BofA SECURITIES

Global Equity Volatility Insights

Stock vs index vol at 90s Dotcom extremes

14 July 2026

Equity Derivatives
Global

BofA Data Analytics

Stock vs index vol near Dotcom extreme... shock risk is real

With US equity sectors & factors still gyrating sharply amid continued AI-related bubble-like price action, single stock realized vol has risen to levels last seen in the latter stages of the 90s dotcom bubble, with earnings season on deck. However, index vol remains relatively muted, driving a historic divergence that could widen further, and potentially surpass dotcom extremes, if valuations (not just price action) move further into bubble-like territory. What's been the key driver of this sharp divergence? In a nutshell, semis. Indeed, instability in large stocks like MU and AMD has driven single stock vol higher, while the increasing de-correlation of semis from other megacaps and software has driven index-wide correlation to near-record lows and suppressed index vol. Interestingly, semis' rise in vol and de-correlation vs other key equities has been concurrent with a rise in its BRI levels. Against this backdrop, the risk of higher index vol from a correlation uptick is historically acute, especially given the upcoming seasonally challenging period for equities. To hedge this risk, we like VIX call spreads, offering >15x max payout ratios.

SX5E-vs-SXXP put switch for cheapened EU cyclical hedge

The recent decline in SX5E implied volatility has tightened its volatility spread vs the STOXX 600 to historically low levels, with the implied vol spread now below the recent realised vol spread. This also cheapens the price of SX5E-vs-SXXP put switches, which are now suggesting an "implied beta" that is lower than the index's empirically observed cyclicality. Given SX5E's overweight exposure to cyclical sectors such as Technology, Consumer Discretionary and Industrials, put switches offer a relatively low-premium way to hedge downside risk in Europe's cyclical sectors, particularly as the recent sell-off from SX5E's all-time highs was driven primarily by weakness in Industrials and Tech.

Own TSMC into earnings & cheapen NKY hedges by 74%

Own the upside, not the downside, into TSMC earnings. Strong sales momentum supports our positive fundamental view, but the risk-reward into Thursday's print appears skewed as markets remain highly sensitive to any AI capex concerns. We recommend switching cash equity exposure into option structures that cap downside at 1.3% while preserving substantial upside convexity. Rich upside volatility further supports call ratios, particularly given our expectation of a more orderly rally and lower post-event vols. Separately, elevated vol has made Nikkei hedges expensive, but rich downside vol creates opportunity to cut protection costs by up to 74%. Given the Nikkei's rising sensitivity to AI and global macro risk, we view it as an attractive vehicle for hedging a potential 10–20% correction.

Also in the GEVI

Screening for cheap European earnings gamma ahead of Q2 reporting.
Commodities & equities brought global cross-asset stress lower despite Iran escalation

Global Equity Derivatives Rsch
BofAS

Riddhi Prasad >>
Equity-Linked Analyst
MLI (UK)

Arjun Goyal
Equity-Linked Analyst
BofAS

Nitin Saksena
Equity-Linked Analyst
BofAS

Lars Naeckter >>
Equity-Linked Analyst
Merrill Lynch (DIFC)

Vittoria Volta >>
Equity-Linked Analyst
BofASE (France)

Meriem Hafid >>
Research Analyst
BofASE (France)

Benjamin Bowler
Equity-Linked Analyst
BofAS
benjamin.bowler@bofa.com

Abhinandan Deb >>
Equity-Linked Analyst
MLI (UK)

Nicholas Dunne
Equity-Linked Analyst
BofAS

See Team Page for List of Analysts

Exhibit 1: 3M volatility (2weeks chg)
Level & changes (in parentheses) in vol pts

	Implied	Realized
S&P500	14.5 (-1.7)	13.1 (-2.1)
ESTX50	15.5 (-0.8)	16.7 (-2.7)
FTSE	12.5 (0.0)	12.3 (-1.5)
DAX	16.1 (-0.6)	16.9 (-2.1)
NKY	30.7 (-3.2)	31.0 (-3.1)
HSCEI	22.2 (-0.5)	20.2 (0.4)
KOSPI	72.0 (-3.4)	65.0 (-0.5)
EEM US	33.5 (-0.5)	32.1 (-1.0)
XIN9I	21.7 (-1.6)	19.0 (1.3)

Source: BofA Global Research
BofA GLOBAL RESEARCH

See list of acronyms at the end of the report

BofA GFSI™ X-Asset Risk Landscape

Commodity & equity stress falls but remains highest

The GFSI resumed its decline over the last two weeks, moving from -0.16 on 26-Jun-26 to -0.20 on 10-Jul-26. Notably, the declines in stress mostly came in the week of 29-Jun to 3-Jul, as the GFSI then increased on last week's re-escalation in the Iran conflict. The index is still low relative to history in its 23rd percentile since 2000.

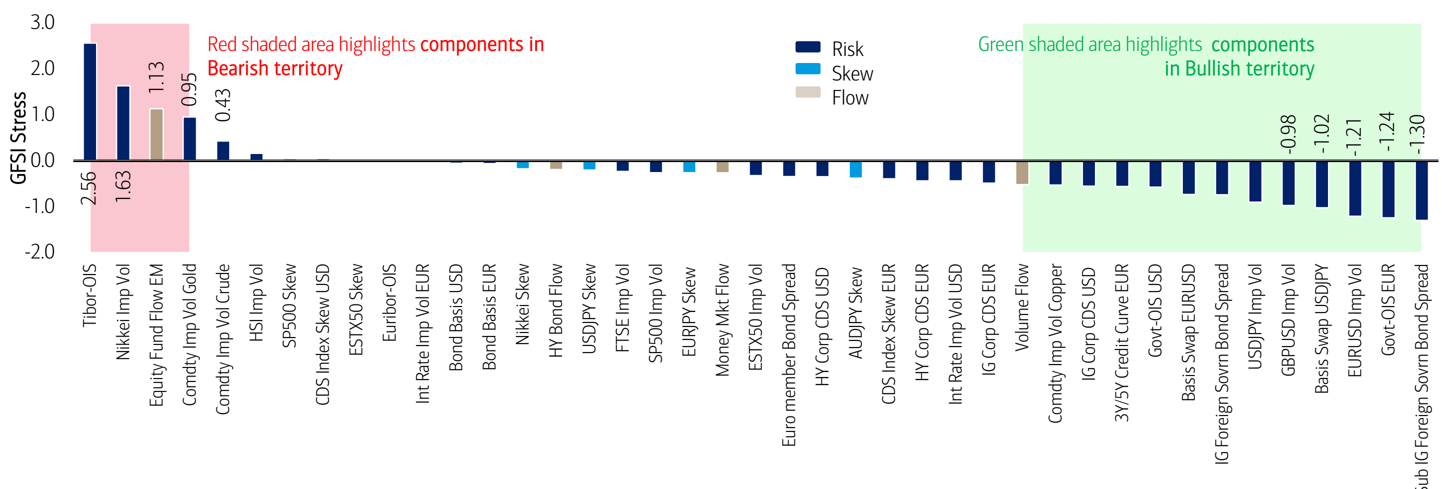
All asset classes apart from rates saw stress fall over the last two weeks with commodities and equities posting the largest declines (Exhibit 4). In fact, seven of the top eight stress-decliners were commodity or equity subcomponents with Nikkei implied vol recording the largest stress decrease (Exhibit 3). Copper implied vol was the third largest stress-decliner, and copper and Nikkei implied vols both experienced declines in stress in their top deciles versus history (Exhibit 6). Gold and crude implied vols were also among the top eight stress-decliners, and commodity vol was the top decliner versus all cross-asset vols and spreads (Exhibit 3 & Exhibit 7). Despite the recent declines in stress, commodities and equities remain the two most stressed asset classes, and the only ones with stress above long-run median levels (Exhibit 4).

In other asset classes, FX and credit stress declined while rates stress slightly rose (Exhibit 4). GBPUSD implied vol was the only subcomponent outside of equities and commodities in the top eight stress-decliners as GBP strengthened amid declining UK political risk after it became clear that Andy Burnham will be the next PM. Meanwhile, European subcomponents led rates stress higher with Euribor-OIS and interest rate implied vol EUR posting the top two stress increases (Exhibit 3). Coincidentally, Europe was the only region to see stress increase over the last two weeks (Exhibit 5).

- **The GFSI averaged -0.10 in Q2-26.** This is lower than the Q1-26 average of +0.01 and equivalent to the 2025 full year average. Notably, stress was down significantly since Q2-25 when tariffs led the GFSI to average +0.18.
- **Crude implied vol stress spiked to +0.66 on 8-Jul as Iran and the US exchanged hostilities.** Stress declined to +0.43 by Friday (Exhibit 2)

Exhibit 2: Latest* stress across GFSI sub-components

Tibor-OIS is the most stressed while sub-IG foreign sovereign bond spreads are the least stressed

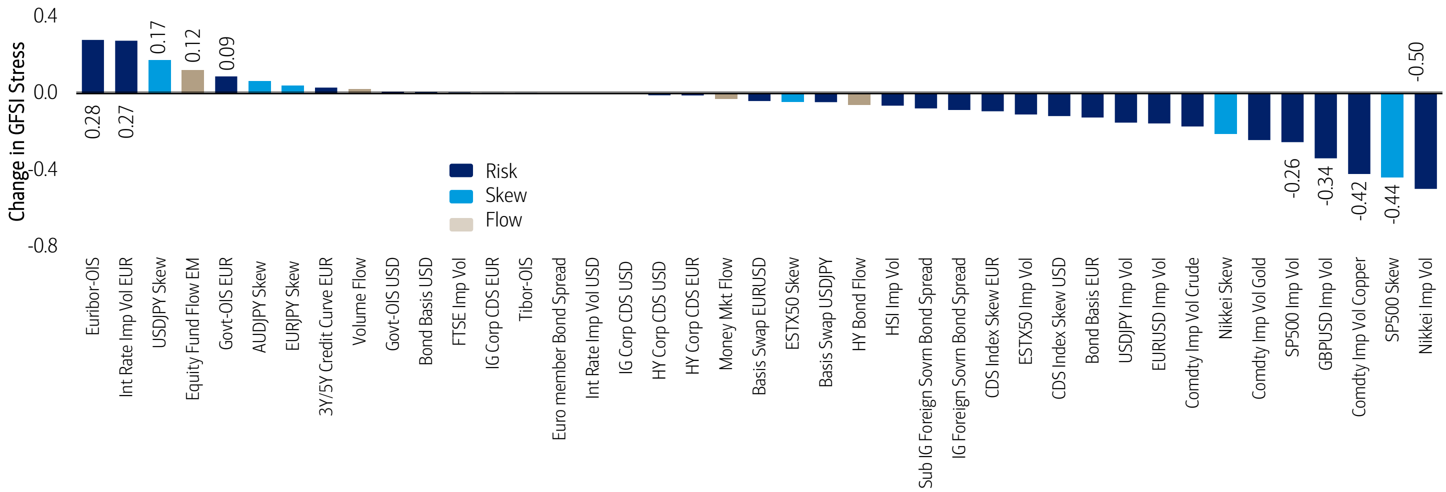


Source: BofA Global Research. *Latest as of 10-Jul-26. Disclaimer: The indicator identified above as BofA GFSI is intended to be an indicative metric only and may not be used for reference purposes or as a measure of performance for any financial instrument or contract, or otherwise relied upon by third parties for any other purpose, without the prior written consent of BofA Global Research. This indicator was not created to act as a benchmark.

BofA GLOBAL RESEARCH

Exhibit 3: Change in stress across GFSI sub-components**

Euribor-OIS was the largest stress riser over the last two weeks while Nikkei implied vol stress fell the most



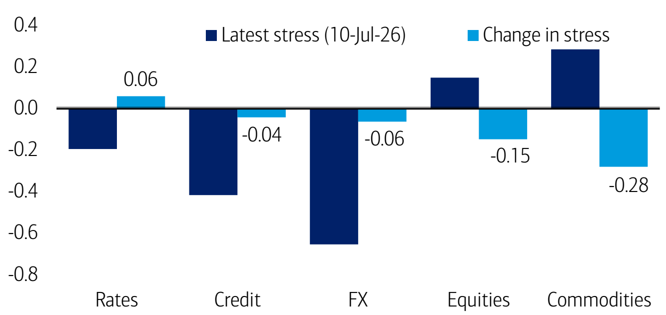
Source: BofA Global Research. **Latest as of 5-Jun-26. Change from 26-Jun-26 to 10-Jul-26.

BofA GLOBAL RESEARCH

The GFSI Risk Allocator (using Bull, Bear & Neutral weights of 2, 0, 1) suggested a 22.0% overweight position as of 10-Jul-26 (vs a 17.1% overweight position as of 26-Jun-26). The percentages of Bullish, Bearish, and Neutral GFSI components (as used in the Risk Allocator) as of 10-Jul-26 were 31.7%, 9.8%, and 58.5%, respectively.

Exhibit 4: Commodity stress decreased the most in the last two weeks

In contrast, rates stress slightly increased

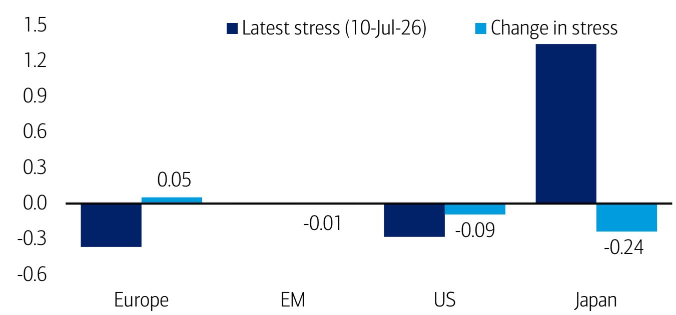


Source: BofA Global Research. Change from 26-Jun-26 to 10-Jul-26.

