

Daily Iron Ore Index Report

October 22, 2018

IRON ORE PORT STOCK INDEX (IOPI)

October 22 2018		FOT Qingdao (inc. 16% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 16% VAT), USD/dry tonne ¹						
Index	Fe Content	Price	Change	Change %	MTD	YTD ²	Low ²	High ²	Price	Change	Change %	MTD	YTD ²	Low ²	High ²
IOPI62	62% Fe Fines	567	13	2.3%	551	491	443	567	72.95	1.92	2.7%	70.82	65.86	75.83	77.89
IOPI58	58% Fe Fines	396	3	0.8%	397	348	304	405	49.80	0.51	1.0%	50.01	45.37	40.67	51.12
IOPI65	65% Fe Fines	762	7	0.9%	753	640	541	762	99.34	1.16	1.2%	98.22	86.90	96.35	99.34

IRON ORE SEABORNE INDEX (IOSI)

October 22 2018		CFR Qingdao, USD/dry tonne						
Index	Fe Content	Price	Change	Change %	MTD	YTD ³	Low ³	High ³
IOSI62	62% Fe Fines	74.50	0.55	0.7%	70.86	67.54	63.25	86.20
IOSI65	65% Fe Fines	101.45	-0.05	0.0%	98.32	93.74	86.20	101.50

PLATFORM TRADES AND TENDERS

MARKET COMMENTARY

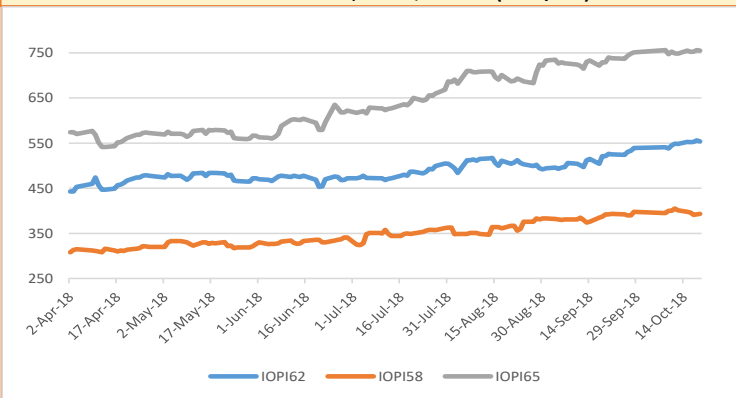
SMM data showed, Sixty-nine vessels carrying 9.84 million mt of iron ore are likely to arrive at major Chinese ports during October 19-25, up 550,000 mt from October 12-18. Seaborne arrivals are expected to inch up at ports in Tangshan of Hebei province, and are likely to fall at Rizhao port in Shandong province. For the same period, iron ore shipments departing Australian ports will increase 320,000 mt to 15.52 million mt; those leaving Brazilian ports will also grow 220,000 mt to 7.96 million mt. This marked the second consecutive weeks of increases, but growth volumes were limited and unlikely to ease supply shortages in the short run.

IRON ORE DOMESTIC CONCENTRATE SPOT PRICE ASSESSMENTS AND COMPOSITE INDEX

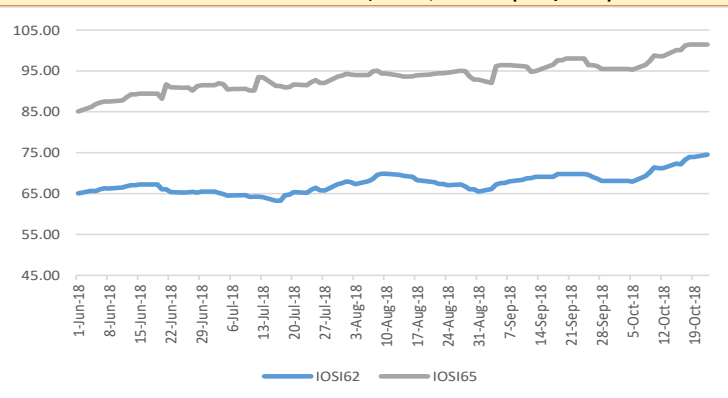
Week Ending October 19, 2018				RMB/tonne (excluding tax) ⁴				USD/tonne (excluding tax) ⁴			
Province	Region	Product	Basis	This week	Change %	Low ²	High ²	This week	Change %	Low ²	High ²
Hebei	Hanxing	66% Fe Concentrate	Dry	680	3.0%	579	682	98.25	2.8%	83.66	98.54
Hebei	Qian'an	65% Fe Concentrate	Dry	780	0.0%	630	780	112.70	-0.2%	91.03	112.70
Liaoning	Anshan	65% Fe Concentrate	Wet	545	0.0%	445	550	78.75	-0.2%	64.30	79.47
Shandong	Zibo	65% Fe Concentrate	Dry	775	2.6%	620	775	111.98	2.4%	89.59	111.98
Week Ending October 19, 2018				This week	Change %	Low ⁵	High ⁵				
China Mines Concentrate Composite Index RMB/WT				647.20	0.8%	534.50	647.20				

