

WMR Spot Rates Methodology – Additional Trade Data

Summary of Changes

Trade Rates

Cboe FX transactional data will be used as an additional source for the following 10 currencies: UAD, CAD, CHF, CNH, EUR, GBP, HKD, JPY, NZD, SGD.

This change will mean that executed trades, sourced from Cboe FX will be “pooled” with the other data sources for the respective currencies. Consequently, the number of trades used in the calculation of these currencies may increase and the minimum number of valid trades will be checked against this new “pool” of data sources.

Order Rates

The methodology will continue to select which Order rates to use, from which source based on the number of valid Order rates during the calculation window and Cboe FX data will be included in that selection.



Data Sources

Using data from LSEG FX (Matching), EBS (CME), Currenex and Cboe:

Following the introduction of Cboe FX transaction data, the following currencies will source data from 4 platforms:
CHF, EUR and JPY

Using data from LSEG FX (Matching), EBS (CME) and Cboe:

Following the introduction of Cboe FX transaction data, the following currencies will source data from 3 platforms:
AUD, CAD, CNH, GBP, HKD, NZD, SGD

Using data from LSEG FX (Matching) and EBS (CME):

There will be no change to **RUB** which will continue to be sourced from LSEG FX (Matching) and EBS (CME)

Using data from LSEG FX (Matching) only:

There will be no change to the following currencies will continue to be sourced from LSEG FX (Matching) only:
CZK, DKK, HUF, ILS, INR, MXN, NOK, PLN, RON, SEK, THB, TOF, TRY and ZAR

Please see the [Appendix I](#) matrix for further details.

Methodology

Data sources and Hierarchy

1. The **primary source** of rates will be actual traded rates taken from LSEG Matching, EBS, Currenex and Cboe, as detailed above "Traded rates/Trades".
2. The **secondary source** of rates will be the bid/offer rates on the order matching systems of LSEG Matching, EBS, Currenex and Cboe "Order rates/Orders".
3. Bank quotes from RICs will be captured for instances where neither Trades nor Orders are available.
4. All other currencies not identified above as 'trade' currencies can be assumed to be 'non-trade' and follows the respective methodology.
5. The "base" currency is either the US Dollar or the Euro, depending on which base currency is predominant. Presently, currencies which are predominantly based against the Euro are CZK, DKK, HUF, NOK, PLN, RON and SEK. All other currencies are based against the US Dollar.

Trade Rates Calculation

1. Over a five-minute period, from each trading platform, actual trades executed and bid and offer order rates from the order matching systems are captured every second from 2 minutes 30 seconds before to 2 minutes 30 seconds after the time of the calculation (e.g. hour and/or ½ hour). Trading occurs in milliseconds on the trading platforms and therefore not every trade or order is captured, just a sample.
2. From each platform, a single traded rate will be captured each second– this will be identified as a bid or offer depending on whether the Trade is a buy or sell.
3. A spread will be applied to the Trade rate to calculate the opposite bid or offer. The spread applied will be determined by the Order rate captured at the same time.
4. All captured Trades will be subjected to validation checks. This may result in some captured data being excluded from the calculation.
5. Valid Trades from all sources as identified above, captured during the time period will be “pooled” together.
6. Subject to a minimum number of valid Trades being present within this pool of data, the Trade rates will be used for the benchmark.
7. A median Trade bid and Trade offer are calculated independently, using data from the single pool of trades across data sources.
8. The mid-rate is calculated from the median Trade bid and Trade offer.
9. A minimum “Standard Spread” is applied to the mid-rate to calculate a new bid and offer.
10. These bid, offer and mid rates will be validated prior to publication.

Order Rates Calculation

1. Where the number of valid executed traded rates falls below the minimum threshold then data from the order matching system(s) will be used in the calculation of the benchmark rate.
2. From each data source, the best bid and best offer rates will be captured simultaneously to the Trade data from each data source.
3. All captured Order rates will be subjected to validation checks. This may result in some captured data being excluded from the calculation.
4. Order rates from different sources will not be pooled together.
5. Using valid Order rates, a median bid and offer are calculated independently, for each data source.
6. The mid-rate is calculated from the median Order bid and Order offer.
7. A minimum Standard Spread is applied to the mid-rate to calculate a new bid and offer.
8. The bid, offer and mid rates from the data source with the highest valid Orders over the time period will be selected as the rates for publication. Consequently, the data source to be used will be driven by the market.
9. These bid and offer rates will be validated prior to publication.
10. In the event that two or more data sources have an equal number of valid Orders, then an average of the mid-rate from these data sources will be used.
11. In the event that two or more data sources have a single Order only, the most up to date Order rates will be used.

