

Steel raw materials forecasts



Methodology and price
specifications – August 2022

Mission statement

Fastmarkets Metals and Mining is the leading global provider of pricing intelligence for the non-ferrous metal, steel, steelmaking raw materials, industrial minerals, ferrous and non-ferrous scrap markets, producing price assessments with Fastmarkets MB and Fastmarkets AMM since 1913 and 1882 respectively. The research arm of Fastmarkets Metals and Mining provides forecasts and analysis based on price assessments from Fastmarkets MB and Fastmarkets AMM. Established in 1991, we have provided regular, insightful analysis and forecasts to businesses around the world to help them make informed and strategic decisions and recommendations. Our mission is to meet the market's data requirements honestly and independently, acting with integrity and care to ensure that the trust and confidence placed in the reliability of our methodologies is maintained. We do not have a vested interest in the markets on which we report. Within the research function of Fastmarkets, we stress our ability to operate independently of the rest of the Group, and the existence of formal rules of confidentiality that exist between the pricing and news providers within the Group and the research and consulting functions.

Introduction

Fastmarkets' reporters and analysts are required to abide by a code of conduct and clear pricing procedures during their market reporting and pricing activities. Fastmarkets is completely independent and has no vested commercial interest in any of the markets it prices. We are the world's largest dedicated price reporting teams for both metals and forest products. We have offices in London, New York, Boston, San Francisco, Eugene, Charlottesville, Atlanta, Pittsburgh, Beijing, Shanghai, Hong Kong, Singapore, Melbourne, Sao Paolo, Mumbai, Brussels, Helsinki, Dnipro and Istanbul. The aim of this document is to provide a clear overview of Fastmarkets' forecasting methodology and specifications for the prices forecast. If you have any questions, please contact Fastmarkets Executive VP Analytics Dan Klein at dan.klein@fastmarkets.com for metals, Fastmarkets Metals and Mining research leader, Kim Leppold, at kim.leppold@fastmarkets.com about our forecast products.

Fastmarkets' forecasting methodology

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Fastmarkets provides a dynamic, bottom-up and unbiased approach to short-term (<2-year) monthly and quarterly price forecasting.

The methodological model takes a three-way approach to account for:

1. supply-demand fundamentals
2. underlying costs & implied margins
3. market sentiment

This framework enables the analysts to determine the key but changing drivers of price movements in the past and future.

To source the information to prepare our price forecasts, forecasters conduct both extensive desk-based research as well as primary research; the latter being more heavily weighted toward our near-term (<3 month) view.

Fastmarkets' forecasting methodology includes drawing on expertise from our in-house analysts with forecasting experience of up to 20-25 years who rely heavily on the intelligence gathering and data analytics insight of our extensive editorial teams.

We supplement this valuable network with our proprietary databases, which focus on the underlying physical market movements that drive prices and the archive of spreads between price series that instruct and contextualize our understanding of margins.

These are supported by exhaustive third-party data and economic forecasting services, which help us to build the fundamental drivers of the future.

Our analysts access extensive existing relationships across the industry through face time and written interviews, and take into account the opinions provided to our price reporters and data analytics team. This cross-referencing approach helps us to value the intelligence, generate insight and help in our mission to illuminate markets.

Modeling Fastmarkets' forecasts

Generating our forecasts is an involved process that combines macroeconomic theory, market insight,

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statistical modeling and machine learning. It is this combination of expert knowledge and cutting-edge data modeling which generates our trusted forecasts. They also allow deeper insight into the fundamental workings of a market and elicit data patterns that give insight and relative weighting of key market factors that drive price direction, such as the Chinese Purchasing Manager's Index. These insights and their statistical robustness allow our expert analysts to improve forecast accuracy and reliability and to inform their commentary along with traditional macro-economic and sentiment analysis.

Our data collection and process:

- Include price benchmarks - which refer to prices used in industrial contracts - and prices that are viewed as trendsetters for a particular region or a product group
- Bespoke approach to each price forecast
- Draw on a comprehensive set of macro-economic data
- Machine learning approach to find the best model candidate and predictions with rigorous checks on model approach and output
- Models undergo periodical review
- Rigorous approval process

Steel Raw Materials price forecasts

Crucial to the results of steel raw materials price forecasts is a detailed analysis of distinct product-specific factors:

- Fastmarkets' internal forecasts for Steel Raw Materials production and consumption in individual countries or regions
- Estimated inventory levels in the supply chain
- Net trade position, expected price levels at main foreign suppliers or buyers, trade policy changes
- Projected performance of major steel users, such as construction, automotive and other transport, mechanical engineering, metal goods, domestic appliances and the energy sectors, taking into account the share of a particular sector
- Fastmarkets' expertise in the raw materials sector enables an examination of production costs and operating margins, as we cross-reference predicted metal spreads against the fundamental backdrop and take into account the prevailing route for Steel Raw Materials production in the country (blast or electric arc furnace method)
- Market sentiment, including price trends of benchmark feedstock prices

