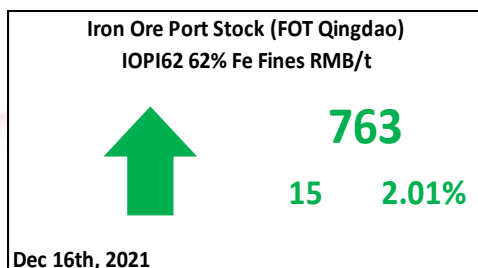


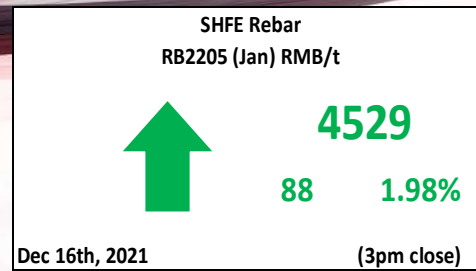
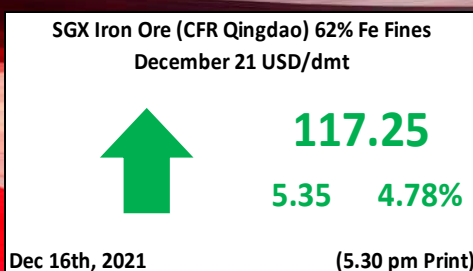
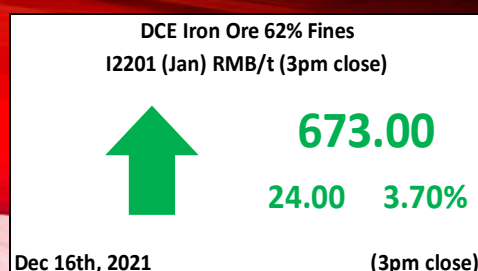


MMi Dashboard

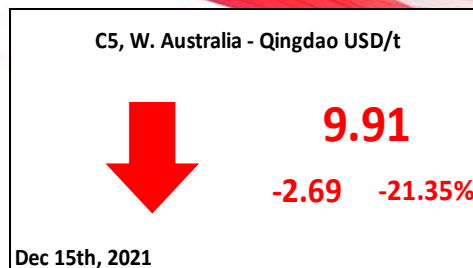
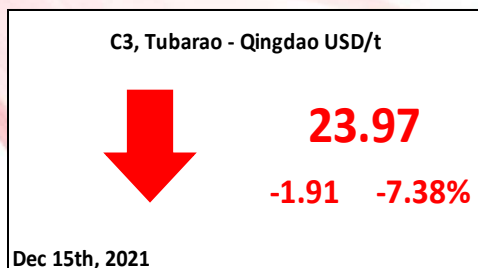
Iron Ore Price Indices



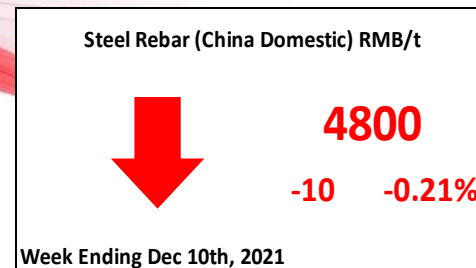
Exchange Traded Contracts



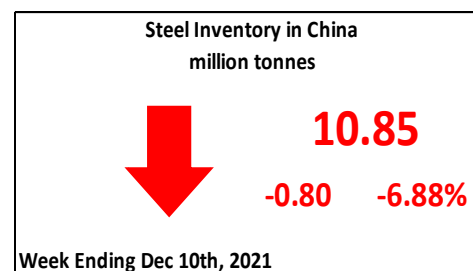
Freight Rates



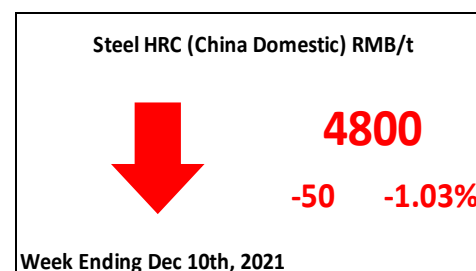
Steel Price



Inventory Levels



Steel Price



IRON ORE PORT STOCK INDEX (IOPI)

