

MMi Iron Ore Review

April 2020



MMi Iron Ore Review

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Iron Ore Review—April Update

IRON ORE PORT PRICE INDEX

FOT Qingdao (inc. VAT¹), RMB/wet tonne

Index	Fe Content	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	YTD 2020
IOPI62	62% Fe Fines	729	825	909	759	758	721	665	683	706	655	667	668	672
IOPI58	58% Fe Fines	637	726	809	691	674	636	567	592	600	563	577	580	579
IOPI65	65% Fe Fines	812	901	954	823	803	758	723	764	808	797	798	804	801

CFR Qingdao Equivalent (exc. VAT¹), USD/dry tonne

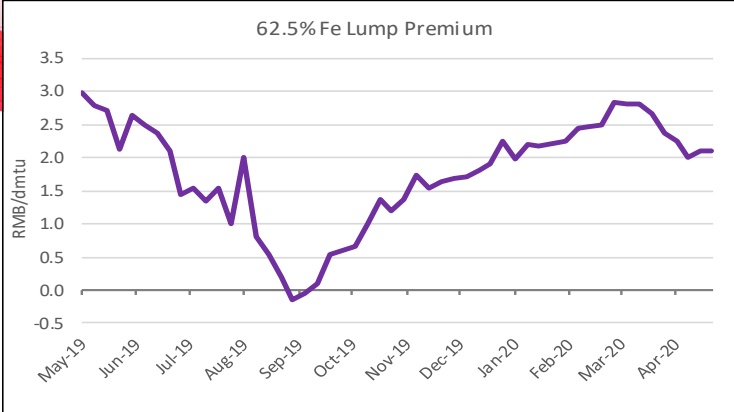
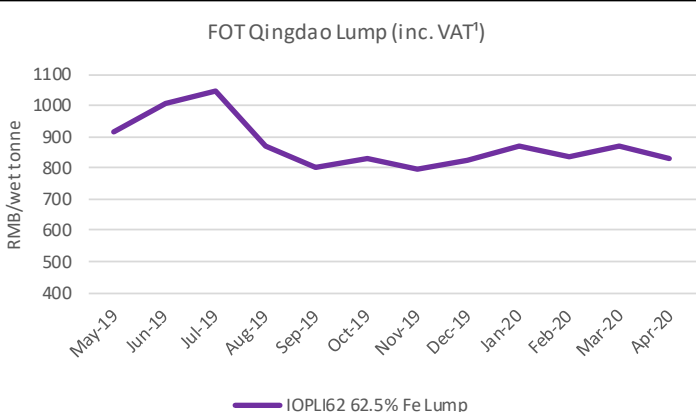
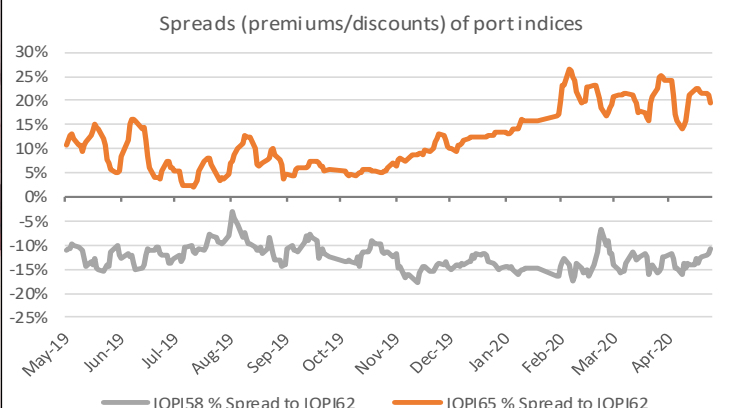
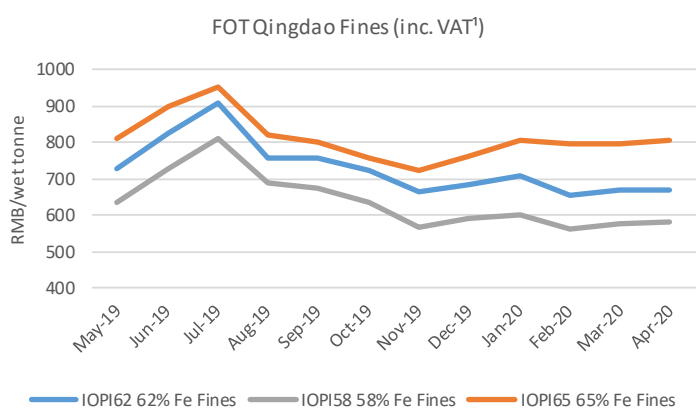
IOPI62	62% Fe Fines	98.40	111.42	123.29	100.18	99.15	94.29	87.30	89.84	94.23	86.23	87.61	87.15	88.47
IOPI58	58% Fe Fines	86.39	98.60	110.47	91.86	88.77	83.57	74.67	78.18	80.46	74.33	76.20	75.96	76.54
IOPI65	65% Fe Fines	110.00	121.97	129.53	108.92	105.38	99.32	95.29	100.90	108.54	105.84	105.60	105.61	106.2

FOT Qingdao (inc. VAT¹), RMB/wet tonne

Index	Fe Content	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	YTD 2020
IOPLI62	62.5% Fe Lump	919	1009	1046	870	804	829	794	825	868	834	868	832	849

CFR Qingdao Equivalent (exc. VAT¹), USD/dry tonne

IOPLI62	62.5% Fe Lump	117.12	128.00	132.99	108.08	98.44	101.74	97.89	102.01	108.99	106.19	110.46	104.89	107.47
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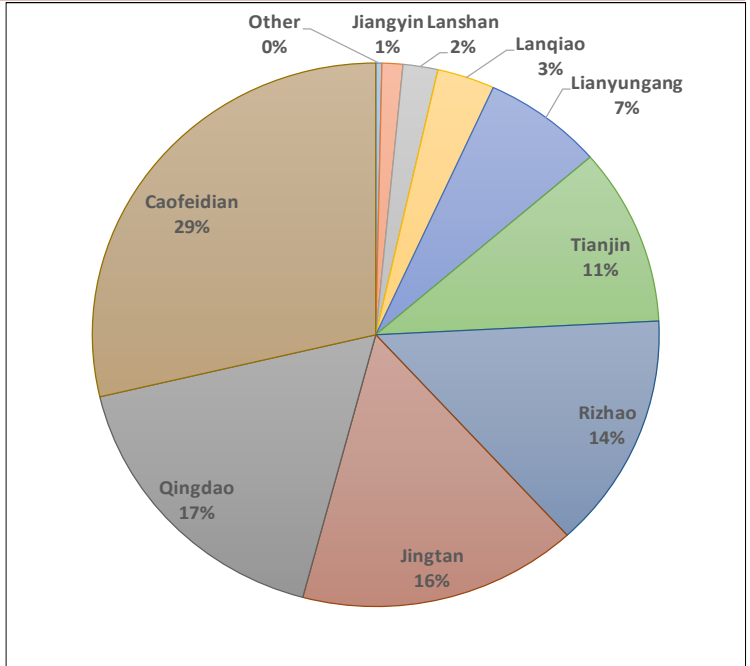
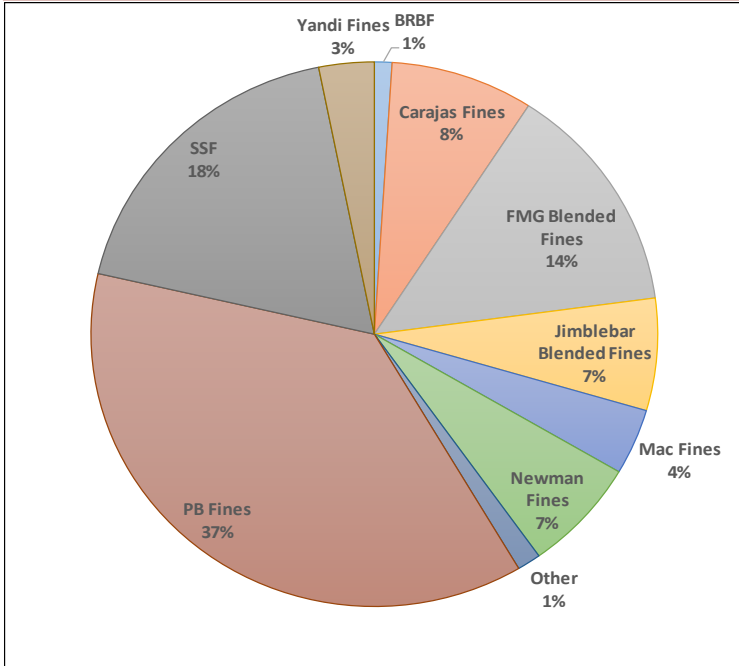


