**Floating trade is deeply embedded in physical iron ore markets and uses derivatives data for future-dated cargoes to calculate net present value (spot-equivalent price). This is uncontroversial and a long-established practice. Argus made major methodology enhancements in December 2017 to formally prioritise physical trade in tandem with increased transparency for the ICX, the benchmark price for 62pc Fe fines delivered into China.**

**In the next round of improvements, Argus will formalise the existing relationship between physical and financial markets through establishing a clear process for floating trade normalisation. Introducing a robust mechanism to derive the forward curve accompanying the ICX will foster greater confidence around the incorporation of floating price deals in the index and role of timing in normalisation.**

## The indexation paradox

Almost every iron ore contract in the world is priced off an index derived from spot market transactions. Index usage is so widespread that a large portion of spot trade is now concluded against an index in "floating-price" transactions. What does this mean for price indices in the longer term? If they have become successful to the point that even the spot market trades against indices, what physical trade data will the indices be based on?

## The ICX and extensive data depth

Since inception, the indices underpinning global trade in iron ore were derived from fixed-price spot transactions for ore delivered into China, priced in USD. Most indices remain wedded to fixed-price liquidity to this day. But overlooking floating deals means overlooking up to two thirds of deal data (see chart below). Yes, the share of floating transactions varies from month to month, but it is never negligible in today's market, with daily trades averaging in the low single figures.

Notwithstanding recent months, the trend has also been towards greater usage of index-linking. And crucially, floating price trades are concluded as spot transactions as opposed to bids or offers and should be recognised with greater weighting by anyone's calculation.

Argus has been using floating price deals in its benchmark ICX since the December 2017 methodology evolution, making Argus the first major index to include floating price transactions.

The subsequent boost to underlying liquidity has been significant. In addition to the 117 fixed-price transactions recorded by Argus between December 2017 and April 2018, a further 66 floating price transactions were used in the index calculation – an increase of more than 50pc.

Did the ICX need a boost in data points? Absolutely not! Even before the December methodology changes, around 50 deals and 500 bids and offers were captured each month. The opportunity that Argus is pursuing is to ground the ICX ever more deeply in transaction data, while reducing the overall weight of bids and offers. The latter are fall-back data points after all.

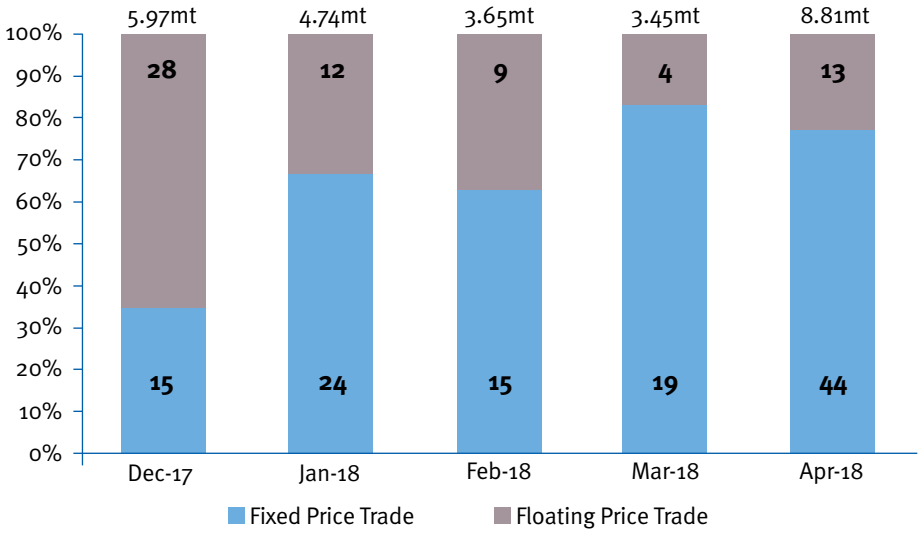
## The ICX and data quality

Price indices with a larger depth of data instil greater confidence. This justifies the rationale for specification-driven normalisation – ensuring the widest set of data (i.e. brands) on which to base indices. Averaging an extensive dataset also mitigates the differences from cargo to cargo, which are inevitable in non-standardised markets such as iron ore.

But it is not just data quantity that counts; quality is equally important.

