EMpulse Street FX Index: Методология

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The EMpulse Street FX Index publishes daily "street" exchange rates of emerging-market curren cies against USDT (treated as 1 USD): the rate people actually pay, not the official one. The inde x 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

The exchange-based component

• Which exchanges. Only exchanges that publish a documented public API for their offers, reada ble without an

account, v
lows the e
y 30 days
re appear
d is other

• The hour. Per exchange, currency and side the best offers by price (up to 20) give the best pri ce, the median,

the depth
onvention
rather tha
urrency ÷
and sell a
id) / medi

• Reliability of an exchange (0–1, recomputed daily over 30 days): accuracy = max(0, 1 − dev / 5 %), dev =

median di
ur (with fe
depth aga
5·depth +
pulated b

• Confidence. A day is high with at least three exchanges within 2 % of each other, medium with at least

three exc
rule below

ough this

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 se
veraged w

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, ev
or more, a
in the API

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

or more d

A currency is published from its first market source on: a day with one source is limited and carries the note coverage improving (website, API, MCP) — the number is real, its uncertainty is stated, and more sources are being added. medium needs two independent sources, high three agreeing within 2 %. The exchange-based component enters the activity rule only once its order books show at least three independent offers in an hour and two days of data; a currency without a single data point stays coverage_in_progress.

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 — (buy − sell) / mid × 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/c
a points t
data point

• in_progress — true for the latest day of a currency while the day is still being collected and its

data point
ch a day w

• 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 — (mid / mid_N_days_ago − 1) × 100, comparing with e
xactly

1, 7 or 30
or if the tw
d by roug

• exchange_spread_pct (Pro and Enterprise) — the cross-exchange spread of the exchange-base
d component on the

day (see a

"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 price
s: over several days (five, for the daily index) its median rate stays within 0.05 %, or every day o
n 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 movin
g side alone: mid equals that side's rate, side names it (buy or sell) although both buy and sell a
re 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 calen

• the window contains at least 3 other days with a mid (otherwise there is not enough data to ju
dge,

and the d

Outlier days keep their own buy, sell, mid and spread_pct values so that clients can see them, b
ut 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 duri
ng the day;

it is marke

• Because the outlier window looks 15 days forward as well as back, flags (and therefore mid_7d
and

chg_*) of
culated on

• 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 a nd 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.

• How the hourly series is built. Every currency with hourly market data has a series. For each U TC hour

• Hours and sides. A row exists for every hour with market data. A side needs at least **3 data p oints in the

• Outliers within the hour. The hour's aggregates are built from transactions within ±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 r evised;

• Timing. Transaction-based hourly rows arrive with the daily update, which covers the last thre e days (late

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-b
ased series where one exists, on its own where it does not — the index publishes the rate quote
d 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 t
he text.

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

as USD ar
me of the
audit only
everal citi

• Side convention. side is the client's action, as in the index: a client *buys* USD at the

exchange
post that
id is a quo

• Extraction. Regular expressions for the common formats first ("USD 1650/1665", "Покупка: 11
810 /

Продажа
ngali / Pe
es about
ncy word
it returns

• Plausible range per currency and base: the transaction-based reference of the last 30 days, ot
herwise

the media
e ± 60 %
a range e

• Source trust (reliability, 0–1, recomputed every day over the last 30 days):

• *accura
e

• the shared shift itself is published with the day as basis_gap_pct = (multi-source mid /

transactio
ate to the
rket and t
is adjuste

• *cleanliness* = 1 − share of outliers; *stability* = max(0, 1 − dispersion / 3 %), dispersion =
median

within-da
most 1;

• reliability = 0.5·accuracy + 0.2·cleanliness + 0.15·stability + 0.15·regularity, within [0.05, 1].

A source
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5 valid qu

• The day (GET /v1/street-index/{cur}/history): mid = reliability-weighted median of post mids (t
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buy and s
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of mids is
: ≥ 3 sour
h ≥ 3 quo

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

quotes be
omputed

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

is what th

Currency pages and site statistics

• Each currency has a public page (/rates/{CUR}): the rate of the latest hour, changes, the last 2
4 hours,

90-day ar
cy, the las
/llms-full.t
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• The website keeps first-party visit statistics without cookies or external trackers: page views, c
ountries and

referrers
(visitors a
om the IP
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City boards and exchangers' cards

• A city page (/rates/{CUR}/{city}) shows the country-wide index and, below it, the boards of th
e exchange

offices of
f those bo
than three
an three c

• Every exchanger with a public board gets a card built from that board: the public name of the
business, its

city, its si
ers or doc

• A business claims its card without any human step: a code placed in a file or a meta tag on its
site, in a post

of its char
a link in a
d and may

• Own rates are shown apart from the index, marked as the exchanger's own. They enter the in
dex only as one more

source wi
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lti-source

Corridors (`GET /v1/corridors/{a}/{b}`, `/corridors/{A}-{B}`, Pro and Enterprise)

Many emerging-market currencies are exchanged against each other directly — som for tenge, hryvnia for dirhams, rupees for riyals — in public forums, channels and classified boards, without a dollar leg. The index reads those public listings in the languages of the countries and publishes the corridor rate of a pair next to the cross rate its own dollar legs imply.

• A listing is one public post that names two non-dollar currencies and a price or two amounts ("
куплю сумы

за тенге,
p the pair
e amount
and the li
d before a
a post wit
very num

• Plausibility. A listing is checked against the rate implied by the two dollar legs of the index

(b per US
range is a
ndex.

• The day (rate) is the trust-weighted median of the day's valid listings of the pair, with the day'
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g of the p
limited.

• implied_cross is the same rate computed from the two dollar rates of the index on the same d
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• Currencies without a dollar market. When a currency has no dollar component of its own but is quoted

against a
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• Access. Public pages show the latest day; Pro and Enterprise keys also get the current day in t
he API,

the histor
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Limitations

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

interbank

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

confidenc

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

a currenc

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