BofA GLOBAL RESEARCH

Exhibit 5: Japan led regional stress lower over the last two weeks

Meanwhile, Europe posted the only stress increase

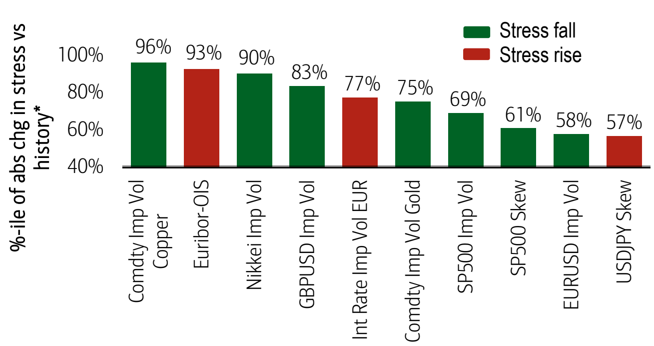


Source: BofA Global Research. Change from 26-Jun-26 to 10-Jul-26.

BofA GLOBAL RESEARCH

Exhibit 6: Top 10 biggest stress movers (vs history)

Copper implied vol saw a historically large stress decline

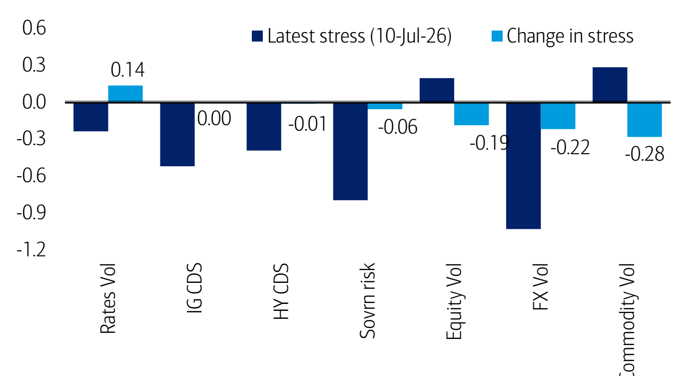


Source: BofA Global Research. * %-ile of 10-day moves in stress vs all historical 10-day moves (earliest 3-Jan-00). Bar colors represent rise (red) or fall (green) in stress. 10-day change (26-Jun-26 to 10-Jul-26).

BofA GLOBAL RESEARCH

Exhibit 7: Biggest stress movers in cross-asset vols and spreads

Commodity vol experienced the largest decrease in stress over the last two weeks



Source: BofA Global Research. Change from 26-Jun-26 to 10-Jul-26.

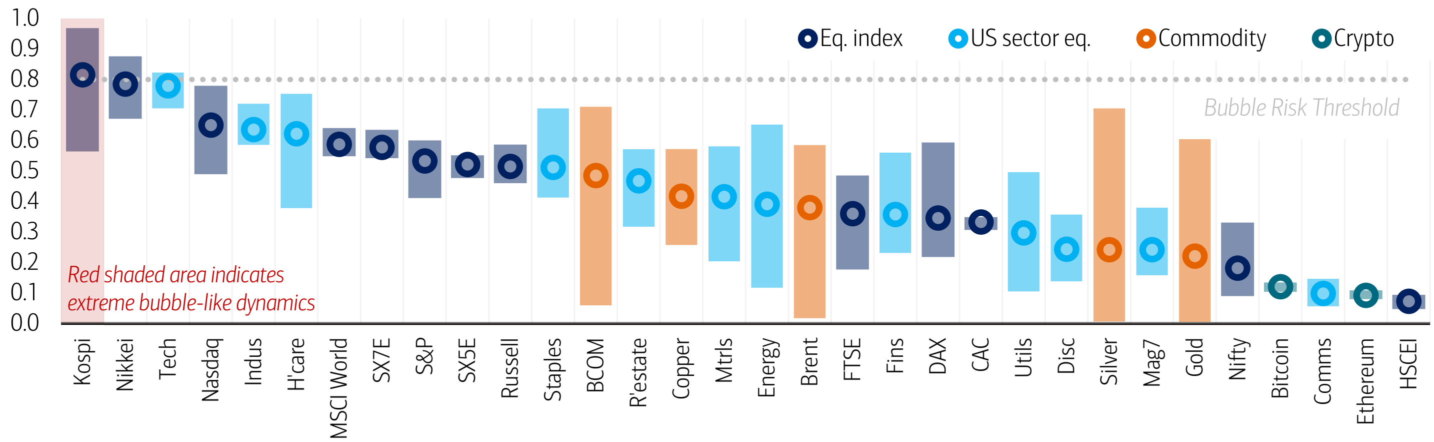
BofA GLOBAL RESEARCH

BofA Bubble Risk Indicator Landscape

BRI levels retreat mildly in Kospi, Nikkei and Nasdaq

The **BofA Bubble Risk Indicator (BRI)** is a price-based measure designed to detect bubble-like asset dynamics. Inspired by the way the first four moments describe a statistical distribution, the BRI distils an asset's returns, volatility, momentum, and fragility into a single bubble-risk reading on a 0 to 1 scale; 1 represents extreme bubble-like price action while 0 represents none. Historic asset bubbles have exhibited high BRI levels as they formed and peaked (see our 2026 Year Ahead for more details).

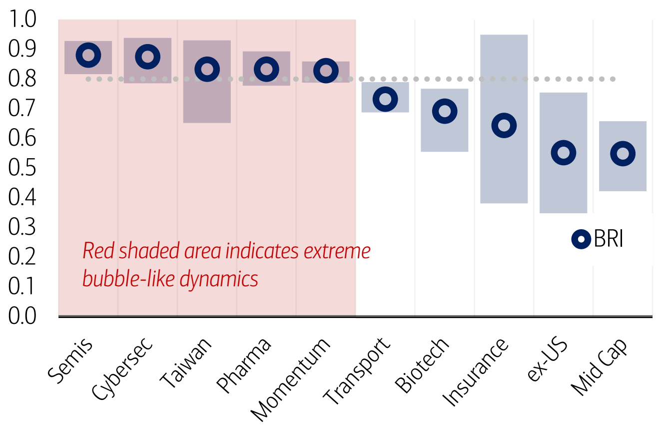
Exhibit 8: BRI levels on the Kospi, Nikkei and Nasdaq / US tech have mildly retreated but remain high vs other major assets & markets
BofA Bubble Risk indicator (as of 10-Jul-26) across global equity indices, US equity sectors, commodities and crypto (bars: range of short- to long-term sub-indicators)



Source: BofA Global Research. Data as of 10-Jul-26. Underlying tickers: SPX, NDX, RTY, SX5E, SX7E, CAC, DAX, UKX, NKY, HSCEI, KOSPI2, NIFTY, MXWD, IXB, IXCPR, IXE, IXM, IXI, IXT, IXR, IXRE, IXU, IXV, IXY, BM7P, BCOM, CO1, XAU, XAG, HG1, XBTUSD, XETUSD. Disclaimer: The indicator identified as the BofA Bubble Risk Indicator is intended to be an indicative metric only and may not be used for reference purposes or as a measure of performance for any financial instrument or contract, or otherwise relied upon by third parties for any other purpose, without the prior written consent of BofA Global Research. This indicator was not created to act as a benchmark.

BofA GLOBAL RESEARCH

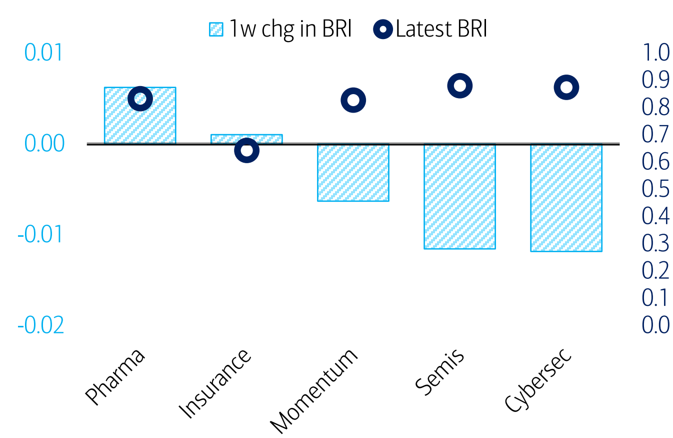
Exhibit 9: Semis & cybersecurity stocks are still showing relatively high bubble-like dynamics among popular equity themes...
Highest BRI readings across popular equity themes (as of 10-Jul-26)



Source: BofA Global Research. Data as of 10-Jul-26. Underlying tickers: ICESEMIT, NQCYBRN, FTTWN, DJSPHMT, SP500MUT, SPTSCUT, SPSIBITR, SPSIINST, GPVAN2TR, CRSPMIT. See Disclaimer in Exhibit 8.

BofA GLOBAL RESEARCH

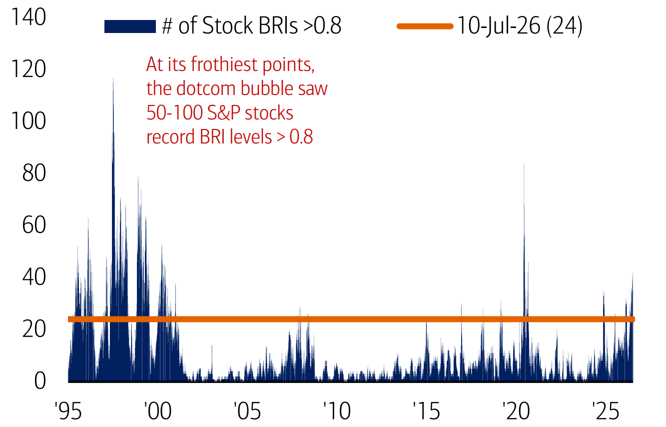
Exhibit 10: ... though semis & cybersecurity BRI levels (and most popular equity themes in general) have retreated over the past week
Largest 1w changes in BRI across popular equity themes (as of 10-Jul-26)



Source: BofA Global Research. Data as of 10-Jul-26. Underlying tickers: DJSPHMT, SPSIINST, SP500MUT, ICESEMIT, NQCYBRN. See Disclaimer in Exhibit 8.

BofA GLOBAL RESEARCH

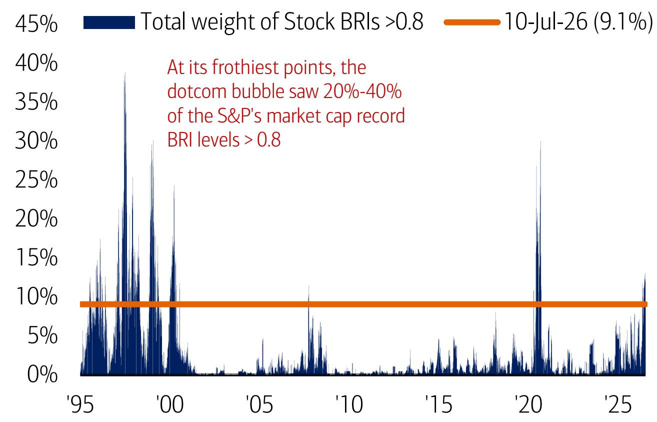
Exhibit 11: S&P stocks are showing increasingly frothy price action, both in terms of the number of stocks...
# of SPX stocks with BRIs above 0.8



Source: BofA Global Research. Data from 1-Jan-95 to 10-Jul-26. Stocks' BRI computed using data since SPX inclusion. See Disclaimer in Exhibit 8.

BofA GLOBAL RESEARCH

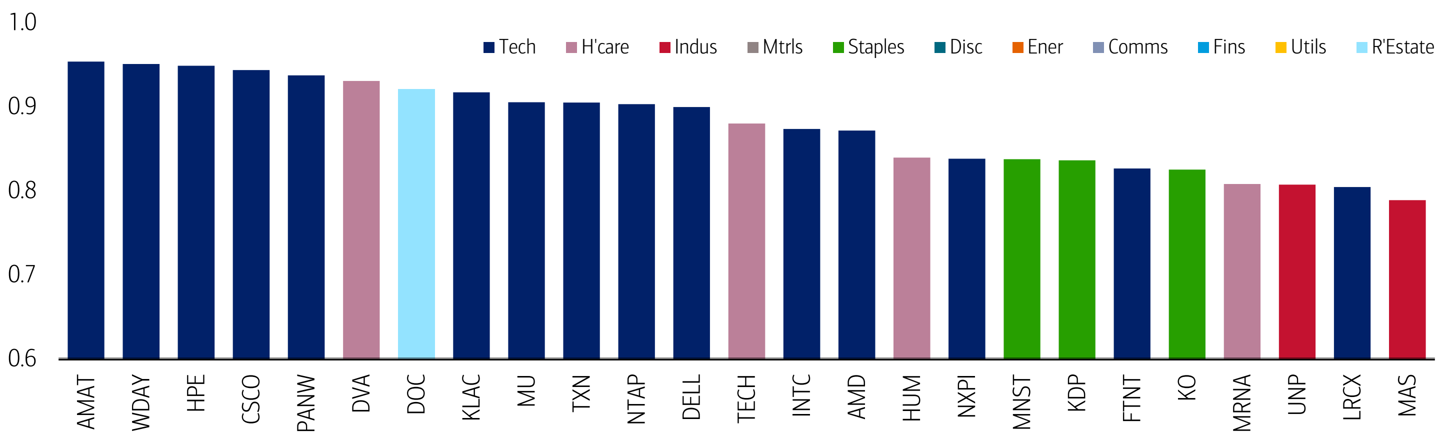
Exhibit 12: ... and when measured by total index weight
Total weight of SPX stocks with BRIs above 0.8



Source: BofA Global Research. Data from 1-Jan-95 to 10-Jul-26. Stocks' BRI computed using data since SPX inclusion. See Disclaimer in Exhibit 8.

BofA GLOBAL RESEARCH

Exhibit 13: Tech stocks like AMAT, WDAY, HPE and CSCO rank highest in terms of their Bubble Risk Indicators amongst S&P 500 members
S&P 500 member stocks with highest BRI reading (as of 10-Jul-26)



Source: BofA Global Research. Data as of 10-Jul-26. Note: Stocks' BRI computed using data since S&P 500 inclusion. See Disclaimer in Exhibit 8. Note that the BRI is a purely price-based metric intended to quantify the degree of bubble-like price action. It is not a fundamental view on the stock and should be used only as a complement to fundamental and positioning-based metrics.