Dec 16th, 2021		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	763	15	2.0%	730	1153	587	1680	110.93	2.23	2.1%	106.00	167.55	84.25	247.30
IOPI58	58% Fe Fines	569	2	0.4%	532	927	454	1421	82.55	0.28	0.3%	76.95	135.32	64.78	210.83
IOPI65	65% Fe Fines	957	15	1.6%	924	1356	843	1894	140.21	2.23	1.6%	135.30	197.85	122.83	278.61

IRON ORE SEABORNE INDEX (IOSI)

MARKET COMMENTARY

Dec 16th, 2021		CFR Qingdao, USD/dry tonne							DCE iron ore futures rose largely today, the main contract closed 673, an increase of 2.75% throughout the day; some traders were active to sell, and steel mills purchased on demand. The spot trading volumes increased significantly over yesterday. PBF at Shandong port dealt 735-740 yuan/mt, increased 10-20 yuan/mt over yesterday; SSF at Shandong port dealt 470-475yuan/mt, increased 10 yuan/mt over yesterday;PBF at Tangshan port dealt 730-745 yuan/mt; PBF at Jiangnei port dealt 770 yuan/mt; According to SMM research, this week's blast furnace operating rate was 77.42%, up 0.45% week on month, down 2.07% month on month. Tangshan area early plan lifted on 11 production restrictions extended to 16, only high grade steel enterprises have resumed production; And this week in the sample of some steel enterprises for conventional blast furnace maintenance, this week the overall blast furnace operation rate rose by a small margin. At present, the production of hot iron is still in a low position, the demand for iron ore has not improved temporarily, and the price of ore is still running in shock.							
Index	Fe Content	Price	Change	Change %	MTD	YTD	Low ²	High ²								
IOSI62	62% Fe Fines	120.05	10.15	9.24%	108.53	163.66	93.75	230.50								
IOSI65	65% Fe Fines	129.10	6.60	5.39%	122.15	189.01	108.20	262.95								

IRON ORE PORT LUMP INDEX (IOPLI)

Week Ending Dec 10th, 2021		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	810	10	1.3%	805	1383	730	1868	113.23	1.62	1.45%	112.42	192.16	101.00	262.00

IRON ORE DOMESTIC CONCENTRATE SPOT PRICE ASSESSMENTS AND COMPOSITE INDEX

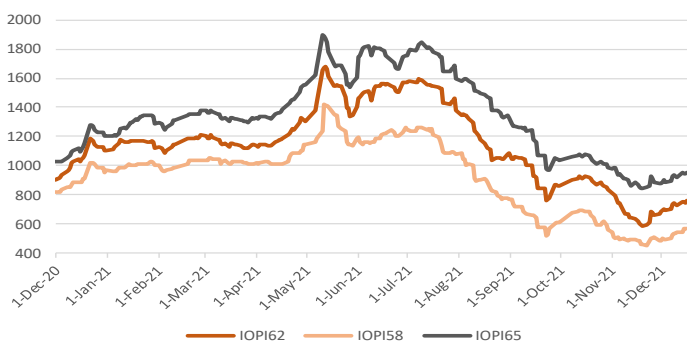
Week Ending Dec 10th, 2021				RMB/tonne (excluding tax) ³				USD/tonne (excluding tax) ³			
Province	Region	Product	Basis	This week	Change %	Low ²	High ²	This week	Change %	Low ²	High ²
Hebei	Hanxing	66% Fe Concentrate	Dry	860	0.6%	779	1645	135.09	0.74%	110.31	255.69
Hebei	Qian'an	65% Fe Concentrate	Dry	900	7.1%	780	1630	141.37	7.31%	110.51	251.57
Liaoning	Anshan	65% Fe Concentrate	Wet	720	0.0%	620	1310	113.09	0.16%	87.40	202.32
Shandong	Zibo	65% Fe Concentrate	Dry	870	0.0%	800	1752	136.66	0.16%	122.55	272.32

Week Ending Dec 10th, 2021

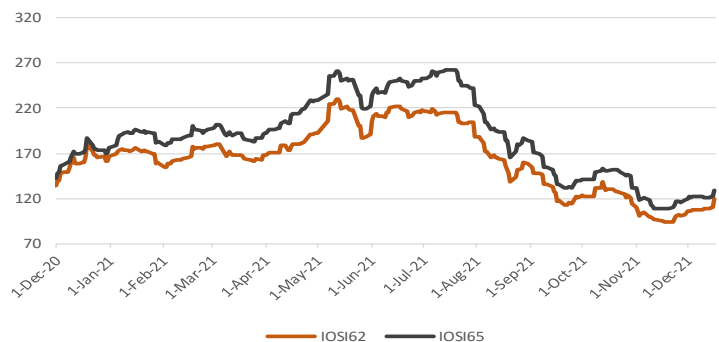
	This week	Change %	Low ²	High ²
China Mines Concentrate Composite Index RMB/WT	784.82	0.21%	706.36	1511.22

