EMpulse Street FX Index -

docs/METH
: https://em

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

• exchange_spread_pct (Pro and Enterprise) — the cross-exchange spread of the exchange-based 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 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 caler

• 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).

Independent publishers and unconfirmed moves

• One publisher, one voice. Several pages or channels of the same publisher (one website, one account) count as one vo
e hour or
te cannot

• high needs three independent publishers agreeing within 2 %. A point carried by fewer publishers is at most med

istent with

• A move that is not confirmed is not published. When an hour or a day departs by more than 15 % from the

recent va
d they ag
ous value
rger shift
ecutive da

• A source whose quotes match the level of another currency (for example a page of a neighbou ring market quoting

its own cu

Publication review

Every figure is checked before it is shown — on the website, in the API and in the AI-assistant to ols alike — against three things: the other components of its day, its own confirmed series and a n independent reference (the level the currency has been confirmed at and, where one is publis hed, the official rate).

• Components must agree. When the components of a day are more than 10 % apart, the day is published with a

lower con
with the c

• A figure far from its reference is not published. A figure more than twice or less than half its co nfirmed

level, or b
verage_in
mes the c

• A new level is adopted once it holds. A genuine move — a devaluation, a new regime — is publ ished with a lower

confidenc
nsecutive

• Changes are shown when both days are confirmed. A daily, weekly or monthly change above 1 5 %, 30 % or 60 %

respective
e review;

• high is earned. A figure is high only when three independent publishers agree within 2 % of it or the

transactio
t most me

• Every published day keeps the record of what it was checked against, so a figure can be trace d to what confirmed

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 mark

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

chg_*) of

culated o

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

• Series d

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

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ource con
hen at lea
e transact
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blication r
s confirme
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quotes, m
lue in a U
and the w

• Hours without quotes. Market sources quote in the daytime of their country; at night a currenc y may have no

quotes fo
o, and say
old the va
hour is ab
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updated 9

• Hours and sides. A row with quotes exists for every hour with market data. A side needs at lea st **3 data points in the

hour** to
tells whic
y rarer: th

• Outliers within the hour. The hour's aggregates are built from transactions within ±20 % of the hour's own

median ra
that does

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

day, both
n index va
om the ho
two-sided
a two-side
unts every

• In progress. The current UTC hour is in_progress = true while it is being collected and will be r evised;

GET /v1/ra

• Intra-hour quotes. Sources that publish a continuously updated rate are read every 10 minutes . The hour stays

the unit o
f its readi
eet-index,
20 minute
hout such
the API re

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

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ows older
blic websi
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he last va

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 he

buy and s
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h ≥ 3 quo

• The street rate of a city (GET /v1/street-index/{cur}/cities, the city pages of the exchange poin ts) is

published
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untry for
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ery day b
y stands a
ublished
y rate of t

• 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 24 hours,

90-day ar
cy, the las
/llms-full.t
reet FX In

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

referrers a
(visitors a
om the IP
icence CC

Card rate (`card_rate` in `GET /v1/rates/{cur}`, the row "Card rate " on `/rates/{CUR}`)

The card rate is the rate at which international bank cards settle a payment in the currency, without the margin a bank adds on top. It is the median of the rates published by several public calculators, taken for the latest full day. It is a separate series next to the official rate and the street rate and never enters the street index.

• card_rate — local currency per 1 US dollar.

• card_pr
e official

• sources, confidence — on the page: how many independent calculators the day rests on and high, medium

or limited

• A figure far from the official rate is not published. While a currency has no card rate for the day, all three

fields are
ys up to y

Card rate pages (`/card`, `/card/{cc}`)

The card rate pages show the same card rate by country: the card rate of the latest day against the official and the street rate of that day, a 90-day chart, sources: N and confidence, and a link to the currency page. A country appears only when its card rate has enough recent history: at least 14 days of the last 30 with confidence medium or high. While no country meets this rule, the section is not on the site.

Fuel prices (`/fuel`, `/fuel/{cc}`)

The fuel pages show the price of a litre of petrol and diesel by country in the local currency: the official price (the pump price set or published by the state) and the market price (what a litre costs outside the regulated price, the median of the last days), and the gap of the market price to the official one in percent. Where the pump price is subsidised, the gap measures the pressure on the currency, and a rise of the official price often comes before a devaluation. Fuel gives no exchange rate and never enters the street index. A country is published under the same rule as the card rate pages (at least 14 days of the last 30 with confidence medium or high); each price carries sources: N and confidence: high | medium | limited. The chart shows the days that have both prices only; nothing is filled in.

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
of the cou
(the excha

• 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
ees with t
s standing
hangers'
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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e cheaper
se, and sc

• 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
d only fro
ading or r

Cost of a remittance by corridor (research series, not yet publishe d)

EMpulse is building a series of what the recipient of a 200 US dollar transfer gets in each corrido r: the fee and the rate of the transfer services, and the total cost against the street rate, (fee + 200 × (1 − transfer rate / street rate)) / 200 × 100. The series is not shown on the site or in the API yet and never enters the street index.

• The quarterly base is *Remittance Prices Worldwide*, The World Bank (https://remittanceprice s.worldbank.org),

licence CC
ter; the fi

• Daily quotes of transfer calculators are read only where their terms allow reuse.

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.