BofA GLOBAL RESEARCH

Exhibit 14: US Exporters, EU semis, and China tech localization stocks are amongst the global themes showing bubble-like price action as per their high BRIs

Bubble Risk Indicator on selected BofA Custom Baskets* (as of 10-Jul-26)

Basket	Ticker	BRI	Basket	Ticker	BRI	Basket	Ticker	BRI	Basket	Ticker	BRI
AMRS			US Power Supercycle	MLUSPOWR	0.40	EU Power Grids	MLEUGRID	0.62	Japan GPIF	MLHKGPIF	0.73
US Exporters	MLUXPORT	0.90	US True Defensives	MLTRUDEF	0.40	UK Banks	MLD1UKBK	0.61	Korea Holdco	MLAPKRHO	0.73
US AI Compute	MLUCOMPU	0.86	US Boosters (Cyclicals)	MLBOOSTR	0.40	Italian Banks	MLEUITBK	0.61	JPY Winners Depreciation	MLHKJPFX	0.72
US Cyber Security Basket	MLCYBRS	0.86	US Domestic Revenue	MLDOMSTC	0.40	EU Exposed to US Consumer	MLEUSCON	0.60	Taiwan AI basket	MLHKTWAI	0.72
US TMT Memory Basket	MLUMEMOR	0.85	US Regulated Utilities	MLUREGU	0.39	EU High USD Exposure	MLEUAMER	0.60	Korea Corporate Reform	MLHKKRPB	0.68
US Hardware	MLUSHRDW	0.84	US Consensus Small Cap Shorts	MLDIRSRT	0.39	EU Steel	MLESTEEL	0.59	Korea Tourism	MLHKKRTM	0.67
US Cyclicals Ex Commods	MLCYCLX	0.83	US High Default Risk	MLUHDFLX	0.38	EU AI Power Surge	MLESURGE	0.59	APAC AI Beneficiaries	MLHKAPAI	0.65
US 800v DC Transition	MLU800V	0.82	US Stagflation	MLSTGFL8	0.38	EU AI Adopters	MLEADOPT	0.59	China AI Supply Chain	MLAPAISC	0.63
US AI Beneficiaries	MLUSAI	0.81	US Defense, Energy, Infra & Security	MLUDEIS	0.37	UK Doms ex-Homebuilders	MLUKDOMX	0.58	APAC Smart Glasses	MLAPSMGL	0.62
US Managed Care	MLDIMNGC	0.80	US Consumer China Tariff Exposed	MLCTARIF	0.37	Oil & Gas ex-Renewables	MLD1OILX	0.55	China OPenClaw	MLAPCLAW	0.62
US TMT Momentum Factor	MLUPTMMO	0.80	US Utility Growth Basket	MLUSGUTE	0.37	EU Consensus Longs	MLD1LSEU	0.55	Japan Domestic Upcycle	MLAPJDUB	0.62
US Health Care Momentum Factor	MLUPHCMO	0.79	US Copper Exposed Basket	MLUSCOPP	0.36	EU HALO Basket	MLEUHALO	0.54	APAC Airline	MLHKFLYA	0.58
US Data Center Builders	MLDATACB	0.79	US Building Products	MLUBUILD	0.36	EU Stagflation	MLEUSTAG	0.53	China Robotics & AI	MLAPCHAI	0.50
US Quality Factor	MLUPQUAL	0.77	US Weak Balance Sheets	MLWEAK	0.35	EU stocks China expo	MLD1CHEX	0.53	Japan Inflation	MLHKJPIF	0.50
US Transports	MLUTRANS	0.75	US Quantum Computing	MLUQUANT	0.34	EU Cyclicals	MLEUCYCL	0.47	Japan Fiscal Impact	MLAPGEJP	0.45
US Financials Momentum Factor	MLUPFINM	0.75	US Consensus Value Shorts	MLDIMSVL	0.34	EU New Energy Order	MLEUNEOE	0.45	Japan Retail	MLAPJRE	0.43
US TMT Supply Shortage	MLUTMTSP	0.74	US New Construction	MLNCONST	0.34	EU Copper Miners	MLEUCOPP	0.43	Japan Corp Reform	MLHKJPRE	0.43
US Industrials Momentum Factor	MLUPINMO	0.71	US Higher Oil Price 'At-Risk'	MLOILRSK	0.34	EU Consumer Discretionary	MLEUCONS	0.42	Japan Industrials	MLAPJPIN	0.41
US TMT Durable Compounders	MLUTMTDC	0.69	US Soft Landing	MLSLAND	0.34	EU Short Cycle Industrial	MLEINSCY	0.42	Japan Engagement	MLAPJPAT	0.39
US SMID Cap Semis	MLSEMISM	0.69	US Energy Momentum Factor	MLUPENMO	0.33	UK Domestic Names	MLUKDOMS	0.41	APAC World Cup	MLAPWCUP	0.39
US Efficient Growth	MLUEGROW	0.66	US Space Race	MLUSPACE	0.33	EU Cyclical Chems	MLECCHEM	0.38	Japan High EM Exposure	MLHKHICH	0.38
US Boomers Spend	MLUBOOM	0.66	Brazil Election Basket	MLBZELEC	0.33	EU Max Momo Top	MLEMOMOL	0.35	Japan Cyclicals	MLHKJPCY	0.37
US Electric Grid Enablers	MLUGRID	0.65	US Long Term Debt Maturities	MLLTMATS	0.32	EU Consensus Shorts	MLD1MSEU	0.35	Greater China Robotic	MLAPHUMA	0.37
US AI Infrastructure	MLAIINFR	0.65	US Growth Factor	MLUPGROW	0.32	EU Security DEIS	MLEUDEIS	0.34	Korea Battery	MLKRBATT	0.34
US TMT Profitable Growth	MLUTMTPG	0.64	US SMID Cap Utilities	MLUSUTES	0.31	EU Ukraine Recovery	MLERBUKR	0.34	Australian Mining	MLHKAUMN	0.27
US Momentum Factor	MLUPMOMO	0.61	US Battery Ecosystem	MLUSBATT	0.29	EU Max Momo Bottom	MLEMOMOS	0.33	Japan Wage Growth	MLHKJPWG	0.25
US China Importers	MLCHIMPT	0.61	US NeoCloud Basket	MLUNEOCL	0.29	EU HY Debt	MLEUDEBT	0.32	APAC AI Infrastructure	MLAPAIIF	0.21
US Consensus Growth Shorts	MLDIMSGR	0.60	US Utility Defensive Yield	MLUSRUTE	0.27	EU Renewable Utilities	MLEURNEW	0.31	APAC Nuclear	MLHKNUCL	0.20
Canada Infrastructure & Defense	MLCAINFR	0.59	US Consensus Large Cap Shorts	MLDISSRT	0.27	EU Russia Exposed	MLEURUSS	0.30	Japan Defensives	MLHKJPDF	0.20
US Discretionary Momentum Factor	MLUPCDMO	0.59	US Consumer Goods	MLGOODS	0.24	UK M&A Candidates	MLUKMNAC	0.29	Japan NISA	MLHKNISA	0.20
US Hard Assets, Low Obsolesce (HALO)	MLUHALO	0.59	US Materials Momentum Factor	MLUPMAMO	0.24	German Infrastructure	MLEGEINF	0.29	APAC EV	MLHKAPRN	0.18
US Bond Proxy	MLEBOND	0.58	US Generation Z Basket	MLUGENZ	0.23	French Domestics	MLD1FRAN	0.28	Japan Sanaenomics	MLAPJPSA	0.18
US PMI Sensitive Industrials	MLUINDUS	0.57	US Wellness Basket	MLUWELL	0.23	Industrial Manufacturing	MLEINMAN	0.28	Korea Defense	MLHKKRDF	0.14
US Commercial Biotech	MLUSCBIO	0.56	US Low Income Spend	MLSPREE	0.23	EU Defensives	MLEUDEFS	0.28	China Property	MLCNPROP	0.14
US Beta Factor	MLUPBETA	0.55	US Consumer Services	MLSERVE	0.21	EU Tariff Exposed	MLETARIF	0.26	APAC Coal	MLAPCOAL	0.14
US Medicaid	MLELECHC	0.54	US High End Consumer	MLDIHEC	0.21	EU Luxury	MLEULUXG	0.25	APAC Oil exposed	MLAPOIL	0.13
US Value Factor	MLUPVALU	0.54	US Old Economy	MLOLDEC	0.21	EU European Domestics	MLEUDOMS	0.25	APAC Shipping	MLAPSHIP	0.11
US Retail Signal	MLRETAIL	0.53	US Strong Balance Sheets	MLSTRNG	0.21	EU M&A	MLEUMNAC	0.25	Japan Exporter to the US	MLAPJPEP	0.09
US AI Orchestra Basket	MLUAIORC	0.53	US Crypto Exposed	MLDICRYP	0.21	EU Software	MLESOFTW	0.23	Japan Electric Power	MLJPTPEL	0.09
US Cyclical Industrials ex AI	MLUICXAI	0.53	US Middle Income Spend	MLUMIDCG	0.20	EU Capital Goods	MLD1CAPG	0.22	Japan Defense	MLAPJDEF	0.06
US Software	MLUSSOFT	0.53	US Defense Technology	MLUDEFTC	0.19	EU Most Gas Exp	MLD1GASX	0.22	China Internet	MLHKCHIH	0.06
US Residual Volatility Factor	MLUPVOLA	0.52	US Defense Electronics	MLUDELEC	0.19	Gold Miners	MLD1GLDM	0.22	APAC Petrochem	MLAPCHEM	0.06
US Staples Momentum Factor	MLUPSTMO	0.52	US Defensive Industrials	MLUDINDU	0.17	UK Consumer	MLD1UKCS	0.19	China SOEs	MLHKZSOE	0.06
US Hard Landing	MLHLAND	0.52	US Commodities Complex	MLCOMMOD	0.16	EU Cyclical Exp to US	MLECYCUS	0.19	HK Dual listed H-shares	MLHKPREM	0.04
US Foreign Revenue	MLFORER	0.50	US Drone Ecosystem	MLUDRONE	0.15	EU Sovereign Priority	MLEUSOVR	0.16	China National Brand	MLHKCBVM	0.03
US Refinance Risk	MLREFIN	0.50	US Golden Dome Basket	MLUGDOME	0.14	Germany Domestic	MLEGEDOM	0.16	China Consumption Stimulus	MLAPCHST	0.03
US Small Cap Earners	MLSMEARN	0.50	US Defense Contractors	MLDEFCON	0.13	EU Defense	MLD1DEFE	0.13	China Consumer Old	MLHKCHCO	0.02
US Leisure Travel	MLDILEIS	0.49	US GLP-1 Disruption Risk	MLXGLP1	0.12	UK Housebuilders	MLUKHOME	0.11	China Consumer New	MLAPHKCN	0.02
US Low Int Coverage	MLLINTC	0.49	US Water Ecosystem	MLUH2O	0.12	EU Defense Electronics	MLEDEFEL	0.10	Macau Gaming	MLHKMCGM	0.02
US Renewables	MLUSRNEW	0.49	US Nuclear Energy Exposed	MLUSNUCL	0.09	EU Autos	MLEUAUTO	0.04	China High Dividend Yield	MLAPCHDV	0.02
US No Landing	MLNLAND	0.47	US Private Equity Funds	MLDIPTPE	0.06	EU Defence Exposed	MLEINDEF	0.03	China Anti Involution Basket	MLAPANTI	0.01
US National Champions	MLUCHAMP	0.46	US TMT Defensives	MLUTMTDF	0.06	**APAC**			Korea Export ex Auto/Tech	MLKRREXP	0.01
US AI Adopters	MLUADOPT	0.46	US Independent Power Producers (IPPs)	MLUIPPS	0.06	China Technology Localization	MLHKCTLC	0.95	APAC Gold	MLAPGOLD	0.01
US High Quality Yield	MLHQYLD	0.46	US Alternative Managers	MLUALTS	0.04	Japan Mgmt Transformation	MLAPJACA	0.91			
US Consensus High Beta Shorts	MLDIHBHS	0.46	US Private Credit Proxy	MLPRCRED	0.03	Japan Tariff Exposed	MLAPJPTR	0.91			
Domestic Tax Policy	MLUTAXD	0.45	**EMEA**			China Tariff	MLHKRPW2	0.88			
US LNG	MLUELNG	0.44	EU Semis & Semicaps	MLD1EUSM	0.86	JPY Winners Appreciation	MLHKJPYA	0.84			
US Reshoring Basket	MLRSHORE	0.44	EU Memory	MLEUBYTE	0.74	AxJ Inflation	MLHKAXIF	0.79			
US EU Exposed	MLUSEURO	0.43	EU Travel Basket	MLD1TRAV	0.69	APAC 5G	MLHKAP5G	0.76			
US Pharma Hyperscalers Basket	MLURXHYP	0.42	European Reflation	MLD1REFL	0.66	China Little Giants	MLHKCHLG	0.73			

Source: BofA Global Research. Data as of 10-Jul-26. *Disclaimer: These BofA baskets are proprietary baskets structured and maintained by the BofA Securities trading desk. For more details on these baskets, please contact the team. See BRI disclaimer in Exhibit 8.

BofA GLOBAL RESEARCH

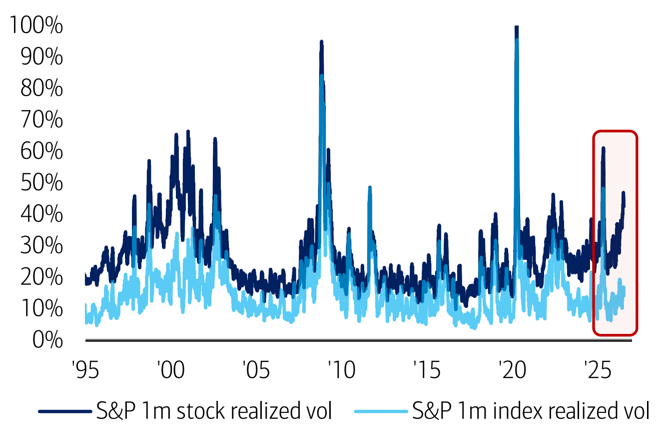
Stock vs index vol near Dotcom extreme… shock risk is real

As various US equity sectors and factors gyrate sharply and AI-related bubble-like price action builds further, single stock realized volatility has risen to historically elevated levels (now in the 92nd %ile since 1990), last seen in the build-up of the late 90s dotcom bubble (Exhibit 15). S&P index realized volatility, on the other hand, has risen far more modestly, leaving the gap between index and underlying stock volatility near historic extremes (Exhibit 15 & Exhibit 16). While the widening spread between stock and index vol has been a multi-year trend, its recent acceleration remains striking.

