Navigating the path to decarbonization: Unlocking insights with Fastmarkets' 67.5% Fe Pellet Feed Indices

April 2023
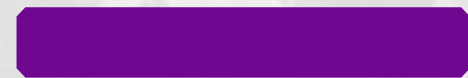
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Agenda

01 Why do we need an independent 67.5% Fe pellet feed index?

02 Fastmarkets methodology for an effective pricing mechanism

03 Q&A

Why do we need an independent 67.5% Fe pellet feed index?

Fastmarkets iron ore indices coverage

1. **Why do we need an independent 67.5% Fe pellet feed index?**

- More than just Fe adjustment

- Thermometer of market dynamics: pellet feed premium

2. **Fastmarkets methodology for an effective pricing mechanism**

- Structure of an effective pricing mechanism

- Fastmarkets methodology & pellet feed index liquidity

- Support from market participants

Daily publication

Seaborne fines & lump
- MB-IRO-0008, Iron ore 62% Fe fines, cfr Qingdao, $/tonne – May 2008
- MB-IRO-0144, Iron ore 62% Fe low-alumina fines, cfr Qingdao, $/tonne – August 2018
- MB-IRO-0015, Iron ore 58% Fe fines, cfr Qingdao $/tonne – August 2011
- MB-IRO-0016, Iron ore 58% Fe fines high-grade premium, cfr Qingdao, $/tonne – August 2011
- MB-IRO-0017, Iron ore 58% Fe fines high-grade premium index, cfr Qingdao, $/tonne – August 2011
- MB-IRO-0009, Iron ore 65% Fe Brazil-origin fines, cfr Qingdao, $/tonne – December 2013
- MB-IRO-0010, Iron ore 63% Fe Australia-origin lump ore premium, cfr Qingdao, US cents/dmtu – May 2013

Portside mid-grade Fines
- MB-IRO-0011, Iron ore 62% Fe fines, fot Qingdao, yuan/wet tonne – January 2014
- MB-IRO-0022, Iron ore 62% Fe fines, fot Qingdao, $/tonne conversion – January 2014

Value-In-Use
- MB-IRO-0018, Iron ore 62% Fe fines, % Fe VIU, cfr Qingdao, $/tonne – July 2012
- MB-IRO-0019, Iron ore 65% Fe fines, % Fe VIU, cfr Qingdao, $/tonne – July 2012
- MB-IRO-0020, Iron ore 62% Fe fines, % Si VIU, cfr Qingdao, $/tonne – December 2013
- MB-IRO-0021, Iron ore 62% Fe fines, % Al2O3 VIU, cfr Qingdao, $/tonne – November 2014
- MB-IRO-0024, Iron ore 62% Fe fines, 0.01% P VIU, cfr Qingdao, $/tonne – November 2015

Concentrate & pellet feed
- MB-IRO-0089, Iron ore 65% Fe concentrate premium, cfr Qingdao, $/tonne – April 2023
- MB-IRO-0013, Iron ore 65% Fe concentrate, cfr Qingdao, $/tonne – September 2012
- **MB-IRO-0087, Iron ore 67.5% Fe pellet feed premium, cfr Qingdao, $/tonne – February 2023**
- **MB-IRO-0088, Iron ore 67.5% Fe pellet feed, cfr Qingdao, $/tonne – February 2023**

Weekly publication

Blast furnace pellet & DR-grade pellet
- MB-IRO-0012, Iron ore 65% Fe blast furnace pellet, cfr Qingdao, $/tonne – April 2012
- MB-IRO-0177, Iron ore 65% Fe pellet premium over 65% Fe fines, cfr Qingdao, $/tonne – May 2021
- MB-IRO-0186, Iron ore DR-grade pellet premium indicator, $/tonne – November 2022

Monthly publication

DR-grade pellet
- MB-IRO-0077, Iron ore DR-grade pellet premium, quarterly contract, $/tonne – February 2017

Launch of 67.5% Fe pellet feed indices

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- More than just Fe adjustment