PORT PRICE DIFFERENTIALS TO QINGDAO PORT FOR PB FINES

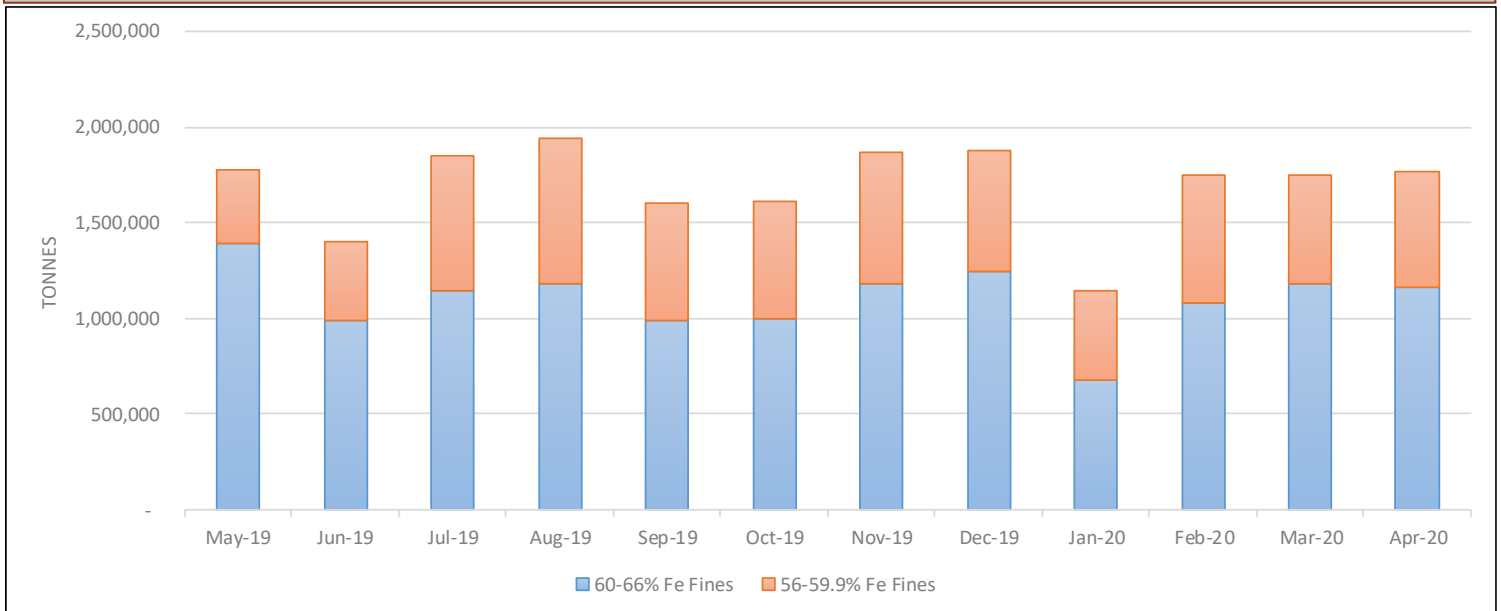
Port Stock Price Differentials to Qingdao Port for PB Fines (RMB/wet tonne) - March 2019 - February 2020 Average values

Port	Differential	Port	Differential	Port	Differential	Port	Differential
Bayuquan	-38.33	Fangcheng	-5.00	Lanqiao	0.00	Qingdao	0.00
Beilun	-3.81	Huanghua	-21.67	Lanshan	0.00	Rizhao	0.00
Caofeidian	-10.00	Jiangyin	-23.33	Majishan	0.00	Shekou	0.00
Dalian	-38.33	Jingtang	-10.00	Nantong	-23.33	Tianjin	-16.19

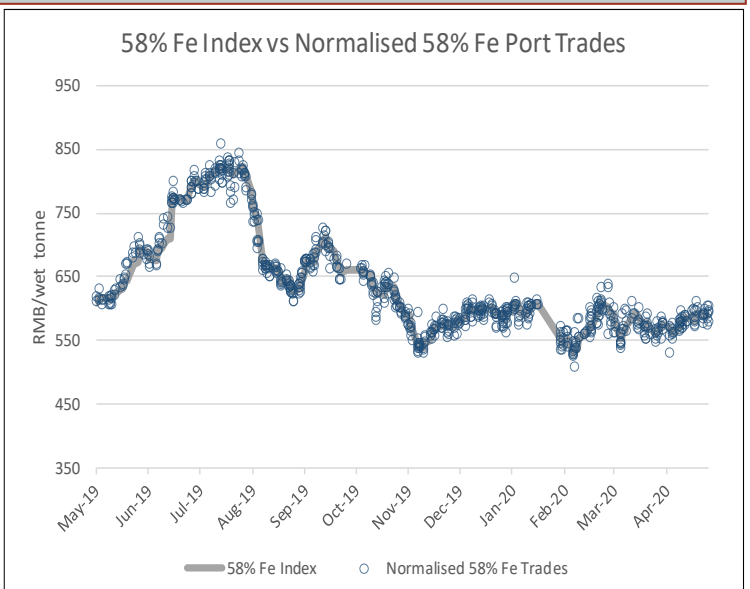
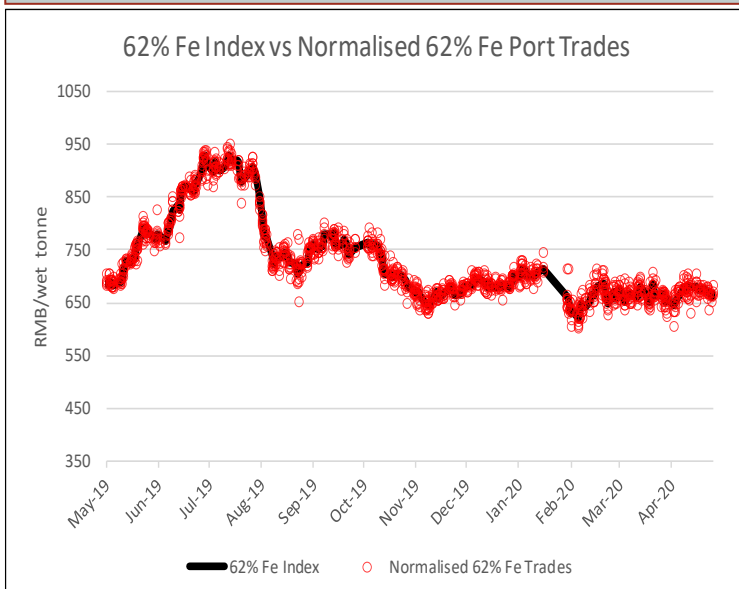
IRON ORE PORT PRICE INDEX BRAND AND PORT MAKEUP—LAST 12 MONTHS



