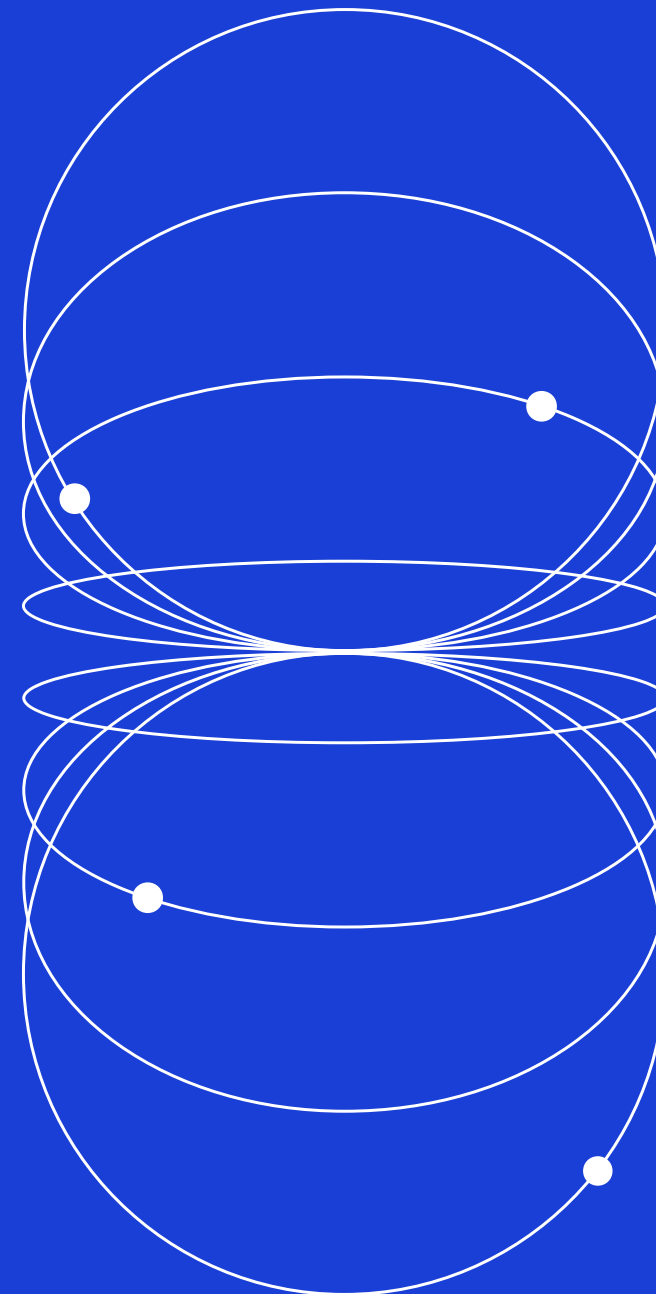




Daily Volatility Insights

June 18, 2026 (market close)



Overview - Option Market Signals

Options Based Signals for Market Risk and Positioning

Market Activity & Positioning (Derivatives-based)

Metric	Definition	Market interpretation
Cumulative options volume & put-call ratio	1-month rolling average of daily U.S. equity and index options volume (millions). The put-call ratio (right axis) divides total put volume by total call volume.	A rising put-call ratio can be consistent with growing demand for downside protection; a falling ratio indicates call dominance, consistent with bullish positioning or income generation. Sustained elevated levels can be consistent with active tail-risk hedging.
Options volume - maturity share	1-month rolling share of total options volume by time to expiry: under 1 month, 1-3 months, 3-12 months, and over 1 year.	Concentration in short-dated contracts reflects tactical hedging around near-term catalysts; concentration in longer-dated contracts reflects strategic, portfolio-level hedging. A shift toward longer maturities can provide insights into whether investors are extending their hedging horizon.

Implied Volatility and Risk Pricing

Metric	Definition	Market interpretation
Implied volatility (IV)	30-day at-the-money implied volatility averaged across calls and puts — a proxy for the cost of options-based protection over the next month.	Rising IV signals increased hedging demand; falling IV reflects a calmer environment where vol sellers dominate. Sharp spikes typically coincide with sudden uncertainty or rebalancing or hedging activity by market participants.
Implied volatility spreads	Pairwise differences in 30-day implied volatility across regions: U.S. minus EAFE, U.S. minus EM, and EM minus EAFE.	Widening spreads indicate diverging hedging costs across regions. Historically, EM volatility has often been higher than U.S., which has often been higher than EAFE. Reversals, such as U.S. volatility rising above EM, point to region-specific stress or shifts in global risk appetite.
Implied volatility skew	Difference between 25-delta put and 25-delta call implied volatility. Positive skew means downside protection is priced richer than upside exposure.	High skew reflects concentrated demand for downside hedges relative to upside participation. Negative skew has historically been less common and typically reflects strong directional demand for upside. Skew may indicate how asymmetrically the market is pricing risk.
Term structure	Ratio of 91-day to 365-day implied volatility. A ratio above 1.0 means near-term uncertainty is priced higher than long-term.	Above 1.0 indicates elevated near-term event risk pricing, such as a policy decision or data release. Below 1.0 indicates greater long-horizon uncertainty, more common in stable, rangebound conditions.

Overview - Realized Volatility and Allocation Implications

Realized Volatility and Allocation Implications

Risk Premia and Realized volatility

Metric	Definition	Market interpretation
Volatility risk premium (VRP)	1-month implied volatility observed one month prior minus the realized volatility over the same period, reported in percentage points. Measures how much more (or less) options priced in versus what actually occurred.	Positive VRP means options were overpriced relative to realized moves, which historically benefits short-volatility strategies. Negative VRP means realized volatility exceeded what was priced in, typically occurring during sharp, unexpected market dislocations.
Realized volatility - cross asset classes	1-month annualized realized volatility for equities (MSCI ACWI), commodities, fixed income (U.S. Treasuries), and currency; commodity and Treasury composites are equal-weight.	Synchronized increases across equities, fixed income, and commodities indicate systemic stress or broad risk-off conditions. Isolated spikes in a single asset class point to sector-specific shocks or localized dislocations rather than a macro regime change.
Realized volatility - regional equities	1-month annualized realized equity volatility for U.S., EAFE, and EM regions, based on daily index returns.	An isolated spike in one region points to a local shock, policy change, or geopolitical event. Synchronized spikes across all three regions indicate a global risk event. Persistent divergence over multiple weeks can signal regional decoupling in returns and correlations.

Risk Signals based Regional Allocation

Metric	Definition	Market interpretation
ERC (Equal Risk Contribution) allocations	Portfolio weights across U.S., EAFE, and EM that equalize each region's marginal contribution to total portfolio risk, computed from a 1-year rolling covariance matrix.	When one region's volatility or correlation rises, ERC mechanically reduces its weight and reallocates toward lower-risk regions. Rapid shifts in allocations indicate a sudden change in the volatility or correlation structure. Allocations near equal weight across regions indicate balanced risk conditions.

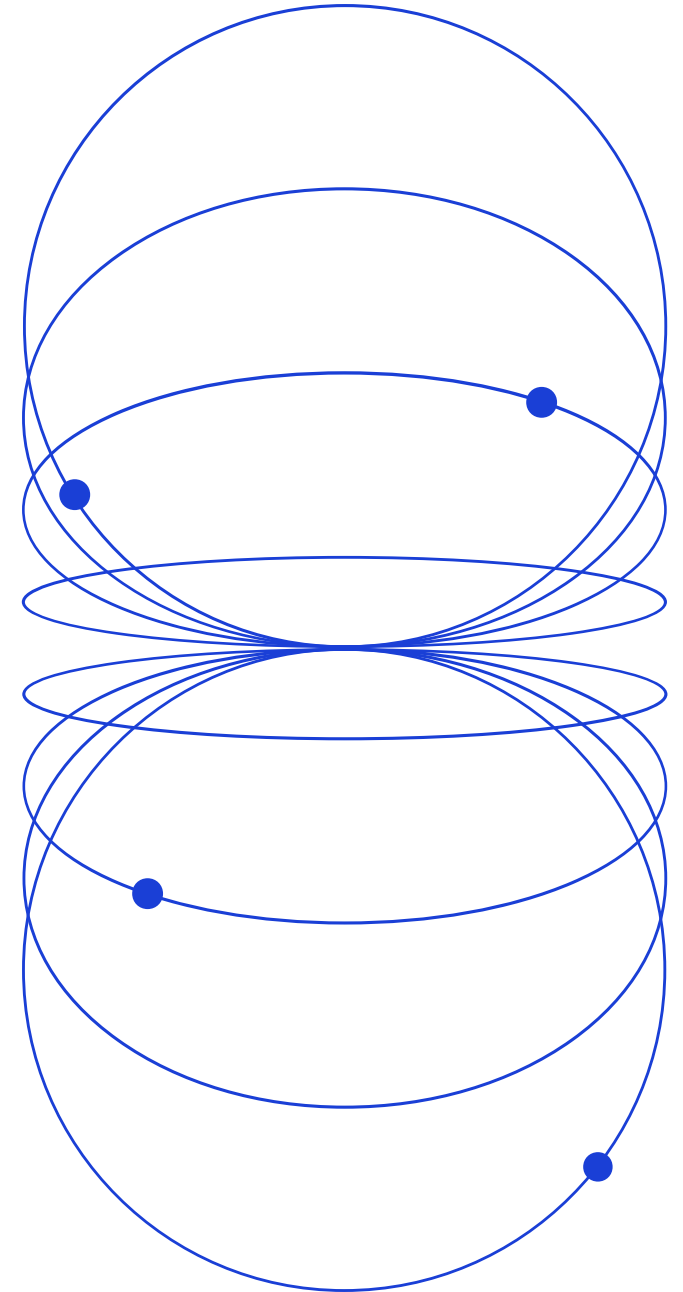
MSCI Indexes referenced in this report

Asset Class	Index Name	Methodologies	Factsheets	BBG Tickers
Equity	MSCI ACWI Index	Methodology	Factsheet	M1WD
	MSCI USA Index	Methodology	Factsheet	M2US
	MSCI EAFE Index	Methodology	Factsheet	M2EA
	MSCI Emerging Markets Index	Methodology	Factsheet	M2EF
Currency	MSCI ACWI ex USA Currency Index	Methodology	—	—
Fixed Income	MSCI 2-Year U.S. Treasury Note Futures Index	Methodology	Factsheet	MXUSTN2Y
	MSCI 5-Year U.S. Treasury Note Futures Index	Methodology	Factsheet	MXUSTN5Y
	MSCI 10-Year U.S. Treasury Note Futures Index	Methodology	Factsheet	MXUSTN10
Commodities	MSCI Aluminum Futures Index	Methodology	Factsheet	MXALUMFE
	MSCI Copper Futures Index	Methodology	Factsheet	MXCOPPF
	MSCI Gold Futures Index	Methodology	Factsheet	MXGOLDFE
	MSCI Lead Futures Index	Methodology	Factsheet	MXLEADFE
	MSCI Nickel Futures Index	Methodology	Factsheet	MXNICKFE
	MSCI Zinc Futures Index	Methodology	Factsheet	MXZINCFE