- Thermometer of market dynamics: pellet feed premium

2. Fastmarkets methodology for an effective pricing mechanism
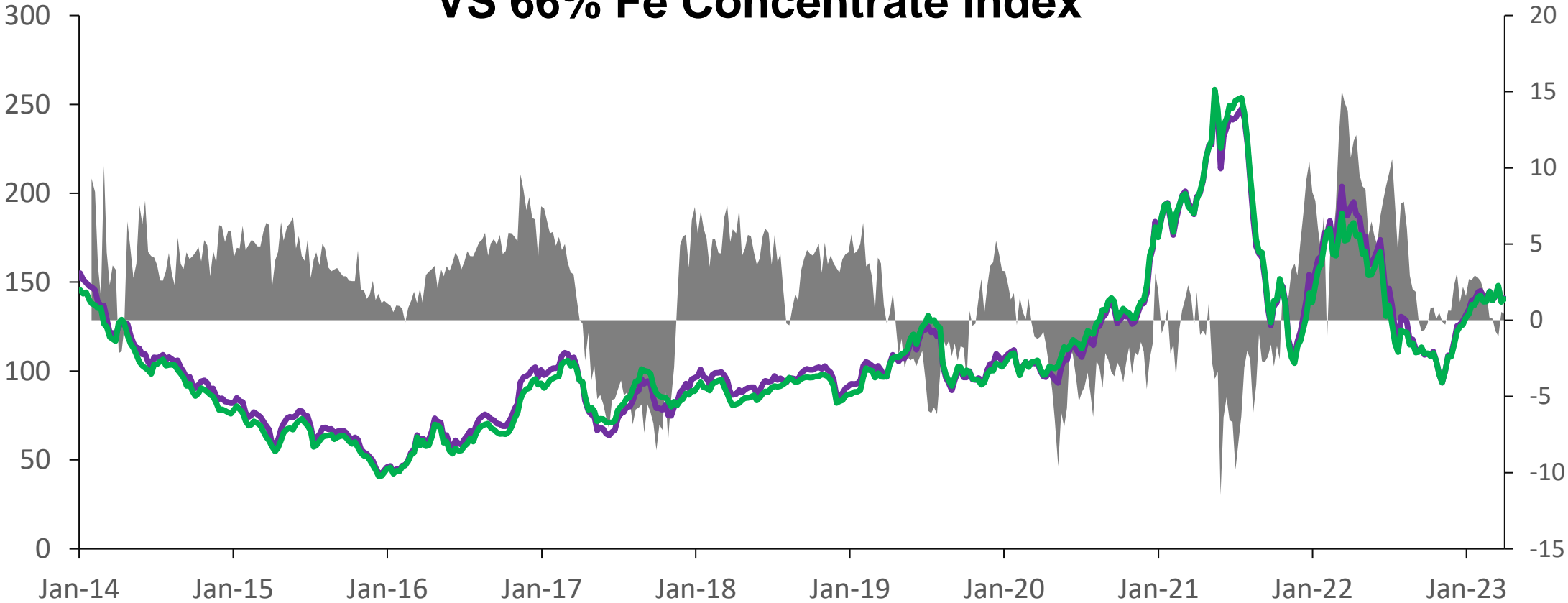
- Structure of an effective pricing mechanism

- Fastmarkets methodology

  & pellet feed index liquidity

- Support from market participants

Fastmarkets launched two daily indices for 67.5% Fe iron ore pellet feed products on CFR China basis on February 1st, 2023

Two daily index:

Iron ore 67.5% Fe pellet feed premium, cfr Qingdao, $/tonne [MB-IRO-0187] → tracks premium

Iron ore 67.5% Fe pellet feed, cfr Qingdao, $/tonne [MB-IRO-0188] → tracks outright price

Specifications:

Index	Origin	Fe	SiO2	Al2O3	P	S	Titanium	Moisture	Size
67.5% Fe Pellet Feed	All origin	67.5% (66-70%)	3% (Max 6%)	0.5% (Max 1.5%)	0.02% (Max 0.06%)	0.03% (Max 0.10%)	0.05% (Max 0.30%)	8% (Max 11%)	<0.15mm: >80%

Quantity: Min 10,000 tonnes

Location: cfr Qingdao – normalized for any Chinese mainland seaport

Timing: Delivery within 8 weeks

Unit: USD/tonne

Publication: Daily at 6.30pm Singapore time

Concentrate pricing over past 10 years

Sidebar

1. **Why do we need an independent 67.5% Fe pellet feed index?**

- **More than just Fe adjustment**
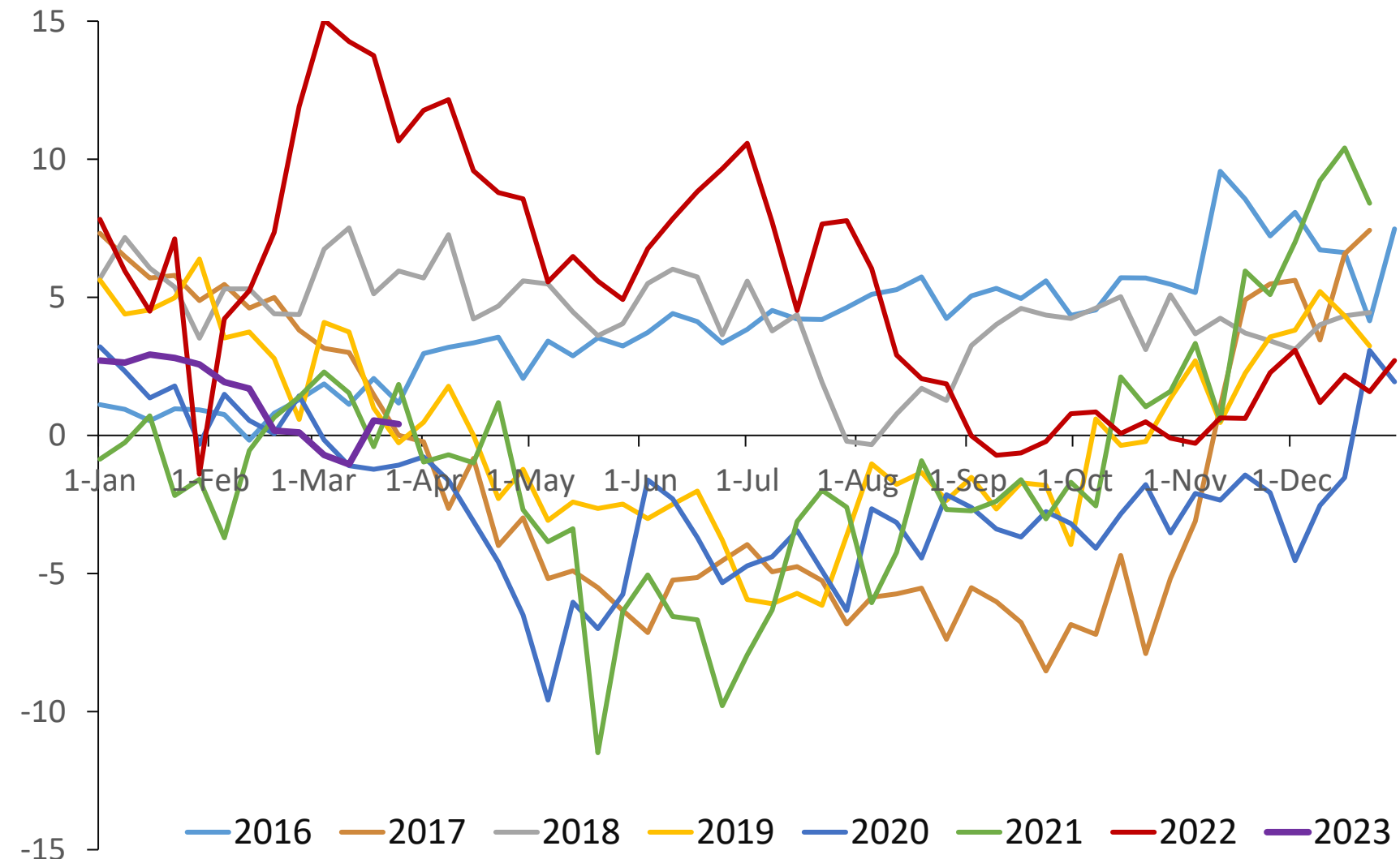
- Thermometer of market dynamics: pellet feed premium