Implied vol has followed a similar pattern, with the spread between VIXEQ (representing single stock implied vol) and the VIX reaching all-time highs (Exhibit 16).[1] If the dotcom bubble provides a useful analogue for the current AI cycle, the divergence between single stock & index vol could widen even further as the bubble continues to inflate. The striking point is that single stock vol has already reached historically extreme levels before valuations have approached late-90s bubble-like excesses (at least on an expected earnings basis); ***if valuations move further in that direction, the stock vs index vol gap could surpass dotcom extremes***.

Exhibit 15: While S&P single stock realized vol has reached historic levels (92nd %ile since 1990), S&P index realized vol remains relatively muted, creating a historic divergence in recent months

S&P 500 1m single stock* & index realized vol

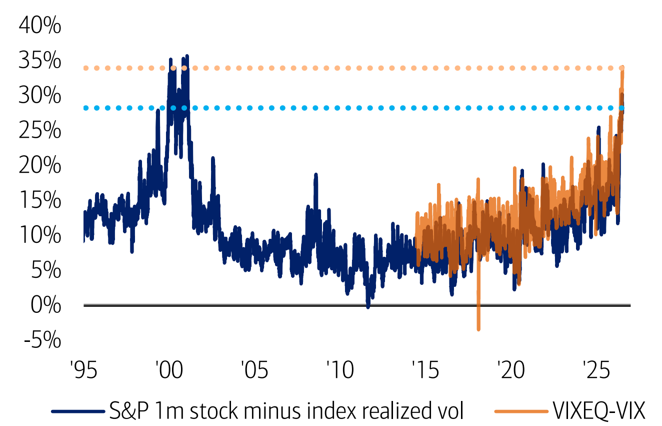


Source: BofA Global Research. Data from 1-Jan-95 to 10-Jul-26. *S&P Top 50 stocks.

BofA GLOBAL RESEARCH

Exhibit 16: Similar to realized vol, the spread between stock and index *implied* vol has also risen sharply, with the dotcom bubble analogue suggesting potential for even further widening

S&P 500 1m single stock* minus index realized vol & VIXEQ-VIX spread



Source: BofA Global Research, Bloomberg. Data from 1-Jan-95 to 10-Jul-26. *S&P Top 50 stocks.

BofA GLOBAL RESEARCH

Where is the single stock vol coming from? Large-cap semis instability

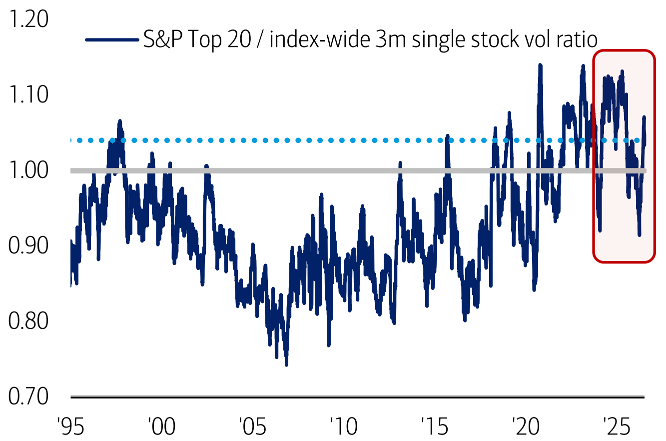
A key driver of rising single stock vol has been a sharp increase in the volatility of many of the largest stocks in the S&P. In fact, the ratio of average vol of the Top 20 S&P stocks vs index-wide single stock vol has seen a sharp uptick towards multi-decade highs, with these stocks now more volatile than the *average* S&P stock (an atypical dynamic vs history; see Exhibit 17).

More specifically, large stocks in the hot semis space like MU, AMD and AVGO (with among the highest Bubble-Risk Indicator [BRI] levels in the index) have contributed most to pushing single stock vol to today's lofty levels (Exhibit 18). Interestingly, nearly all these stocks are weighted more heavily in the Nasdaq than in the S&P, hence have also contributed to the widening NDX-SPX vol spread that we anticipated in our report How to own the AI race (VXN-VIX spread went from ~2.5 to ~13, and is now at ~10).

[1] The implied vol spread (VIXEQ-VIX) is also affected by factors such as single stock earnings in the forward 1m window (boosting VIXEQ) and summer seasonality (weighing on the VIX in July). However, the implied single stock vs index vol spread remains heavily anchored to the realized vol spread, as seen from Exhibit 16. Separately, this relationship suggests the realized spread could be used as a rough proxy for the VIXEQ-VIX spread during the dotcom bubble, when VIXEQ history is unavailable.

Exhibit 17: The largest stocks in the S&P are now more volatile than the average S&P stock, highlighting the historically atypical role of megacaps in driving single stock vol higher

Ratio of S&P Top 20 vs index-wide average single stock realized vol

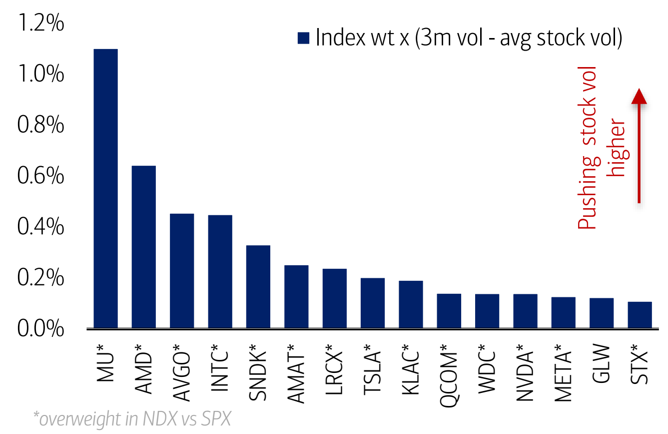


Source: BofA Global Research. Data from 1-Jan-95 to 10-Jul-26.

BofA GLOBAL RESEARCH

Exhibit 18: Semiconductor stocks like MU, AMD and AVGO have contributed most to pushing single stock vol higher, given their combination of large index weights *and* high realized vol

Stocks with highest realized vol relative to avg single stock vol (weighted)



Source: BofA Global Research. Data as of 10-Jul-26.

BofA GLOBAL RESEARCH

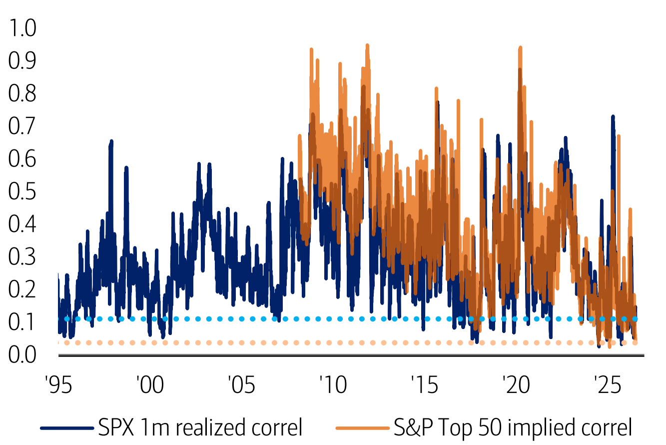
Why hasn't index vol kept up? Semis de-correlation

Mechanically, the divergence between single stock and index vol has been a result of historically low S&P stock correlation, with 1m realized correlation sitting in the bottom decile since 1990 and 1m implied correlation flirting with all-time lows heading into earnings season (Exhibit 19).

Once again, a major source of ultra-low correlation has come from high-BRI semis stocks, which have de-correlated from key groups like the Magnificent 7 stocks (ex-NVDA) and software (Exhibit 20). Indeed, as the semis space has exhibited increasingly frothy price action and seen its BRI rise, its correlation to these key groups has sharply fallen, driving index-wide stock correlation lower as well.

Exhibit 19: Near-record low S&P stock correlation has kept index volatility contained even as single stock vol has risen to historically elevated levels

S&P 1m realized stock correlation & Top 50 1m implied correlation

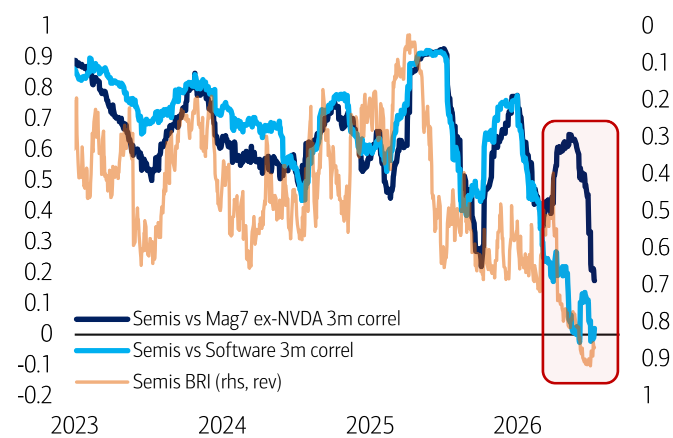


Source: BofA Global Research. Data from 1-Jan-95 to 10-Jul-26.

BofA GLOBAL RESEARCH

Exhibit 20: Semis have been a major source of S&P de-correlation, with their frothy price action sharply reducing their correlation with key groups like Mag7 (ex-NVDA) and software

3m realized correlation between semis and (i) Mag7 ex-NVDA, (ii) software



Source: BofA Global Research. Data from 1-Jan-23 to 10-Jul-26. Semis: SOX; Software: IGV.

BofA GLOBAL RESEARCH

Hedging the coiled spring of index vol with VIX call spreads

Given the historically low implied correlation and elevated single stock vol backdrop, the risk of a sharp rise in index vol from a correlation uptick looks acute (see our correlation deep-dive in the 19-Feb-25 GEVI for more details). Importantly, this is less a call for an imminent macro shock than a recognition that correlation at these lows looks increasingly stretched, leaving index vol exceptionally sensitive to a normalization in correlation. Summer illiquidity could further amplify this fragility, increasing the risk of an abrupt index-vol repricing.

As a result, we find hedges like VIX call spreads attractive as a relatively cheap convex hedge, especially ahead of the seasonally challenging period for equities in the coming months.

> **Trade (VIX call spread):** Buy VIX Sep 25-40 call spread for $0.92 indicatively (**16.3x max payout**; ~35d/15d strikes; UXU6 ref. 19.65). *Risk involves upfront premium paid.*

SX5E vs SXXP put switch is a historically cheap hedge against cyclical weakness

Trade: Buy 0.84x Sep26 97% SX5E put, funded by a short 97.6% Sep26 SXXP put (~31% delta each, refs: 6265.98, 640.52 respectively)

Risks: The trade will incur losses if SXXP puts gain more in value than SX5E puts.

July typically marks the seasonal low in implied volatility, and recent VSTOXX levels echo this historical pattern. In contrast, vol tends to rise in the autumn months, a trend that may not be fully reflected yet in the implied volatility term structure (Exhibit 21).

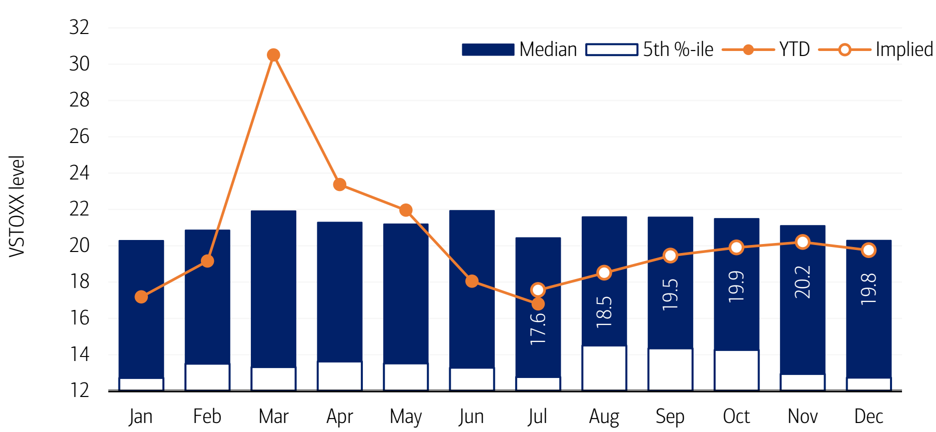
SX5E vs SXXP put switch attractive on account of historical pricing… The recent decline in SX5E implied volatility has also compressed the index's implied vol spread relative to the STOXX 600 to historically tight levels. As a result, the implied vol spread is now also trading below the indices' realised vol spread (Exhibit 23). This spread tightness aids the pricing of long SX5E, short SXXP put switches, as selling an SXXP put can fund a historically large proportion of an SX5E put (Exhibit 25).

… and empirical price dynamics (realised vs implied beta). The option pricing ratio can also be viewed as a measure of "implied beta" between the indices. Indeed, options markets are currently implying a lower extent of cyclicality for SX5E than has been observed historically, with the implied beta below SX5E's empirically realised beta to the SXXP (Exhibit 25).

Long SX5E protection defends cyclical (overweight) sectors: Given the SX5E is overweight in cyclical sectors like Tech, Consumer Discretionary and Industrials compared to the SXXP (Exhibit 22), a put switch provides a low-premium way of hedging downside risk in these sectors relative to broader EU equities. Indeed, an attribution analysis of the pullback from the SX5E's recent all-time high suggests that Industrials and Technology have been the primary contributors to the sell-off (Exhibit 23) and the SX5E could be vulnerable if these sectors continue to weaken relative to the market.