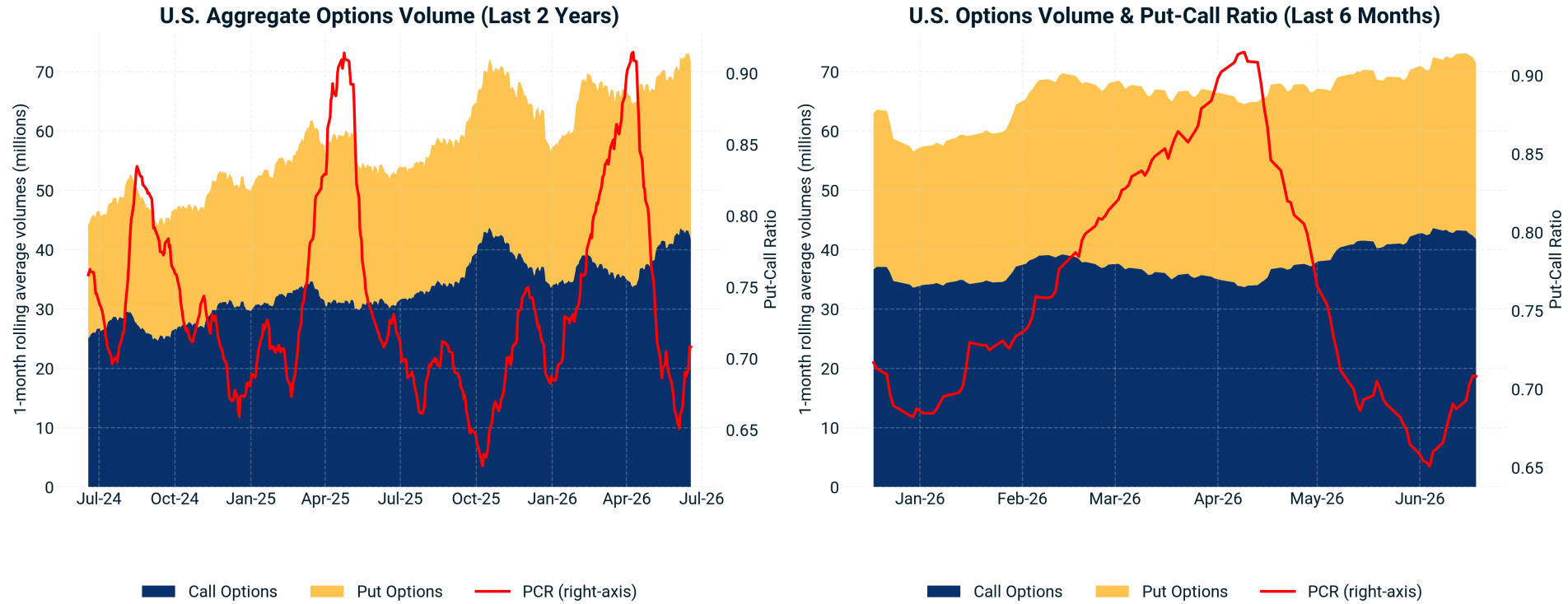
* Bloomberg tickers may be real time or end of the day depending upon availability.

** For more information on derivatives linked to MSCI indexes, please refer to [MSCI Index Licensing for Derivatives](#) .

Options Market Activity

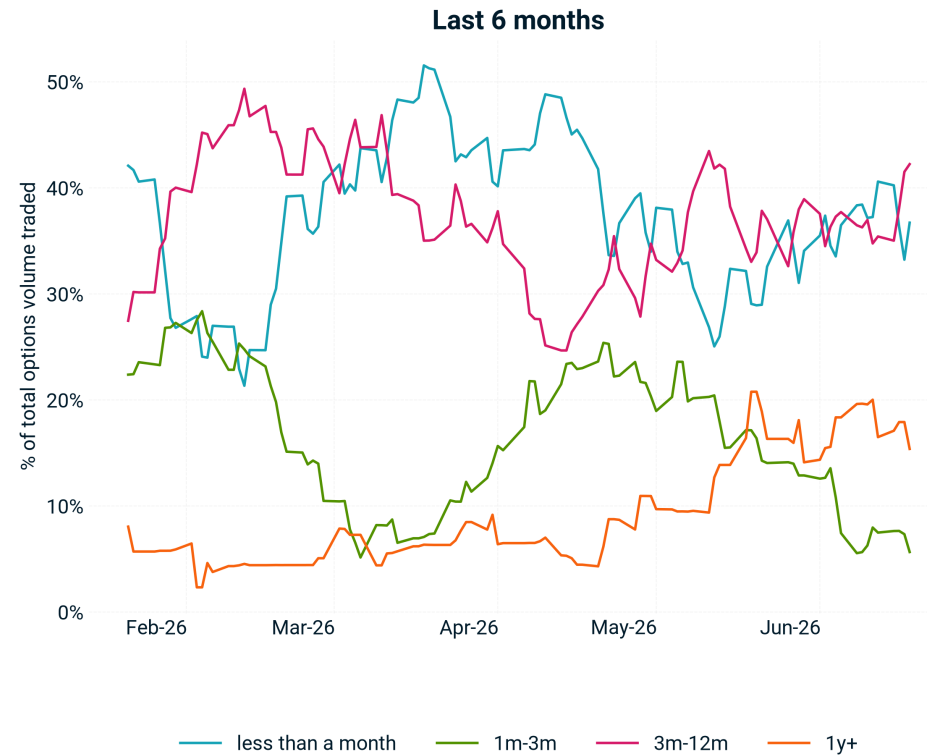
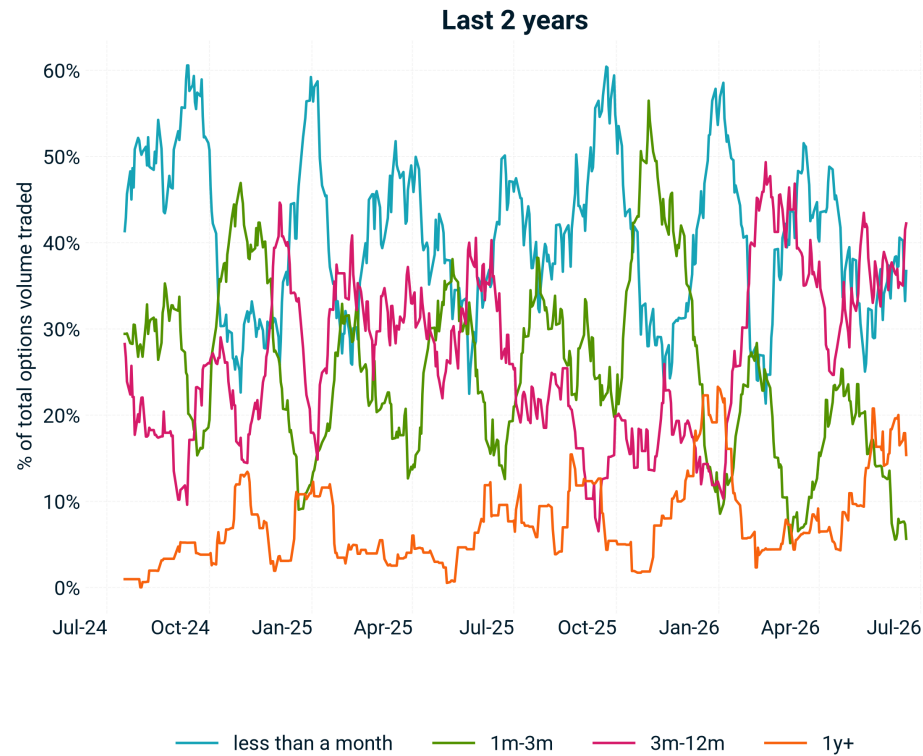


Cumulative Options Volume - U.S.



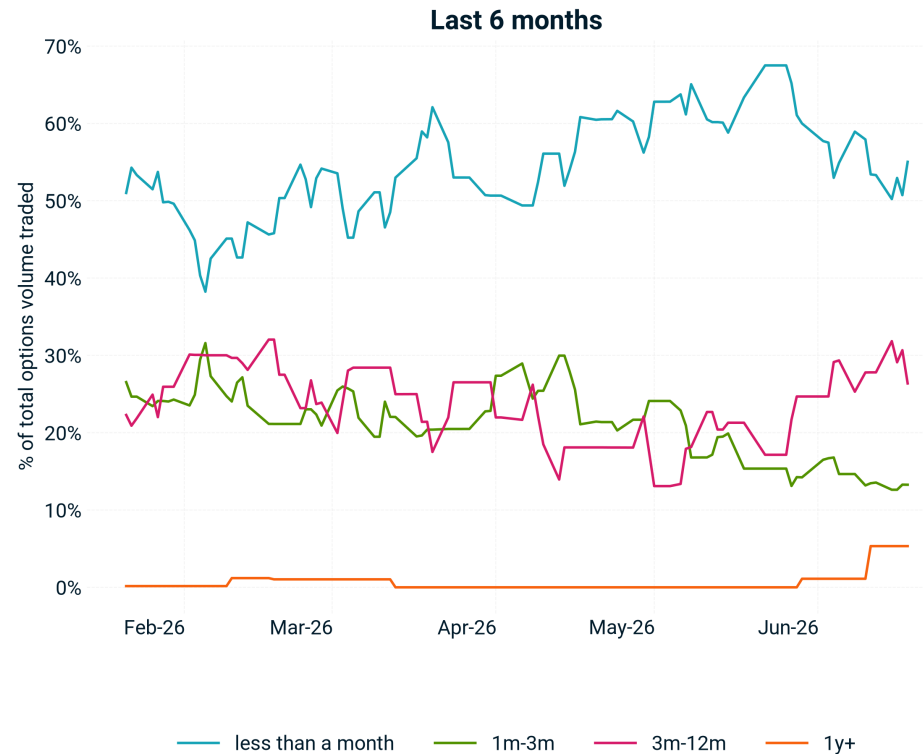
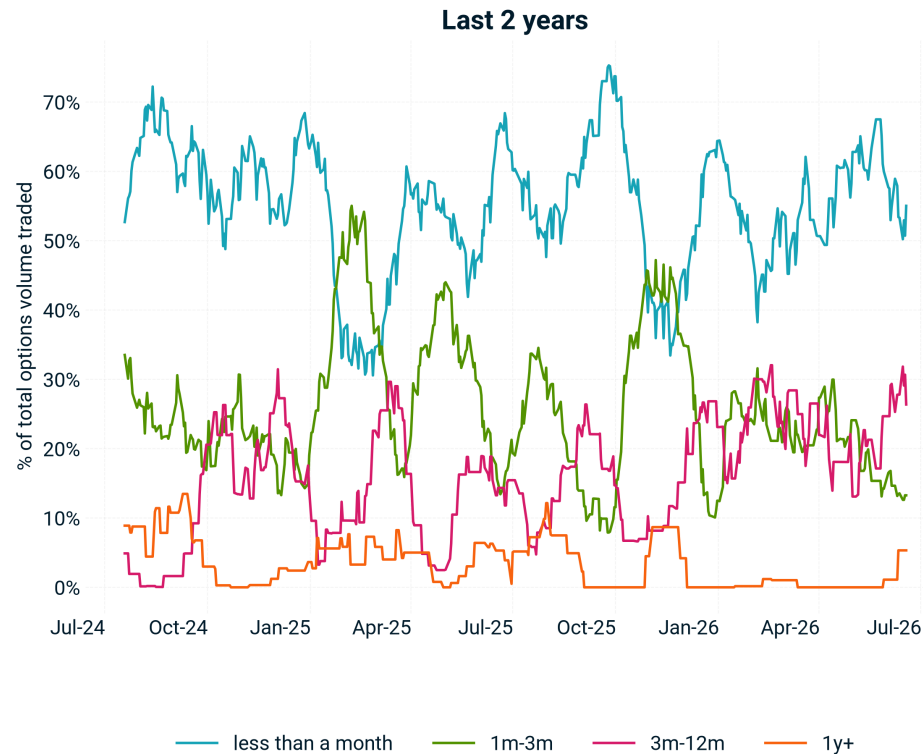
Calculation: 1-month rolling average of daily U.S. equity and index options volume (in millions); put-call ratio shown on right axis. Source: OptionMetrics. Data: As of June 18, 2026
 How to read: Rising PCR signals increased protective hedging demand; falling PCR reflects call dominance. Elevated levels indicate tail risk concerns are active.

Options Volume by Maturity - EM



Calculation: 1-month rolling share of total options volume by time-to-maturity: <1 month, 1–3 months, 3–12 months, and 1 year+. Source: OptionMetrics. Data: As of June 18, 2026
 How to read: Concentration in <1m reflects near-term tactical hedging. Concentration in 1y+ reflects portfolio-level positioning. Shifts indicate changes in hedging horizon.

