

EMpulse Street FX Index - Methodology

Generated
<https://emp>

The EMpulse Street FX Index publishes daily "street" exchange rates of emerging-market currencies against USDT (treated as 1 USD): the rate people actually pay, not the official one. The index combines transaction-based market data with quotes from public market sources; each series carries a confidence class, and the limits of the data are published with it.

Components

component | what it is | where it appears

transaction
regates ent
live table

Coverage and activity

The index of a currency is one number per day, built from the components above:

- when only one component publishes, the index is that component;

• when bo
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A currency is active when the index has a day within the last 14 days (/v1/currencies: status = "active", active_since = the first day of the current run of data without a break longer than 14 days). A currency without a recent day is coverage in progress: we are adding market sources for it, its published history stays available, and it returns to the active list on its own once a recent day exists. The live table of the website shows active currencies only; the number of currencies quoted in the plans is the number of active currencies.

For every active currency the latest day carries:

- sources — the number of independent market sources behind the day (the transaction-based component counts

as one). It

- confidence — the class of the latest day (high / medium / limited, see below); when the day is three

or more d

Daily index fields (`GET /v1/rates/{cur}`)

- buy — the day's weighted average rate at which a client buys USDT for fiat. A side with too few data

points for

- sell — the same for the side where the client sells USDT.

• mid — (

- side — what mid is based on: both, buy (only buy exists) or sell (only sell exists);

null when
ead again

- `spread_pct` — $(\text{buy} - \text{sell}) / \text{mid} \times 100$, only when `side = "both"`; otherwise null. It is usually positive; a
- `confidence` — high, medium or limited. Every currency has a base class from its coverage (GET /v1/ a points t data poin
- `in_progress` — true for the latest day of a currency while the day is still being collected and its data poin ch a day v
- `mid_7d` — arithmetic mean of the valid mid values over the last 7 calendar days, including the day itself.
- `chg_1d_pct`, `chg_7d_pct`, `chg_30d_pct` — $(\text{mid} / \text{mid_N_days_ago} - 1) \times 100$, comparing with e xactly 1, 7 or 30 or if the t d by rough

"Valid mid" means a non-null mid that is not flagged as an outlier.

A side that does not move

Sometimes one side of the market stops moving while the other keeps trading at changing prices: over several days (five, for the daily index) its median rate stays within 0.05 %, or every day on that side clears at a single price. Such a price is quoted rather than traded, and a mid halfway between it and the live side would be meaningless. In that case the index is based on the moving side alone: mid equals that side's rate, side names it (buy or sell) although both buy and sell are published, and `spread_pct` is null. The rule is applied day by day and lifts itself as soon as the quiet side starts moving again; when both sides are equally still (a flat market) nothing changes. The hourly index applies the same rule over a window of 24 hours.

Outliers

A day is flagged `flag = "outlier"` when all of the following hold:

- it has a mid;
- it has fe enuine
- its mid deviates by more than 10% from the median mid of the surrounding window of ± 15 calendar days
- the window contains at least 3 other days with a mid (otherwise there is not enough data to judge, and the d

Outlier days keep their own buy, sell, mid and `spread_pct` values so that clients can see them, but they are excluded from `mid_7d` and all `chg_*` calculations (for the outlier day itself and for the days that would reference it).

Revisions and timing

- Days are UTC calendar days. The current day is incomplete until 00:00 UTC and is revised during the day; it is marked
- Because the outlier window looks 15 days forward as well as back, flags (and therefore `mid_7d`)

and

- Free API keys receive data up to the previous day; pro and enterprise keys include the current day.

Hourly index (`GET /v1/rates/{cur}/hourly``, Pro and Enterprise)

The hourly index is the daily index at hourly granularity: for every UTC hour and currency, buy and sell are the weighted average rates of the hour's market transactions on each side, mid, side and spread_pct follow the daily rules, and confidence is the currency's base class.

- Hours and sides. A row exists for every hour with market data. A side needs at least 3 data points in the

- Outliers within the hour. The hour's aggregates are built from transactions within $\pm 20\%$ of the hour's own

- Daily summary. Each day of a per-currency response carries vwap (the weighted average rate of the whole

- In progress. The current UTC hour is `in_progress = true` while it is being collected and will be revised;

- Timing. Hourly rows arrive with the daily update, which covers the last three days (late transactions and

Multi-source street index (`GET /v1/street-index``, product "Street Rate Index — multi-source")

For every currency where public market sources publish street rates — next to the transaction-based series where one exists, on its own where it does not — the index publishes the rate quoted in open sources: exchangers' public Telegram channels, the rates sections of local publishers, forums. A published rate is a fact; we keep the number, the time and the link to the post, never the text.

- Quote — one number from one public post: quoted currency (ISO 4217), base (USD; USDT is counted

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- Side convention. side is the client's action, as in the index: a client **buys** USD at the
- Extraction. Regular expressions for the common formats first ("USD 1650/1665", "Покупка: 11810 /
- Plausible range per currency and base: the transaction-based reference of the last 30 days, otherwise
- Source trust (reliability, 0–1, recomputed every day over the last 30 days):
- the shared shift itself is published with the day as $\text{basis_gap_pct} = (\text{multi-source mid} /$
- $\text{*cleanliness*} = 1 - \text{share of outliers}$; $\text{*stability*} = \max(0, 1 - \text{dispersion} / 3 \%)$, $\text{dispersion} = \text{median}$
- $\text{reliability} = 0.5 \cdot \text{accuracy} + 0.2 \cdot \text{cleanliness} + 0.15 \cdot \text{stability} + 0.15 \cdot \text{regularity}$, within [0.05, 1].
- The day (GET /v1/street-index/{cur}/history): mid = reliability-weighted median of post mids (the

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• Access. Free keys: the free-tier currencies with a 1-day delay; Pro: all currencies; Enterprise: all currencies so the

• Limitations. Posts are what sources chose to publish; a source may be late, wrong or promotional — that

Currency pages and site statistics

• Each currency has a public page (/rates/{CUR}) with the same 1-day delay as the free tier: the latest day,

• The website keeps first-party visit statistics without cookies or external trackers: page views, countries and

Limitations

• Street rates reflect what people actually pay on the street market; they are not official, central-bank or

• Series with confidence = limited have gaps (days without a value or without a mid) and higher noise. Check

• Coverage starts at different dates for different currencies (coverage_since in GET /v1/currencies), and

• The index is provided for information purposes only and is not investment advice.