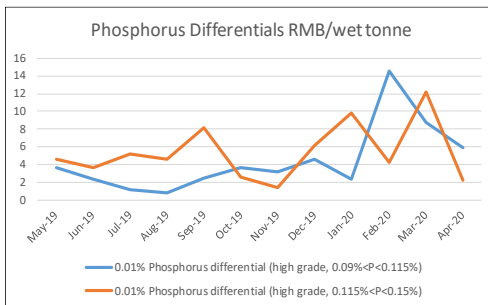
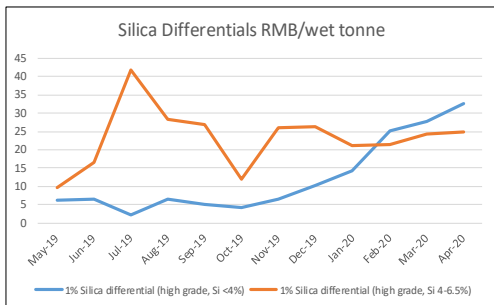
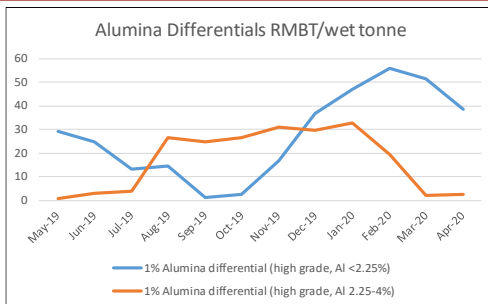
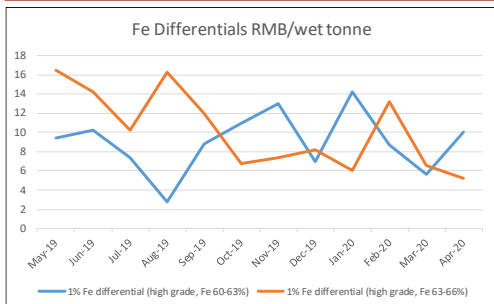
IRON ORE PORT PRICE INDEX COMPILATION VOLUME



IRON ORE PORT PRICE INDEX COMPILATION



62% FE AND 65% FE PORT PRICE INDEX NORMALISATION DIFFERENTIALS (MONTHLY AVERAGES)



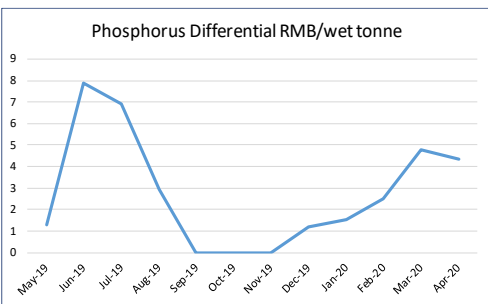
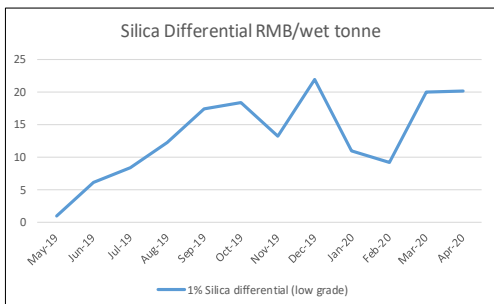
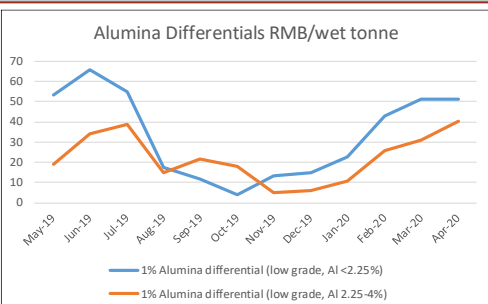
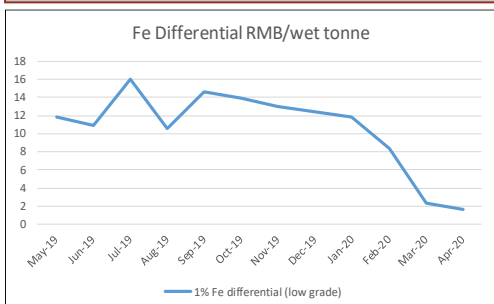
Operating rates at Chinese domestic mines rose slightly in April and therefore domestic supply is set to rise further in May. This has led to an easing of premiums and increasing discounts for high fe iron ore at the port. SMM expects prices of domestic iron ore to rise slightly in some areas in May.

Demand for high grade iron ore brands eased further in April. Premiums for low alumina and high fe fell as well, continuing on from March. Falling production costs may have helped rebar producers but weak demand from white good manufacturers has hurt coil producers and further hurting demand for premium iron ore grades.

This has resulted in better than expected performance in medium grade products such as BRBF and PB Fines.

Iron ore port stocks declined in April as blast furnace operating rates recovered and restocking demand before the Labour Day holiday significantly bolstered shipments from ports.