Exhibit 21: July typically marks implied vol lows for the rest of the year, and recent European vol levels echo this past dynamic

Median V2X levels (and 5th %-ile) by calendar month since 1999, overlaid with 2026 YTD medians and latest V2X futures (implied)

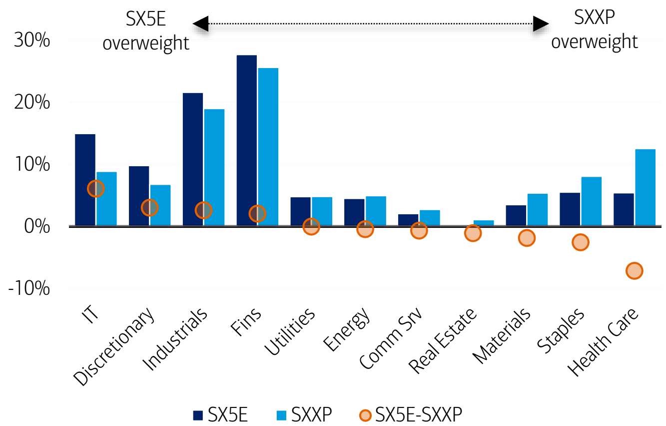


Source: BofA Global Research. Data: 5-Jan-99 to 13-Jul-26.

BofA GLOBAL RESEARCH

Exhibit 22: The SX5E is relatively overweight cyclical sectors like IT, Discretionary and Industrials versus the SXXP

SX5E vs SXXP current sector contribution, ordered by the difference (orange dots).

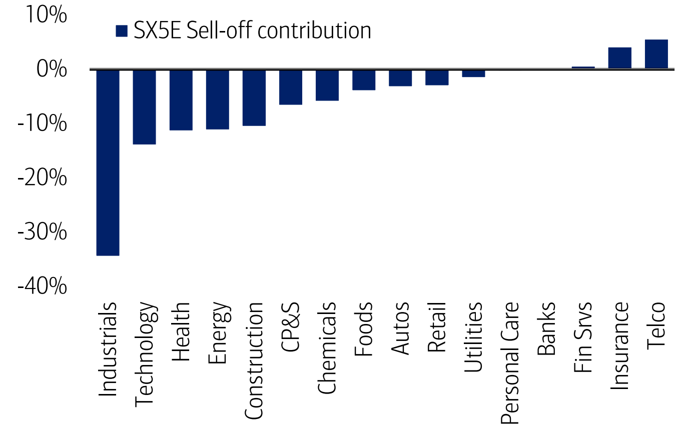


Source: BofA Global Research, Bloomberg. Data as of 13-Jul-26.

BofA GLOBAL RESEARCH

Exhibit 23: Recent SX5E weakness from all-time highs also came largely from Industrials and Technology index constituents

Sector contributions from index members to the decline in SX5E since the index's all-time-high reached on 3rd July '26

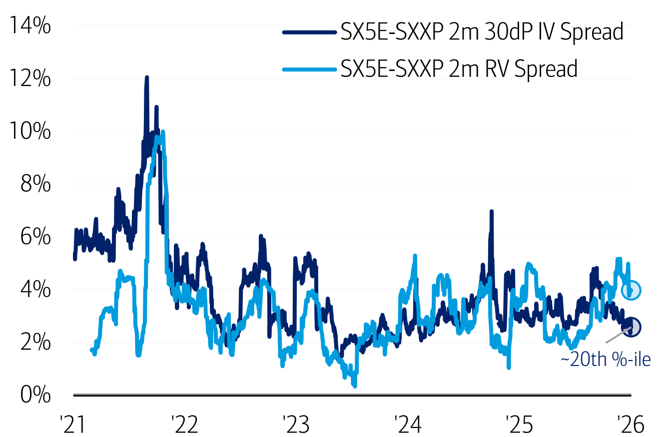


Source: BofA Global Research, Bloomberg. Data from 3-Jul-26 to 10-Jul-26

BofA GLOBAL RESEARCH

Exhibit 24: A +SX5E-SXXP put switch benefits from a historically low implied vol spread, while the recent (higher) realized vol spread is also in favour of the trade

SX5E-SXXP 2m 30d put implied vol spread, and (trailing) 2m realized vol spread

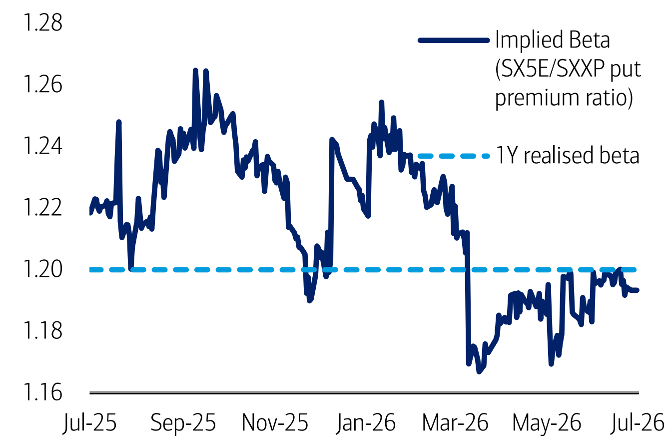


Source: BofA Global Research, Bloomberg. Data from 9-Jul-21 to 10-Jul-26.

BofA GLOBAL RESEARCH

Exhibit 25: SX5E put pricing relative to SXXP puts (also a measure of "implied beta") is currently low vs history, and is below the index's realised beta to SXXP

SX5E-vs-SXXP implied beta (ratio of 2m 30D put prices) and 1y realised beta



Source: BofA Global Research, Bloomberg. Data from 10-Jul-25 to 10-Jul-26

BofA GLOBAL RESEARCH

Screening for cheap European earnings gamma ahead of Q2 reporting

What: Aug-26 strangles on single names such as Iberdrola, Vonovia, Deutsche Bank, Allianz & BNP screen cheap.

Why: A large proportion of the STOXX600's market cap (~90%) reports 2026 Q2 earnings between the July and August monthly option expiries (Exhibit 26). Bearing in mind this concentrated earnings window, we screen for liquid, optionable names that are under- & over-valuing Aug-26 strangles ahead of results (Exhibit 27).

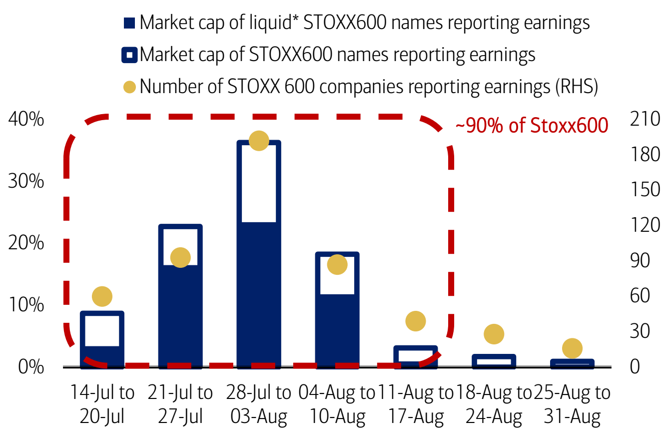
Our screening framework ranks stocks based on three key criteria:

- Historically low 1m ATMf implied vol
- Historically low implied-to-realized 1m vol spreads
- Large historical earnings moves vs current option-implied 1d moves

This results in Iberdrola, Vonovia, Deutsche Bank, Allianz and BNP as the most attractive candidates for owning earnings gamma as Aug-26 strangles on these names screen cheapest.

Exhibit 26: 89% of the STOXX600 by market cap is reporting earnings between the major (3rd Friday) Jul and Aug option expiries

*Top 100 names in STOXX600 ranked by market cap and option average daily volume (ADV) over the past 1m.



Source: BofA Global Research, Bloomberg. Data as of 13-Jul-26.

BofA GLOBAL RESEARCH

Exhibit 27: Screening for the cheapest and most expensive Aug26 earnings strangles

Iberdrola, Vanovia, Deutsche Bank, Allianz, and BNP options screen cheap. Conversely, ENR, Nokia, SAP, STMMI, and IFX vols screen rich.

Ticker	Sector	Earnings date	1m ATMf implied vol	Implied vol 5y %ile (rank A)	Implied-realised vol spread	5y %ile of implied-realised vol spread (rank B)	Earnings implied move	2yr avg of earnings realised moves	Implied - realised earnings move spread (rank C)	Earnings Straddle rank (Avg. A,B,C)
IBE SQ	Utilities	22-Jul-26	17%	49% (4)	-2%	27% (10)	2.4%	1.3%	1.1% (10)	8.0
VNA GY	Real Estate	05-Aug-26	32%	49% (5)	-7%	19% (4)	3.5%	1.8%	1.7% (17)	8.7
DBK GY	Banks	29-Jul-26	38%	77% (24)	-4%	27% (8)	2.8%	2.4%	0.5% (4)	12.0
ALV GY	Insurance	07-Aug-26	17%	38% (2)	4%	74% (39)	1.4%	1.6%	-0.2% (1)	14.0
BNP FP	Banks	23-Jul-26	28%	65% (15)	1%	45% (24)	3.9%	3.1%	0.8% (6)	15.0
ENGI FP	Utilities	31-Jul-26	24%	71% (22)	-1%	29% (16)	3.5%	2.5%	1.0% (8)	15.3
BN FP	Fd & Bev	29-Jul-26	24%	85% (33)	1%	36% (17)	2.9%	3.0%	-0.1% (2)	17.3
SHELL NA	Energy	30-Jul-26	25%	63% (13)	-2%	28% (11)	3.1%	0.8%	2.3% (30)	18.0
ENI IM	Energy	29-Jul-26	28%	77% (23)	-5%	20% (5)	3.6%	1.2%	2.4% (31)	19.7
GLE FP	Banks	30-Jul-26	40%	83% (31)	1%	43% (22)	5.8%	4.9%	0.9% (7)	20.0
BBVA SQ	Banks	30-Jul-26	30%	56% (8)	1%	45% (25)	4.4%	2.1%	2.3% (29)	20.7
ENEL IM	Utilities	30-Jul-26	19%	46% (3)	5%	84% (47)	2.1%	0.7%	1.4% (14)	21.3
EOAN GY	Utilities	12-Aug-26	24%	70% (20)	-1%	28% (12)	3.8%	1.1%	2.7% (34)	22.0
VIE FP	Utilities	30-Jul-26	23%	53% (7)	6%	83% (46)	2.2%	0.7%	1.6% (15)	22.7
ROP SE	Health Care	23-Jul-26	24%	91% (44)	-2%	28% (13)	3.0%	1.7%	1.3% (13)	23.3
SREN SE	Insurance	06-Aug-26	21%	57% (9)	8%	93% (51)	3.2%	2.0%	1.2% (11)	23.7
ZURN SE	Insurance	06-Aug-26	17%	63% (14)	6%	97% (53)	2.2%	1.5%	0.7% (5)	24.0
G IM	Insurance	07-Aug-26	21%	70% (21)	6%	85% (48)	2.4%	2.0%	0.4% (3)	24.0
INGA NA	Banks	30-Jul-26	28%	65% (16)	4%	58% (32)	4.9%	2.7%	2.1% (25)	24.3
ACA FP	Banks	31-Jul-26	24%	51% (6)	5%	58% (31)	4.7%	1.9%	2.9% (36)	24.3
DB1 GY	Financials	22-Jul-26	24%	80% (26)	3%	60% (33)	2.8%	1.1%	1.7% (16)	25.0
UCG IM	Banks	23-Jul-26	33%	61% (12)	0%	48% (27)	4.7%	1.8%	2.9% (37)	25.3
BAYN GY	Health Care	04-Aug-26	42%	82% (29)	-33%	3% (1)	6.1%	2.1%	4.0% (47)	25.7
SAN SQ	Banks	22-Jul-26	30%	60% (11)	-2%	29% (15)	6.4%	1.6%	4.8% (51)	25.7
BP/ LN	Energy	04-Aug-26	33%	82% (28)	1%	50% (28)	3.6%	1.7%	1.9% (21)	25.7
LLOY LN	Banks	30-Jul-26	29%	58% (10)	0%	36% (18)	5.5%	1.5%	4.0% (49)	25.7
DHL GY	Industrials	05-Aug-26	27%	69% (19)	1%	46% (26)	5.1%	2.5%	2.6% (33)	26.0
REP SQ	Energy	23-Jul-26	33%	81% (27)	-3%	26% (7)	4.6%	1.0%	3.6% (44)	26.0
CBK GY	Banks	06-Aug-26	33%	26% (1)	6%	75% (40)	4.5%	1.4%	3.1% (39)	26.7
ORA FP	Telecoms	28-Jul-26	23%	88% (39)	0%	27% (9)	3.8%	1.4%	2.4% (32)	26.7
BAS GY	Chemicals	29-Jul-26	28%	66% (17)	11%	99% (55)	2.5%	1.4%	1.1% (9)	27.0
UBSG SE	Financials	29-Jul-26	28%	68% (18)	5%	75% (41)	4.2%	2.0%	2.2% (26)	28.3
RWE GY	Utilities	13-Aug-26	31%	78% (25)	6%	76% (42)	4.3%	2.4%	1.9% (19)	28.7
VOW3 GY	Autos	24-Jul-26	38%	89% (40)	-6%	15% (3)	5.3%	1.3%	3.9% (46)	29.7
DG FP	Construction	29-Jul-26	29%	90% (42)	2%	43% (21)	4.5%	2.2%	2.2% (27)	30.0
AI FP	Chemicals	28-Jul-26	23%	87% (37)	3%	63% (34)	3.3%	1.4%	1.9% (20)	30.3
MBG GY	Autos	28-Jul-26	34%	82% (30)	0%	38% (19)	6.1%	2.7%	3.4% (43)	30.7
SGO FP	Construction	30-Jul-26	37%	85% (34)	3%	64% (36)	3.8%	1.8%	2.1% (23)	31.0
SIE GY	Industrials	06-Aug-26	36%	86% (35)	2%	64% (37)	5.1%	3.1%	2.1% (24)	32.0
HOLN SE	Construction	31-Jul-26	31%	90% (43)	-2%	28% (14)	4.9%	1.7%	3.2% (42)	33.0
RHM GY	Industrials	06-Aug-26	52%	91% (45)	-33%	5% (2)	7.8%	1.9%	5.9% (53)	33.3
SAN FP	Health Care	30-Jul-26	27%	88% (38)	4%	63% (35)	3.9%	1.7%	2.2% (28)	33.7
AD NA	Prsnl Goods	05-Aug-26	25%	87% (36)	4%	51% (29)	5.9%	2.7%	3.1% (40)	35.0
SU FP	Industrials	30-Jul-26	39%	95% (51)	6%	78% (43)	4.7%	3.5%	1.2% (12)	35.3
DTE GY	Telecoms	06-Aug-26	31%	98% (53)	-3%	26% (6)	6.0%	1.9%	4.1% (50)	36.3
ABI BB	Fd & Bev	30-Jul-26	32%	94% (48)	7%	80% (44)	6.5%	4.7%	1.8% (18)	36.7
RMS FP	Consumers	29-Jul-26	37%	93% (47)	0%	40% (20)	5.8%	2.2%	3.7% (45)	37.3
AIR FP	Industrials	30-Jul-26	35%	83% (32)	7%	80% (45)	5.5%	2.4%	3.1% (38)	38.3
MC FP	Consumers	27-Jul-26	38%	95% (50)	10%	90% (50)	5.8%	3.8%	2.0% (22)	40.7
MT NA	Basic Res.	30-Jul-26	55%	96% (52)	2%	45% (23)	7.5%	1.6%	5.9% (54)	43.0
ADYEN NA	Industrials	13-Aug-26	60%	92% (46)	21%	85% (49)	13.4%	10.7%	2.7% (35)	43.3
ADS GY	Consumers	30-Jul-26	40%	90% (41)	13%	96% (52)	5.7%	2.6%	3.1% (41)	44.7
ENR GY	Energy	05-Aug-26	62%	95% (49)	5%	69% (38)	9.7%	4.7%	5.0% (52)	46.3
NOKIA FH	Telecoms	23-Jul-26	75%	99% (54)	7%	55% (30)	12.4%	4.0%	8.5% (57)	47.0
SAP GY	Technology	23-Jul-26	50%	99% (55)	15%	99% (54)	9.2%	5.2%	4.0% (48)	52.3
STMMI IM	Technology	23-Jul-26	78%	100% (56)	18%	99% (56)	12.3%	4.4%	7.9% (56)	56.0
IFX GY	Technology	05-Aug-26	79%	100% (57)	19%	100% (57)	10.8%	4.5%	6.3% (55)	56.3