Forecast list

MB-IRO-0001	Pig iron export, fob main port Baltic Sea, CIS, \$/tonne
Quality:	10-15kg, <0.09% manganese
Quantity:	5,000-20,000 tonnes
Location:	fob Baltic Sea
Timing:	4-6 weeks
Unit:	USD/tonne
Payment terms:	Payment upon delivery
Publication:	Weekly. Thursday, by 4pm London time
MB-IRO-0002	Pig iron export, fob main port Black Sea, CIS, \$/tonne
Quality:	10-18kg, >0.1% manganese
Quantity:	Minimum 5,000 tonnes (standard order to US 25,000-50,000 tonnes)
Location:	fob Black Sea
Timing:	4-6 weeks
Unit:	USD/tonne
Payment terms:	Against FCR or L/C
Publication:	Weekly. Thursday, by 4pm London time
MB-IRO-0004	Pig iron import, cfr Gulf of Mexico, US, \$/tonne
Quality:	Min size: standard size, ≤ 0.1% phosphorous
Quantity:	20,000-70,000 tonnes
Location:	cfr Gulf of Mexico
Unit:	USD/tonne
Payment terms:	Payment upon delivery
Publication:	Weekly. Friday, by 4pm London time
MB-IRO-0005	Pig iron export, fob Vitoria/Rio, Brazil, \$/tonne
Quality:	> 0.1% phosphorous
Quantity:	20,000-70,000 tonnes
Location:	fob Brazil
Timing:	Spot
Unit:	USD/tonne
Payment terms:	Partial prepayments upon readiness
Publication:	Weekly. Friday, by 4pm London time

MB-IRO-0006	Pig iron export, fob Ponta da Madeira, Brazil, \$/tonne
Quality:	≤ 0.1% phosphorous
Quantity:	20,000-70,000 tonnes
Location:	FOB Brazil
Timing:	Spot
Unit:	USD/tonne
Payment terms:	Payment upon delivery
Publication:	Weekly. Friday, by 4pm London time

MB-IRO-0008	Iron ore 62% Fe fines, cfr Qingdao, \$/tonne MBI0I-62
Quality:	Fe content base 62%, range 60-63.5%; silica base 4%, max 8%; alumina base 2.3%, max 4%; phosphorus base 0.10%, max 0.15%; sulfur base 0.02%, max 0.06%; loss on ignition (%DW) base 4.7%, max 11%; moisture: base 8%, max 10%; granularity base size >90% < 6.3mm, at least 90% <10.0mm, at most 40% <0.15mm
Quantity:	Min 30,000 tonnes
Location:	cfr Qingdao, normalized for any Chinese mainland sea port
Timing:	Within 8 weeks
Unit:	USD/tonne
Payment terms:	Payment at sight, other terms normalized to base
Publication:	Daily at 6.30pm Singapore time
Notes:	All origins. Data history from May 2008

MB-IRO-0009	Iron ore 65% Fe Brazil-origin fines, cfr Qingdao, \$/tonne MBI0I-65-BZ
Quality:	Fe content base 65%, range 63.5-66%; silica base 1.7%; alumina base 1.5%; phosphorus base 0.08%; sulfur base 0.01%; moisture base 9%; granularity 90% <10.0mm, <30% <0.15mm
Quantity:	Min 30,000 tonnes
Location:	cfr Qingdao
Timing:	Within 10 weeks
Unit:	USD/tonne
Payment terms:	Payment at sight
Publication:	Daily at 6.30pm Singapore time
Notes:	Origin Brazil only. Data history from August 2013

MB-IRO-0013 Iron ore 66% Fe concentrate, cfr Qingdao, \$/tonne MBIOI-CO

Quality: Fe content base 66%, range 63-70%; silica base 4.5%, max 9%; alumina base 0.5%, max 2%; phosphorus base 0.02%, max 0.06%; sulf base 0.03%, max 0.10%; titanium base 0.05%, maximum 0.30%; moisture base 8.0%/DW, Max 11.0%/DW; granularity max size >80% <0.15mm

Quantity: Min 10,000 tonnes

Location: cfr Qingdao - normalized for any Chinese mainland sea port

Timing: Within 8 weeks

Unit: USD/tonne

Payment terms: Letters of Credit on sight - other payment terms normalized

Publication: Weekly. Friday at 6.30pm Singapore time

Notes: All origins. Data history from September 2012

MB-IRO-0014 Pig iron import, cfr Italy, \$/tonne

Quality: 10-15kg, >0.1% manganese, ≤ 0.1% phosphorous

Quantity: Minimum 5,000 tonnes

Location: cfr Italy

Timing: 4-8 weeks

Unit: USD/tonne

Payment terms: Against FCR or B/L

Publication: Weekly. Thursday, by 4pm London time

MB-FE-0002 Hot-briquetted iron export, fob main port Venezuela, \$/tonne

Quantity: Standard 30,000 tonnes

Location: fob Venezuela

Timing: 6-12 weeks

Unit: USD/tonne

Payment terms: Upon delivery, in instalments

Publication: Weekly. Friday by 4pm London time

MB-IRO-0012 Iron ore 65% Fe blast furnace pellet, cfr Qingdao, \$/tonne MBIOI-PT

Quality: Fe content base 65%, range 60-70%; silica base 4.5%, max 6%; alumina base 0.4%, max 3.5%; phosphorus base 0.03%, max 0.08%; sulfur base 0.01%, max 0.02%; moisture base 2.0%/DW, max 3.0%/DW; granularity max size >90% >10.0mm; compression strength base 250daN, min 200daN