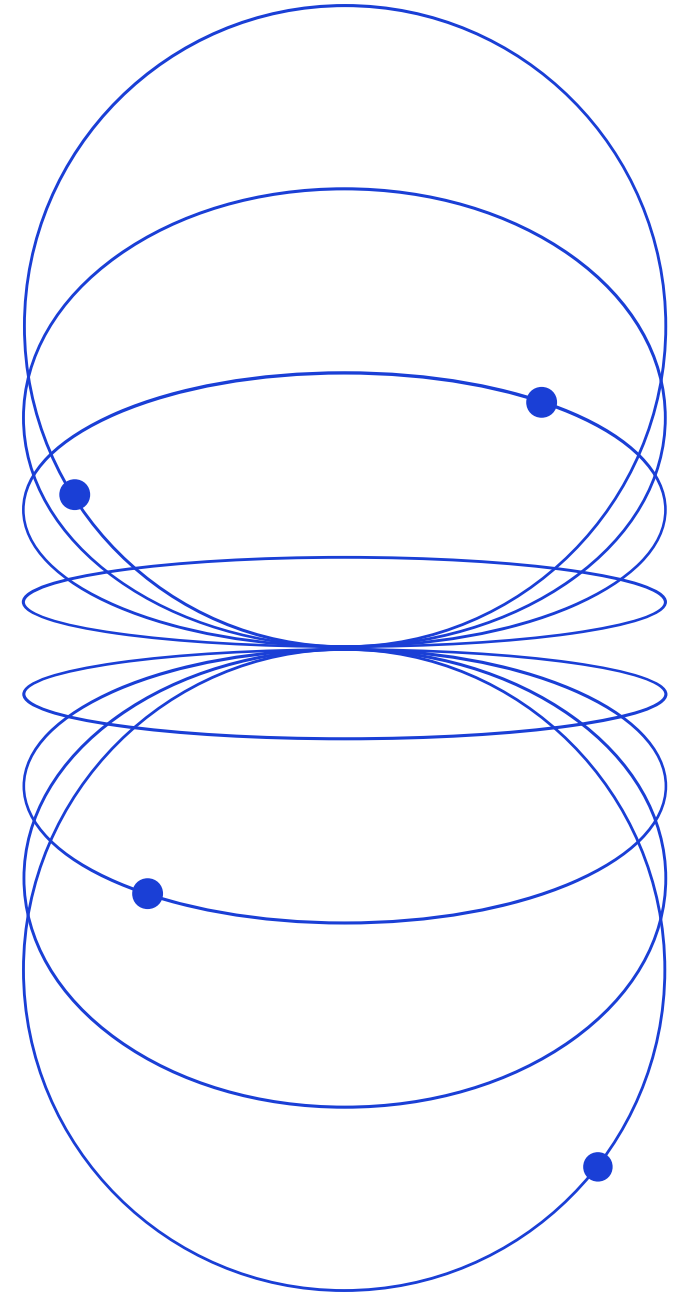
Options Volume by Maturity - EAFE



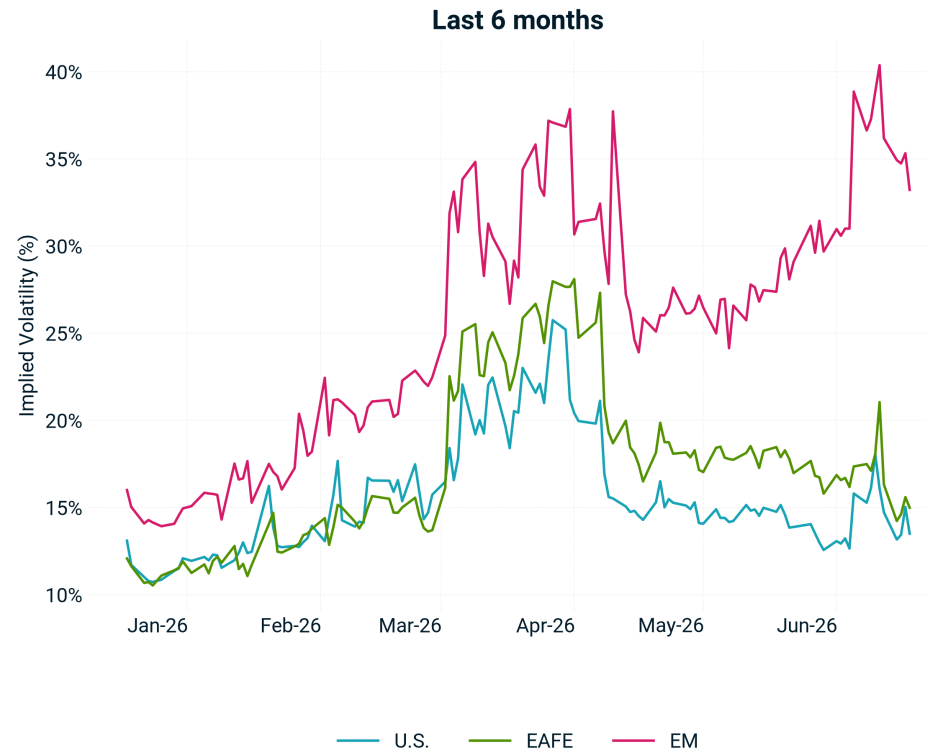
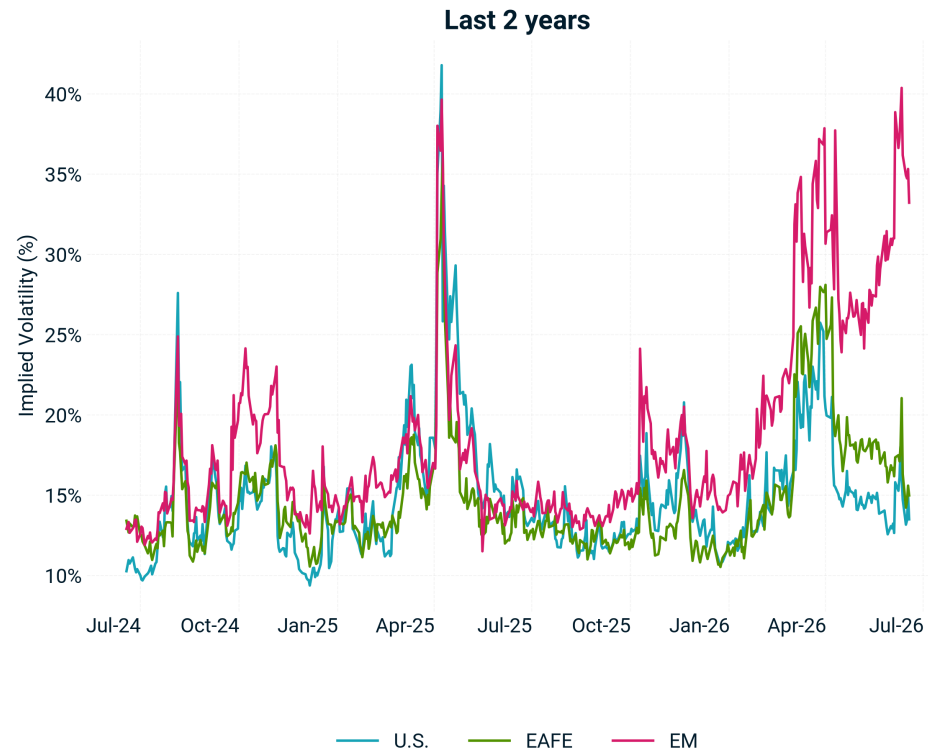
Calculation: 1-month rolling share of total options volume by time-to-maturity: <1 month, 1–3 months, 3–12 months, and 1 year+. Source: OptionMetrics. Data: As of June 18, 2026
 How to read: Concentration in <1m reflects near-term tactical hedging. Concentration in 1y+ reflects portfolio-level positioning. Shifts indicate changes in hedging horizon.