58% FE PORT PRICE INDEX NORMALISATION DIFFERENTIALS (MONTHLY AVERAGES)



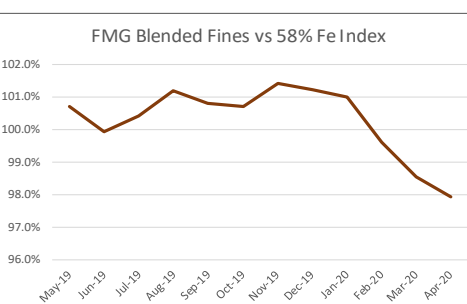
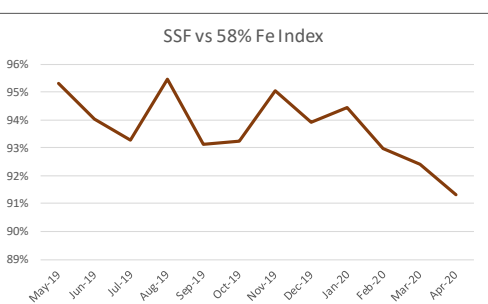
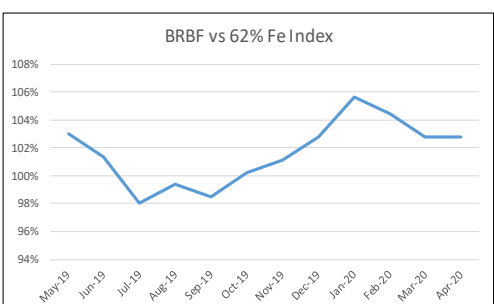
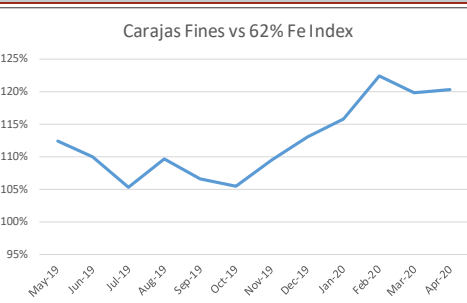
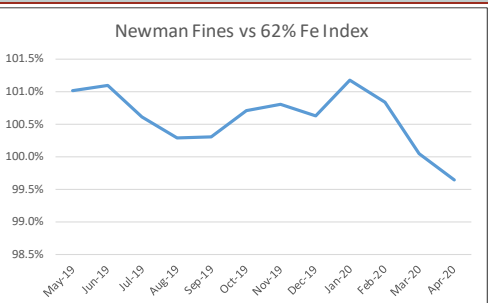
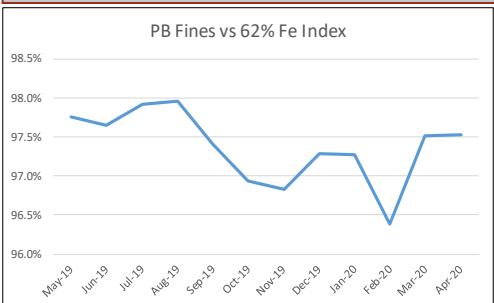
Fe premiums plummeted close to zero in April for low-grade products, consumers looking to silica and alumina as key differentiator amongst that class of product.

Not shown here, but Yandi fines has held up well versus the index, inching down to around 102% of the 58% fe port stock index in April, down from 103% in March.

The rising impact of alumina and silica premiums/discounts has hurt SSF and FMB blended fines the most, their performance against 58% indices continuing to fall. Easing silica discounts and a return of fe premiums would likely see this trend reverse.

Spreads between medium and low-grade iron ore products are unlikely to tighten in May as low-grade inventories are holding up well month-on-month given the low profits margins for steel. They are up to 31% of the total inventory at port in April, versus 30.6% in March.

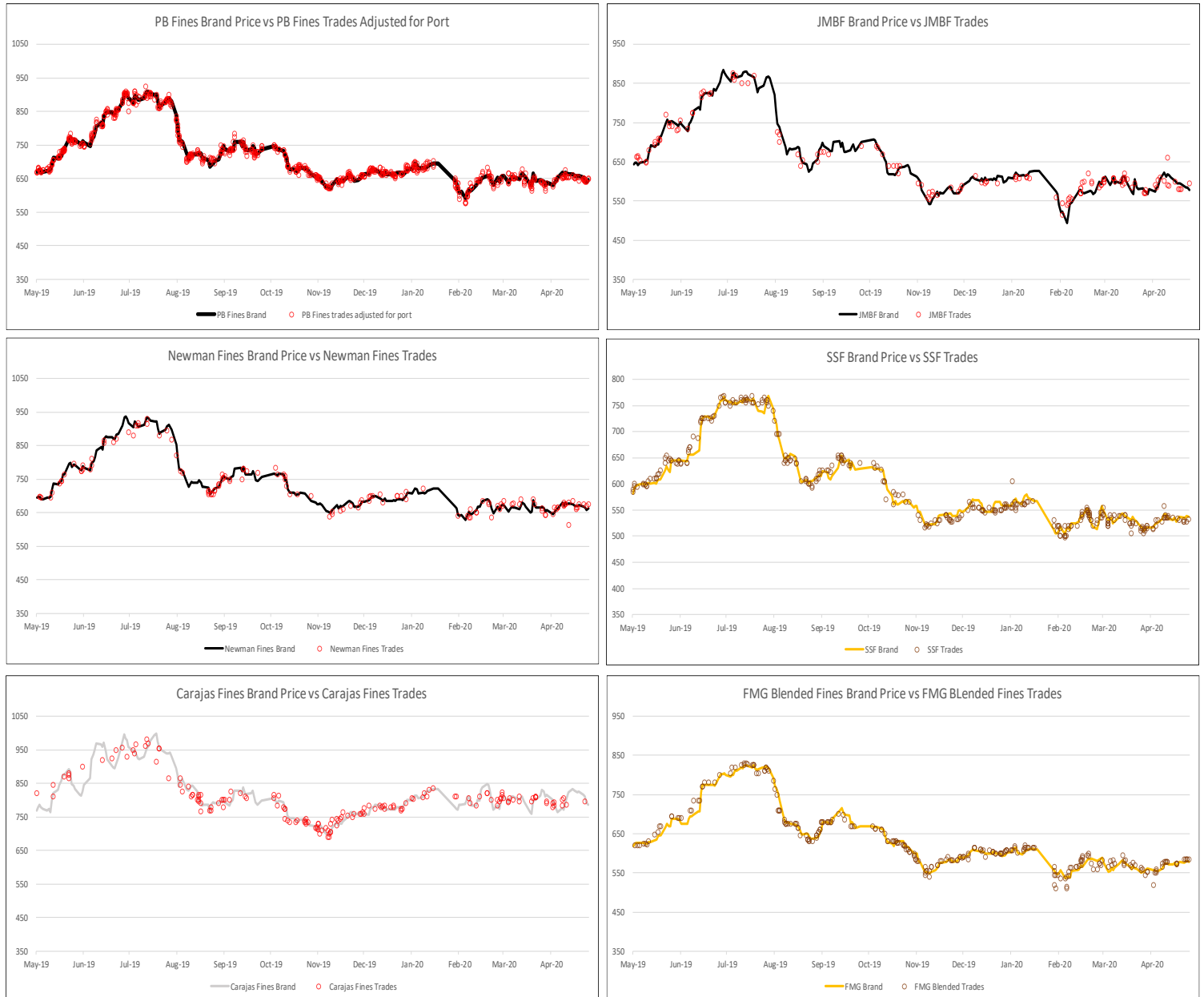
KEY PORT BRAND PRICE ASSESSMENTS VERSUS INDEX (MONTHLY AVERAGES)