¹ Exchange rate applied: RMB/USD = 6.4934 ²Last 12 months
³ Weekly exchange rate applied: RMB/USD 6.5044

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

Dec 16th, 2021		FOT Qingdao (inc. 13% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 13% VAT), USD/dry tonne						
Index	Fe Content	August	September	October	November	MTD	QTD	YTD	August	September	October	November	MTD	QTD	YTD
IOPI62	62% Fe Fines	1174	937	893	694	730	758	1153	170.18	135.90	135.31	100.58	106.00	109.70	167.55
IOPI58	58% Fe Fines	894	648	646	500	532	552	927	130.00	93.62	93.31	72.07	76.95	79.59	135.32
IOPI65	65% Fe Fines	1466	1152	1043	888	924	951	1356	213.59	214.41	214.06	129.88	135.30	138.84	197.85

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

FREIGHT RATES

Dec 16th, 2021		CFR Qingdao, USD/dry tonne							Dec 15th, 2021				FREIGHT RATES - DRY BULK US\$/wet tonne			
Index	Fe Content	August	September	October	November	MTD	QTD	YTD	Route	Designation	Change	Change %	Low ²	High ²		
IOSI62	62% Fe Fines	162.80	128.43	127.04	106.10	108.53	111.68	163.66	W. Australia - Qingdao	C5	9.91	-2.69	-21.35%	3.57	16.77	
IOSI65	65% Fe Fines	192.73	148.09	147.37	121.55	122.15	128.58	189.01	Tubarao - Qingdao	C3	23.97	-1.91	-7.38%	6.70	36.40	

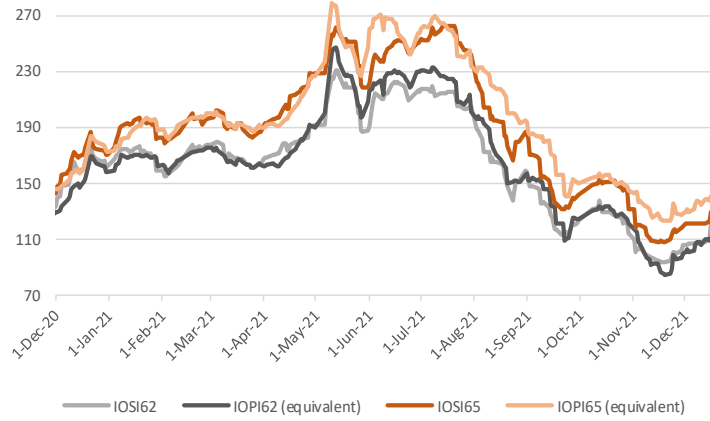
IRON ORE PORT LUMP INDEX MONTHLY, QUARTERLY AND YEAR-TO-DATE AVERAGES

Week Ending Dec 10th, 2021		FOT Qingdao (inc. 13% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 13% VAT), USD/dry tonne ¹						
Index	Fe Content	August	September	October	November	MTD	QTD	YTD	August	September	October	November	MTD	QTD	YTD
IOPLI62	62.5% Fe Lump	1409	1065	999	800	805	908	1383	254.64	196.49	147.90	111.25	112.42	126.58	192.16

IRON ORE INDEX PREMIUMS/DISCOUNTS

Dec 16th, 2021		PORT STOCK INDEX (RMB/WT)		Dec 16th, 2021		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	-194	-25.43%	IOSI65	65% Fe Fines	9.05	7.54%
IOPI65	65% Fe Fines	194	25.43%				

IRON ORE INDEX COMPARISONS (USD/DMT)