2. Fastmarkets methodology for an effective pricing mechanism

- Structure of an effective pricing mechanism

- Fastmarkets methodology & pellet feed index liquidity

- Support from market participants

Main content

Fastmarkets launched 66% Fe Concentrate index in 2012

Common misunderstanding:

MB66 Concentrate index = MB65 + 1%*Fe VIU

Fastmarkets' iron ore 65% Fe fines index VS 66% Fe Concentrate index

Legend:
- MB66 Concentrate/MB65 indices differential [RHS]
- MB66 Concentrate Index
- MB65 Index

Concentrate pricing over past 10 years

Spot market concentrate pricing:

MB65 index (with Fe adjustment) of QP month + premium/discount

constantly changing

premium of ~$15/t   discount of ~$11/t

Why does the premium/discount fluctuate so much?

→ The way these two product types are predominantly consumed

MB65: High-grade fines IOCJ   VS   MB66: Concentrates (including pellet feed)

- Demand for high-grade fines;   Demand for sintering concentrate, pellet feed

- Supply of high-grade fines;   Supply of seaborne & China's domestic concentrate

Concentrate pricing over past 10 years

Spot market concentrate pricing:

MB65 index (with Fe adjustment) of QP month + premium/discount

Fastmarkets' 66% Fe Concentrate index/65% Fe Fines index differential

Pellet feed pricing development

Fastmarkets launched 67.5% Fe pellet feed indices in February 2023

Common misunderstanding:

67.5% Fe pellet feed price = MB65 + 2.5%*Fe VIU

Spot market pellet feed pricing:

MB65 index of QP month + 2.5%*Fe VIU + pellet feed premium

67.5% Fe Pellet Feed Price

— MB65
— MB65 + 2.5%*Fe VIU
— MB65 + 2.5%*Fe VIU + Fastmarkets 67.5% Fe pellet feed premium index

Fastmarkets' 67.5% Fe pellet feed premium index

— Fastmarkets' index for iron ore 67.5% Fe pellet feed premium, cfr Qingdao, $/tonne