IRON ORE PORT BRAND PRICE ASSESSMENTS

FOT Qingdao (inc VAT ¹), RMB/wet tonne													
Brand	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	YTD 2020
PB Fines	713	806	890	743	738	699	644	664	686	631	650	652	653
Newman Fines	736	834	915	761	760	726	670	687	714	660	667	666	674
MAC Fines	712	807	878	742	735	705	633	657	671	628	645	639	644
Jimlebar Blended Fines	691	793	858	676	689	631	571	606	618	555	596	593	589
Carajas Fines	820	907	957	832	807	760	728	772	816	802	798	804	804
Brazilian Blend Fines	751	836	891	754	746	722	672	702	745	684	685	687	697
SSF	607	683	755	660	628	593	539	556	567	523	534	530	537
FMG Blended Fines	641	725	812	699	679	640	575	599	606	560	569	568	574
Yandi Fines	657	752	836	688	658	612	553	570	596	576	593	594	590

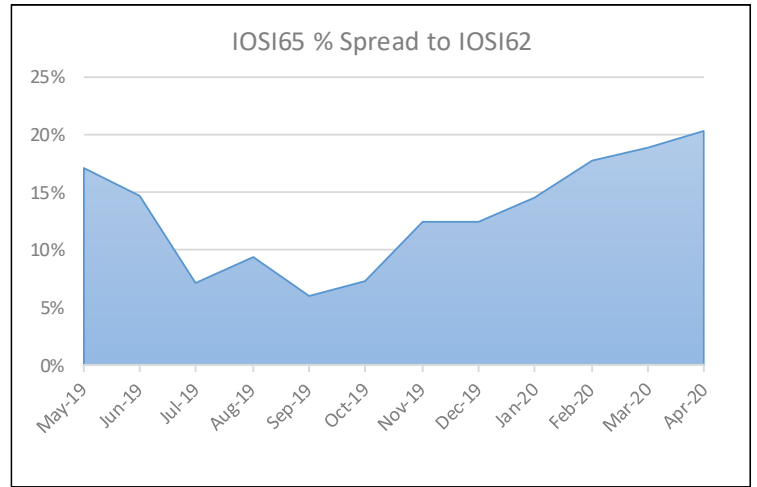
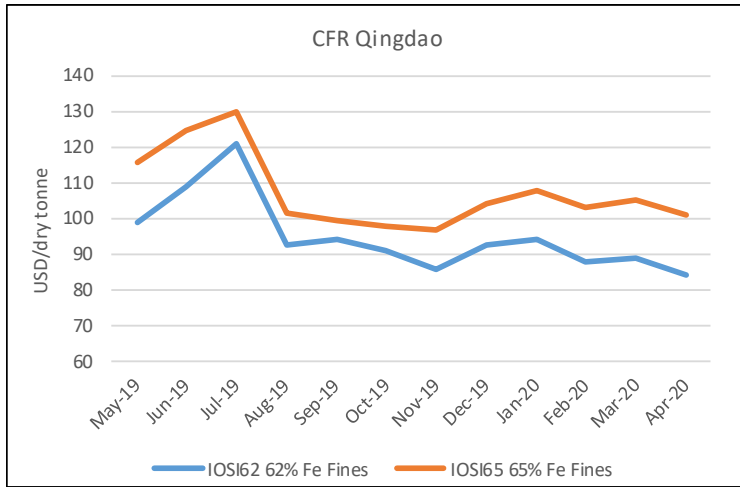
KEY PORT BRAND PRICE ASSESSMENTS AND TRADED PRICES



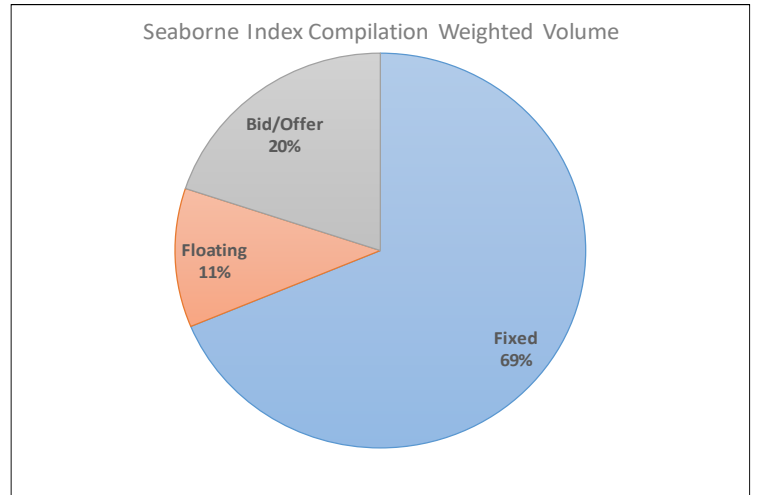
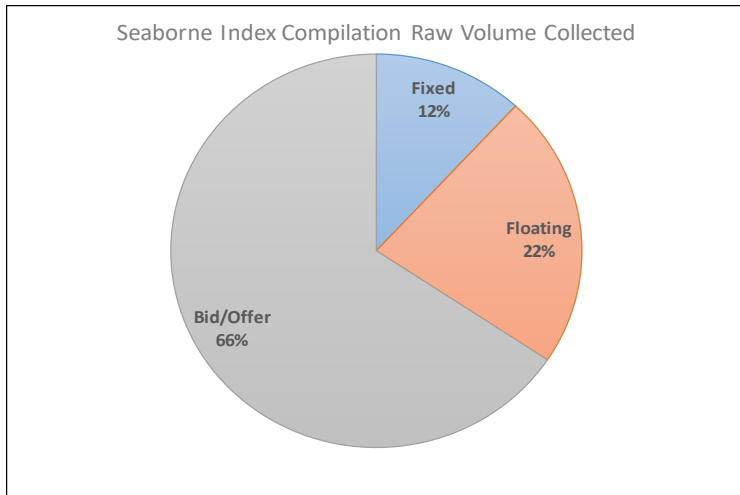
¹VAT=16% for January-March, VAT=13% for April-December