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



IRON ORE BRAND SPOT PRICE ASSESSMENTS

Dec 16th, 2021				PORT STOCK INDEX (RMB/WT)			Dec 16th, 2021				SEABORNE INDEX (USD/DMT)		
	Price	Change	Diff to IOPI62		Price	Change	Diff to IOPI62		Price	Change	Diff to IOSI62		
Roy Hill	703	15	-60	Roy Hill	116.00	10.60	-4.05						
SIMEC Fines	633	15	-130	SIMEC Fines	112.50	10.60	-7.55						
PB Fines	732	15	-31	PB Fines	119.25	10.60	-0.80						
Newman Fines	753	15	-10	Newman Fines	120.40	10.60	0.35						
MAC Fines	701	15	-62	MAC Fines	116.40	10.60	-3.65						
Jimblebar Blended Fines	629	15	-134	Jimblebar Blended Fines	109.75	10.60	-10.30						
Carajas Fines	942	15	179	Carajas Fines	150.05	10.60	30.00						
Brazilian SSF	725	16	-38	Brazilian SSF	124.25	10.60	4.20						
Brazilian Blend Fines	784	15	21	Brazilian Blend Fines	125.90	10.60	5.85						
RTX Fines	645	15	-118	RTX Fines	110.40	10.60	-9.65						
West Pilbara Fines	675	15	-88	West Pilbara Fines	114.75	10.60	-5.30						

Dec 16th, 2021				PORT STOCK INDEX (RMB/WT)			
	Price	Change	Diff to IOPI58		Price	Change	Diff to IOPI58
SSF	568	2	-1				
FMG Blended Fines	575	2	6				
Robe River	572	2	3				
Western Fines	579	2	10				
Atlas Fines	574	2	5				
Yandi	566	2	-3				

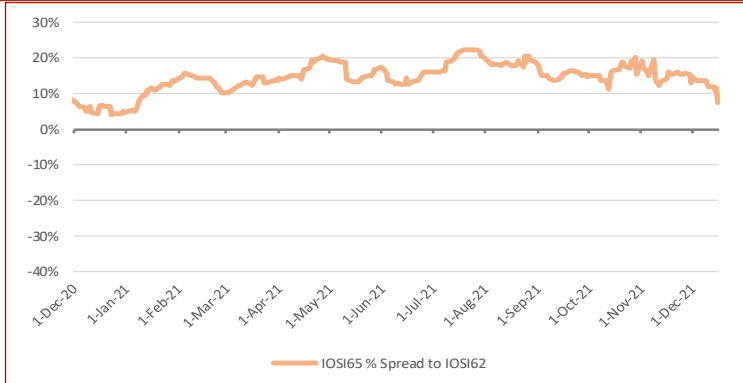
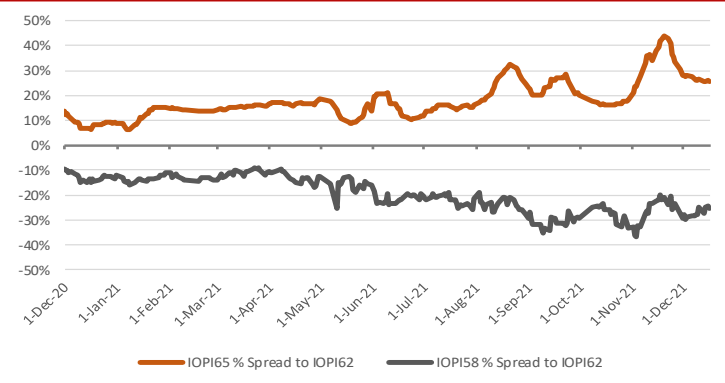
IRON ORE INDEX NORMALISATION DIFFERENTIALS

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%	32.00	0.00	1% Fe	High Grade Fe 60 - 63%	3.75	0.00
	High Grade Fe 63 - 64%	30.00	0.00		High Grade Fe 63 - 64%	0.75	-0.25
	High Grade Fe 64 - 65%	30.00	0.00		High Grade Fe 64 - 65%	0.75	-0.25
	High Grade Fe 65 - 65.5%	30.00	0.00		High Grade Fe 65 - 65.5%	0.75	-0.25
1% Alumina	Low Grade Fe	30.00	0.00	1% Alumina	High Fe Grade Al <2.25%	0.25	0.00
	High Fe Grade Al <2.25%	19.00	0.00		High Fe Grade Al 2.25-4%	3.25	0.25
	High Fe Grade Al 2.25-4%	29.00	0.00				
	Low Fe Grade Al <2.25%	28.00	0.00				
1% Silica	Low Fe Grade Al 2.25-4%	43.00	0.00	1% Silica	High Fe Grade Si <4%	1.25	-0.25
	High Fe Grade Si <4%	14.00	0.00		High Fe Grade Si 4 - 6.5%	9.00	0.00
0.01% Phosphorus	High Fe Grade Si 4-6.5%	34.00	0.00	0.01% Phosphorus	High Fe Grade 0.09%<P<0.115%	0.25	0.00
	Low Fe Grade	19.00	0.00		High Fe Grade 0.115%<P<0.15%	1.00	0.00
	High Fe Grade 0.09%<P<0.115%	14.00	0.00				
	High Fe Grade 0.115%<P<0.15%	14.00	0.00				
	Low Fe Grade 0.09%<P<0.1%	5.00	0.00				