¹ Exchange rate applied: RMB/USD = 6.9236 ² Since March 1 ³ Since June 1
⁴ Weekly exchange rate applied: RMB/USD 6.9208 ⁵ Last 12 months

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

October 22 2018		FOT Qingdao (inc. 16% VAT), RMB/wet tonne							CFR Qingdao Equivalent (exc. 16% VAT), USD/dry tonne ¹						
Index	Fe Content	June	July	August	September	MTD	QTD	YTD ²	June	July	August	September	MTD	QTD	YTD ²
IOPI62	62% Fe Fines	471	482	505	513	551	551	491	65.87	64.29	63.41	65.25	70.82	70.82	65.86
IOPI58	58% Fe Fines	332	349	363	385	397	397	348	43.75	44.14	44.86	45.84	50.01	50.01	45.37
IOPI65	65% Fe Fines	594	638	701	732	753	753	640	79.76	82.19	85.29	92.13	98.22	98.22	86.90

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

October 22 2018		CFR Qingdao, USD/dry tonne						
Index	Fe Content	June	July	August	September	MTD	QTD	YTD ³
IOSI62	62% Fe Fines	66.10	65.09	67.89	68.79	70.86	70.86	67.54
IOSI65	65% Fe Fines	89.32	91.90	94.04	96.48	98.32	98.32	93.74

FREIGHT RATES

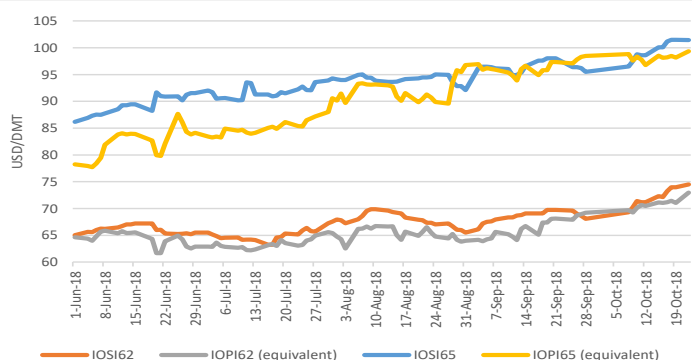
October 19, 2018		FREIGHT RATES - DRY BULK US\$/wet tonne				
Route	Designation	Change	Change %	Low ⁵	High ⁵	
W. Australia - Qingdao	C5	8.67	0.03	0.37%	5.109	10.002
Tubarao - Qingdao	C3	21.47	0.34	1.59%	12.705	24.76

Visit www.mmiprices.com for full index price histories and archive of daily reports

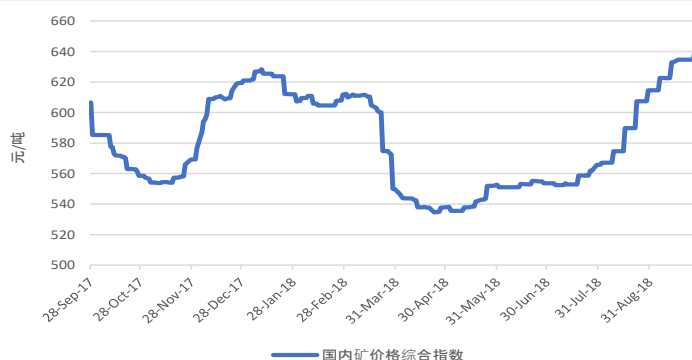
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IRON ORE INDEX COMPARISONS