IRON ORE SEABORNE PRICE INDEX

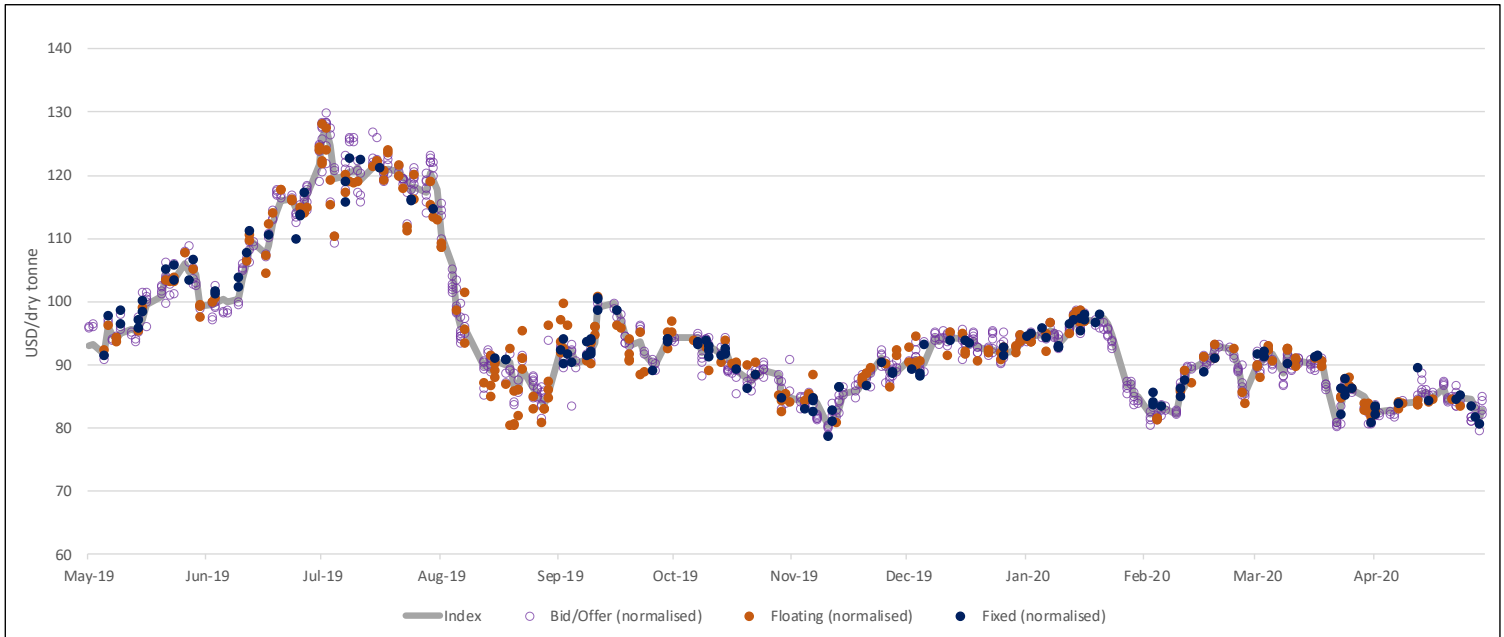
		CFR Qingdao, USD/dry tonne												
Index	Fe Content	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	YTD 2020
IOSI62	62% Fe Fines	98.68	108.57	120.82	92.61	93.76	90.81	85.83	92.64	93.85	87.46	88.60	83.89	88.26
IOSI65	65% Fe Fines	115.53	124.49	129.53	101.34	99.42	97.45	96.49	104.14	107.56	102.94	105.31	100.97	104.10



IRON ORE SEABORNE PRICE INDEX COMPILATION—LAST 12 MONTHS

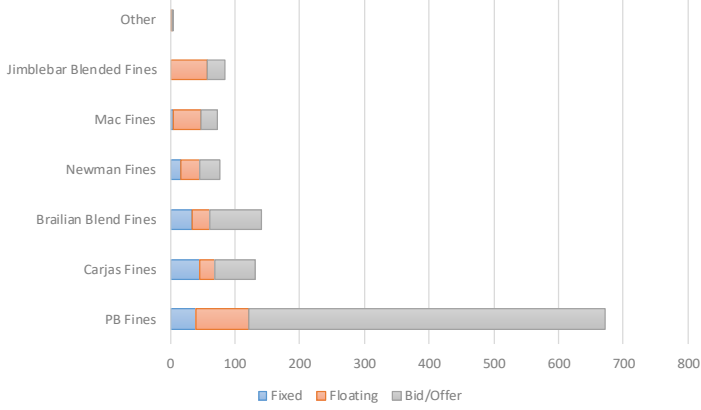


IRON ORE SEABORNE PRICE INDEX COMPILATION

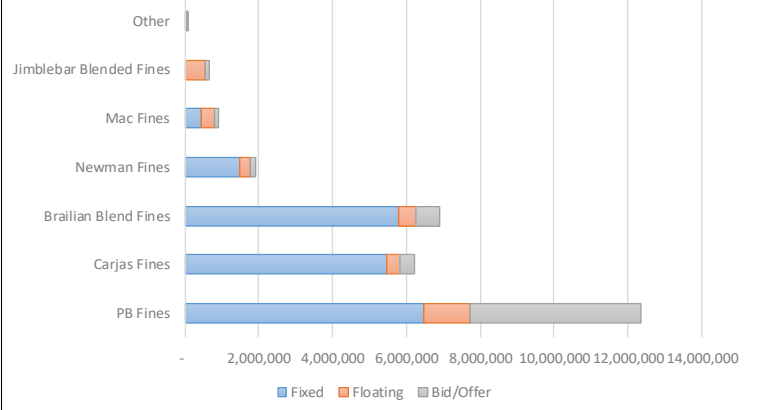


IRON ORE SEABORNE PRICE INDEX COMPILATION—LAST 12 MONTHS

Key Seaborne Index Brand Volumes

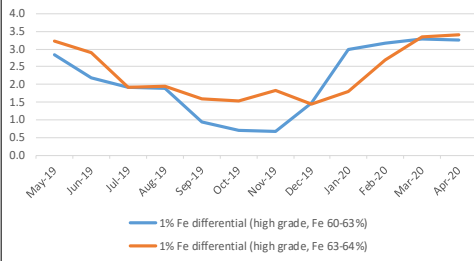


Key Seaborne Index Weighted Brand Volumes

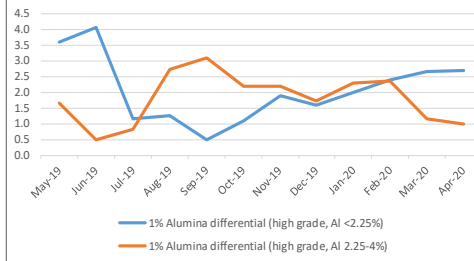


SEABORNE PRICE INDEX NORMALISATION DIFFERENTIALS (MONTHLY AVERAGES)

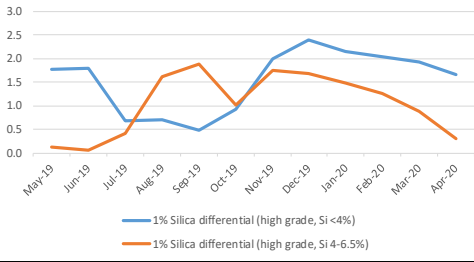
FE Differentials USD/dry tonne



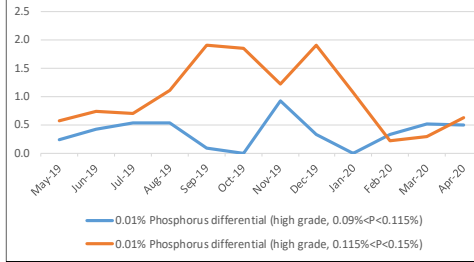
Alumina Differentials USD/dry tonne



Silica Differentials USD/dry tonne



Phos Differentials USD/dry tonne



Medium grade iron ore products such as BRBF, PB fines and Newman Fines performed very well in April, as low profit margins had mills shift focus and try acquire iron ore with better cost performance in the furnace.

Rising domestic concentrate prices also helped mills look to the seaborne market.