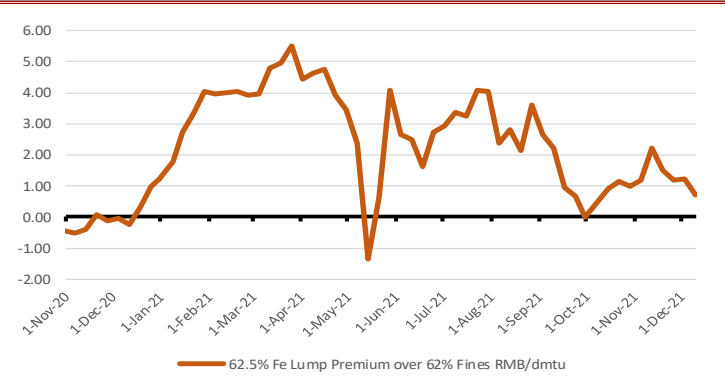
Port Stock Price Differentials to Qingdao Port for PB Fines (RMB/wet tonne)

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	-60.00	0.00	Lianyungang	0.00	0.00	Shekou	0.00	0.00
Caofeidian	0.00	0.00	Jingtang	0.00	0.00	Majishan	0.00	0.00	Taicang	-95.00	0.00
Dalian	0.00	0.00	Lanqiao	0.00	0.00	Qingdao	0.00	0.00	Tianjin	-40.00	0.00

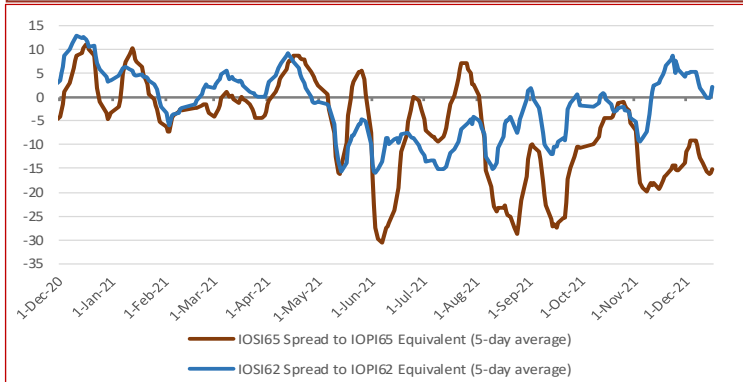
IRON ORE INDEX PREMIUMS/DISCOUNTS



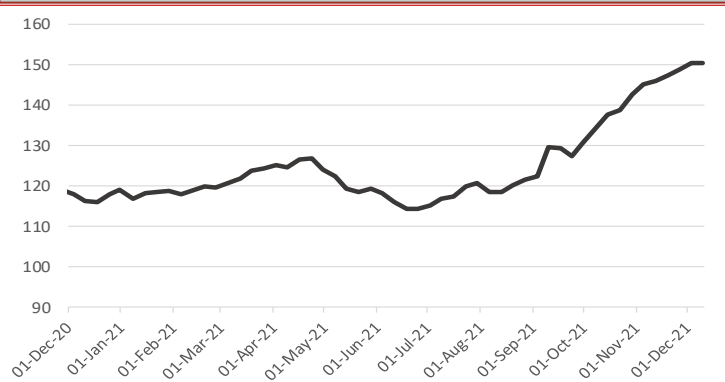
WEEKLY IRON ORE PORT STOCK LUMP PREMIUM (RMB/DMTU)