Implied Volatility

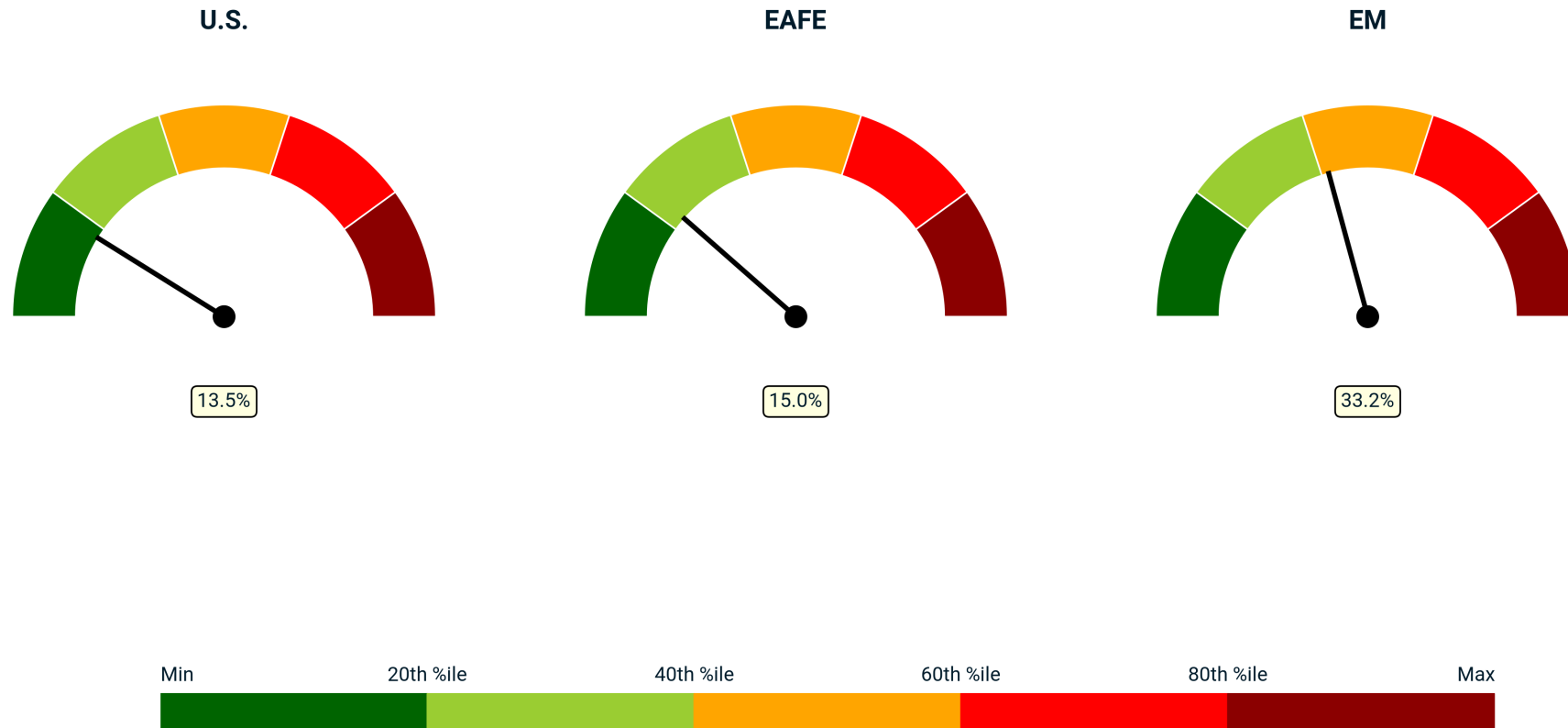


Implied Volatility Levels



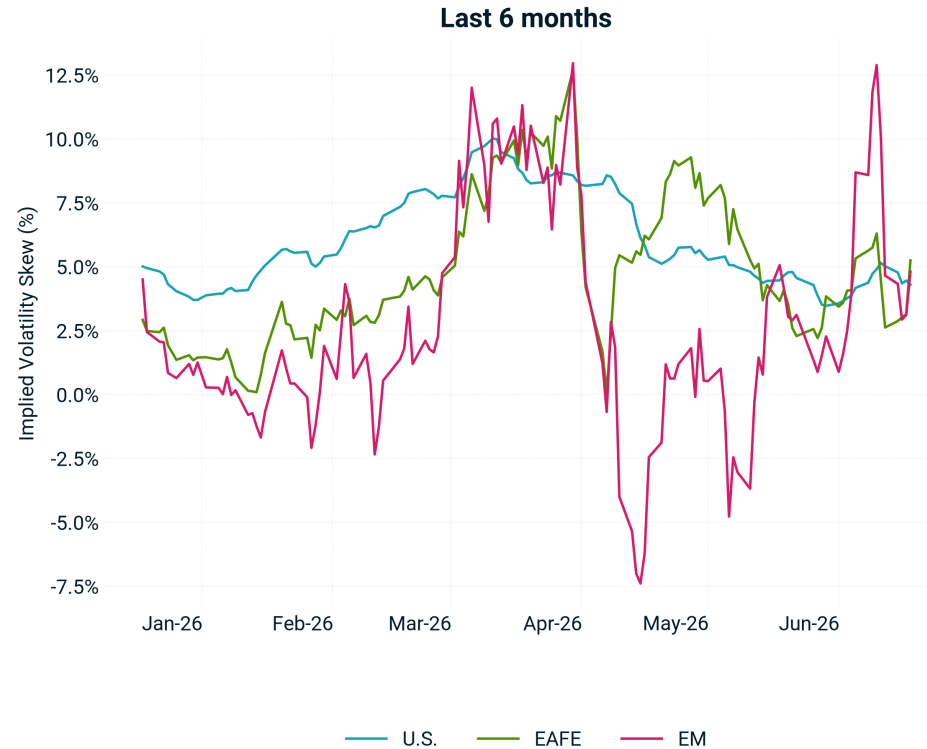
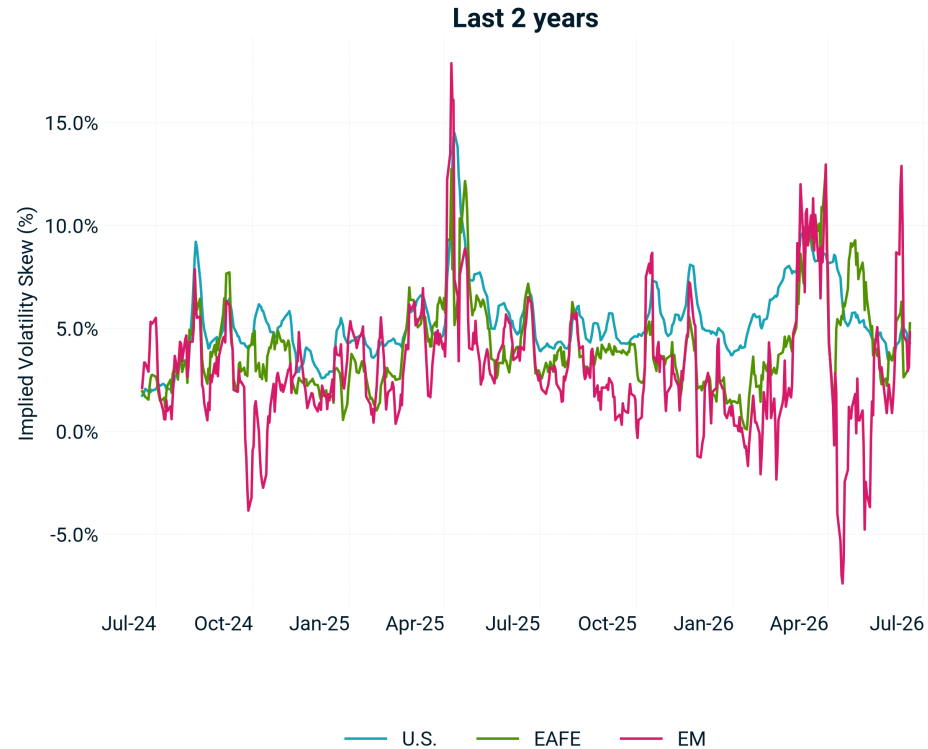
Calculation: 30-day at-the-money implied volatility, averaged across call and put options. Source: OptionMetrics. Data: As of June 18, 2026
 Indexes used: MSCI EAFE, MSCI Emerging Markets, and S&P 500.
 How to read: Rising IV signals elevated hedging demand; falling IV reflects vol seller dominance. Spikes occur during sudden uncertainty; compression indicates calm.

Implied Volatility - Percentiles



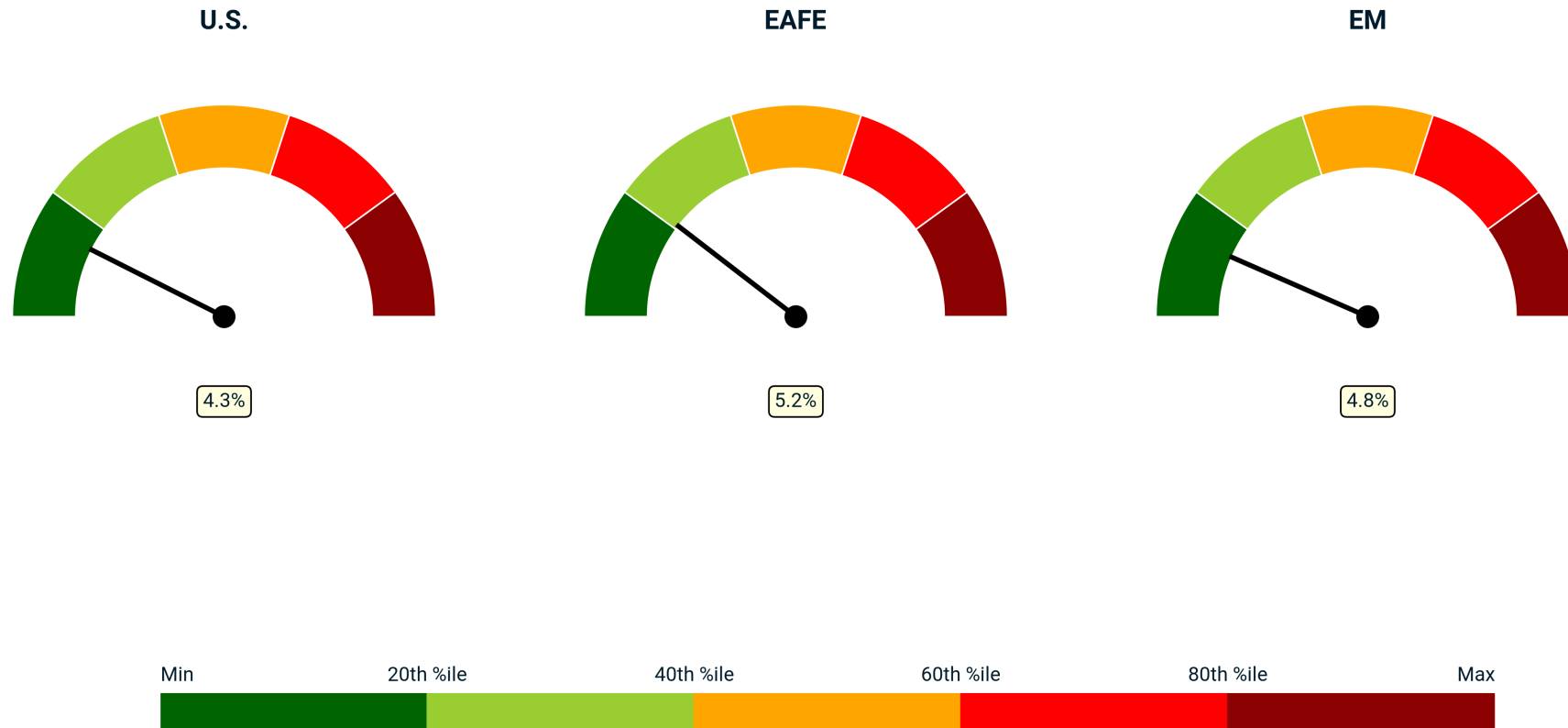
Calculation: Current 30-day at-the-money implied volatility, shown as a percentile relative to its distribution since January 2020. Source: OptionMetrics. Data: As of June 18, 2026
Indexes used: MSCI EAFE, MSCI Emerging Markets, and S&P 500.
How to read: Position farther right indicates IV elevated relative to post-2020 distribution. Higher percentile reflects elevated hedging costs.

Implied Volatility Skew



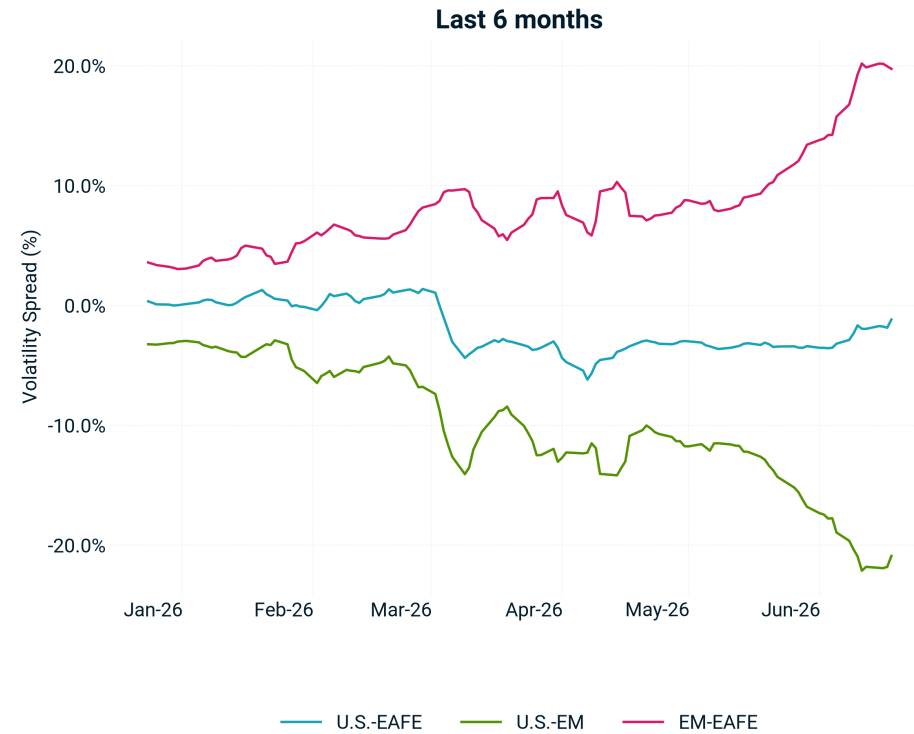
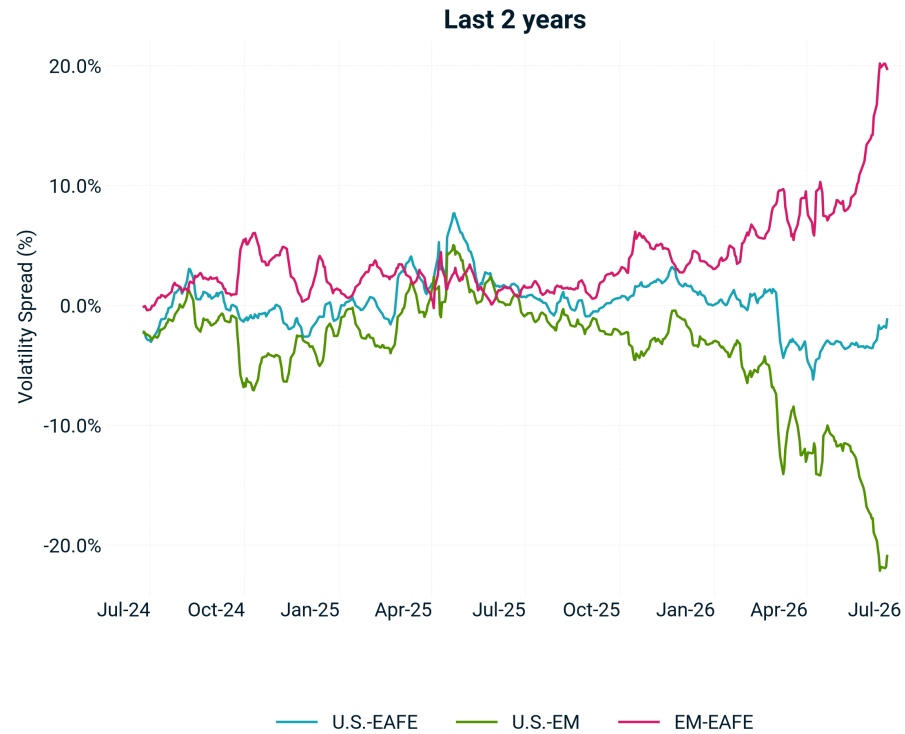
Calculation: Implied volatility skew equals the difference between 25-delta put and 25-delta call implied volatility (5-day rolling average). Source: OptionMetrics. Data: As of June 18, 2026
 Indexes used: MSCI EAFE, MSCI Emerging Markets, and S&P 500.
 How to read: Positive skew indicates downside puts priced richer than upside calls, reflecting tail hedging demand. Negative skew indicates upside calls priced richer. High skew reflects concentrated hedging imbalance.