Fastmarkets methodology for an effective pricing mechanism

Achieve fair value through an effective pricing mechanism

1. Why do we need an independent 67.5% Fe pellet feed index?

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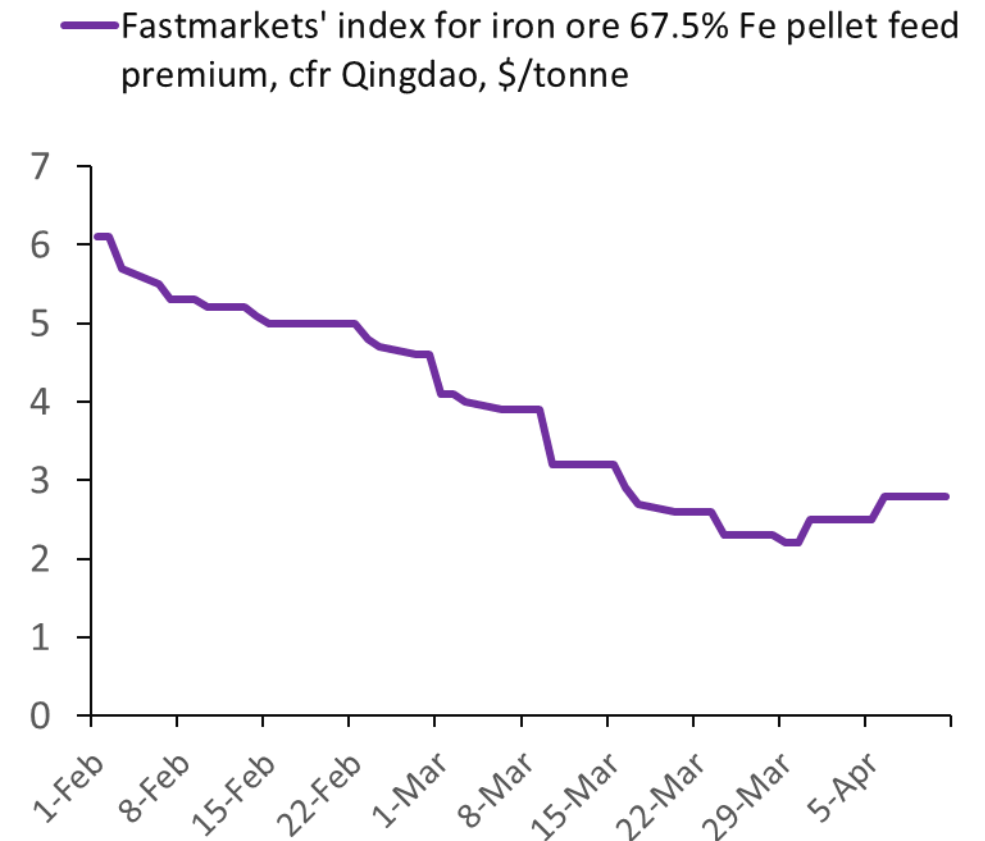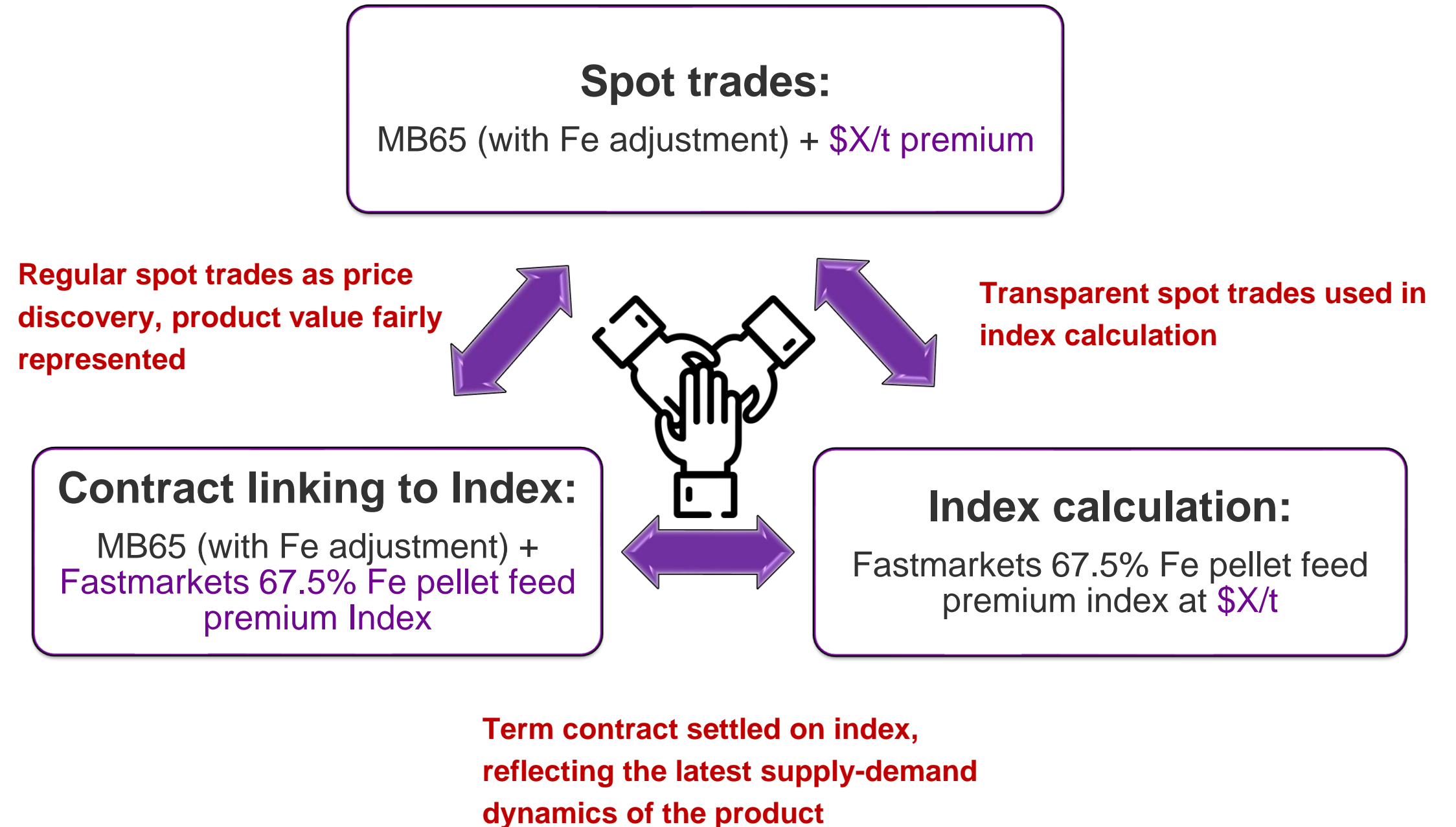
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Spot index linked pricing mechanism structure:

Spot trades:

MB65 (with Fe adjustment) + $X/t premium

Regular spot trades as price discovery, product value fairly represented

Transparent spot trades used in index calculation

Contract linking to Index:

MB65 (with Fe adjustment) + Fastmarkets 67.5% Fe pellet feed premium Index

Index calculation:

Fastmarkets 67.5% Fe pellet feed premium index at $X/t

Term contract settled on index, reflecting the latest supply-demand dynamics of the product

# Fastmarkets iron ore indices methodology

- **Fairness**

Producers, traders, consumers sub-index

- **Statistically-driven**

Normalization: prices are normalized to base specification using in-house developed coefficients based on regression analysis

- **Transaction-aligned**

Tonnage-weighted average calculation
Transaction data: full tonnage
Non-transaction data: minimum tonnage (10kt)
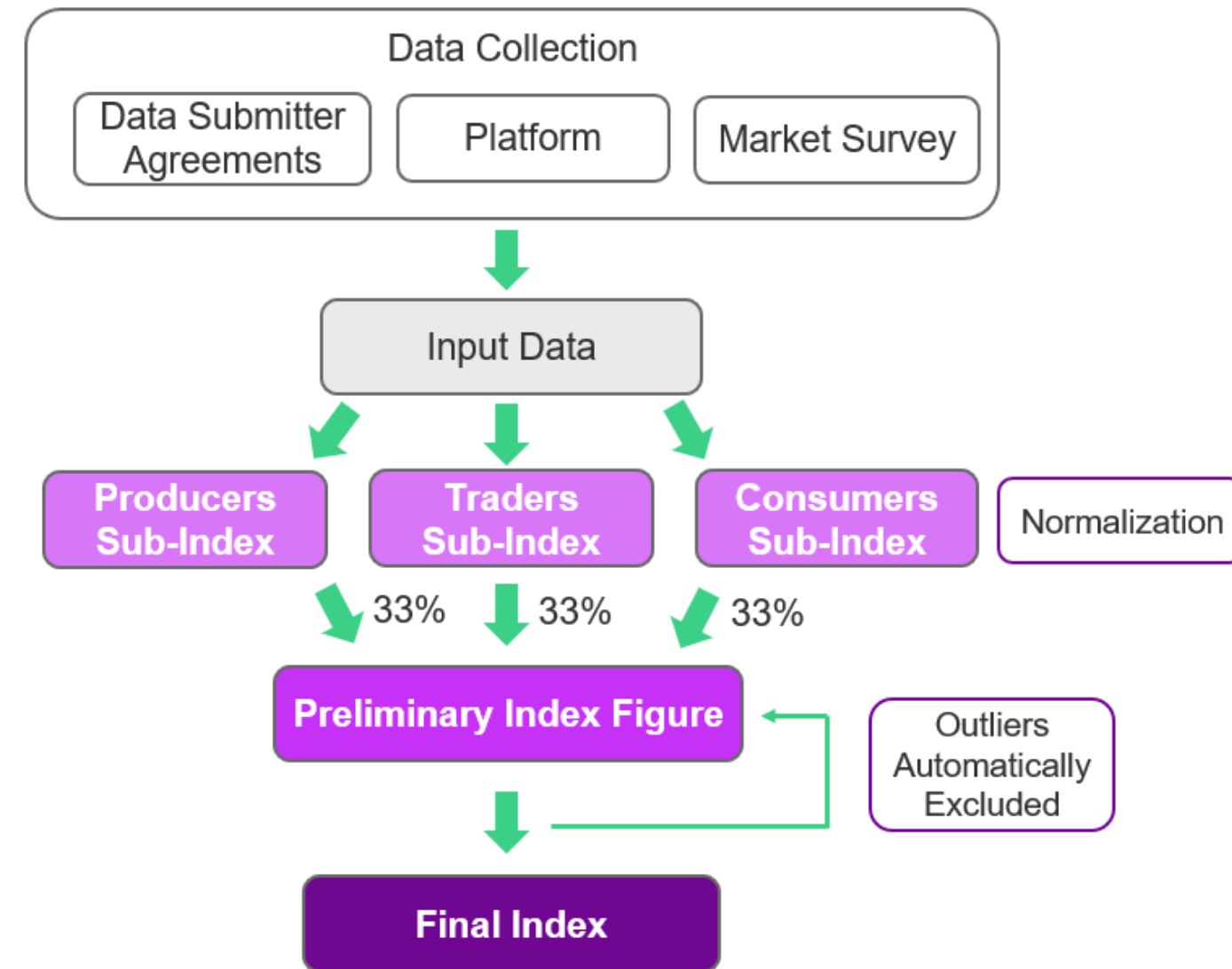
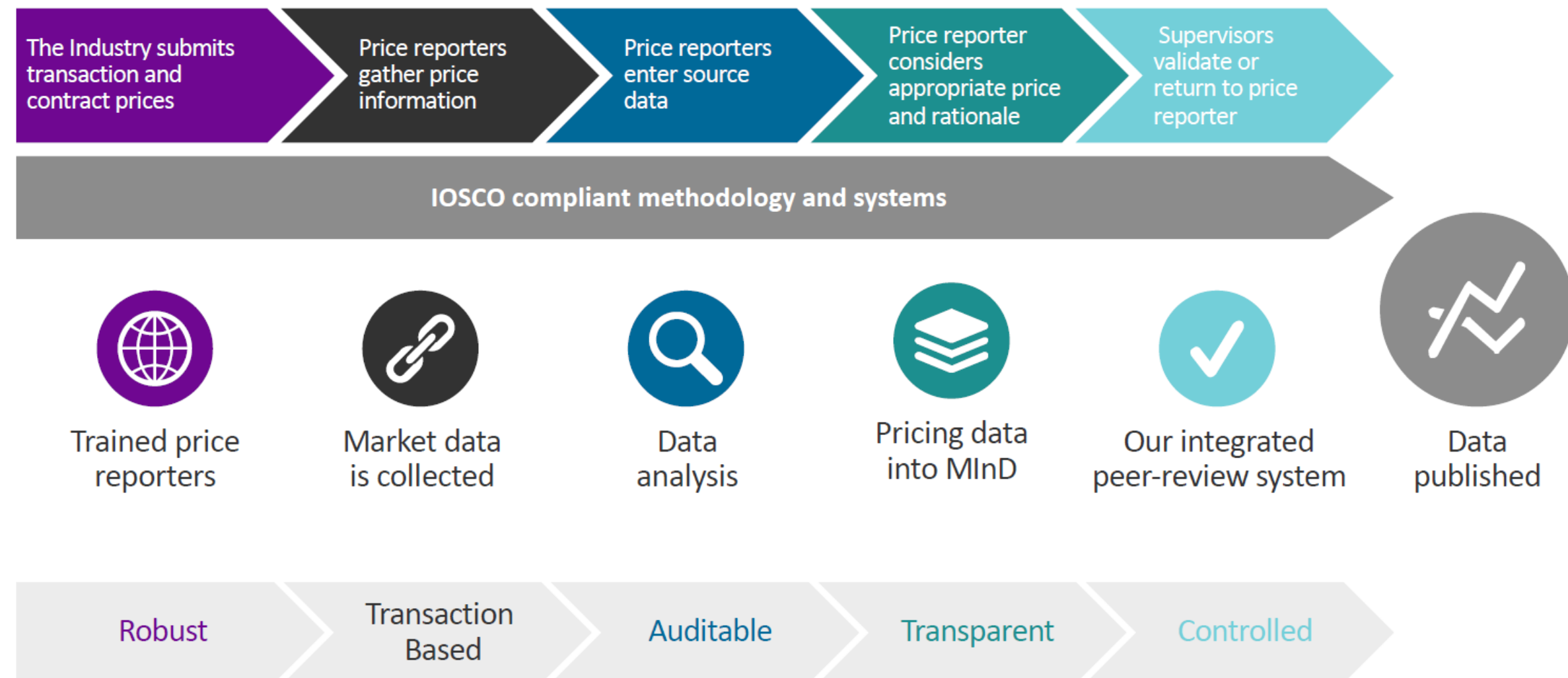# Fastmarkets BMR-regulated PRA Benchmark Integrity