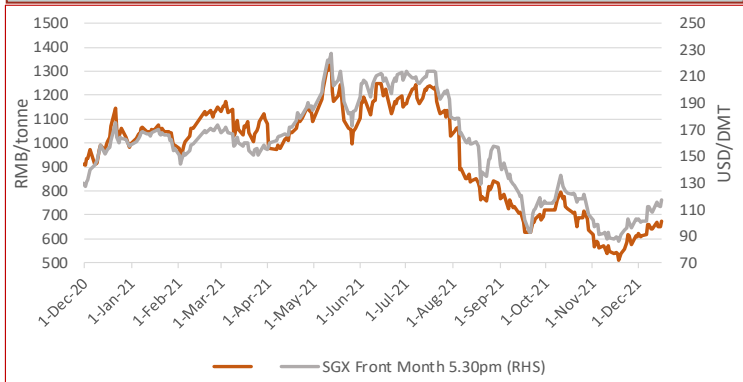
IRON ORE SEABORNE TO PORT STOCK PRICE SPREADS (USD/DMT)



TOTAL IRON ORE INVENTORIES AT CHINA PORTS (MILLION TONNES)



FUTURE TRADING—FRONT MONTH CLOSING PRICE



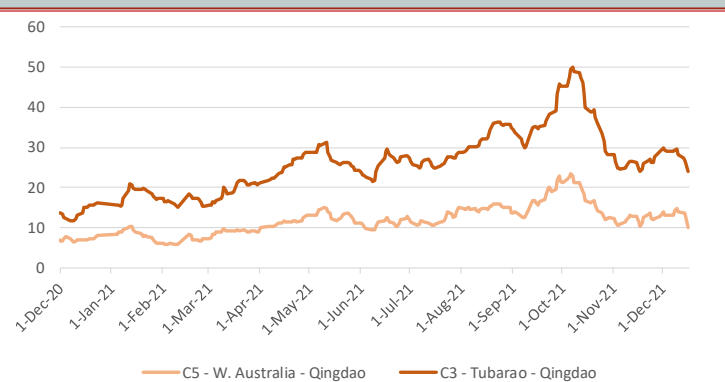
IRON ORE PORT INVENTORIES (MILLION TONNES)

Week Ending Dec 10th, 2021				
Province	This week	Change %	Low ²	High ²
Jingtang	15.35	-4.42%	12.26	19.20
Qingdao	23.17	-0.60%	9.41	23.96
Caofeidian	15.29	0.66%	11.25	16.25
Tianjin	11.28	-0.88%	7.14	11.38
Rizhao	16.28	-1.21%	9.44	16.48
Total (35 Ports)	150.57	0.11%	98.80	150.57

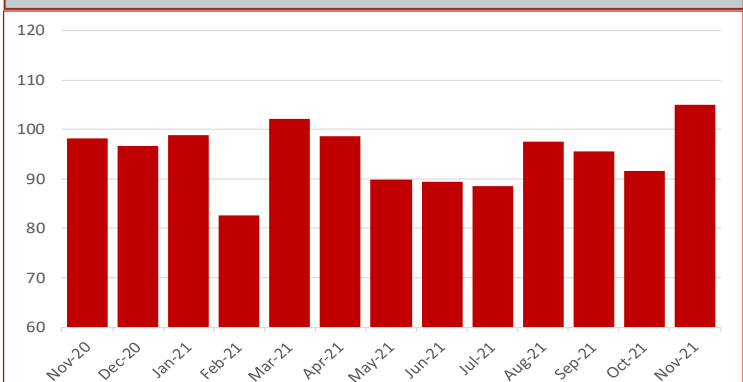
IRON ORE FUTURES CONTRACTS

Closing Date	DCE (RMB/WMT)			SGX (USD/DMT)		
	Dec 16th, 3pm close			Dec 16th, 5:30pm		
Contract	12205	Change	Change %	Nov. 21	Change	Change %
Closing Price	673.00	24.00	3.70%	117.25	5.35	4.78%
Vol traded ('000 lots)	85.89	-8.94	-9.43%	2.24	-1.17	-34.31%
Open positions ('000 lots)	61.19	1.57	2.63%	20.94	-0.26	-1.23%
Day Low	650.5	5.00	0.77%	112.55	1.15	1.03%
Day High	675.5	10.00	1.50%	117.70	3.00	2.62%

DRY BULK FREIGHT RATES (USD/MT)



TOTAL CHINA IRON ORE IMPORT VOLUMES (MILLION TONNES)