Implied Volatility Skew - Percentiles



Calculation: Current implied volatility skew shown as a percentile relative to its distribution since January 2020. Source: OptionMetrics. Data: As of June 18, 2026
Indexes used: MSCI EAFE, MSCI Emerging Markets, and S&P 500.
How to read: Position farther right indicates skew elevated relative to post-2020 distribution. High percentile reflects concentrated tail hedging positioning.

Implied Volatility Spreads

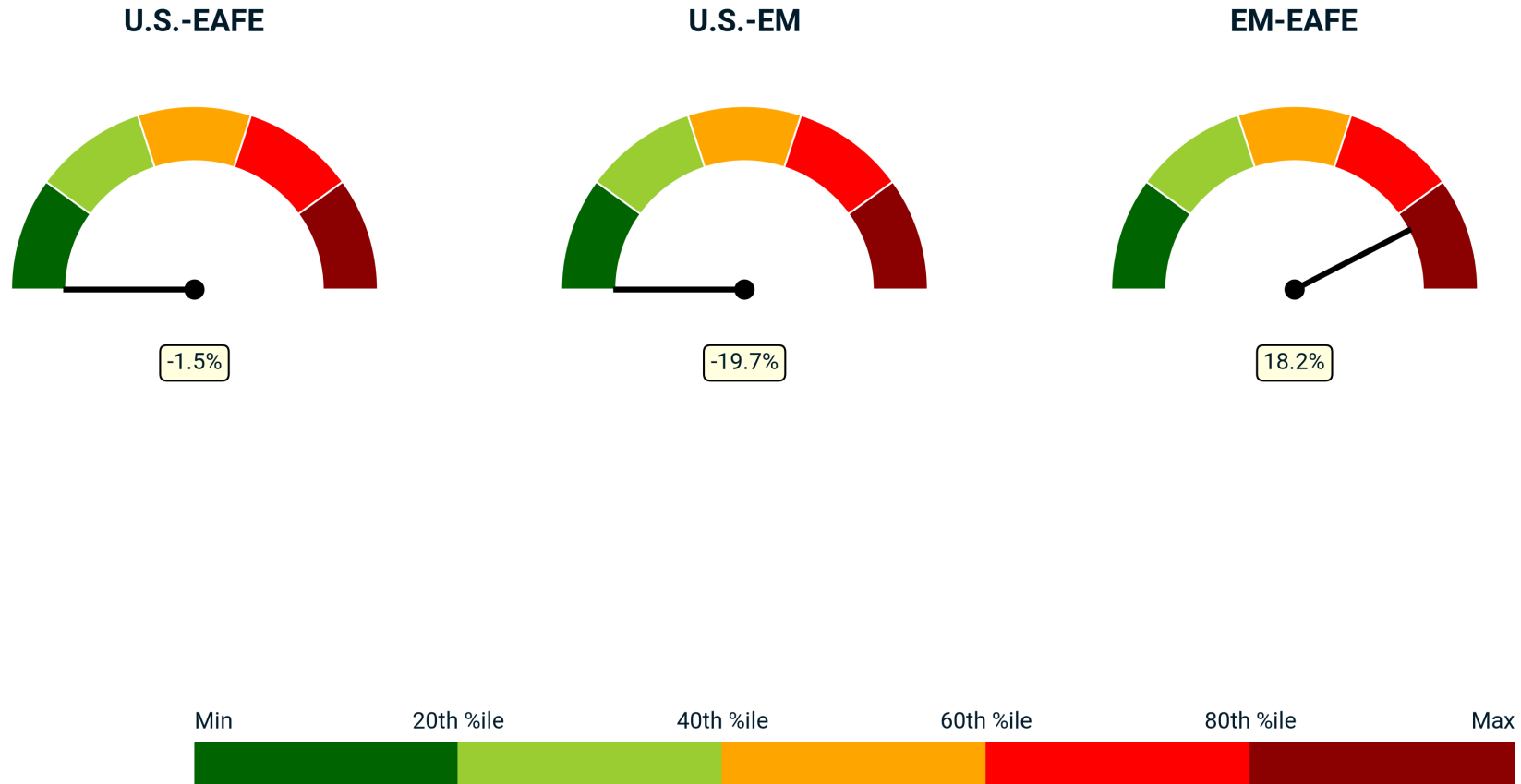


Calculation: Differences in 30-day at-the-money implied volatility between regions (e.g., U.S. minus EAFE, U.S. minus EM, EM minus EAFE). Source: OptionMetrics. Data: As of June 18, 2026

Indexes used: MSCI EAFE, MSCI Emerging Markets, and S&P 500.

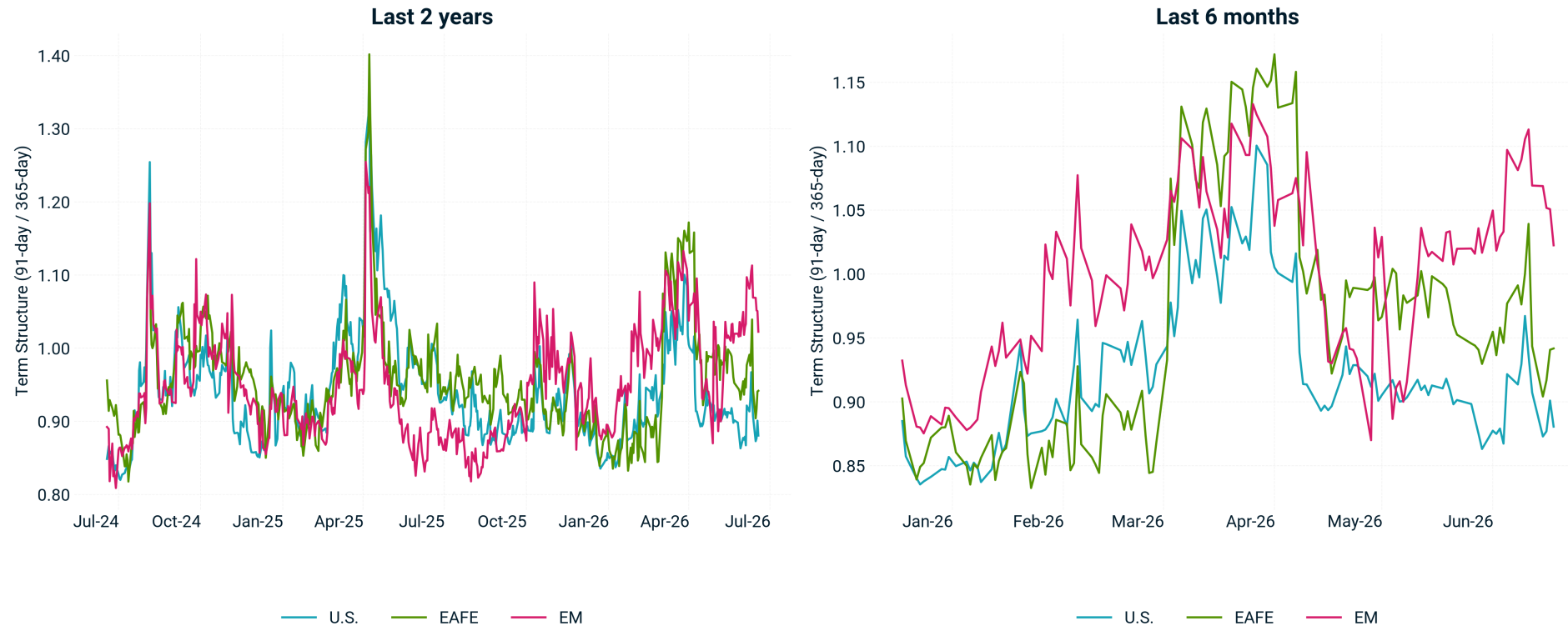
How to read: Positive spread indicates higher IV in first region. Widening spreads indicate diverging regional hedging costs; narrowing spreads indicate convergence. Historical norm: EM > U.S. > EAFE. Reversals point to regional risk shifts.

Implied Volatility Spreads - Percentiles



Calculation: Current implied volatility spread shown as a percentile relative to its distribution since January 2020. Source: OptionMetrics. Data: As of June 18, 2026
Indexes used: MSCI EAFE, MSCI Emerging Markets, and S&P 500.
How to read: Position farther right indicates spread wide relative to post-2020 range. Wider positioning reflects regional IV differential.

Implied Volatility Term Structure

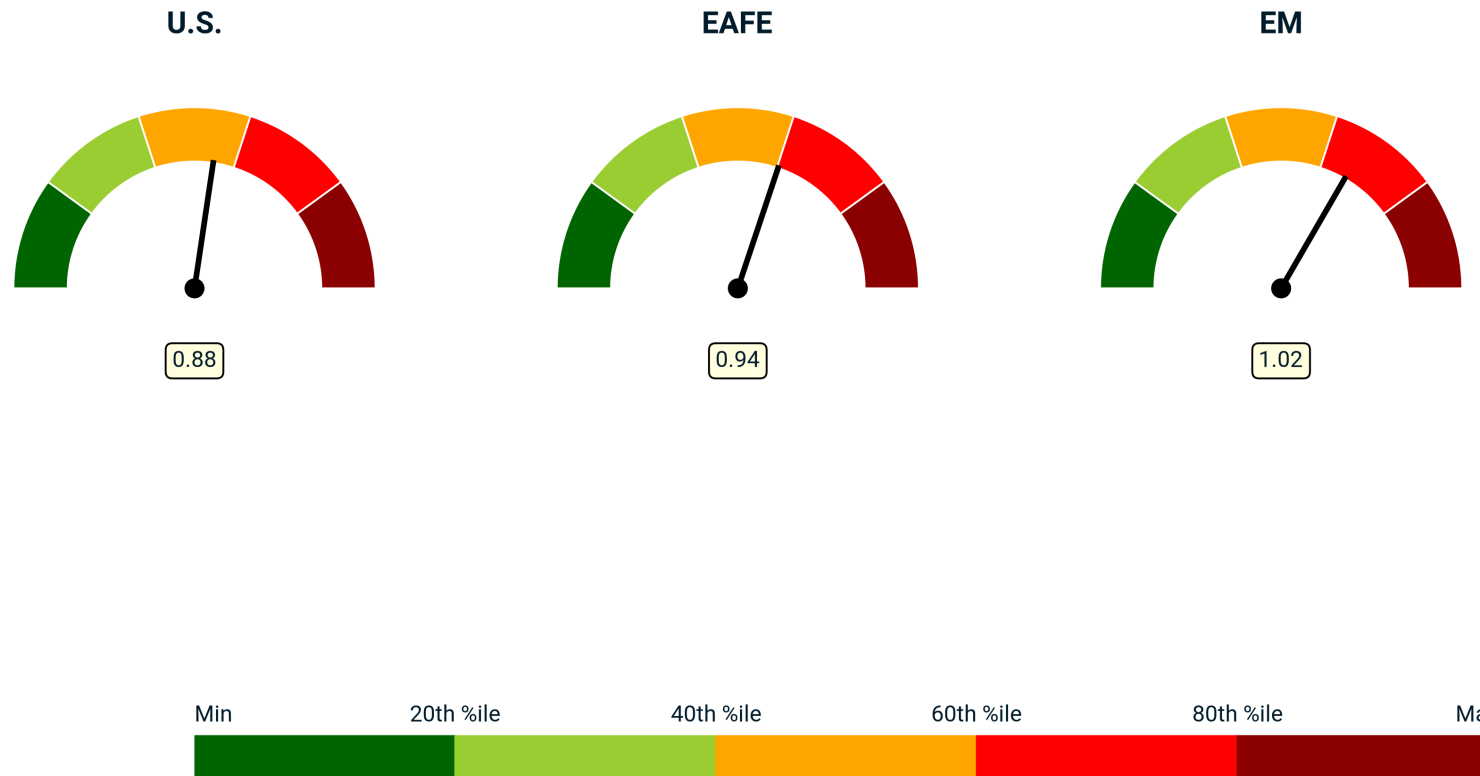


Calculation: Ratio of 91-day (3-month) implied volatility to 365-day (1-year) implied volatility. Source: OptionMetrics. Data: As of June 18, 2026

Indexes used: MSCI EAFE, MSCI Emerging Markets, and S&P 500.