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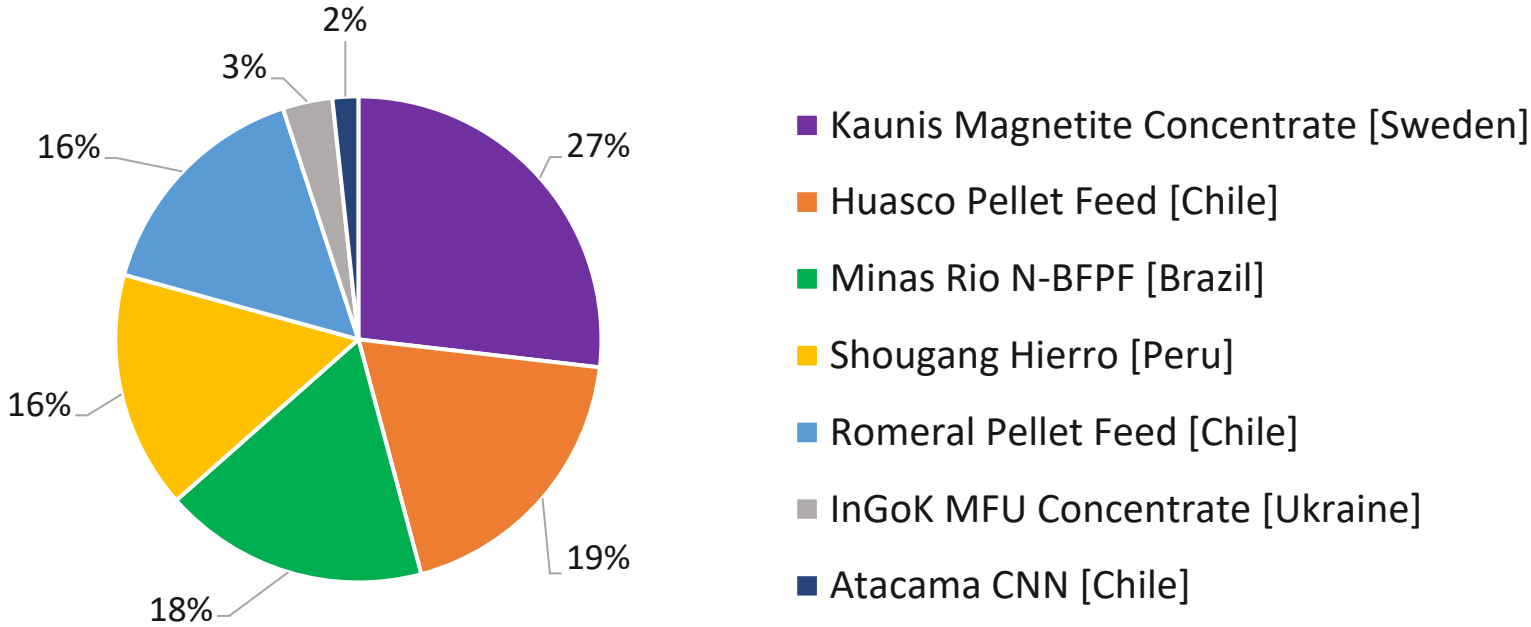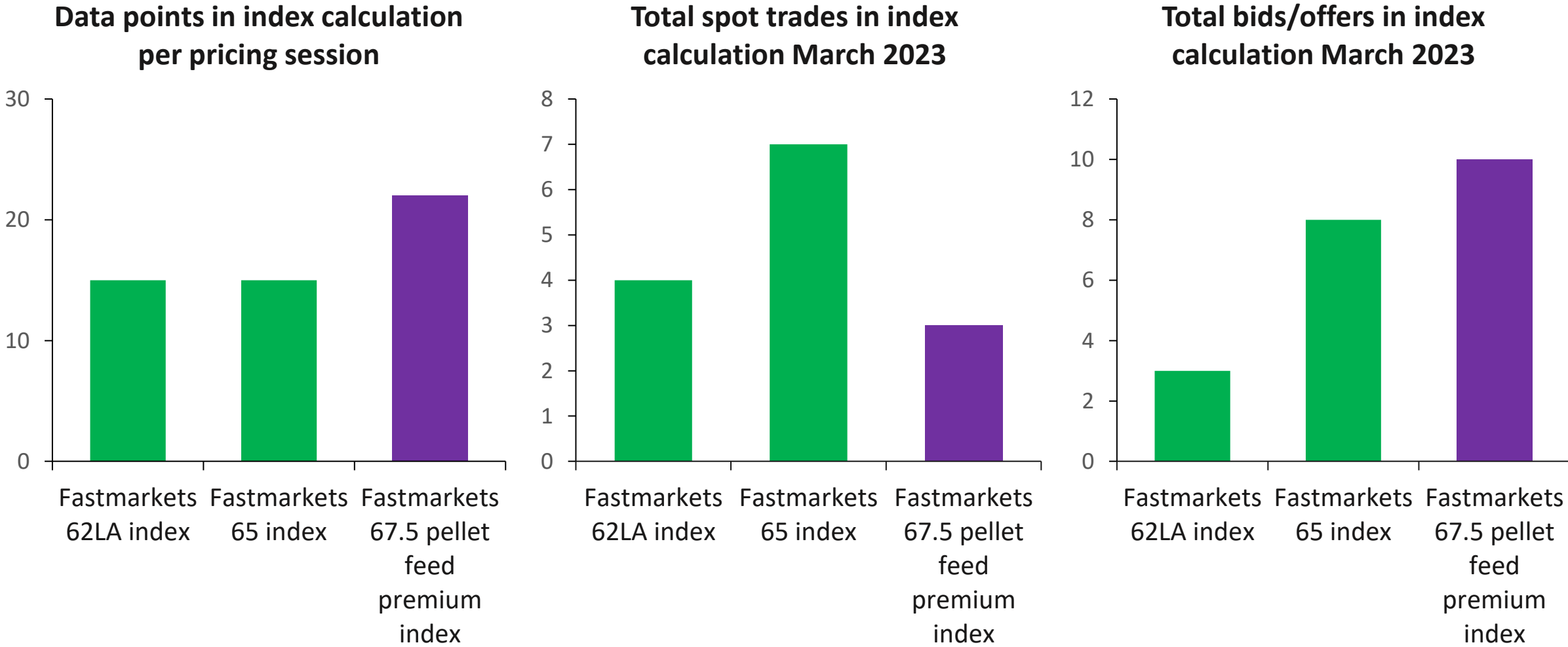2. Fastmarkets methodology for an effective pricing mechanism