STEEL SPOT MARKET PRICES—CHINA

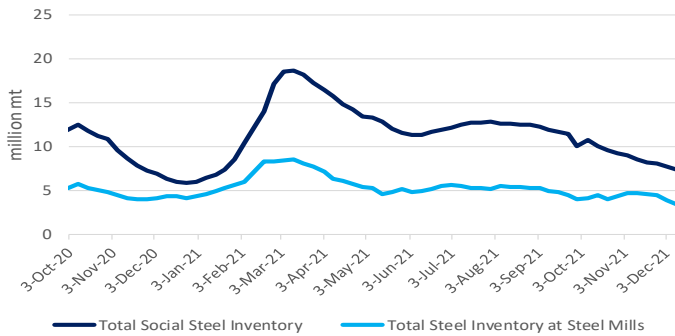
Product	2021/12/10	Change	Change %
ReBar HRB400 φ18mm	4,800	-10	-0.21%
Wirerod Q300 φ6.5mm	5,060	-40	-0.78%
HRC Q235/SS400 5.5mm*1500*C	4,800	-50	-1.03%
CRC SPCC/ST12 1.0mm*1250*2500	5,590	10	0.18%
Medium & Heavy Plate Q235B 20mm	5,100	-20	-0.39%
GI ST02Z 1.0mm*1000*C	5,650	-10	-0.18%
Colour Coated Plate	8,250	-50	-0.60%

CHINESE STEEL MILL PROFITABILITY

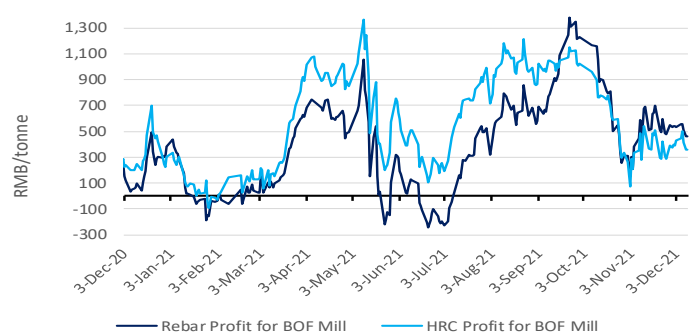
SMM Tracking of Steel Mill P&L - Rebar and Hot-rolled Coil (RMB/tonne)			
Category	Price	Change (WoW)	Note
MMi (Fe 62%), USD/mt excluding tax	106.85	1	Mmi CFR Equivalent index for 1st Feb
Coke	2,610	0	2nd grade met coke, Tangshan, incl. tax
Steel Scrap	3,240	0	steel scrap (6mm) in Zhangjiagang, ext. tax
Billet Cost	3,658	35	Q234, incl. tax
Rebar cost - Blast furnace	4,269	40	calculated based on theoretical weight, incl. tax
Rebar profit - Blast furnace	461	-70	based on Shanghai prices, incl. tax
Hot-rolled coil cost - Blast furnace	4,449	39	based on actual weight, incl. tax
Hot-rolled coil profit - Blast furnace	361	-69	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