How to read: Ratio >1.0 indicates near-term IV premium, typical when near-term event risk elevated. Ratio <1.0 indicates long-term IV premium, typical when longer-horizon uncertainty dominates.

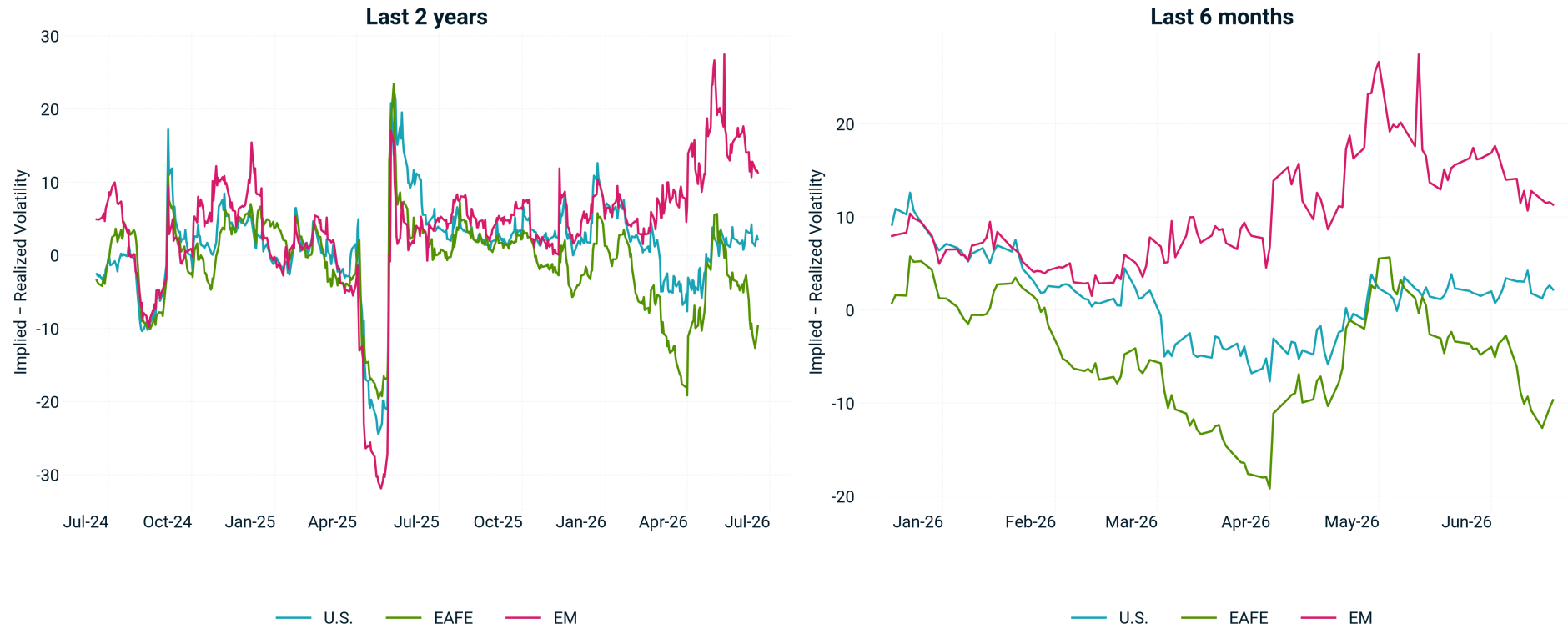
Term Structure - Percentiles



Calculation: Current term structure ratio (91-day divided by 365-day implied volatility) shown as a percentile relative to its distribution since January 2020. Source: OptionMetrics. Data: As of June 18, 2026
Indexes used: MSCI EAFE, MSCI Emerging Markets, and S&P 500.

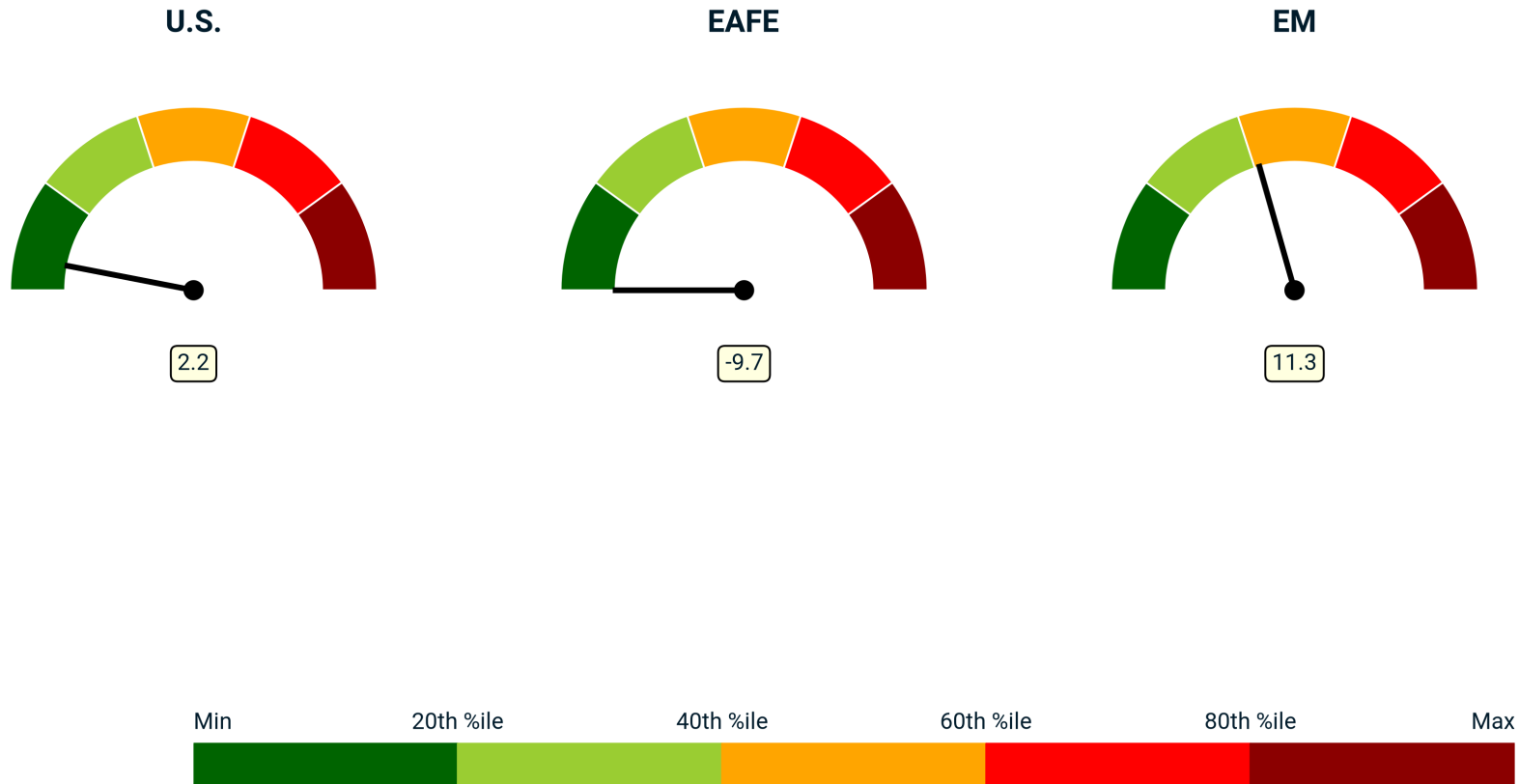
How to read: Position farther right indicates steeper term structure (near-term IV elevated relative to long-term). Extreme positions point to maturity-based hedging imbalance.

Volatility Risk Premium



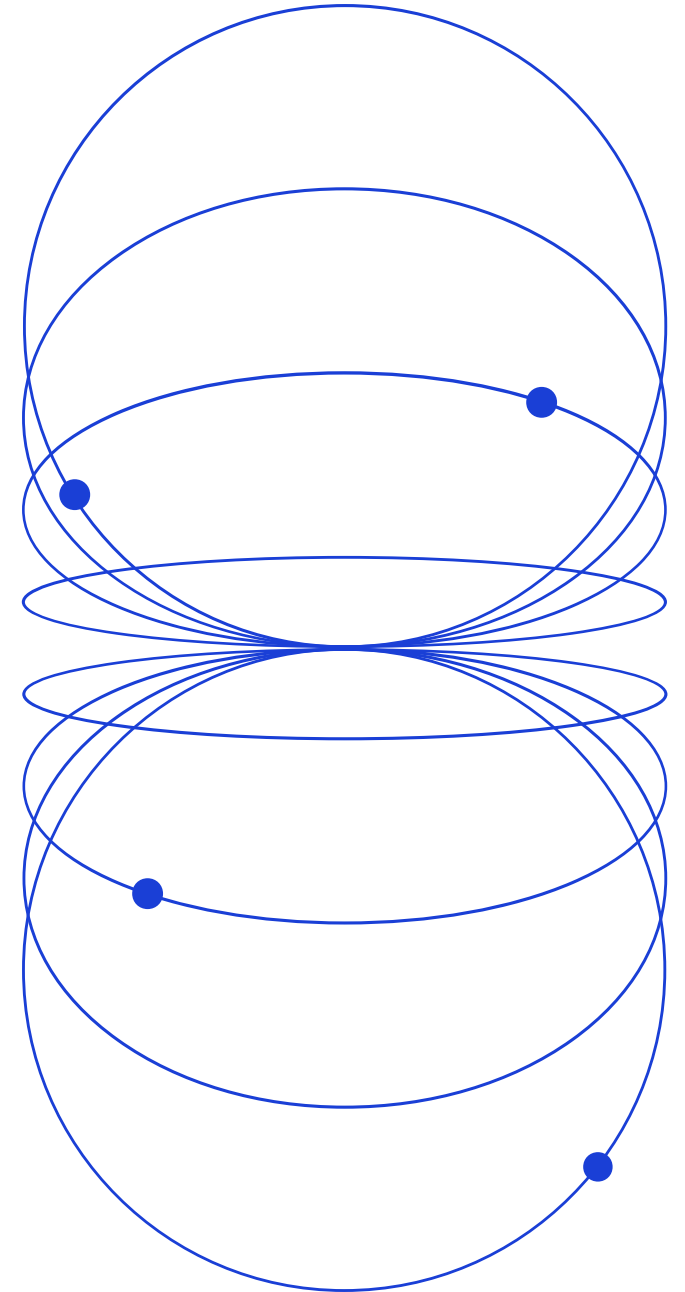
Calculation: Volatility risk premium equals 1-month implied volatility observed one month prior minus the realized volatility over the same period, measured in percentage points. Source: OptionMetrics. Data: As of June 18, 2026
 Implied volatility from options on MSCI EAFE, MSCI Emerging Markets, and S&P 500; realized volatility from MSCI EAFE, MSCI Emerging Markets, and MSCI USA indexes.
 How to read: Positive VRP indicates options overpriced relative to realized moves. Negative VRP indicates realized volatility exceeded pricing. High negative VRP occurs during sharp market moves.