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



IRON ORE BRAND SPOT PRICE ASSESSMENTS

October 22 2018	PORT STOCK INDEX (RMB/WT)			October 22 2018	SEABORNE INDEX (USD/DMT)		
	Price	Change	Diff to IOPI62		Price	Change	Diff to IOSI62
Roy Hill	543	16	-24	Roy Hill	68.30	0.55	-6.20
SIMEC Fines	496	19	-71	SIMEC Fines	61.30	0.55	-13.20
PB Fines	552	15	-15	PB Fines	73.30	0.55	-1.20
Newman Fines	568	12	1	Newman Fines	75.45	0.55	0.95
MAC Fines	538	16	-29	MAC Fines	69.70	0.55	-4.80
Jimblebar Blended Fines	509	16	-58	Jimblebar Blended Fines	73.76	0.55	-0.74
Carajas Fines	745	8	178	Carajas Fines	100.10	0.55	25.60
Brazilian SSF	596	9	29	Brazilian SSF	78.25	0.55	3.75
Brazilian Blend Fines	597	9	30	Brazilian Blend Fines	79.75	0.55	5.25
RTX Fines	467	12	-100	RTX Fines	68.50	0.55	-6.00

October 22 2018	PORT STOCK INDEX (RMB/WT)		
	Price	Change	Diff to IOPI58
SSF	346	5	-50
FMG Blended Fines	403	5	7
Robe River	361	6	-35
Western Fines	377	5	-19
Atlas Fines	353	4	-43
Yandi	447	3	51

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	-3.00	1% Fe	High Grade Fe 60 - 63%	2.00	0.00
	High Grade Fe 63 - 64%	60.00	0.00		High Grade Fe 63 - 64%	3.75	0.00
	High Grade Fe 64 - 65%	60.00	0.00		High Grade Fe 64 - 65%	3.75	0.00
	High Grade Fe 65 - 65.5%	60.00	0.00		High Grade Fe 65 - 65.5%	3.75	0.00
	Low Grade Fe	22.00	0.00				
1% Alumina	High Fe Grade Al <2.25%	53.00	-3.00	1% Alumina	High Fe Grade Al <2.25%	11.00	0.00
	High Fe Grade Al 2.25-4%	36.00	3.00		High Fe Grade Al 2.25-4%	0.00	0.00
	Low Fe Grade Al <2.25%	85.00	0.00				
	Low Fe Grade Al 2.25-4%	13.00	-3.00				
1% Silica	High Fe Grade Si <4%	5.00	0.00	1% Silica	High Fe Grade Si <4%	3.25	0.00
	High Fe Grade Si 4-6.5%	20.00	0.00		High Fe Grade Si 4 - 6.5%	4.00	0.00
	Low Fe Grade	6.00	0.00				
0.01% Phosphorus	High Fe Grade 0.09%<P<0.115%	2.00	-1.00	0.01% Phosphorus	High Fe Grade 0.09%<P<0.115%	0.00	0.00
	High Fe Grade 0.115%<P<0.15%	20.00	2.00		High Fe Grade 0.115%<P<0.15%	1.00	0.00
	Low Fe Grade 0.09%<P<0.1%	6.00	-1.00				

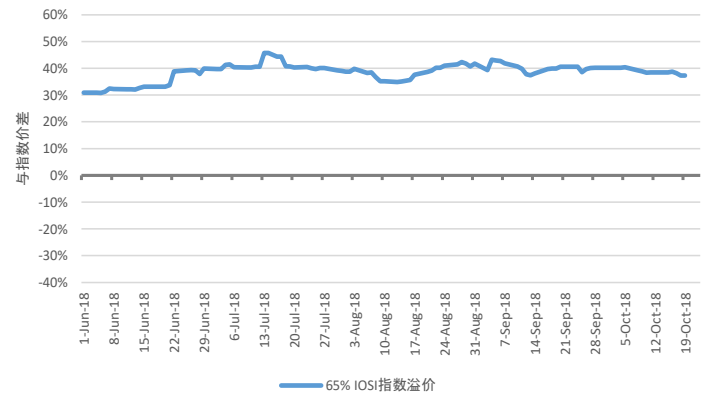
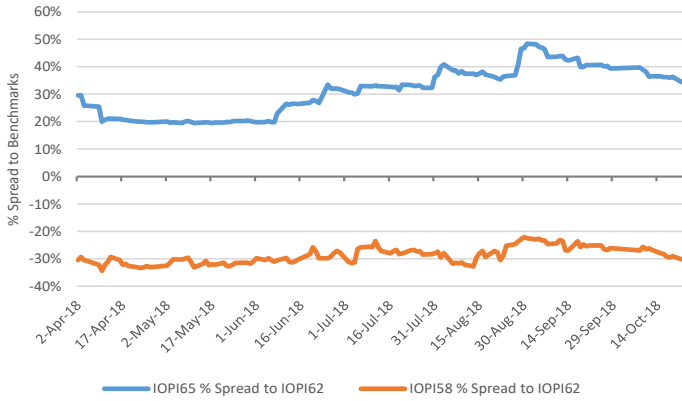
Port Stock Differentials to Qingdao Port (RMB/wet tonne)