Source: BofA Global Research, Bloomberg. Data as of 10-Jul-26. This screen is not a recommended list either individually or as a group of stocks. Investors should consider the fundamentals of the companies and their own individual circumstances/objectives before making any investment decisions.

BofA GLOBAL RESEARCH

TSMC – Cheap stock replacement for 7.7x payout ahead of Thursday's earnings

Trade: Buy the 19-Aug-26 2330 TT 110% 120% 1x2 call ratio for 1.3% (7.7x max payout, +6 delta, 43.0% 39.0% vols)
+1x 110% call / -2x 120% calls

Risks: Limited to premium paid on the downside. Negative payout is if stock rallies more than 30%.

Keep skin in the game over TSMC's earnings, but limit downside to 1.3%

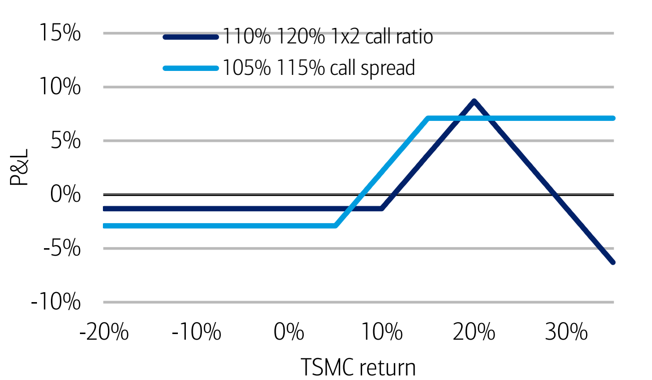
Yesterday, TSMC reported a 36% jump in quarterly sales, meeting elevated expectations and the stock rose 1.0%. BofA sees further upside and raised earnings estimates (see report: TSMC 2Q26 earnings preview: Robust demand and pricing underpin capex expansion 13 July 2026). However, the broader AI complex remains on high alert amid the global semiconductor rout, with markets acutely sensitive to any indication that the AI capex cycle may be losing momentum. Having remained largely insulated from the regional AI-linked selloff, TSMC enters Thursday's earnings with increasingly asymmetric risk. The stock appears more vulnerable to any signs of moderation in AI demand or spending, which could trigger a sharp reset in expectations, while positive surprises are likely to be met with relief rather than a meaningful upside re-rating.

Investors seeking to trim directional exposure into earnings may consider monetising cash equity positions and re-establishing upside through options. This approach limits downside to the 1.3% premium outlay while retaining substantial upside convexity, with a 20% appreciation in the stock generating a 10% payout, or 7.7x premium invested. Specifically, we like **19-Aug expiry 110% 120% 1x2 call ratios**. This trade has a positive payout in case TSMC closes between 10% and 30% up from here. Alternatively, simple **19-Aug 105% 115% call spreads** cost 2.9% (see Exhibit 28).

Call ratios benefit from elevated call volatility ahead of earnings

Implied vols are trading rich relative to realised (Exhibit 29). While this is to be expected ahead of earnings, we like to lean short vol on the upside. This is consistent with our view that rallies are more likely to be less violent, and vols are likely to reset lower after Thursday.

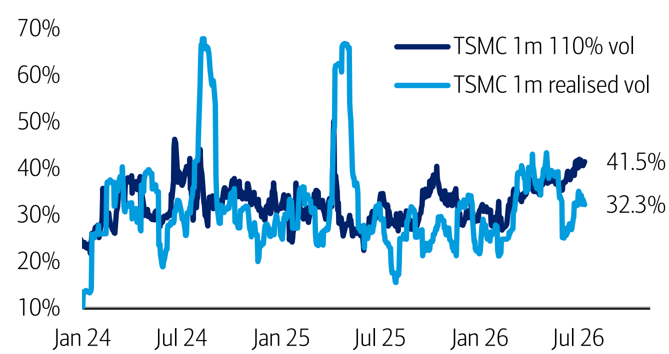
Exhibit 28: The call ratio positions for more modest upside (i.e. no rip higher) and is therefore cheaper (i.e. max loss of 1.3% in a selloff)
P&L diagram for 1x2 call ratios and call spreads



Source: BofA Global Research. Data as of 13-Jul-26.

BofA GLOBAL RESEARCH

Exhibit 29: Implied vols are near 40% while the stock has realised around 30% vol recently. This is natural ahead of earnings but we like to lean short vol on the upside given the lower likelihood of rips higher
TSMC 1-month 110% implied vol as well as realised vol



Source: BofA Global Research, Bloomberg. Data from 2 Jan 2024 through 13-Jul-26.

BofA GLOBAL RESEARCH

Cheapen Nikkei correction hedges by 74% by selling large downside vol

Trade: Buy NKY 3-month 95% put with an 80% Knock Out for 1.15% (indicative, -7% delta, 74% discount to vanilla put, see Exhibit 30)

Risks: Limited to premium paid.

Correction hedgers could cheapen protection significantly via knock-out

In our 2026 Derivatives Year Ahead report, we suggested that AI builds towards larger bubble and that we may see a bubble-prone era where booms/busts are more the norm. As was also the case in the last 90s, occasional ~10-20% corrections should be expected.

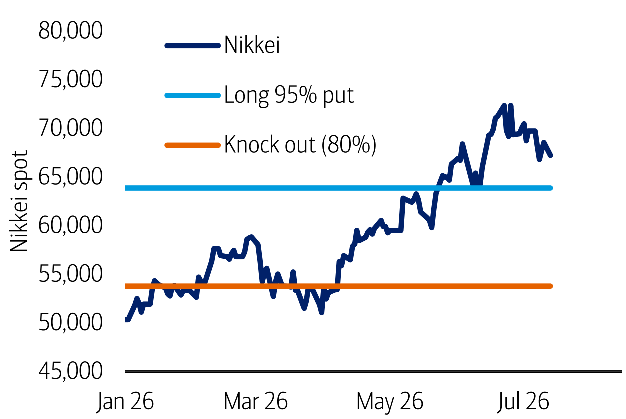
Seasonal volatility, weak chip sentiment and AI capex concerns argue for adding downside protection. However, elevated volatility levels make outright hedges expensive, prompting us to favour structures that monetise rich downside vol to reduce protection costs. For investors seeking correction hedges rather than crash insurance, exceptionally high downside vols (Exhibit 31) provide an attractive opportunity to acquire put protection more efficiently.

74% cheaper protection by targeting corrections, not crashes

While we continue to advocate owning some tail-risk protection, 3-month Nikkei downside hedges remain among the most expensive across regions and asset classes (see report: *Cross Asset Hedging, 11 June 2026*). In our view, investors are better off sourcing tail protection in other asset classes, where credit and FX continue to offer superior value, while using the Nikkei primarily to hedge against more conventional equity corrections.

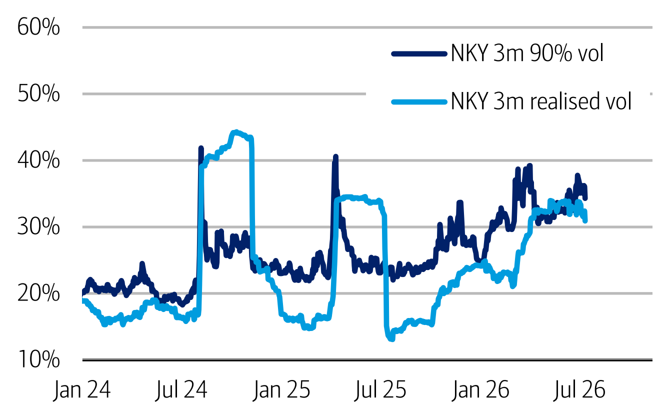
The Nikkei has become an increasingly effective proxy for AI and growth-related risk, with its sensitivity to both semiconductor weakness and broader macro concerns rising materially. During the recent Iran-related risk-off episode, for example, the Nikkei declined 13.2%, substantially more than the S&P 500's 7.8% drawdown. While the Kospi exhibited even greater downside beta, its currently elevated and illiquid vol market make the Nikkei the cleaner and more cost-effective vehicle for correction hedging, in our view.

Exhibit 30: Nikkei 95% puts with an 80% knock-out would protect investors against a 5-20% selloff (correction rather than "crash")
Nikkei spot, the 95% strike as well as the 80% knock-out barrier



Source: BofA Global Research, Bloomberg. Data from 2 Jan 2026 through 13-Jul-26.
BofA GLOBAL RESEARCH

Exhibit 31: 3-month 90% put vols are elevated and trade in the 94th 3-year percentile. These levels were only surpassed at the start of the Iran war, Liberation Day in 2025 and YenMageddon in Aug-24
Nikkei 3-month 90% implied vol and realised vol



Source: BofA Global Research, Bloomberg. Data from 2 Jan 2024 through 10-Jul-26.
BofA GLOBAL RESEARCH

Frequently asked questions about the BofA Bubble Risk Indicator (BRI)

In our 2026 Year Ahead report, we introduced the BofA Bubble Risk Indicator (BRI), a price-based measure designed to detect bubble-like instability across financial assets. Given strong client interest, we are now adding a weekly one-page BRI update to the GEVI (see earlier pages). This update will track BRI levels across major markets and asset classes, highlight pockets of equities exhibiting the most froth, and call out recent increases in bubble-like price action. Below, we address some of the most frequently asked questions about the BRI.

The BofA Bubble Risk Indicator is intended to be an indicative metric only and may not be used for reference purposes or as a measure of performance for any financial instrument or contract, or otherwise relied upon by third parties for any other purpose, without the prior written consent of BofA Global Research. The BRI was not created to act as a benchmark.

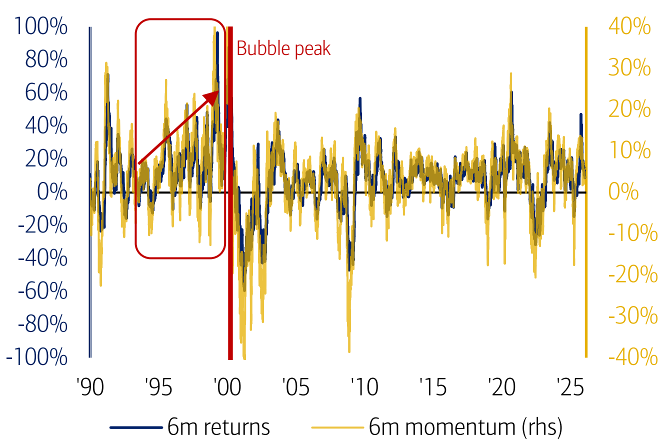
1. How does the BRI quantify 'bubble risk'?

A defining feature of historical asset bubbles is that volatility tends to rise alongside prices. Building on this observation and drawing inspiration from how the four statistical moments characterize a distribution, the BRI quantifies bubble risk using the first four moments of an asset's price action: (i) returns, (ii) realized volatility, (iii) price momentum[2], and (iv) fragility/convexity.[3]

These four moments typically become elevated during the frothiest phases of asset bubbles, reflecting the influence of exuberant sentiment, one-sided positioning and imbalanced supply-demand dynamics on price action. The late 90s dotcom bubble in the Nasdaq provides a clear and pertinent illustration of these dynamics (Exhibit 32 & Exhibit 33).