Volatility Risk Premium - Percentiles

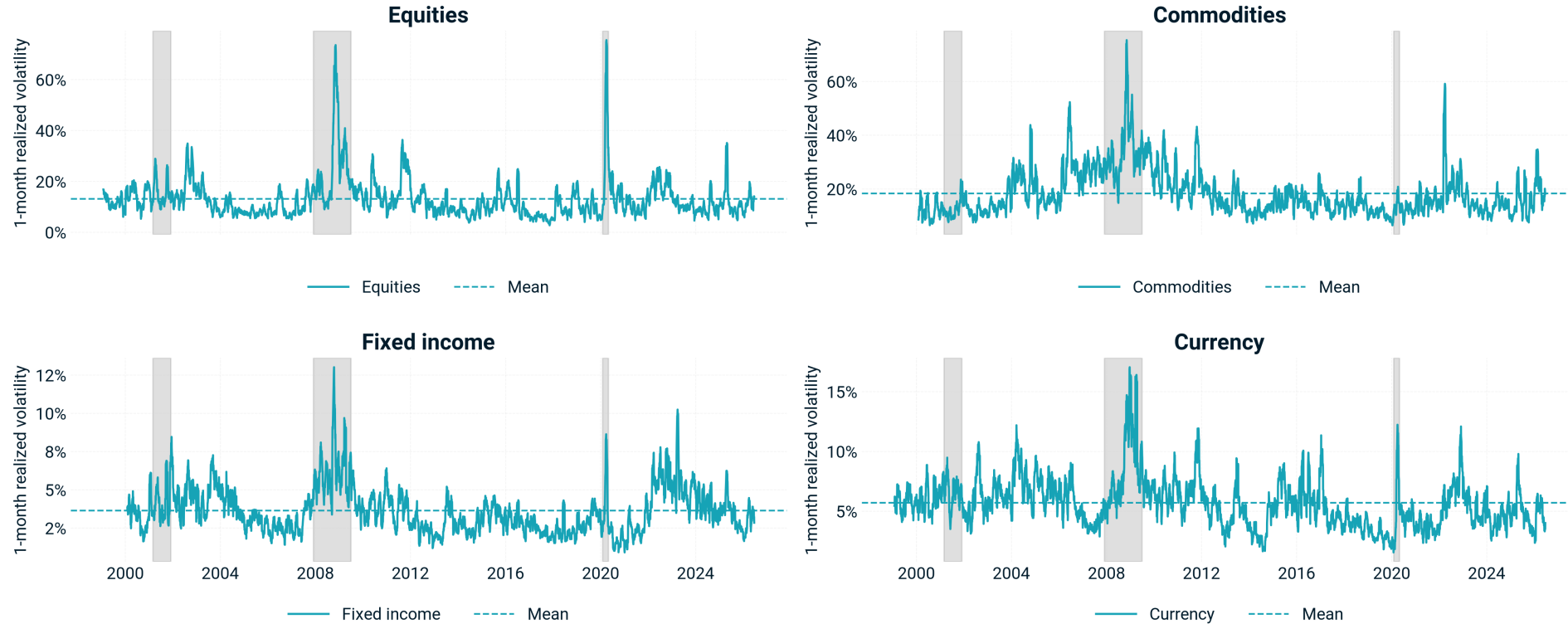


Calculation: Current volatility risk premium shown as a percentile relative to its distribution since January 2020. Source: OptionMetrics. Data: As of June 18, 2026
Indexes used: MSCI EAFE, MSCI Emerging Markets, and MSCI USA.
How to read: Position farther right indicates VRP elevated relative to post-2020 distribution. High positive VRP indicates options were overpriced; high negative VRP indicates sharp realized moves.

Realized Volatility

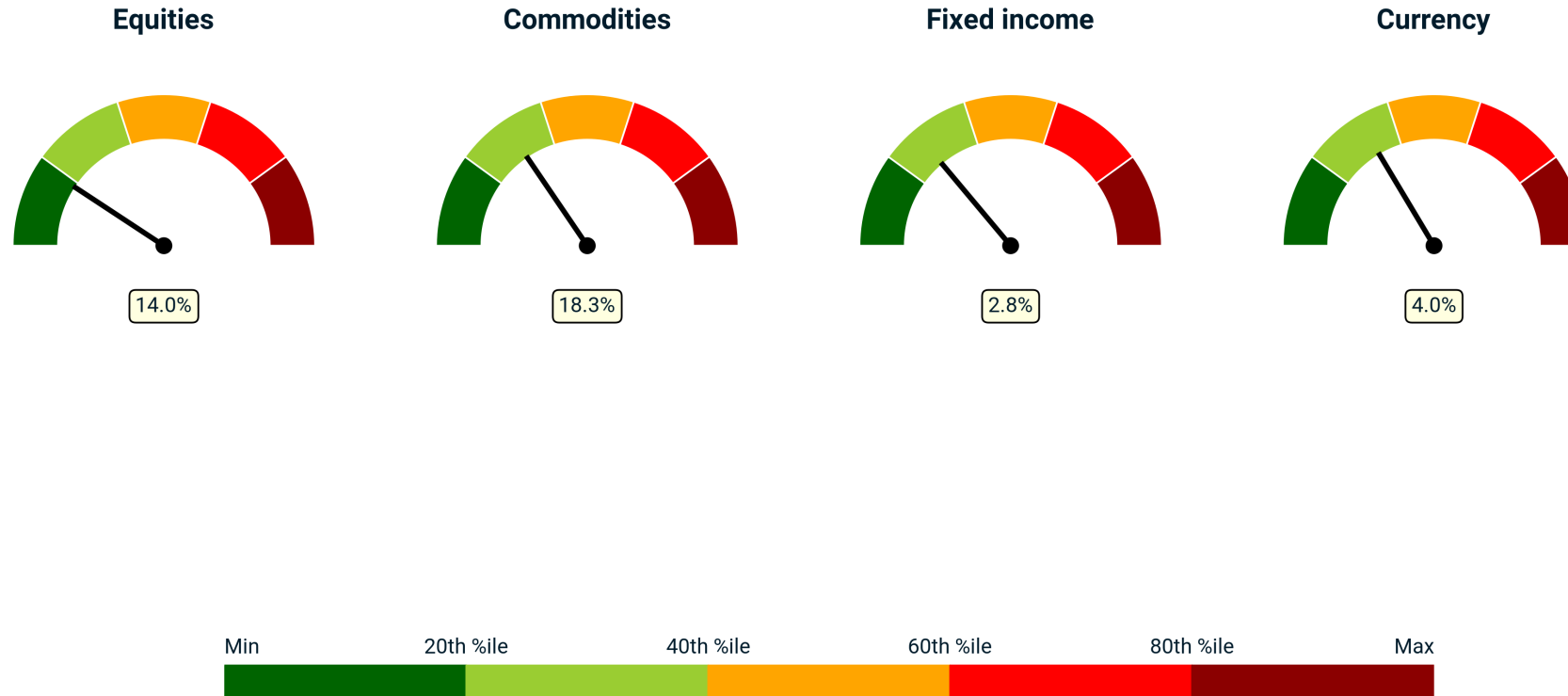


Realized Volatility - Cross Asset Classes



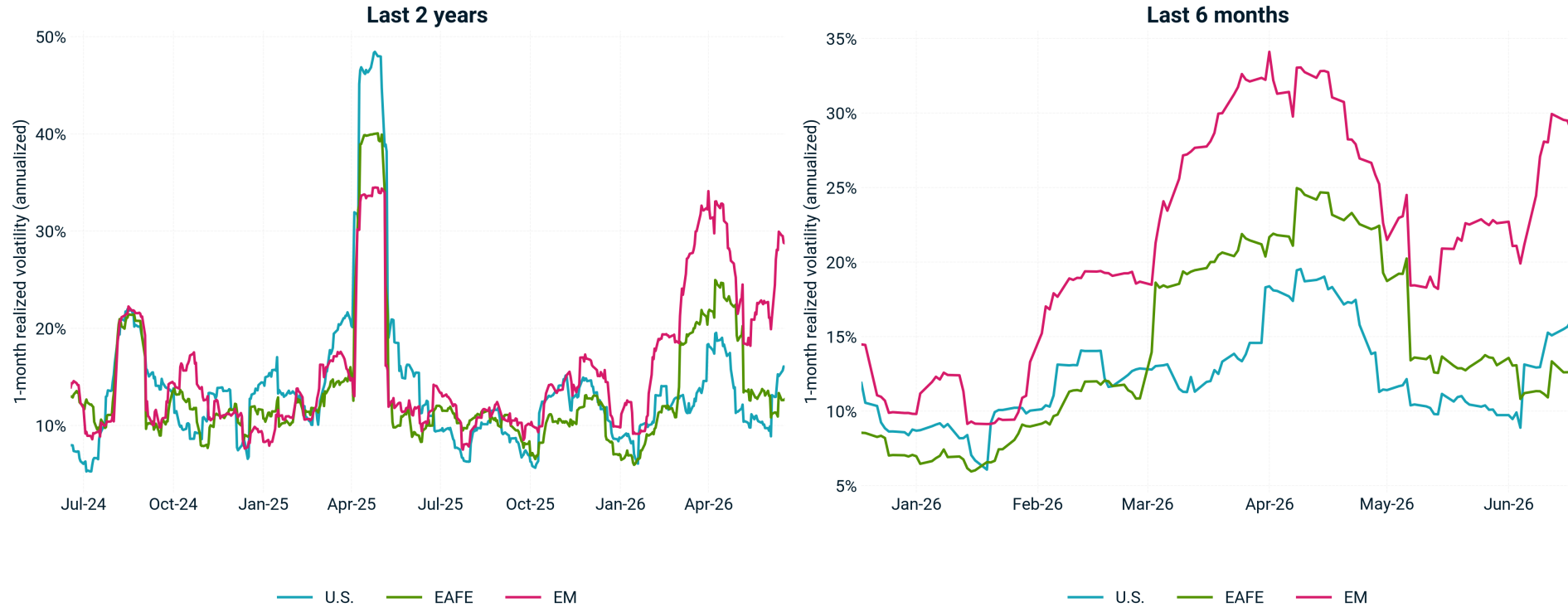
Calculation: 1-month annualized realized volatility across major asset classes (equities, commodities, fixed income, currency). Data: As of June 18, 2026
 Shaded areas represent U.S. recession periods as defined by the NBER (Mar 2001 – Nov 2001; Dec 2007 – Jun 2009; Feb 2020 – Apr 2020).
 Indexes used: MSCI ACWI (equities); equal-weight composite of MSCI Aluminum, Copper, Gold, Lead, Nickel, and Zinc Futures (commodities);
 equal-weight composite of MSCI 2-Year, 5-Year, and 10-Year U.S. Treasury Futures (fixed income); MSCI ACWI ex USA Currency (currency).
 How to read: Synchronized increases across equities, commodities, and fixed income indicate systemic stress or broad risk-off. Isolated spikes indicate asset-class-specific shocks.