Argus bases its iron ore price indices on a volume-weighted average of

**Floaters nap amid ample supply and strong mill margins**



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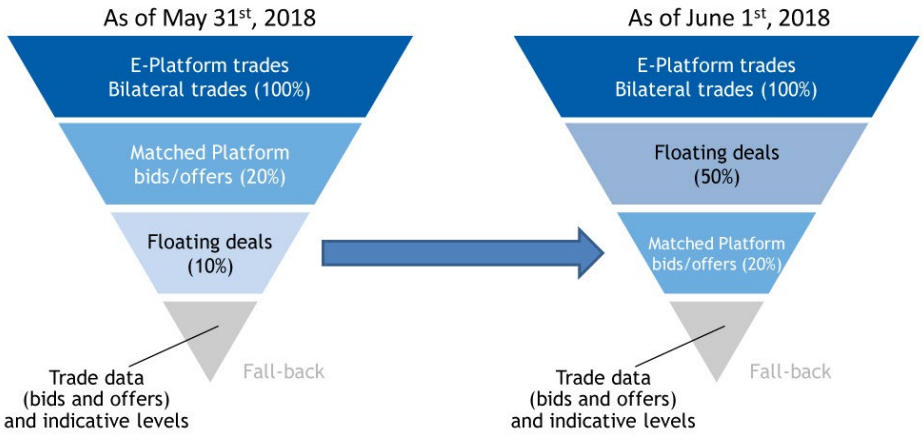
Change in Argus ICX Volume-Weighting Hierarchy




normalised transactions, weighted in a "tiered" system, levying different weightings according to the type and quality of data. The hierarchy is closely aligned with the IOSCO principles, giving fixed price transactions the greatest weight in the overall average (see diagram above).

Under the existing ICX methodology, floating price trades are given 10pc of their original sales volume. From June, this will be increased to 50pc to reflect their status as actual transactions and the establishment of a clear and transparent methodological structure for normalisation.

A back calculation of the ICX using revised weightings over a three-month period shows a price spread of less than two cents resulting from the higher weight given to floating deals.

## What else is changing?

Elevating floating transactions will require the most robust forward curve. Starting June, Argus will use exchange data to generate a forward curve based on a volume-weighted average of derivatives market prices captured within a defined period.

This will utilise deals, bids and offers on the Singapore Exchange (SGX) captured within the same time window on each trading day.

The forward curve will be used for two purposes. The first will be for the normalisation of floating price deals. The second will be to establish a daily time structure to enable Argus to normalise to the four-week delivery point, for instance, to eliminate the differences in value for cargoes with different estimated arrival dates.

## How can floating prices be normalised?

The normalisation of index-linked deals sometimes leads to questions like, "How can an index-linked deal be used?" and "Does that not lead to a circular reference?". But the process is straightforward once there is a liquid futures market, as there is for 62pc iron ore fines.

The futures forward curve is simply an indicator of the current market value for a future index value. Futures contracts are usually monthly, as is the norm for floating price transactions. Floating trades with a premium/discount can be worked back into a fixed-price equivalent. From here, they are normalised for quality and timing, as with any other deal.

## How does the forward curve relate to delivery times?

Many factors affect price in commodities trading. One of these is timing, as buyers value cargoes differently based on their loading and delivery windows.

Establishing a clear relationship between the physical market price and time can be challenging because of a lack of standardisation around quality and terms. But futures represent a standardised, fungible contract, with price differences between contracts entirely time-driven.

Argus, therefore, uses the futures forward curve to establish a daily time adjustment, normalising cargoes with an estimated arrival within eight weeks to delivery in four weeks. This is done using the prevailing average voyage times.

## Why is this relevant to me?

The seaborne iron ore market has evolved organically for nearly a decade but lacks cohesive glue. Relationships between physical and financial markets remain fluid and informal. With international exchanges trading more "paper" than there are physical volumes and Chinese exchanges internationalising, it is time to incorporate futures instruments in index price formation, in the same way that the physical industry is using them.

Almost every market participant in the iron ore supply chain is exposed to price indices; all are exposed either directly or indirectly to the iron ore financial markets. Floating trades are often the dominant form of transaction in iron ore. To ignore the role they play in price formation is to ignore a vast pool of liquidity.

The changes Argus has implemented over the past six months aim to produce the best iron ore index. The goal is for the ICX to be the most well supported index in terms of data depth and the most explicable in the way that data is used, and increase the transparency of the price production process and inputs to provide not only an IOSCO-compliant framework, but an index in which buyers and sellers can simply look at the "workings" and agree on the validity and accuracy of the price.

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By having a clear relationship between physical and paper markets, we aim to illuminate and provide a structure around how paper and physical markets interplay.

## Working with the market

There is a growing appetite for diversity in iron ore indices. The ICX has long been an option on the COREX e-trading platform; global ORE has recently added it as an option on their platform. These two platforms are structurally important to the market as historically more than half of iron ore trade occurs across them.

Argus believes that price discovery should continue to occur where it always has – on physical trading screens bilaterally and on futures exchanges – and still get full recognition in the ICX. The latest updates make this easier, allowing any type of physical trade done over the course of the day to be accounted for via a clear and easily explained process. If you know where the physical market trades, you will know where the ICX will print.

**For further information on either PCX (China Portside Iron Ore Prices) or ICX (Seaborne 62pcFe Iron ore, cfr Qingdao), contact:**


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