

Stability Index Methodology

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Document Status

This paper introduces the Stability Index, an index made up of geopolitical Polymarket event contracts. It is structured as a calculation methodology document: it defines the economic reality measured, input data, market selection, weighting, calculation, publication, posture, and limitations.

1 Description of the Market or Economic Reality Measured

The Stability Index is designed to measure geopolitical stability. In simple terms, every event market in the index resolves the question: "Will this make the world more stable?" in the affirmative. Best effort is made to not take a directional political position on the settlement of the events. For example: "Will the war end?" would be included in the index while "Will Side A win the war?" would be excluded.

The index is published hourly and its constituent markets include 50 markets weighted by execution capacity out of a universe of thematic Polymarket contracts. It is not a macroeconomic statistic and it does not estimate realized volatility.

2 Input Data and Publication Cadence

The index service publishes hourly. Published information includes approved active universe, current market data for constituents, computed capacity, calculated weights, and the resulting level.

Input	Use in the methodology
Outcome token price	Reference price for level, gauge, and oracle payloads. The publisher prefers explicit price, then midpoint, then best ask, then best bid.
liquidity_clob	One component of execution capacity.
depth_bid_5c	Bid-side size within 5 cents of the best bid; one component of execution capacity.
depth_ask_5c	Ask-side size within 5 cents of the best ask; one component of execution capacity.
Best bid, best ask, spread	Stored as quality and oracle-basket market data.
Volume and open interest	Stored as context and quality metadata; not the active weight basis.

3 Universe Discovery and Manager Review

The event discovery process starts from configured text searches and classification rules. All active Poly-market events are screened against included and excluded topics, polarity rules, and market thresholds. Both deterministic and LLM prompt searches are performed.

Approved markets enter the active universe at an effective time. Manager decisions and parameter changes are append only audit events. At this point every single market is manually reviewed and approved, to prevent misclassifications.

4 Eligibility, Filtering, and Publish Price Bands

Market checks are performed hourly on approved events before it can become a constituent. Inactive, closed, archived, restricted, expired, or otherwise unpublishable markets are removed or excluded according to active parameters.

The current default index-eligible thresholds include:

Threshold	Default
Minimum total volume	\$500
Minimum 24-hour volume	\$50
Minimum CLOB liquidity	\$100
Maximum spread	\$0.60
Minimum publish price	\$0.002
Maximum publish price	\$0.997
Maximum missing price share before failure	20%
Maximum missing capacity share before failure	50%

The publish price band is a guardrail against nearly resolved one sided markets dominating the top capacity set. A token with reference price below \$0.002 or above \$0.997 is excluded from the published constituent set for that run.

5 Capacity Calculation

The intent in determining capacity for each market is that it is a high signal for whether a given event is seen as important. Execution capacity is defined as an orderbook depth proxy. Bid depth and ask depth are each measured as the sum of visible size within 5 cents of the best quoted price on that side. The index uses the largest of which side of bid or ask is greater. This method provides a simple tool for ranking high signal markets.

For market i at publication time t , let $B_{i,t}$ be the visible bid levels, $A_{i,t}$ be the visible ask levels, $b_{i,t}$ be the best bid, and $a_{i,t}$ be the best ask. The 5-cent side depths are:

$$D_{i,t}^{\text{bid5c}} = \sum_{\ell \in B_{i,t}: p_{\ell,t}^{\text{bid}} \geq b_{i,t} - 0.05} q_{\ell,t}^{\text{bid}}$$
$$D_{i,t}^{\text{ask5c}} = \sum_{\ell \in A_{i,t}: p_{\ell,t}^{\text{ask}} \leq a_{i,t} + 0.05} q_{\ell,t}^{\text{ask}}$$

where $p_{\ell,t}$ is the quoted price at level ℓ , and $q_{\ell,t}$ is visible size at that level. Execution capacity is then:

$$C_{i,t} = \max \left(L_{i,t}^{\text{clob}}, D_{i,t}^{\text{bid5c}}, D_{i,t}^{\text{ask5c}}, 0 \right)$$

where $L_{i,t}^{\text{clob}}$ is CLOB liquidity. A market with missing or non-positive capacity can remain in the reviewed universe, but it cannot receive positive weight in the published basket.

6 Constituent Selection

For each hourly run, the publisher forms candidate rows from eligible universe markets with positive reference price and positive execution capacity. Rows are sorted by descending execution capacity.

The current default maximum constituent count is 50.

7 Weighting

This prediction market based index is similar to equity indexes weighted by market cap, but the weighting basis is execution capacity instead of market capitalization.

For the selected constituent set S_t , each market's weight is its execution capacity divided by total selected execution capacity:

$$w_{i,t} = \frac{C_{i,t}}{\sum_{j \in S_t} C_{j,t}}$$

The current methodology does not apply single-market, cluster, expiry-bucket, or low-liquidity caps.

8 Gauge Value

The gauge is a spot reading of the currently selected Stability outcomes. It is calculated from current constituent weights and reference prices:

$$G_t = 100 \times \sum_{i \in S_t} w_{i,t} p_{i,t}$$

where $p_{i,t}$ is the selected outcome reference price. The gauge is useful as an intuitive spot measure: a higher value means the selected Stability outcomes are priced higher, after capacity weighting. The gauge does not have historical properties it is more analogous to a temperature reading.

9 Continuity Index Level

The published index level is path-dependent and continuity-preserving. The first successful run starts at the base level:

$$L_0 = 100$$

For later runs, the publisher values the previous constituent units using current reference prices where available. If a current price is unavailable or non-positive, the previous constituent price is used as fallback:

$$B_t = \sum_{i \in S_{t-1}} u_{i,t-1} \tilde{p}_{i,t}$$

$$L_t = \begin{cases} B_t, & B_t > 0 \\ L_{t-1}, & B_t \leq 0 \end{cases}$$

After L_t is set, current constituent units are refreshed from the current weights and prices:

$$u_{i,t} = \begin{cases} \frac{L_t w_{i,t}}{p_{i,t}}, & p_{i,t} > 0 \\ 0, & p_{i,t} \leq 0 \end{cases}$$

The continuity level tracks the performance of the Stability Index as if it were an asset in order to follow changes across longer time horizons.

10 Governance, Judgement, and Change History

The methodology is rule governed but not fully automated. Automated discovery and filtering surface candidates. Human review determines whether each market enter the approved universe. Parameter versions are effective-dated, and public change events record material universe and methodology changes.

Methodology changes that affect published values should be reflected through a new active parameter version and public change history. Failed runs should be investigated operationally but should not overwrite the latest successful or degraded public value.

11 Limitations

- The index depends on Polymarket market availability, wording, settlement rules, liquidity, orderbook depth, and outcome-token data quality.
- Discovery can miss relevant short-lived or newly phrased crisis markets.
- Capacity is a transparent proxy for executability. It is not a guarantee that a fund can trade the full displayed size without price impact.
- Nearly resolved markets are excluded by publish price bands, but active markets can still change quickly between hourly runs.
- The index level and gauge answer different questions. Readers should not treat the gauge as a replacement for the continuity level or the continuity level as a direct probability.

12 Disclaimer

The Stability Index is a prediction market index methodology and cannot be invested in directly. Any product that references the index has separate product, contract, custody, quote, redemption, jurisdic-

tional, and risk disclosures. PMF Finance does not guarantee that the index will be uninterrupted, error-free, complete, or suitable for any particular purpose.