Port	Value	Change	Port	Value	Change	Port	Value	Change	Port	Value	Change
Bayuquan	-30.00	0.00	Fangcheng	-5.00	0.00	Lanshan	0.00	0.00	Qingdao	0.00	0.00
Beilun	5.00	0.00	Jiangyin	-30.00	0.00	Lianyungang	0.00	0.00	Rizhao	0.00	0.00
Caofeidian	-15.00	5.00	Jingtang	-15.00	5.00	Majishan	0.00	0.00	Shekou	0.00	0.00
Dalian	-20.00	0.00	Lanqiao	0.00	0.00	Nantong	-30.00	0.00	Tianjin	-30.00	0.00

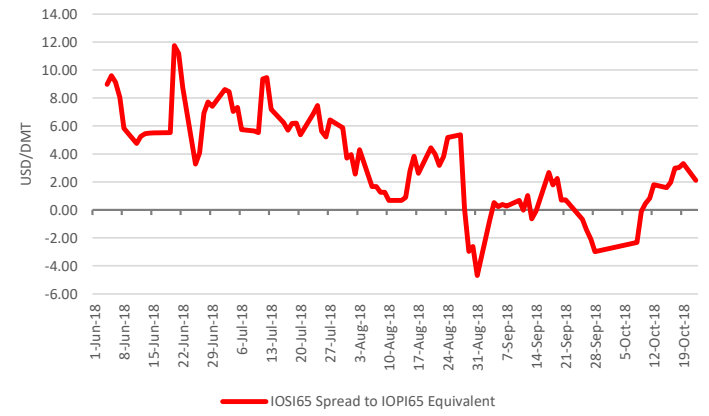
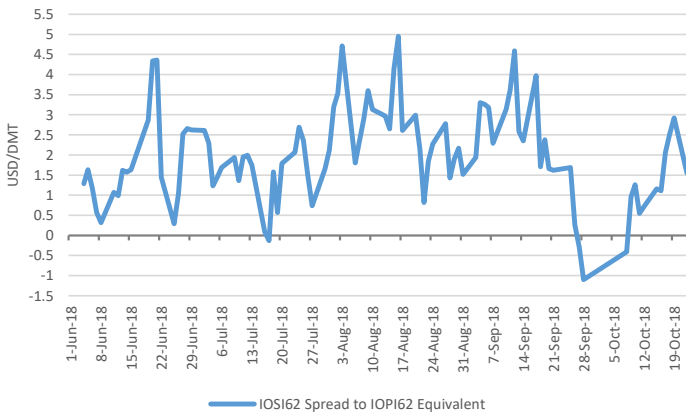
IRON ORE INDEX PREMIUMS/DISCOUNTS

October 22 2018	PORT STOCK INDEX (RMB/WT)	
Fe Content	Spread to IOPI62	% Spread to IOPI62
58% Fe Fines	-171	-30.16%
65% Fe Fines	195	34.39%