Exhibit 32: Both price returns and price momentum of the Nasdaq rose as the dotcom bubble inflated

NDX 6m price returns and 6m price momentum

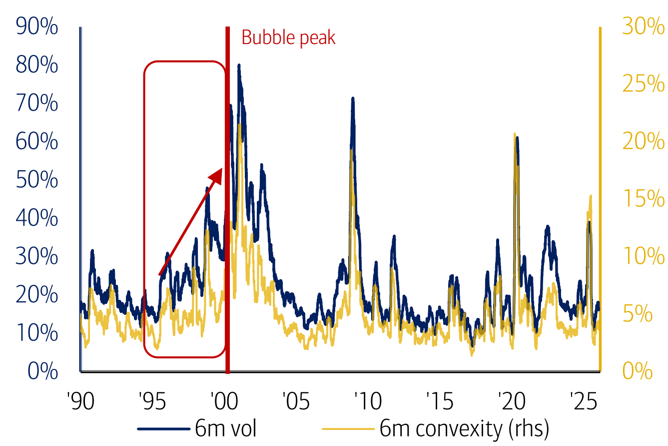


Source: BofA Global Research. Data from 1-Jan-90 to 16-Jan-26.

BofA GLOBAL RESEARCH

Exhibit 33: Nasdaq's vol and fragility also rose into the peak of the dotcom bubble as tech stock price rose

NDX 6m realized vol and 6m realized convexity



Source: BofA Global Research. Data from 1-Jan-90 to 16-Jan-26.

BofA GLOBAL RESEARCH

2. How is the BRI constructed?

The BRI is constructed as an average of three sub-indicators: a short-term, medium-term, and long-term measure. Each sub-indicator ranges from 0 to 1. Using multiple time horizons allows the indicator to capture bubble-risk dynamics that can develop at different speeds.

Each sub-indicator aims to capture how stretched an asset's four moments (returns, vol, momentum, and fragility) are relative to the asset's own history, and is computed as the

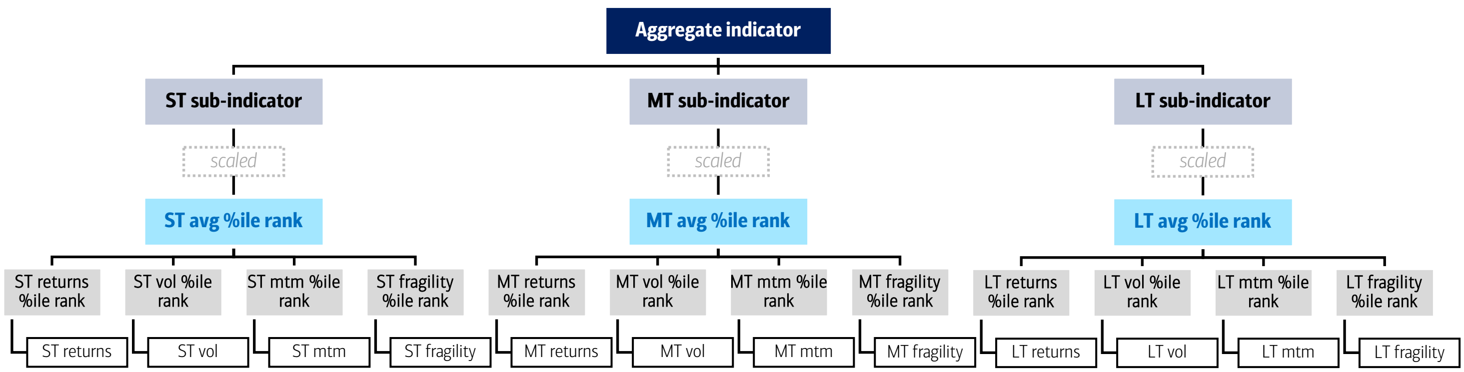
2 X-month price momentum = % distance of the current price from the X-month moving average price

3 X-month fragility/convexity = X-month realized vol – X-month realized mean absolute deviation

average of each of these four moments' percentile ranks vs history.[4] However, given detection of bubble-like behaviour is the primary aim of the indicator, we condition this average percentile rank on periods when the asset is rallying by scaling it up or down depending on how positive or negative returns are.[5]

Exhibit 34 summarizes the construction of the aggregate indicator and its microstructure.

Exhibit 34: The aggregate indicator is an average of 3 sub-indicators that capture short-, medium- and long-term price dynamics. Each sub-indicator is computed as a scaled average percentile rank of the four metrics (returns, vol, momentum & fragility)
Construction summary of BofA Bubble Risk Indicator



Source: BofA Global Research. ST, MT & LT refer to short-, medium- & long-term; 'mtm' refers to momentum component; '%-ile rank' refers to percentile rank.

BofA GLOBAL RESEARCH

3. What is a 'high' BRI reading and what are its implications?

Since the BRI is defined on a 0 to 1 scale, assets with readings approaching 1 are exhibiting increasingly bubble-like price action. How close to 1? While it is difficult to specify a universal threshold given the plethora of asset-specific dynamics that can present in markets, we find that BRI levels above 0.8 (i.e., top quintile) provide a useful rule of thumb beyond which bubble risks are likely elevated.

Tactically, high BRI readings tend to signal asymmetric downside risk in the near-term (higher risk of the bubble 'popping'), which we demonstrate empirically later in this section. However, rather than treating the BRI as an explicit sell signal ("get out"), which can risk major underperformance in a bubble, we find the BRI best positioned as a cautionary tool to add asymmetric protection/equity replacement ("watch out").

4. What assets can the BRI be computed on?

Given the BRI relies only on price-based inputs, it can be computed on any asset with a sufficient history of daily price data. Indeed, by inferring sentiment and positioning from price action, the BRI can be applied to assets without explicit fundamental valuation methodologies (e.g., commodities) or those with opaque positioning visibility.

5. What has the BRI looked like in past asset bubbles?

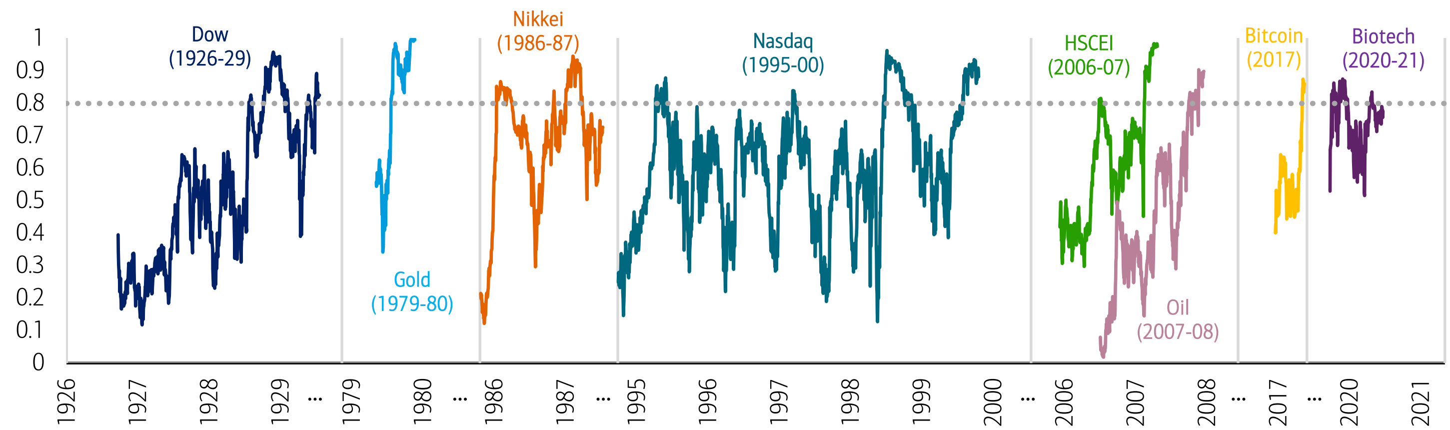
Exhibit 35 demonstrates what the BRI framework would have looked like when applied to eight historically well-recognized asset bubbles. As these bubbles formed, increasingly stretched returns, vol, momentum, and fragility pushed BRI readings towards 1. Indeed, seven of the eight bubbles saw their peaks concurrent to a BRI reading above 0.8.

[4] Sub-indicator parameters in this report: (i) short-term = 3m moments vs 1y %ile rank lookback, (ii) medium-term = 6m moments vs 3y %ile rank lookback, (iii) long-term = 1y moments vs 5y %ile rank lookback. These parameters are for illustrative purposes and may differ in their efficacy depending on the dynamics of the asset being analyzed.

[5] Scaling factor ranges between 0 & 1. It is computed using a logistic function transformation of the trailing return (tenor based on sub-indicator). Highly positive returns give a factor of ~1 and highly negative returns give a factor of ~0.

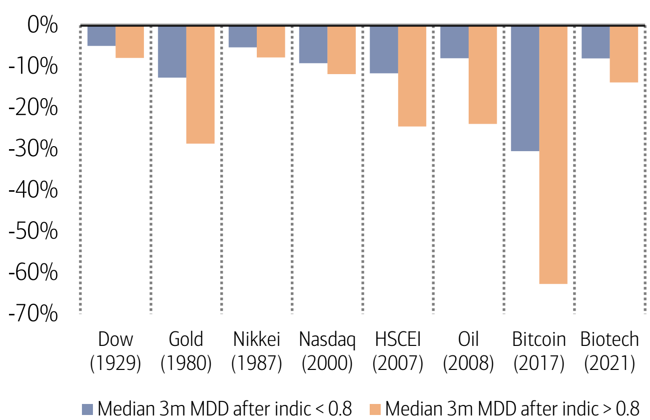
The forward distribution of returns during these bubbles conditional on the BRI would have shown higher near-term downside risk after the BRI breached 0.8 (Exhibit 36), with broadly similar upside potential (Exhibit 37).

Exhibit 35: Looking at eight historical asset bubbles from a distributional lens using the BRI methodology reveals increasingly elevated returns, vol, momentum and fragility in the asset bubble formation process, as seen by rising levels of the indicator towards 1
BofA Bubble Risk Indicator during historical asset bubbles



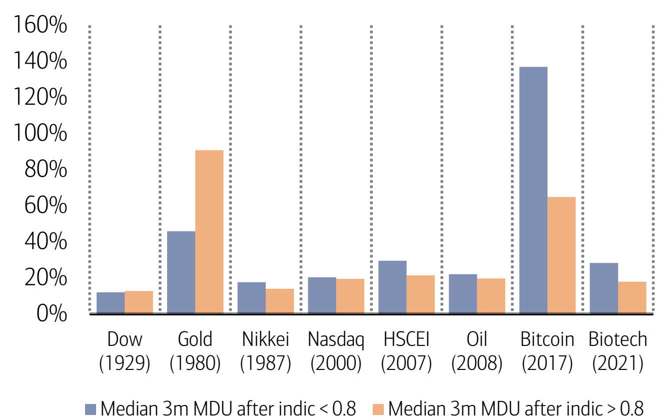
Source: BofA Global Research. Data from Jan-1926 to Feb-2021. Underlying Bloomberg tickers: INDU for Dow (Oct-1926 to Sep-1929), XAU for Gold (Jul-1979 to Jan-1980), NKY for Nikkei (Jan-1986 to Oct-1987), NDX for Nasdaq (Jan-1995 to Mar-2000), HSCEI for HSCEI (Jun-2006 to Oct-2007), CO1 for Oil (Jan-2007 to Jul-2008), XBTUSD for Bitcoin (Jul-2017 to Dec-2017), SPSIBI for Biotech (May-2020 to Feb-2021).
BofA GLOBAL RESEARCH

Exhibit 36: The median 3m max draw-down following indicator readings above 0.8 would have been more adverse than when below 0.8 during historical asset bubbles
Median 3m max draw-down during historical asset bubbles (i) after indicator < 0.8, (ii) after indicator >= 0.8



Source: BofA Global Research. Underlying tickers / date ranges: INDU for Dow (Oct-1926 to Sep-1929), XAU for Gold (Jul-1979 to Jan-1980), NKY for Nikkei (Jan-1986 to Oct-1987), NDX for Nasdaq (Jan-1995 to Mar-2000), HSCEI for HSCEI (Jun-2006 to Oct-2007), CO1 for Oil (Jan-2007 to Jul-2008), XBTUSD for Bitcoin (Jul-2017 to Dec-2017), SPSIBI for Biotech (May-2020 to Feb-2021).
BofA GLOBAL RESEARCH

Exhibit 37: The median 3m max draw-up would have been similar at both high and low indicator readings, suggesting that de-risking completely following high indicator levels can risk underperformance
Median 3m max draw-up during historical asset bubbles (i) after indicator < 0.8, (ii) after indicator >= 0.8



Source: BofA Global Research. Underlying tickers / date ranges: INDU for Dow (Oct-1926 to Sep-1929), XAU for Gold (Jul-1979 to Jan-1980), NKY for Nikkei (Jan-1986 to Oct-1987), NDX for Nasdaq (Jan-1995 to Mar-2000), HSCEI for HSCEI (Jun-2006 to Oct-2007), CO1 for Oil (Jan-2007 to Jul-2008), XBTUSD for Bitcoin (Jul-2017 to Dec-2017), SPSIBI for Biotech (May-2020 to Feb-2021).
BofA GLOBAL RESEARCH

6. Can an asset with a high BRI reading not be in a bubble?

Yes. One of the risks stemming from the BRI's exclusive use of price data is instances of 'false positives' when the indicator appears stressed, but the asset doesn't appear to be in a bubble based on other metrics. For example, semiconductor stocks exhibited frothy behaviour in the immediate aftermath of ChatGPT's release in Nov-22 but also saw a fundamental shift and expansion of their business model in the AI era.

Another scenario of a high BRI level that may not point to a bubble is in the immediate aftermath of an exogenous shock (e.g., COVID), where vol/fragility remain high and prices are retracing their drawdown. In such cases, the interpretation of a high BRI level requires additional context.

7. Can an asset in a bubble have a low BRI reading?

Yes. A related limitation of the BRI's reliance on price data is the implicit assumption that the asset bubble in question would result in historically elevated instability. While the typical evolution of a bubble sees this happen as stretched positioning and exuberance translate into volatile & fragile rallies with high momentum into the peak, outlier cases where the bubble peak sees the bull run end in a whimper can occur and are a challenge for the BRI (e.g., the Nikkei bubble in the 1980s, which saw its most unstable rally earlier rather than later).