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- **Corporate structure & data systems**

- **Annual external audit – in line with IOSCO's Price Reporting Agency principles**

- **Authorized under EU Benchmark Regulation (BMR) in Finland since March 2021**

| The Industry submits transaction and contract prices | Price reporters gather price information | Price reporters enter source data | Price reporter considers appropriate price and rationale | Supervisors validate or return to price reporter |

IOSCO compliant methodology and systems

| Trained price reporters | Market data is collected | Data analysis | Pricing data into MInD | Our integrated peer-review system | Data published |

| Robust | Transaction Based | Auditable | Transparent | Controlled |

Index liquidity & statistics

Index: Iron ore 67.5% Fe pellet feed premium, cfr Qingdao, $/tonne [MB-IRO-0187]

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Data breakdown:

Pellet feed brands used in the calculation of 67.5% pellet feed premium index, Feb-Mar 2023

- Kaunis Magnetite Concentrate [Sweden] — 27%
- Huasco Pellet Feed [Chile] — 19%
- Minas Rio N-BFPF [Brazil] — 18%
- Shougang Hierro [Peru] — 16%
- Romeral Pellet Feed [Chile] — 16%
- InGoK MFU Concentrate [Ukraine] — 3%
- Atacama CNN [Chile] — 2%

Index liquidity & statistics

Index liquidity comparison with other key benchmark indexes:

MB62LA index VS MB65 index VS MB67.5 pellet feed premium index

Data points in index calculation per pricing session

Total spot trades in index calculation March 2023

Total bids/offers in index calculation March 2023

An effective pricing mechanism needs support from the market

Market participants:

Regular & transparent spot trades

Participation in data submission

Fastmarkets:

Objective & transparent index methodology

Index fairly represents product value
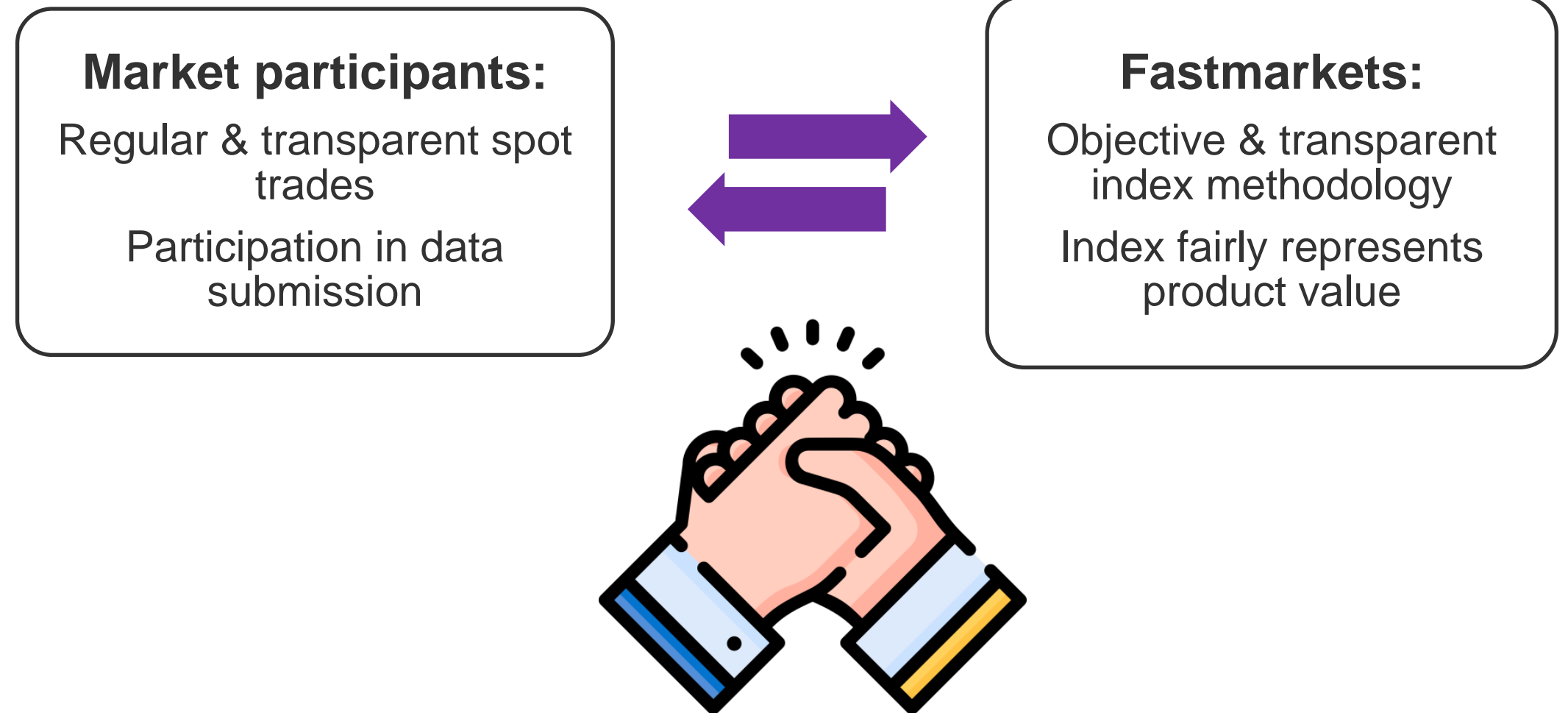
Q&A

Please send in the Q&A box

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Fastmarkets White Paper
Understanding the high-grade iron ore market

https://insights.fastmarkets.com/understanding-the-high-grade-iron-ore-market/

Contents

Thank You
Fastmarkets

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