Tolerance Checks

1. All captured rates and benchmark rates will be subjected to a number of tolerance checks to ensure accurate and valid rates are used. This may result in some captured data being excluded from the fix calculation.

Standard Spreads

1. In order to publish spreads which are reflective of currency markets pre-defined minimum and maximum spreads are set for each currency, at each calculation time. These are variable across currencies to reflect different market levels and changes in liquidity at different times of day.
2. To reflect actual market conditions, if the market dictates spreads which are greater than the pre-defined minimum spread and less than the pre-defined maximum spread, then these wider spreads will be used in the benchmark calculation – up to the maximum spread as predefined in the system. In the event the market dictates spreads which are wider than the predefined maximum standard spreads, further analysis will be undertaken.

Appendix I

Source of WMR Spot benchmark rates – Traded Currencies				
ISO	LSEG Matching	EBS	Currenex	Cboe
AUD	Included in all benchmark rate calculations	Included in all benchmark rate calculations, except from 9pm to 12am UK Inclusive		Included in all benchmark rate calculations, except at 10pm and 10.30pm UK time.
CAD	Included in all benchmark rate calculations	Included in all benchmark rate calculations, except from 9pm to 12am UK Inclusive		Included in all benchmark rate calculations, except at 10pm and 10.30pm UK time.
CHF	Included in all benchmark rate calculations	Included in all benchmark rate calculations	Included in all benchmark rate calculations	Included in all benchmark rate calculations, except at 10pm and 10.30pm UK time.
CNH	Included in all benchmark rate calculations	Included in all benchmark rate calculations		Included in all benchmark rate calculations, except at 10pm and 10.30pm UK time.
CZK	Included in all benchmark rate calculations			
DKK	Included in all benchmark rate calculations			
EUR	Included in all benchmark rate calculations	Included in all benchmark rate calculations	Included in all benchmark rate calculations	Included in all benchmark rate calculations, except at 10pm and 10.30pm UK time.
GBP	Included in all benchmark rate calculations	Included in all benchmark rate calculations, except from 9pm to 12am UK Inclusive		Included in all benchmark rate calculations, except at 10pm and 10.30pm UK time.
HKD	Included in all benchmark rate calculations	Included in all benchmark rate calculations, except from 9pm to 12am UK Inclusive		Included in all benchmark rate calculations, except at 10pm and 10.30pm UK time.
HUF	Included in all benchmark rate calculations			
ILS	Included in all benchmark rate calculations			
INR	Included in all benchmark rate calculations when the local markets are open			
JPY	Included in all benchmark rate calculations	Included in all benchmark rate calculations	Included in all benchmark rate calculations	Included in all benchmark rate calculations, except at 10pm and 10.30pm UK time.
MXN	Included in all benchmark rate calculations			
NOK	Included in all benchmark rate calculations			
NZD	Included in all benchmark rate calculations	Included in all benchmark rate calculations, except from 9pm to 12am UK Inclusive		Included in all benchmark rate calculations, except at 10pm and 10.30pm UK time.
PLN	Included in all benchmark rate calculations			
RON	Included in all benchmark rate calculations			

Source of WMR Spot benchmark rates – Traded Currencies				
ISO	LSEG Matching	EBS	Currenex	Cboe
RUB	Included in all benchmark rate calculations	Included in all benchmark rate calculations		
SEK	Included in all benchmark rate calculations			
SGD	Included in all benchmark rate calculations	Included in all benchmark rate calculations, except from 9pm to 12am UK Inclusive		Included in all benchmark rate calculations, except at 10pm and 10.30pm UK time.
THB	Included in all benchmark rate calculations when the local markets are open			
TOF	Included in all benchmark rate calculations			
TRY	Included in all benchmark rate calculations			
ZAR	Included in all benchmark rate calculations			

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