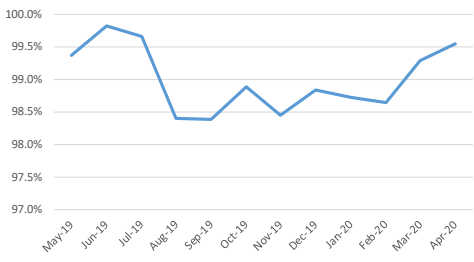
Fe premiums, for products between 63-66% fe eased slightly March to April, hurting Carajas performance versus the 62% index, despite high low-alumina premiums. This was further aided by falling silica discounts for the mid-grade iron products.

Higher amounts of iron ore is expected arrive in the coming month as cuts in foreign mill production has driven producers to focus their sales efforts into China. This is likely to halt the fall in port inventories.

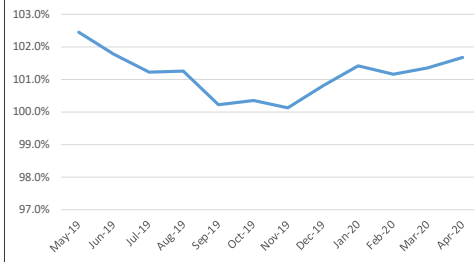
The price spread between domestic and imported ore is expected to widen in May due to higher prices of domestic iron ore.

KEY SEABORNE BRAND PRICE ASSESSMENTS VERSUS 62% FE or 65% FE PRICE INDEX

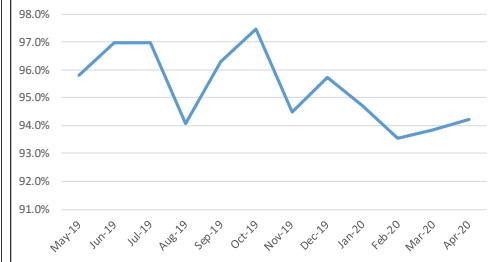
PB Fines vs 62% Fe Index



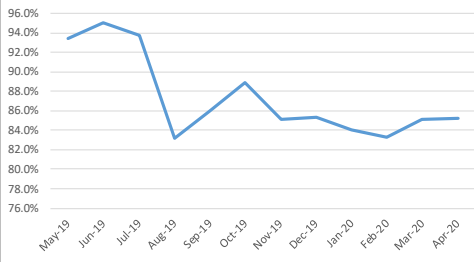
Newman Fines vs 62% Fe Index



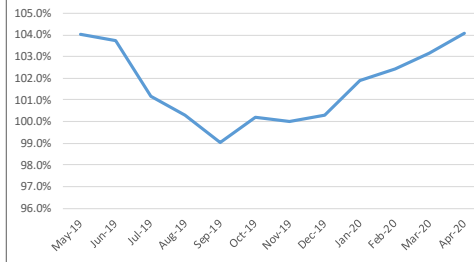
MAC Fines vs 62% Fe Index



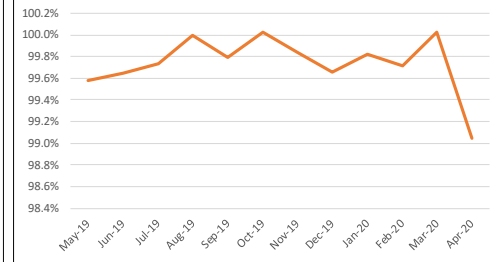
JMBF vs 62% Fe Index



BRBF vs 62% Fe Index



Carajas Fines vs 65% Fe Index

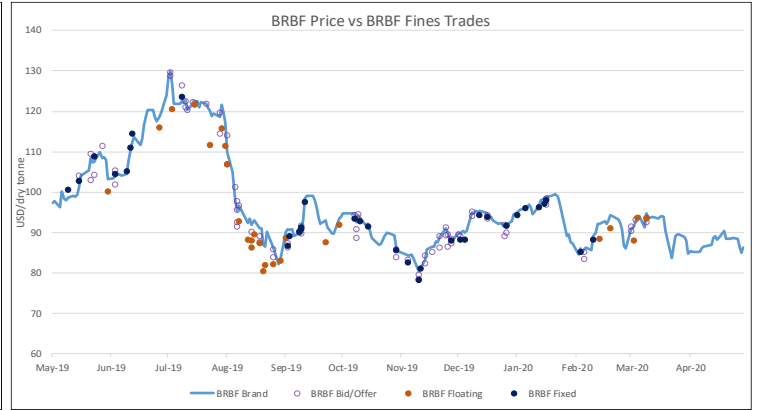
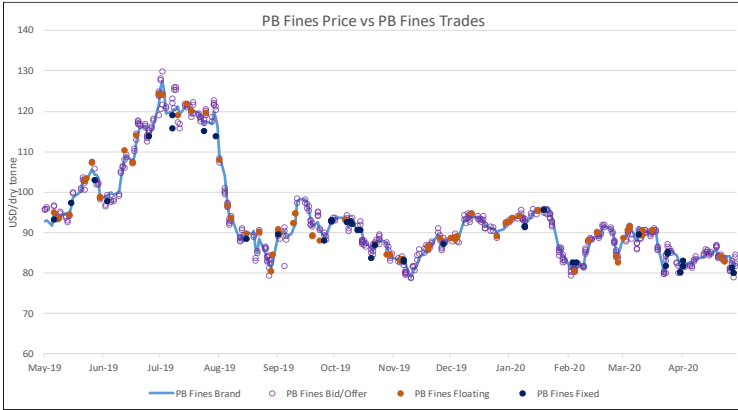


IRON ORE SEABORNE BRAND PRICE ASSESSMENTS

Selected Iron Ore Seaborne Brand Averages, USD/dry tonne

Brand	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	YTD 2020
PB Fines	98.06	108.38	120.41	91.13	92.25	89.79	84.49	91.56	82.25	88.65	87.98	83.40	87.60
Newman Fines	101.09	110.50	122.30	93.78	93.97	91.13	85.95	93.38	95.19	88.47	89.79	85.18	89.67
MAC Fines	94.53	105.27	117.18	87.14	90.29	88.50	81.11	88.68	88.90	81.82	83.14	78.92	83.21
Jimblebar Blended Fines	92.12	103.21	113.27	77.01	80.58	80.72	73.07	79.01	78.90	72.80	75.42	71.36	74.65
Carajas Fines	115.04	124.05	129.18	101.34	99.21	97.48	96.34	103.78	107.36	102.65	105.33	100.01	103.87
Brazilian Blend Fines	102.67	112.64	122.24	92.89	92.87	91.01	85.85	92.92	95.65	89.60	91.40	87.19	90.98