Realized Volatility - Cross Asset Classes (Percentiles)



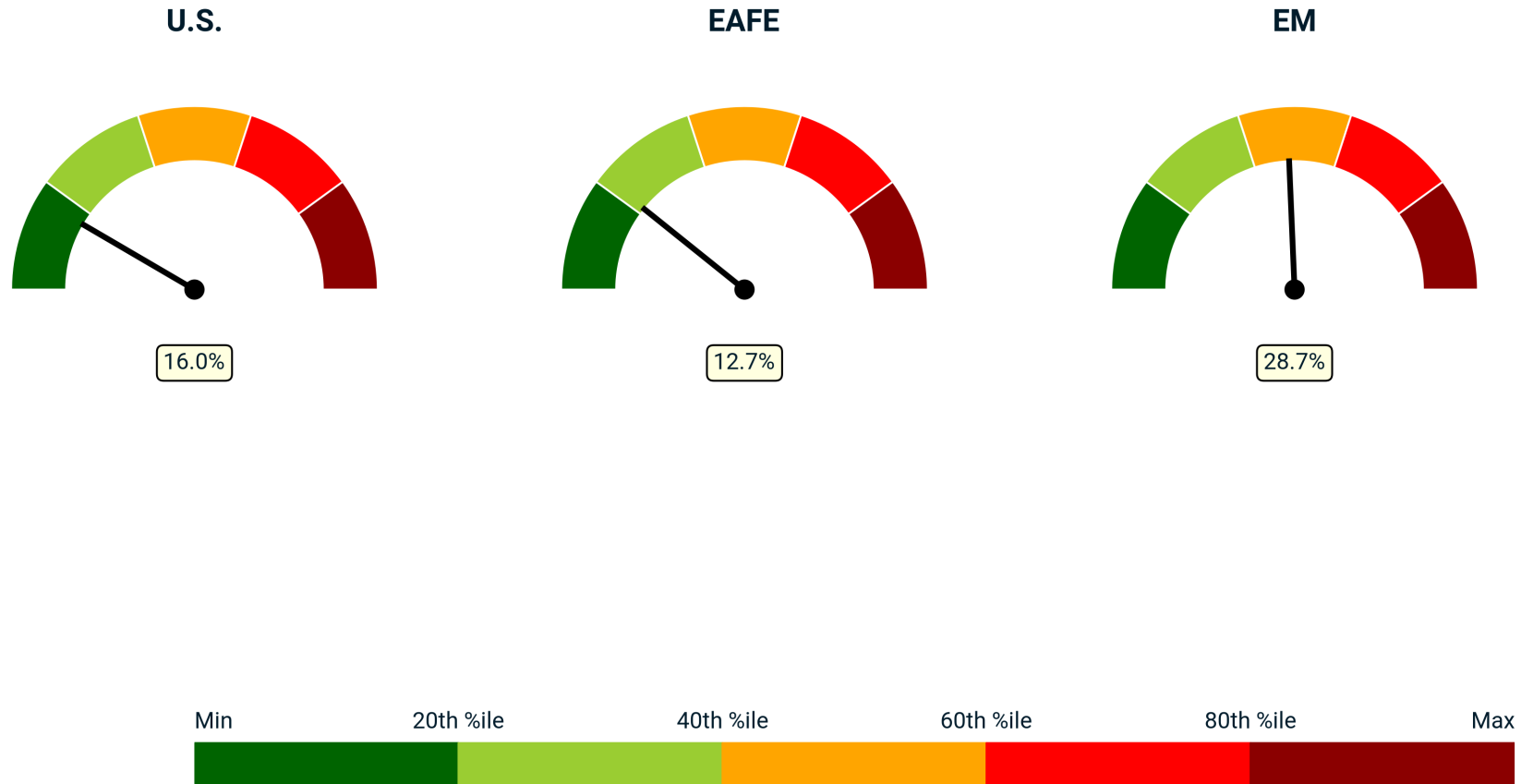
Calculation: Current 1-month realized volatility shown as a percentile relative to its distribution since January 2020. Data: As of June 18, 2026
Indexes used: MSCI ACWI (equities); equal-weight composite of MSCI Aluminum, Copper, Gold, Lead, Nickel, and Zinc Futures (commodities);
equal-weight composite of MSCI 2-Year, 5-Year, and 10-Year U.S. Treasury Futures (fixed income); MSCI ACWI ex USA Currency (currency).
How to read: Position farther right indicates realized volatility elevated relative to post-2020 range. High percentile reflects large price swings across assets.

Realized Volatility - Regional Equities



Calculation: 1-month annualized realized volatility for equity indexes by region. Data: As of June 18, 2026
 Indexes used: MSCI EAFE, MSCI Emerging Markets, and MSCI USA.
 How to read: Isolated spike in one region indicates localized price action. Synchronized spikes indicate correlated regional moves. Persistent divergence points to regional decoupling.

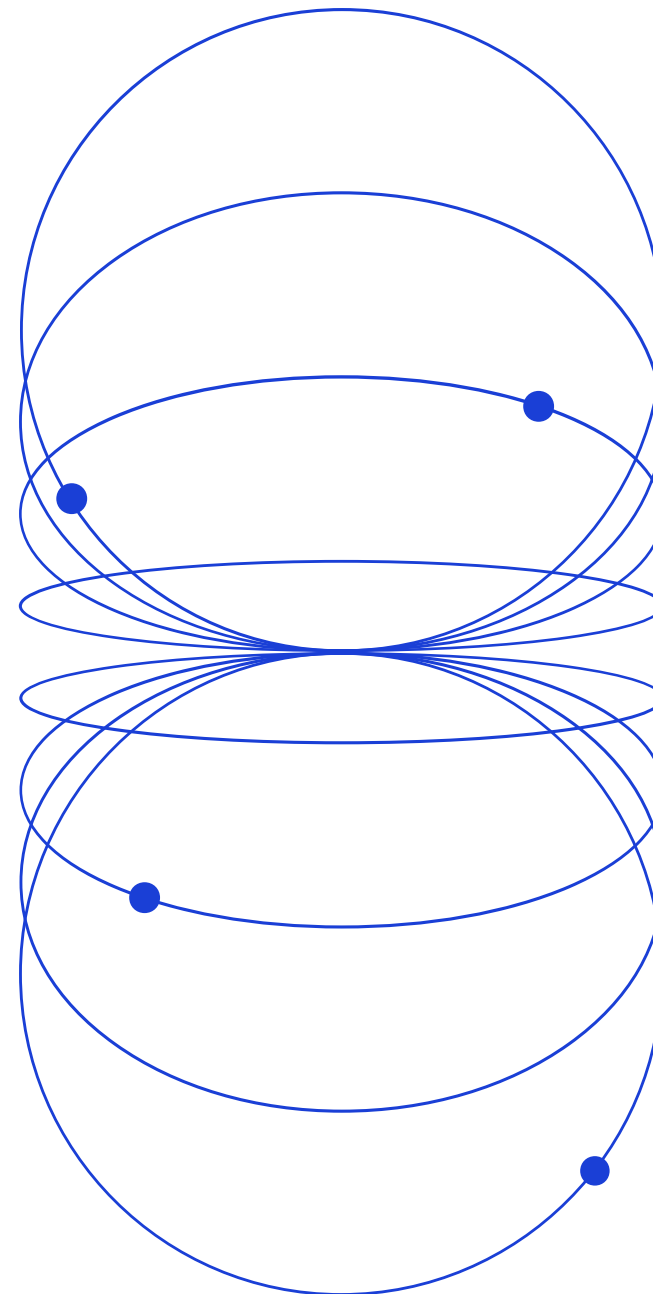
Realized Volatility - Regional Equities (Percentiles)



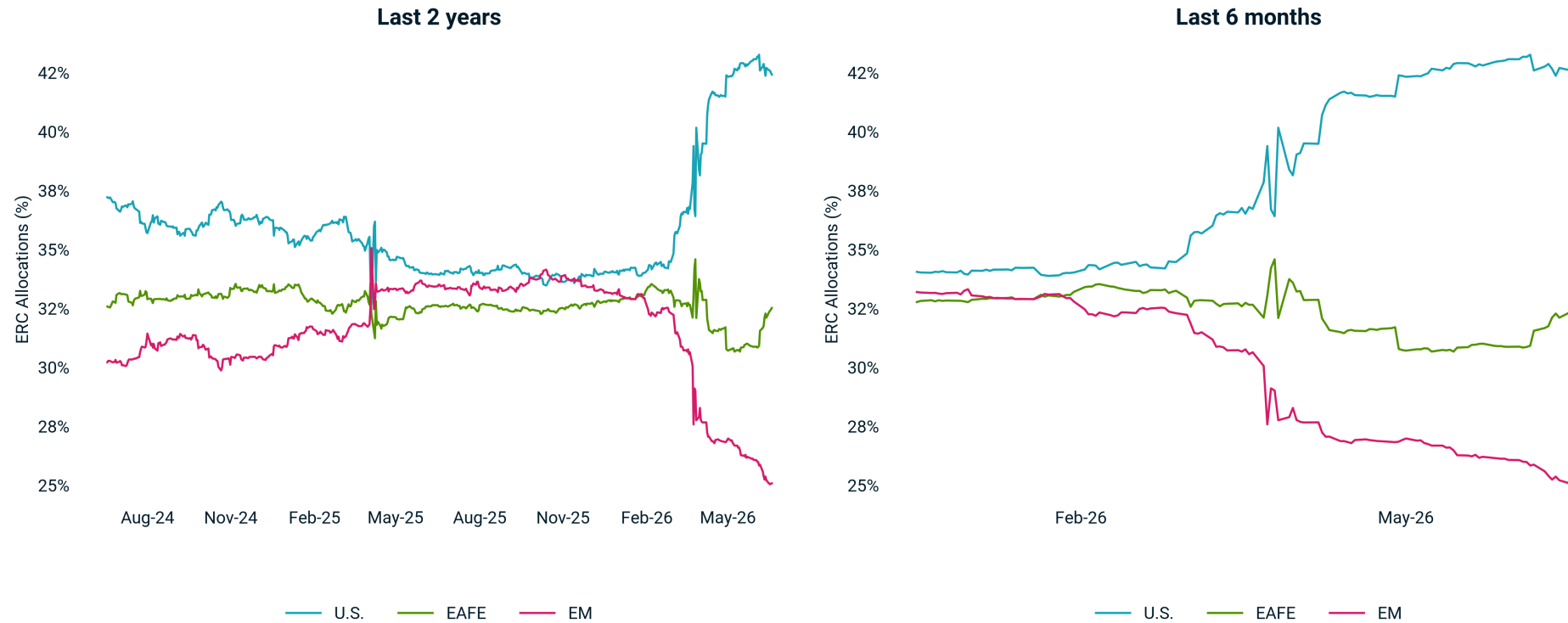
Calculation: Current 1-month realized volatility shown as a percentile relative to its distribution since January 2020. Data: As of June 18, 2026
Indexes used: MSCI EAFE, MSCI Emerging Markets, and MSCI USA.

How to read: Position farther right indicates realized volatility elevated relative to post-2020 range. High percentile reflects large regional price movements.

Risk Parity Allocation



Equal Risk Contribution (ERC) Allocation



Calculation: Equal Risk Contribution (ERC) portfolio weights computed from 252-day (1-year) rolling covariance. ERC allocates across regions so each contributes equally to total portfolio risk. Data: As of June 18, 2026
 Indexes used: MSCI EAFE, MSCI Emerging Markets, and MSCI USA.
 How to read: Mechanically reduces weight in high-vol regions; increases weight in low-vol regions. Rapid shifts indicate sudden volatility concentration. Stable allocations indicate balanced risk across regions.

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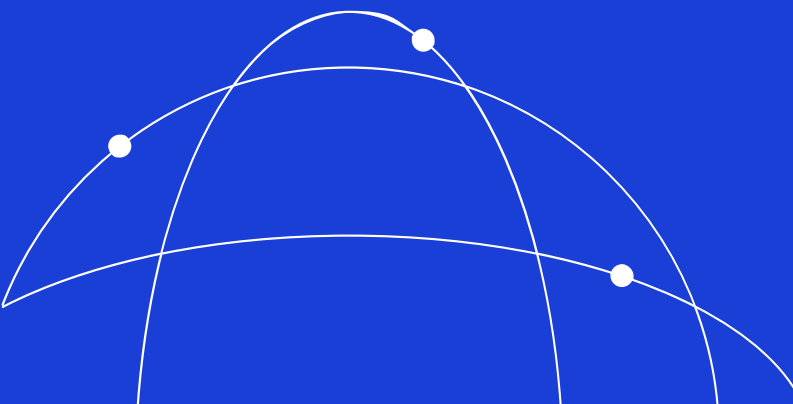
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