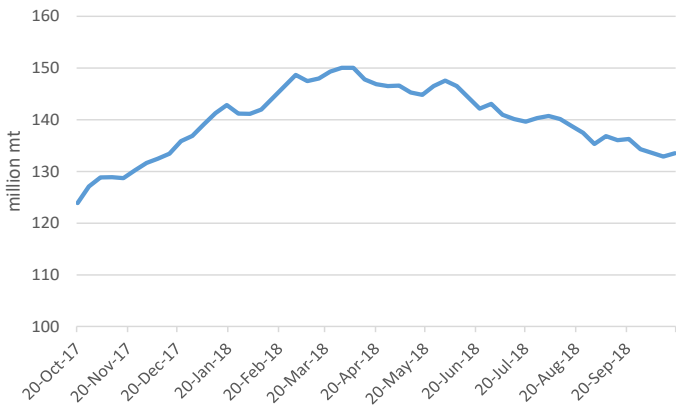
October 22 2018	SEABORNE INDEX (USD/DMT)	
Fe Content	Spread to IOSI62	% Spread to IOSI62
65% Fe Fines	26.95	36.17%



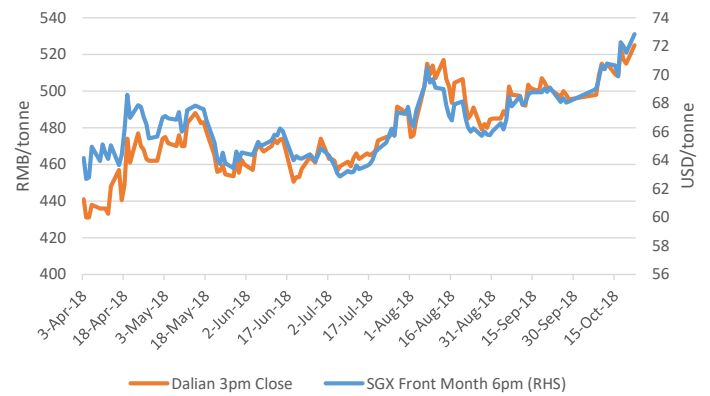
IRON ORE SEABORNE TO PORT STOCK SPREADS



TOTAL IRON ORE INVENTORIES AT CHINA PORTS



FUTURE TRADING—FRONT MONTH CLOSING PRICE



IRON ORE PORT INVENTORIES

Week Ending October 19, 2018 (million tonnes)				
Province	This week	Change %	Low ⁴	High ⁴
Jingtang	13.60	0.97%	13.47	19.00
Qingdao	18.00	0.00%	15.60	19.97
Caofeidian	19.96	0.30%	16.70	25.30
Tianjin	8.96	5.41%	8.50	11.00
Rizhao	15.80	1.94%	13.16	19.00
Total (35 Ports)	133.53	0.50%	123.89	150.04

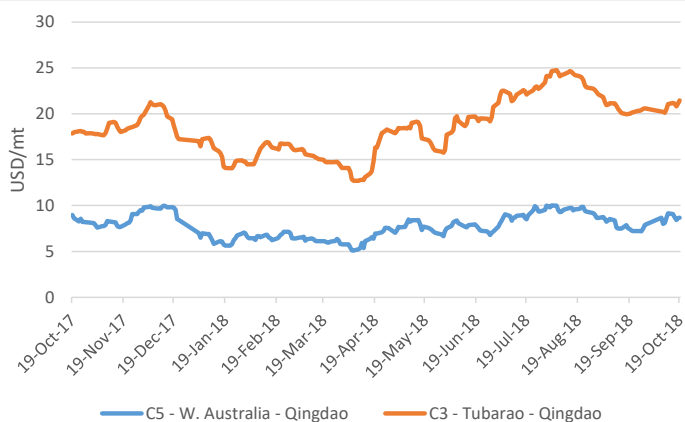
IRON ORE FUTURES CONTRACTS

Closing Date	DCE			SGX		
	22 Oct 3pm close			22 Oct 6 pm		
Contract	I1901	Change	Change %	Nov'18	Change	Change %
Closing Price	525.0	10.0	1.94%	72.85	1.30	1.82%
Vol traded ('000 lots)	91.38	6.0	6.96%	13.92	-5.33	-27.70%
Open positions ('000 lots)	68.06	5.4	8.56%	101.72	0.68	0.68%
Day Low	521.5	9.5	1.86%	72.27	1.23	1.73%
Day High	526.5	9.5	1.84%	74.43	2.93	4.10%

