

SMM Data Hierarchy Guidelines

1. Hierarchy of Data

SMM's objective is always to collect price (or data) reflecting arm's length spot market activity. Types of price (or data) collected can include, but not limited to:

- Concluded transactions
- Firm bids that are available to the whole marketplace, with market accepted terms
- Firm offers that are available to the whole marketplace, with market accepted terms
- Expressions of interest to trade, with market accepted terms
- Third party reports of transactions
- Any other data that may be relevant to SMM benchmarks
- buying and selling indications

The market activity related to the metal benchmarks reported by SMM are not exactly the same. So each SMM benchmark's Data Hierarchy Guidelines may have its own specificity. Detailed Data Hierarchy Guidelines will be detailed and made public in the methodology of each benchmark on the website www.smm.cn.

The benchmark published by SMM is intended to reflect the real transactable value of a commodity during the day. As such, transaction information would take precedence over bids and offers.

Where a confirmed deal is done for the same specification and loading range as confirmed bids and offers, and when all are declared to the market simultaneously, the deal will take precedence over the bids and offers. In illiquid markets, deals will be used together with bids and offers. In a liquid trading period, deals will form the basis of assessments. In an illiquid market, a single or small number of deals will be included in the range, together with bids and offers. In the absence of any deals, bids and offers will be used. During the assessment process, we may consider other information. However, actual transactions, bids and offers will always take precedence.

SMM takes into account a wide range of market input in making such choices, and reserves the right to exclude from its analysis any price/data information deemed unreliable or unrepresentative of the market. SMM commits to describing the information it deems reliable in the market comment accompanying its assessments, including transactions, bids, offers and other market information used in making these assessments. This includes instances where SMM typically makes assessments based on firm transaction or bid/offer information, but where that information was not available on a given day and alternative evidence was used.

SMM sets timeframe for transactions to track which is representative of real and up-to-date market trades. Any timing change will be clearly updated and revealed in methodology and noticed to public.

SMM has adopted this "day's range" methodology for the metal benchmark reports based on several years of market observation and feedback. Other measurement strategies, for example

weighted averaging, are vulnerable to random variation in transaction levels and volume, which can give rise to distortions.

In addition, the exact volume of transactions for any given product is unknowable in advance, and a volume-dependent methodology is exposed to: a) the charge that lower volumes will result in less accurate benchmarks, and b) to the possibility of failure in the event no transactions occur.

Because of the sometimes thinly traded nature of some markets, SMM does not have a minimum data threshold for its assessment methodologies in this market.

SMM makes clear in its daily market comments whether it has assessed a benchmark based on transaction or bid/offer data or whether it has used other forms of evidence or calculation.

In exceptional cases where the lack of liquidity represents a challenge in making assessments, analysts can choose to adopt a normalization process to include information on transactions which falls outside the standard specifications listed in the methodology pertaining to, but not limited to, volume, timing, delivery, payment terms, import tariffs, product specifications and other operational matters. The normalisation process adopted should be in line with standard practices and will only be used either as a reference for assessments, or be included as part of the assessment range. Where normalisation has occurred and has been reflected in a published benchmark assessment, this will be described in the text of the report and the process will be described and justified.

Apart from instances where data may be excluded (see below), SMM will typically exercise expert judgement where market information about firm bids and offers or transactions is not available.

If no transactions were done during the assessing period, SMM reserves the right to assess the most possible trading range with reference to offers and bids in the market, taking into account production, relevant products, transportation, and forward markets. In most cases this will involve the application of spread trade information or prevailing market relationships.

SMM will also exercise expert judgement where only a bid or offer is available, or where a bid/offer spread is so wide as to be unhelpful in establishing tradable value. In both instances, spreads to other grades or prevailing market relationships will typically be used to assess the benchmarks. In these cases the assessment will still fall above the highest firm bid and below the lowest firm offer, as long as the bid and/or offer information meets all other criteria specified in this methodology.

Based on SMM's experience interpreting market data, SMM will use its own judgement when it believes it necessary, to ensure the quality and integrity of the Benchmarks. In particular, SMM may rely on its own judgement more frequently in an active albeit low liquidity market where transactions may not be consistently available. SMM employees may therefore, where appropriate, exercise discretion with respect to the use of data in determining a Benchmark.

The calculation of a SMM Benchmark includes a validation process whereby SMM employees review data according to specific pre-determined tolerance checks. An SMM employee will when applying such checks have discretion (subject to internal policies and procedures) to include or reject certain data from the calculation of the Benchmark. SMM has in place internal guidelines and quality control procedures that govern the application of employee judgement and are intended to provide documentation, consistency and oversight to this process. Judgment guidelines promote consistency and transparency and are systematically applied by SMM. Where judgment is exercised, all information available is critically analysed and synthesized. The various possibilities are critically analysed and fully evaluated to reach a judgement.

Employees receive initial and on-going training in how to comply with these guidelines and procedures. The nature and quanta of these tolerance checks are kept under review by the SMM Benchmark Oversight Committee and are subject to formal review at least annually and whenever there is change to the nature of the markets the Benchmarks seek to measure. Benchmark staff are trained to identify potentially anomalous data. SMM defines anomalous data as any information, including transactions, which is inconsistent with or deviates from its methodology, standard market conventions or prevailing market conditions

SMM Benchmark staff follow specific methodology when exercising judgment or discretion during their assessment process. More information regarding the process of collecting data and checking its veracity can be found within the SMM Benchmark Methodology documents.

2. Exclusion of data

In line with its assessment standards policy, SMM analysts actively seek to identify anomalous market information and exclude it from the assessment process. For market assessments, this is done by the daily information gathering and verification process carried out by analysts, whereby market transaction, bid and offer information is confirmed and verified by multiple sources.

In assessing metal markets, SMM takes into consideration only arms-length transactions between non-affiliated parties.

SMM does not accept bids or offers that are not firm. Any bid or offer which is demonstrably not firm will be disregarded and further bids or offers from the same counterparty may also be disregarded.

SMM also excludes from its assessments transactions where SMM market analysts have reasonable grounds to doubt that a transaction is representative of typical market behavior : for example, where a deal is concluded disregarding the best bid or offer on the market; where there is evidence that a market participant has disclosed only part of its market activity to SMM; or where a transaction lies outside the prevailing range of typical market activity.

SMM records instances of anomalous data and reviews these instances on a regular basis with a view to determining if a pattern exists.

3. Market data verification

SMM will always make best endeavours to confirm bids, offers and transactions with the relevant party/parties. SMM attempts to cross-check all market data received from a buy or sell-side participant with a participant's trading counterparty. Where both counterparties to a transaction cannot or will not confirm the data, SMM seeks corroboration from other market sources.

Where transaction or bid/offer information has been received from a trader rather than from a company's back office, SMM always seeks confirmation from other sources.

Where SMM has grounds to doubt an item of market data, it may request further evidence that a transaction has taken place, including documented evidence. SMM treats transaction data received from active brokerages as confirmed.

On occasion, in markets with low liquidity and a low number of counterparties, SMM may choose to use unconfirmed data, but only in so far as it is aligned with other market information and comes from a source deemed reliable by SMM based on previous interactions.

4. Selection of participants

SMM policy on general market data is that we welcome all information regardless of source or constitution as long as it is provided in good faith as true.

However, only active market participants verified as such by existing active industry participants and verified as a viable business by SMM investigations will be allowed to contribute price data to SMM for the purpose of assessing tradable market value under this methodology. In addition, we will base on the transaction size of market to define significant players in the assessment which means that the size of a market participant relative to the market as a whole is used to identify which participants are deemed significant.