

# Shanghai Base Metals Physical Arbitrage



Methodology – December 2020

## Mission statement

Fastmarkets is a leading commodity price reporting agency (PRA) covering the metals, mining, minerals and forest products industries. Our products include Fastmarkets MB, Fastmarkets AMM, Fastmarkets IM, Fastmarkets RISI, Fastmarkets FOEX, Random Lengths, and Fastmarkets AgriCensus.

For more than 100 years we have been providing commodities price reporting services for use by market participants in their day-to-day commercial activities. These services include assessments and indices of commodity prices as well as news, research and commentary on the underlying markets.

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 pricing methodologies is maintained. We do not have a vested interest in the markets on which we report.

## Introduction

Fastmarkets MB 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 since 1913.

Fastmarkets MB reporters 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 metals price reporting team. We have offices in London, New York, Pittsburgh, Shanghai, Hong Kong, Sao Paulo, Melbourne, Singapore, Mumbai, Dnepr, Istanbul and five other US locations.

If you have any questions, please contact Fastmarkets editorial director Alex Harrison at [aharrison@fastmarkets.com](mailto:aharrison@fastmarkets.com).

## Methodology

The primary role of Fastmarkets' arbitrage calculation is to provide an indication of when arbitrage windows open for importing physical base metals into China.

Profit and loss gained through arbitrage is viewed as a key factor influencing import appetite for metals and other commodities in China.

If the arbitrage figure is in positive territory, importers will show interest in buying metals due to profitability. The bigger the positive arbitrage is, often the higher the interest is to import. If the figures are negative, import interest generally fades away.

This document, and the Fastmarkets arbitrage price indicators are intended only as a general guide for the market, because we understand different companies will have varied cost bases and deals will have differing factors affecting them.

## Arbitrage calculation

The calculations take into account several factors including copper, aluminium, zinc and nickel premiums on a Shanghai cif or an in-warehouse basis, derivative contract prices on the London Metal Exchange and Shanghai Futures Exchange, spot premium/discount in China's domestic market, Chinese import taxes (if applicable), exchange rate, VAT, and port charges.

The arbitrage calculation formula consists of three parts, taking copper as an example as below:

- a) Shanghai Futures Exchange front-month contract close + domestic market spot premium/discount = China spot market price
- b) (London Metal Exchange three-month price at 3pm Shanghai time + premium cif Shanghai) x 1.13% x forex rate + 200 yuan = cost for imported copper
- c) The final import arbitrage result comes from (a minus b).

### Notes

- 1 The copper premium level used to represent the cif Shanghai number is the mid-point of [Fastmarkets' Copper grade A cathode premium, cif Shanghai](#).

- 2 We also use Fastmarkets' cif Shanghai premium for the aluminium arbitrage calculation. Fastmarkets' Shanghai in-warehouse premiums for zinc and nickel are used in the arbitrage calculations for those metals because they and the arbitrage calculation itself pre-date the launch of Shanghai cif premiums for zinc and nickel.
- 3 The China domestic spot premium/discount is the average premium/discount distributed publicly by a local pricing provider.
- 3 Forex rate: using Bank of China's currency sell price, at or around 3pm Shanghai time every day.
- 4 200 yuan in part b refers to port charges including clearance costs, warehouse fees, etc.
- 5 We use the LME three-month copper price at 3pm Shanghai time.
- 6 We also include the Chinese import tax for the metals in the calculation. For copper and aluminium there is no import tax, but there a rate of 1% for zinc and 2% for nickel.

## Data collection

The arbitrage calculator is published every day in line with the LME's working calendar. For each day component parts are gathered as follows:

- 1 Collect Fastmarkets' cif or in-warehouse premiums of copper, aluminium, zinc and nickel.
- 2 Collect close prices of copper, aluminium, zinc and nickel on the LME's 3-month select at 3pm Shanghai time.
- 3 Collect close prices of copper, aluminium, zinc and nickel on the SHFE's front-month at 3pm Shanghai time.
- 4 Get forex rate from the website of Bank of China at or around 3pm Shanghai time.
- 5 Collect spot premium/discount of every metal (copper, aluminium, zinc and nickel) from one local metals website in China, and use the average value of each in the final calculation.

Once all component parts are collated, the date is entered into a calculation formula and run.

Once finalized and submitted by a reporter, the price then is sent for peer review and finally editor approval before publication.

## Publication

The arbitrage figures are published every working day by 4pm London time at the latest. Numbers are not published when either the Shanghai Futures Exchange or the London Metal Exchange is closed for public holidays.

Prior to publication all figures are subject to peer review and are signed off by a senior member of Fastmarkets' editorial or index teams. This peer-review process is in place both to make sure that the whole procedure and methodology are correctly and consistently applied.

## Corrections and delays

If a figure is published incorrectly, it will be rectified and republished as soon as possible. A correction notice will be published.

Fastmarkets MB employs several procedures and measures to avoid delays in the publication. In the event of a delay, however, Fastmarkets MB will inform subscribers as soon as possible.

In the event of late publication, only data that has been received within the correct standard timeframe will be included in the calculations.

### **Amendment process**

Import taxes and value-added tax (VAT) are key parts of the calculation, and are subject to Chinese governmental legislation. The tax elements in the calculation will be adjusted in line with changes in government taxation policy on a timely basis.

Fastmarkets MB will issue an updated pricing notice to the market for any change to taxation parameters.

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