KEY SEABORNE BRAND PRICE ASSESSMENTS AND TRADED PRICES

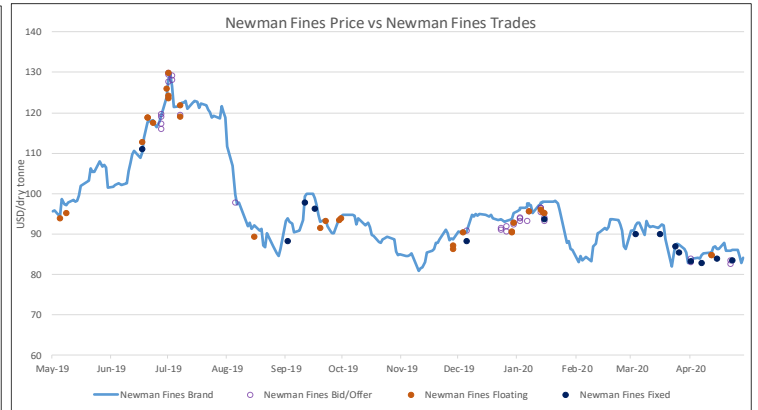
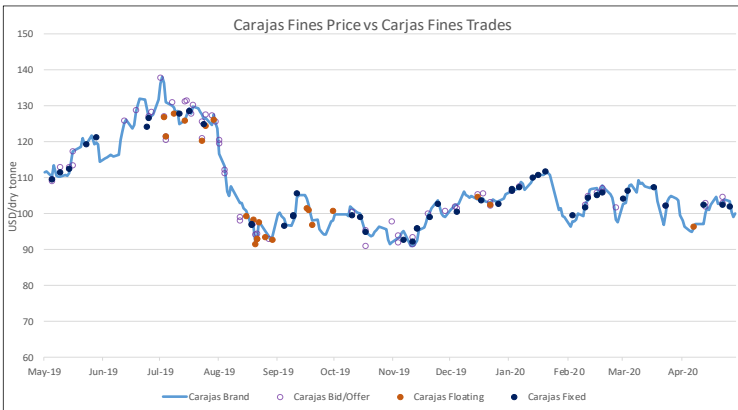


Correlations to PB Fines Brand Assessment

PB Fines Bid/Offer	99.26%
PB Fines Floating trades	99.47%
PB Fines Fixed trades	99.56%

Correlations to BRBF Brand Assessment

BRBF Bid/Offer	99.08%
BRBF Floating trades	99.05%
BRBF Fixed trades	99.52%



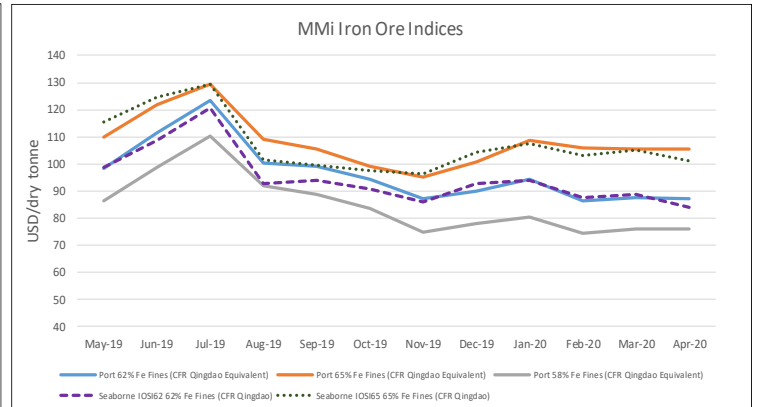
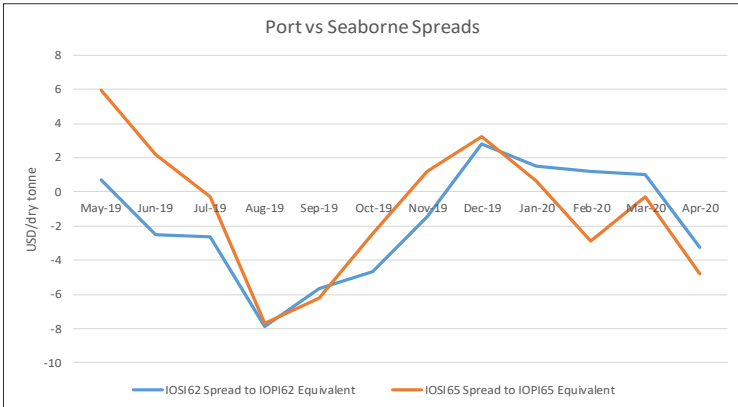
Correlations to Carajas Fines Brand Assessment

Carajas Fines Bid/Offer	97.67%
Carajas Fines Floating trades	98.45%
Carajas Fines Fixed trades	98.95%

Correlations to Newman Fines Brand Assessment

Newman Fines Bid/Offer	99.70%
Newman Fines Floating trades	99.46%
Newman Fines Fixed trades	98.65%

IRON ORE PORT AND SEABORNE PRICE INDEX COMPARISONS



IRON ORE INDEX SPECIFICATIONS AND COMPILATION RATIONALE

Iron Ore Index Specifications (Port and Seaborne)					Index Compilation Rationale
	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	

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		IOSI62	IRCN0034
IOPI58	IRCNQ002	IRCNQ005		IOSI65	IRCN0035
IOPI65	IRCNQ003	IRCNQ006			
IOPLI62	IRCN0036	IRCN0037			

AVERAGE APRIL 2020 IRON ORE BRAND SPECIFICATIONS

PORT STOCK BRANDS						SEABORNE BRANDS					
62% Fe average brand specifications for 2019						Specifications applied for 62% brand assessments					
	Fe	Alumina	Silica	Phos	Moisture		Fe	Alumina	Silica	Phos	Moisture
Roy Hill	60.70%	2.24%	4.89%	0.060%	9.33%	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	61.55%	2.36%	3.75%	0.099%	9.38%	PB Fines 62%	62.00%	2.60%	4.30%	0.090%	10.00%
Newman Fines	62.50%	2.24%	4.09%	0.088%	7.66%	Newman Fines	62.40%	2.20%	4.30%	0.080%	6.40%
MAC Fines	60.83%	2.26%	4.74%	0.083%	7.49%	MAC Fines	61.00%	2.70%	4.70%	0.110%	9.30%
Jimblebar Blended Fines	60.78%	3.01%	4.45%	0.115%	7.47%	Jimblebar Blended Fines	59.50%	3.70%	5.80%	0.135%	8.30%
Carajas Fines	65.41%	1.28%	1.47%	0.077%	8.12%	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	62.67%	1.54%	4.78%	0.071%	8.24%	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%
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%
58% Fe average brand specifications for 2019											
	Fe	Alumina	Silica	Phos	Moisture		Fe	Alumina	Silica	Phos	Moisture
SSF	56.70%	3.07%	6.20%	0.055%	8.69%						
FMG Blended Fines	58.22%	2.67%	5.54%	0.061%	7.61%						
Robe River	56.31%	3.17%	5.64%	0.041%	9.10%						
Western Fines	57.88%	2.87%	7.50%	0.062%	7.45%						
Atlas Fines	56.59%	2.55%	7.14%	0.080%	8.46%						
Yandi	57.19%	1.57%	6.40%	0.039%	8.91%						

CONTACT US

MMi Singapore Office Details: Level 28, Manulife Tower, 8 Cross Street Singapore. Tel: + 65 6850 7629 E: jarek@mmiprices.comSMM Singapore Office Details: Level 28, Manulife Tower, 8 Cross Street Singapore. Tel: + 65 6850 7630 E: service.en@smm.cnSMM 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.cnVisit www.mmiprices.com for full index price histories and archive of daily reports

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