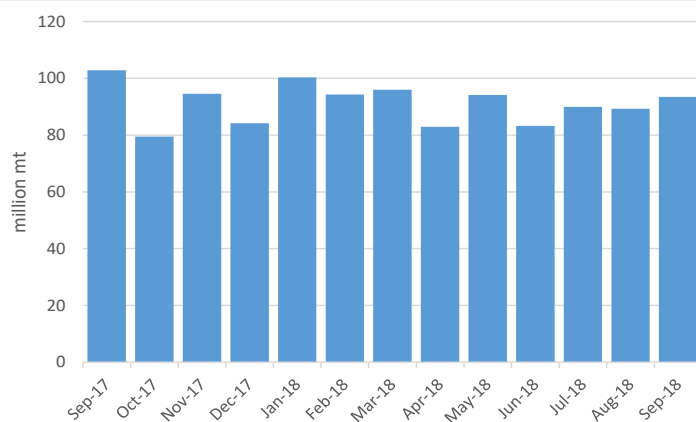
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DRY BULK FREIGHT RATES



TOTAL CHINA IRON ORE IMPORT VOLUMES

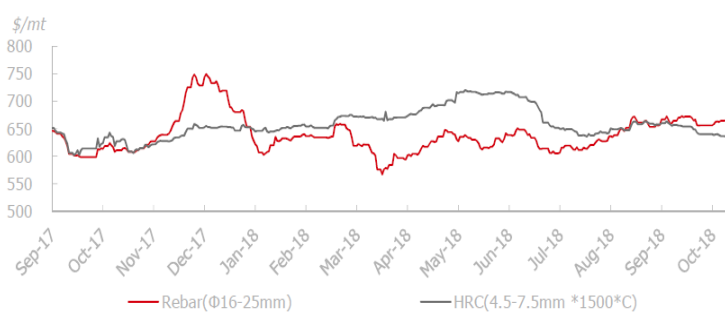


Steel Spot Market Prices - China

Steel Spot Market RMB/tonne

Product	19/10/2018	Change	Change %
ReBar HRB400 φ18mm	4,624.0	31	0.67%
Wirerod Q300 φ6.5mm	4,871.0	38	0.79%
HRC Q235/SS400 5.5mm*1500*C	4,203.0	-35	-0.83%
CRC SPCC/ST12 1.0mm*1250*2500	4,826.0	-7	-0.14%
Medium & Heavy Plate Q235B 20mm	4,390.0	-10	-0.23%
GI ST02Z 1.0mm*1000*C	5,160.0	-65	-1.24%
Billet Q235 150*150mm	3,920.0	30	0.77%

Rebar and HRC spot prices



Source: SMM

CHINESE STEEL EXPORT PRICES

China Export Prices USD/tonne

Product	Specification	Export tax (+)/Vate rebate (-)	Change
19/10/2018			
Rebar	BS4449 460B 12-25mm, + chrome	-13%	570 -5
Wire Rod	SAE1008 6.5-10mm +chrome	-9%	580 0
Hot-rolled coil	SS400/Q235 4.0-10.mm	-9%	565 -5
Cold-rolled coil	SPCC 1.0mm	-13%	605 -5
Medium & Heavy plate	A-level Shipe plate 12-25mm	0%	610 0
Galvanised	ST02Z/SGCC 1.0mm	-13%	670 -5

Note: Calculation formula for converting export prices of rebar, cold-rolled steel and galvanizing into prices in China's spot market = FOB * exchange rate * 1.16 / (1.16 - 0.13); Calculation formula for converting export prices of wire rod and hot-rolled steel into prices in China's spot market = FOB * exchange rate * 1.16 / (1.16 - 0.09); Calculation formula for converting export prices of medium-thick plate into prices in China's spot market = FOB * exchange rate

CHINESE STEEL INVENTORIES

Steel Inventories³ (unit: 1000 tonnes)

Product	19/10/2018	12/10/2018	Change	Change %
Rebar	4,124	4,429	-305	-6.89%
Wirerod	1,355	1,455	-100	-6.87%
Hot-rolled Coil	2,445	2,420	25	1.03%
Medium & Thick Plate	1,161	1,166	-5	-0.43%
Cold-rolled Coil	1,230	1,261	-31	-2.46%
Total	10,315	10,730	-415	-3.87%

³ SMM statistics cover inventories of major steel products in China's major markets: hot-rolled steel inventories in 33 major cities; rebar and wire inventories in 35 major cities; cold-rolled steel and medium-thick plate inventories in 31 major cities.