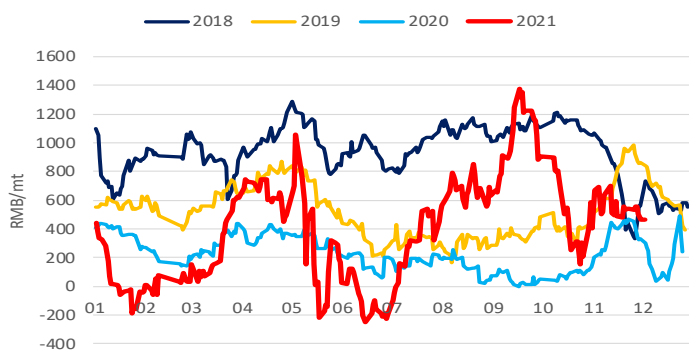
CHINESE STEEL INVENTORIES



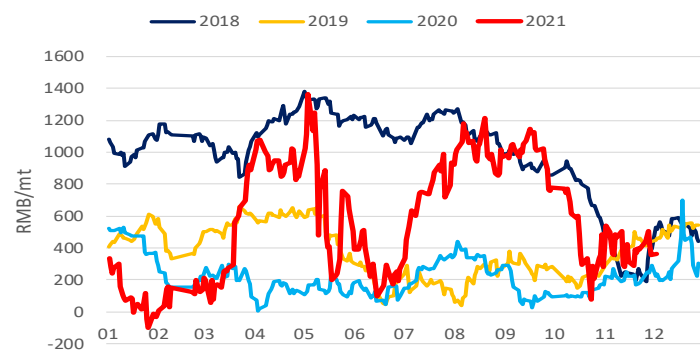
CHINESE STEEL MILL PROFITABILITY



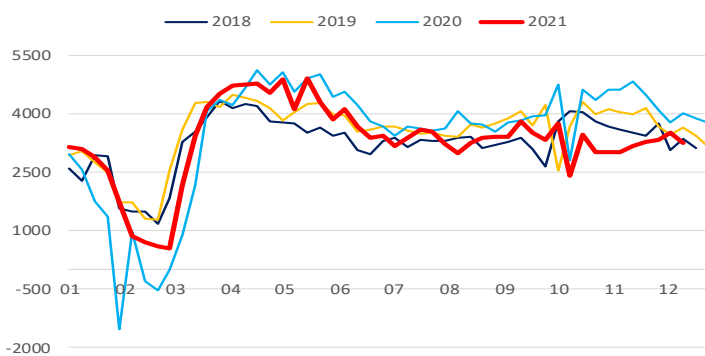
CHINESE STEEL MILL PROFITABILITY—Rebar



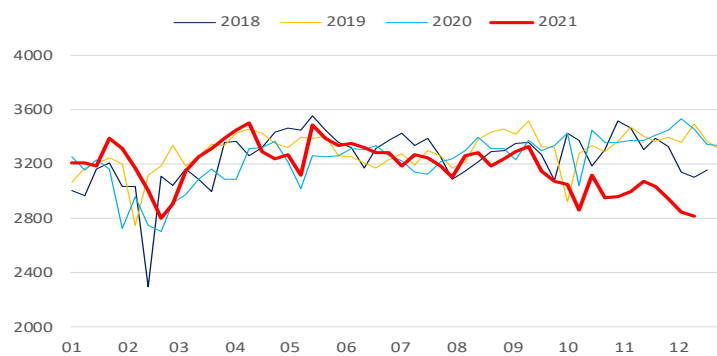
CHINESE STEEL MILL PROFITABILITY—Hot-rolled Coil



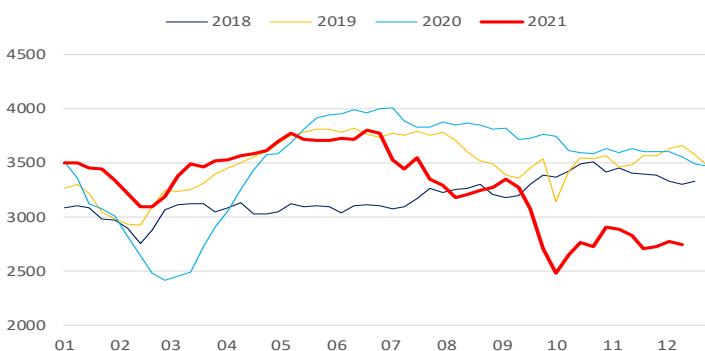
CHINESE STEEL CONSUMPTION—Rebar



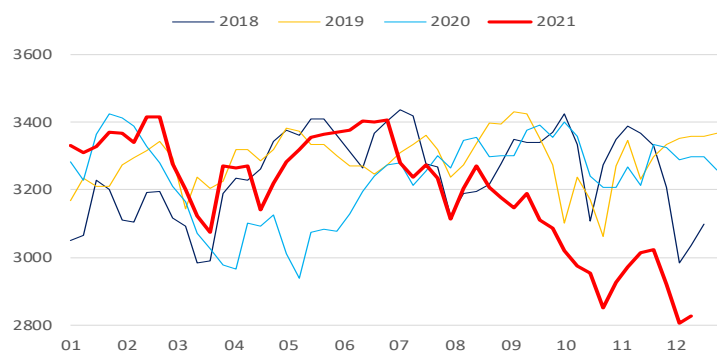
CHINESE STEEL CONSUMPTION—Hot-rolled Coil



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	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
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					
Dec 16th, 2021	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%	4.40%	0.090%	8.00%
MAC Fines	60.43%	2.38%	4.64%	0.078%	7.57%	MAC Fines	60.80%	2.35%	4.70%	0.080%	7.80%
Jimblebar Blended Fines	60.87%	2.95%	4.53%	0.111%	7.32%	Jimblebar Blended Fines	60.50%	3.00%	4.50%	0.120%	8.00%
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%

Dec 16th, 2021	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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