Quantity: Min 10,000 tonnes

Location: cfr Qingdao - normalized for any Chinese mainland sea port

Timing: Within 8 weeks

Unit: USD/tonne

Payment Terms: Letters of Credit on sight - other payment terms normalized

Publication: Weekly. Friday at 6.30pm Singapore time

Notes: All origins. Data history from April 2012

MB-COA-0005 Premium hard coking coal, cfr Jingtang, \$/dmt

Quality: CSR base 71%, min 67%; volatile matter (ad) base 21%, range 18-25%; ash (ad) base 9.50%, max 11%; sulfur (ad) base 0.50%, max 1.10%; CSN/FSI base 8, min 7; TM (ar) base 10%; mean max reflectance base 1.35%, range 1.10-1.60%; max fluidity base 500ddpm, min 40ddpm. Physical Size: <50mm

Quantity: Min 10,000 tonnes

Location: cfr Jingtang

Timing: Seaborne, laycan within 60 days

Unit: USD/dry metric tonne

Payment terms: Letters of Credit on sight

Publication: Daily at 6.30pm Singapore time

Notes: All origins

MB-COA-0003 Premium hard coking coal, fob DBCT, \$/dmt

Quality: CSR base 71%, min 67%; volatile matter (ad) base 21%, range 18-25%; ash (ad) base 9.50%, max 11%; sulfur (ad) base 0.50%, max 1.10%; CSN/FSI base 8, min 7; TM (ar) base 10%; mean max reflectance base 1.35%, range 1.10-1.60%; max fluidity base 500ddpm, min 40ddpm. Physical Size: <50mm

Quantity: Min 10,000 tonnes

Location: fob Dalrymple Bay Coal Terminal, Australia

Timing: Seaborne, laycan within 60 days

Unit: USD/dmt

Payment terms: Letters of Credit on sight

Publication: Daily at 6.30pm Singapore time

Notes: All origins

MB-COA-0002 Hard coking coal, cfr Jingtang, \$/dmt

Quality: CSR base 62%, min 57%; volatile matter base 21.5%, range 18.5-27%; ash base 8%, max 11%; sulfur base 0.50%, max 1%; TM base 10.5%; CSN base 7, min 6; fluidity min 10 dial divisions per minute (ddpm); phosphorus base 0.06%, range 0.04-0.08%; mean max reflectance base 1.25%, range 1.00-1.50%. Physical size <50mm

Quantity: Min 10,000 tonnes

Timing: Seaborne, laycan within 60 days

Location: cfr Jingtang

Unit: USD/dmt

Payment terms: Letters of Credit on sight

Publication: Daily at 6.30pm Singapore time

Notes: All origins

MB-COA-0004 Hard coking coal, fob DBCT, \$/dmt

Quality: CSR base 62%, min 57%; volatile matter base 21.5%, range 18.5-27%; ash base 8%, max 11%; sulfur base 0.50%, max 1%; TM base 10.5%; CSN base 7, min 6; fluidity min 10 dial divisions per minute (ddpm); phosphorus base 0.06%, range 0.04-0.08%; mean max reflectance base 1.25%, range 1.00-1.50%. Physical size <50mm

Quantity: Min 10,000 tonnes

Timing: Seaborne, laycan within 60 days

Location: fob DBCT, Australia

Unit: USD/dmt

Payment terms: Letters of Credit on sight

Publication: Daily at 6.30pm Singapore time

Notes: All origins

MB-COA-0006 Coke 65% CSR, fob China, \$/tonne

Quality: 30-90mm; range 25-100mm CSR: 65%; min 63% Volatile matter: 1.5%; range 1-1.5% Ash: 12.5%; range 11-13.5 Sulfur: 0.65% range 0.4-0.8% Phosphorous: 0.035%

Quantity: 35,000 tonnes; min 5,000 tonnes

Location: fob China

Timing: Laycan within 45 days

Unit: US\$/tonne

Publication: Weekly. Tuesday

MB-COA-0001 Hard coking coal domestic China spot market, Shanxi-origin, delivered Tangshan, yuan/tonne

Quality: Volatile matter: <28; G value: >75; Y value >16; Ash: <=11.5; Sulphur: <=1.4

Location: Delivered to mill Tangshan

Unit: CNY/tonne

Publication: Weekly. Monday

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