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	71.03	0.54	Mmi CFR Equivalent index for 12th October
Coke	2,410	100	2nd grade met coke, Tangshan, incl. tax
Steel Scrap	2,410	70	steel scrap (6mm) in Zhangjiagang, exl. tax
Billet Cost	3,082	-808	Q234, incl. tax
Rebar cost - Blast furnace	3,350	76	calculated based on theoretical weight, incl. tax
Rebar profit - Blast furnace	1,160	-26	based on Shanghai prices, incl. tax
Hot-rolled coil cost - Blast furnace	3,407	76	based on actual weight, incl. tax
Hot-rolled coil profit - Blast furnace	793	-106	based on Shanghai prices, incl. tax

Note: 1. Costs in the table are calculated based on today's market prices and factor 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

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	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 * Number of price submissions for iron ore indices that were excluded from index calculations today as they were anomalous and could not be verified			
Fe %	65.00	62.00	58.00				
Alumina %	1.40	2.25	2.25				
Silica%	1.50	4.00	5.50				
Phosphorus %	0.06	0.09	0.05				
Sulphur %	0.01	0.02	0.02				
Moisture %	8.00	8.00	9.00				
Sizing	Granular size below 10mm for at least 90% of cargo; maximum of 40% below 150 micron			Data Exclusions*			
Pricing Point	Qingdao Port (FOT and CFR respectively)				62%	58%	65%
Timing (Seaborne)	Loading within 4 weeks, Delivery within 8 weeks			Port Index	0	0	0
Payment Terms	L/C at sight			Seaborne index	0	0	0

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					
October 22 2018	SPECIFICATIONS APPLIED FOR 62% BRAND ASSESSMENTS						SPECIFICATIONS APPLIED FOR 62% BRAND ASSESSMENTS				
	Fe	Alumina	Silica	Phos	Moisture		Fe	Alumina	Silica	Phos	Moisture
Roy Hill	61.00%	2.20%	4.50%	0.055%	8.00%	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	61.67%	2.33%	3.57%	0.100%	9.21%	PB Fines 62%	62.00%	2.60%	4.30%	0.090%	10.00%
Newman Fines	62.40%	2.36%	4.22%	0.070%	7.71%	Newman Fines	62.80%	2.20%	4.30%	0.080%	6.40%
MAC Fines	60.97%	2.25%	4.68%	0.090%	7.50%	MAC Fines	61.00%	2.70%	4.70%	0.110%	9.30%
Jimblebar Blended Fines	61.37%	2.78%	4.26%	0.110%	6.85%	Jimblebar Blended Fines	61.79%	2.67%	4.08%	0.115%	7.16%
Carajas Fines	64.80%	1.42%	1.57%	0.070%	8.40%	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	62.74%	1.46%	4.99%	0.020%	8.79%	Brazilian Blend Fines	62.50%	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%
October 22 2018	SPECIFICATIONS APPLIED FOR 58% BRAND ASSESSMENTS										
	Fe	Alumina	Silica	Phos	Moisture						
SSF	56.47%	3.03%	6.33%	0.050%	9.29%						
FMG Blended Fines	58.36%	2.79%	5.90%	0.070%	7.13%						
Robe River	56.74%	3.14%	5.05%	0.030%	8.58%						
Western Fines	57.72%	2.86%	7.37%	0.060%	7.41%						
Atlas Fines	56.59%	2.55%	7.14%	0.080%	8.46%						
Yandi	57.12%	1.35%	6.33%	0.040%	9.11%						

BLOOMBERG TICKERS

PORT STOCK INDICES			
	FOT Qingdao (RMB/wet tonne)		CFR Qingdao Equivalent (USD/dry tonne)
IOP162	IRCNQ001		IRCNQ004
IOP158	IRCNQ002		IRCNQ005
IOP165	IRCNQ003		IRCNQ006

CONTACT US

MMI Singapore Office Details: Level 28, Manulife Tower, 8 Cross Street Singapore. Tel: + 65 6850 7629 E: jarek@mmiprices.com

SMM Singapore Office Details: Level 28, Manulife Tower, 8 Cross Street Singapore. Tel: + 65 6850 7630 E: service.en@smm.cn

SMM Shanghai Office Details: 9th FL, Building 9, Lujiazui Software Park, No.20, Lane 91, Pudong, Shanghai Tel: +86 021 5155 0306 E: service.en@smm.cn

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