8. How can one use the short-term to long-term sub-indicators of the BRI?

As discussed above, the BRI aggregates short-term, medium-term, and long-term sub-indicators to capture asset price dynamics across multiple horizons. In addition to examining the sub-indicators to understand shorter vs longer-term trends, we also find the range across sub-indicators provides a confidence level on the BRI reading, with tighter ranges providing higher confidence. For example, a 0.7 BRI reading is likely more informative when the sub-indicators span 0.6 to 0.8 than when they range from 0.4 to 1.0, where disagreement across horizons suggests greater uncertainty.

9. What other indicators can help confirm elevated bubble risk?

At its core, the BRI is simply a parsimonious transformation of prices, avoiding a "kitchen-sink" approach that incorporates explicit positioning, leverage, or PB data. This keeps the framework robust to overfitting and makes it applicable across assets, regions, and historical periods where such data are often unavailable or unreliable.

Despite the appeal of such an approach, we find the BRI most effective when used in conjunction with complementary tools that can help assess whether frothy price action is supported by fundamentals – for example, more traditional valuation (e.g., PV of cash flows, valuation multiples, etc.) and/or positioning metrics (e.g., leverage, inflows, retail trading volumes etc.) where available.

10. What universe of assets will be covered in the BofA BRI Landscape?

We plan to include BRI levels on a broad set of assets covering global equity indices, large cap US equity sector indices (including the "Magnificent 7"), major commodities (including the BCOM Index), and major cryptocurrencies (Bitcoin and Ethereum). In addition to this core cross-asset universe, we plan to apply the BRI framework to popular equity themes that have experienced significant inflows over the prior week. This thematic lens is designed to spot emerging pockets of froth that may not yet be visible at the broader index or sector level.

Summary of Open Trades (13-Jul-26)

Price data for open level reflects the price on open date and does not necessarily reflect the price at which the trade could be executed at the date of this report. Our trades are structured to be executed on the open date and are not necessarily appropriate to execute as formulated beyond that date.

Table 1: Summary of open trades as of 13-Jul-26

Summary of open trades as of 13-Jul-26

Trade Description	Open Date	Open Level	Expected Trade Term	Rationale
Buy an SX5E Dec26 5000 call (for 9% indic., spot ref 4895, 45delta, 62bps vega), initially delta-hedged	5-Mar-24	9%	Dec-26	Don't miss a generational opportunity to lock in record low long-dated EU vol
Buy an SX5E Dec26 5000 call (for 9% indic., spot ref 4895, 45delta, 62bps vega), initially delta-hedged	05-Mar-24	9%	Dec-26	Attractive opportunity to lock in record low long-dated EU vol
Replicate a NKY Dec25-Dec26 36.5K FVA straddle with a static strip of options at an implied FVA level of 18.6. To trade US$100k vega	9-Sep-24	18.6v	Dec26	Long discounted Nikkei vol: Fixed strike Dec-25/Dec-26 FVA straddles at 18.6%
Trade (SPX upvar): Buy SPX Dec26 80% upvar for 18.45v indicatively (t & t-1 convention; var ref. 24.55v; fwd ref. 5551).	28-Apr-25	18.45v	Dec26	Position for spot up, vol up which leverage elevated tail skew and inverted term structure
Trade (SPX fwd upvar): Buy SPX Dec25/Dec26 80% fwd upvar for 17v indicatively (t & t-1 convention; fwd var ref. 23.6v; fwd ref. 5551).	28-Apr-25	17v	Dec26	Position for spot up, vol up which leverage elevated tail skew and inverted term structure
Long SPX 2028 annual dividend futures/short SPX 2026 annual dividend futures for $1.15 net indicatively	6-May-25	$1.15	Dec26	Position for the normalization of the dividend futures curve as time moves towards maturity and dividend growth is priced back in
Long SX5E Dec26 dividends, vs short SPX Dec26 dividends.	6-May-25	$0.00	Dec26	Dec26 dividends are more heavily discounted for SX5E than for SPX, despite what we view as higher earnings risk in SPX companies, relative to SX5E
Buy SPX Dec26 110% upvar for 11.25v indic. (t & t-1 convention; var ref. 23v; fwd ref. 5915)	2-Jun-25	11.25v	Dec26	Hedge upside pain with long delta, long vol positions that leverage elevated long-dated tail skew
Buy SPX Dec25Dec26 110% fwd upvar for 11.36v indic. (t & t-1 convention; fwd var ref. 23.3v; fwd ref. 5915).	2-Jun-25	11.36v	Dec26	Hedge upside pain with long delta, long vol positions that leverage elevated long-dated tail skew
Buy SPX Dec26 ATM upvar for 12.2v indicatively (t & t-1 convention; var ref. 22.5v)	11-Aug-25	12.2v	Dec26	Leverage record steep tail skew to enter into long vol positions via upvar
Sell SPX Dec26 var, buy SPX Dec26 60% upvar, to collect 3.5v indicatively (t & t-1 convention; var ref. 22.5v)	11-Aug-25	3.5v	Dec26	Leverage record steep tail to enter into carry trade via upvar vs var
Sell SX5E Dec26 var, buy SX5E Dec26 60% upvar, to collect 3.1v indicatively (t & t-1 convention; var ref. 21v).	18-Aug-25	3.1v	Dec 26	Vol-focused? Collect >3v on SX5E Upvar vs Var
Buy 1-year 105% 130% call spreads on a CSI 1000 tracking basket* for 3.52% (18d, 29v both legs). Consider fully financing the trade by selling 1-year 73.5% puts (37d, 29v calls vs 29.5v put)	13-Sep-25	3.52%	Oct-26	The low-cost/low risk way to buy China – deeply discounted call spreads
Buy SPX Dec26 ATM upvar for 13.95v indicatively (10v disc to vanilla; t & t-1 convention; Dec26 var ref. 24v).	3-Nov-25	13.95v	Dec26	Own spot-up, vol-up exposure as AI bubble continues to inflate.
Sell NKY 9-Jan-26 55,000 calls for a JPY589 credit (~1.12% of spot, or 6.7% annualised, 23d 23.1 vol)	10-Nov-25	JPY589	9-Jan-26	Sell 99th percentile Nikkei calls as the Japan catch-up rally may take a breather
Buy Dec26 80% put on basket of HYG (38%), SPX (29%), XLF (29%) & EEM (4%) for 1.46% (27% cheaper vs avg of individual legs)	26-Nov-25	1.46%	18-Dec-26	The convergence of private and public market risk creates opportunities for hedging private risk with liquid, public market hedges. Crucially, stress in public assets closely linked to private markets may ultimately impact private valuations, while potential hedge gains will give investors the flexibility to add risk at better terms.
Buy a basket of Dec26 90-70 put spreads on individual underlyings: SPX (53%), XLF (32%), TLT (9%) & EEM (6%) for 2.66% (weighted max payout ratio of put spreads is 7.7x)	26-Nov-25	2.66%	18-Dec-26	Given the higher volatility of the PE hedge constituents and significant decorrelation potential, we prefer buying put spreads on individual constituents rather than on the basket
Buy NDX Dec26 ATM upvar, currently 19.1v but target an entry level closer to 17v (t & t-1 convention, var ref. 29.9v)	26-Nov-25	19.1v / target 17v	18-Dec-26	Trade long-delta, long vol via upvar to capture the spot-up, vol-up typically seen in asset bubbles, with a deep discount to vanilla var
Buy 6-month 105% 125% call spreads on a CSI 1000 tracking basket for 2.53% (indic. 20d, 27.1v/28.7v, quanto USD)	26-Nov-25	2.53%	15-May-26	The "artificially" cheap CSI 1000 forward corresponds to an 8 vol discount. Investors can buy the most exciting part of the Chinese stock market, including AI innovation, at unusually low & limited risk
Buy long-dated OTM puts on NVDA, delta-hedged (e.g., NVDA 2y 10-delta puts)	26-Nov-25	$8.30 / 49v	21-Jan-28	Tail hedge the AI trade with long-dated NVDA vol, which historically would have shown >35x payout vs carry cost.
Sell SX5E Jun26 var (22.8v) & buy 1.7x Jun27 var (23.7v)	26-Nov-25	22.8v/23.7v	19-Jun-26	Long fwd var is most attractive for SX5E vs global peers. Resize legs to cut carry cost by 4v (45% better vs regular sizing) while preserving risk/reward
Buy 110% Dec26 SPX calls qEUR for 4.33% (17 bps over vanilla)	26-Nov-25	4.33%	18-Dec-26	Foreign investors with unhedged FX risk in their equity investments can be subject to large swings on USD volatility, which quanto options can protect against.
Buy 90% Dec26 SPX puts qAUD for 3.66% (16bps less than vanilla)	26-Nov-25	3.66%	18-Dec-26	Foreign investors with unhedged FX risk in their equity investments can be subject to large swings on USD volatility, which quanto options can protect against.
Buy Dec26 ATMf call on return dispersion on bank names for 3.50% and strike of 17.28% (SX7E spot ref: 234.93).	26-Nov-25	3.50%	18-Dec-26	EU banks' broad thematic tilt supports ongoing return dispersion. Trade gains 50% of time (including recently) and offers a 2.3x reward/risk.
Buy NKY 6-month 95% put with vol knock out at 28% for 1.59% (indic., spot ref: 52,991, -11d, 69% discount to vanilla)	20-Jan-26	1.59%	Jul26	JGB selloff and election risk – Use VKOs to cheapen Nikkei puts by 69%
Buy an 18-Sep-26 105% worst-of call on KOSPI2 / TSM US / GLD US for 3.28% (indic. qUSD, 50% disc to cheapest call, on GLD)	17-Feb-26	3.28%	18-Sep-26	Gain cheap exposure to upside in KOSPI, TSM, GLD if bubble like price action continues
Buy 1.00x 18-Jun-2026 106% call on a CSI 1000 tracking basket* for 3.58% (+31d, 29v). Sell 1.05x ASHR US 18-Jun-2026 36 calls for $0.74 (~2.20% of spot; the 36.00 strike is ~106% of spot, ref 33.82)	17-Feb-26	1.38%	18-Jun-26	The long/short trade extracts value from the rich repo for Chinese small caps while limiting directional risk
Buy Sep26 NKY>104% & USDJPY<98% dual digital for 16% (+32 correl offer, ref: 56,942, 153.6) 6.25x max payout	17-Feb-26	16%	Sep26	Nikkei upside trades can be cheapened if willing to lean optimistic on the yen. Indeed, the yen rallied 3.0% in the week after the 8-Feb lower house election and the Nikkei was up 5.0%
Long SPX 2028 annual dividend futures outright for $80.80 indicatively.	2-Mar-26	$80.80	Dec28	Flat SPX div term structure cheapens long dated futures that could converge to bottom up div estimates as uncertainty risks decay
Buy US 6m5y receivers ATM-25bps contingent on SPX < 100% for 34c indicatively (ref. 3.63%, 6650)	2-Apr-26	34c	2-Oct-26	Hedge slowdown expectations cheaply using equity-rates correlation at historic entry point

Table 1: Summary of open trades as of 13-Jul-26
Summary of open trades as of 13-Jul-26

Trade Description	Open Date	Open Level	Expected Trade Term	Rationale
Buy 5y SOFR < ATM-25bp & SPX < 92.5% 6m dual digitals for 10% indicatively (ref. 3.63%, 6650)	2-Apr-26	10%	2-Oct-26	Hedge slowdown expectations cheaply using equity-rates correlation at historic entry point
Long Dec27 NDX vs SPX variance swap switch for 5.25v indicatively	20-Apr-26	5.25v	Dec27	Position for asymmetric AI & tech IPO exposure as potential AI bubble inflates
SPX > 109% / USDJPY > 100% Sep '26 dual digitals for 10% indic (10x max payout; target=90c; stop=10c, ref. 7360/156.73, -6 correl)	8-May-26	10%	Sep26	Cheaply keep up with equity rally using limited risk SPX-USDJPY hybrids
Buy QQQ Dec26 90% max lookback put (daily obs.), sell QQQ Dec26 80% vanilla put, for 3.57% indic. (+1x, -1x, ref. 713.29)	11-May-26	3.57%	Dec26	Mitigate strike & timing risk in strong momentum environment with expanding put spreads
SX7E Jul26 102% calls contingent on SX7P remaining at or below 102% for 0.77% qEUR (78% discount vs SX7E vanilla calls; 90% implied correl).	18-May-26	0.77%	Jul26	Position for continued UK political uncertainty
SX5E > 105%, EURGBP > 0.88 Jul26 dual digital for 7.69% (implied correlation offer -22%, refs: 5800 & 0.87 respectively, 13x max payout)	18-May-26	7.69%	Jul26	Position for continued UK political uncertainty
NDX Sep26 107% calls contingent on GBPUSD <1.32 for 1.06% (60% discount vs vanilla, refs: 29125 and 1.335 respectively)	18-May-26	1.06%	Sep26	Position for continued UK political uncertainty
Buy SXPP 2m (~Jul26) 1x2 40d-24d (105%-112%) call ratios for zero premium (spot ref: 841.03%) with a max payout of ~7%, to position for moderate further upside potential.	26-May-26	0	Jul26	Position for AI linked electrification via 2m SXPP 1x2 costless call ratio structure
Sell SOXX Jul 550/500 1x2 put ratio (-1x / +2x) for ~$0 indicatively (40d / 20d strikes; ref. 570.34).	26-May-26	$0	Jul26	Hedge semis unwind with convex, low premium SOXX put ratios
Long NDX Dec27 corridor Var replication (100%-160%) at ~20v	08-Jun-26	20v	Dec27	Strong pipeline of AI/tech IPOs that could qualify for NDX fast-entry in full view, our conviction in owning NDX vol remains strong
Buy NDX Dec27 90% upvar, sell SPX Dec27 80% upvar for 4.9v (t & t-1 convention on both legs).	08-Jun-26	4.9v	Dec27	Cheapen NDX vs SPX var switch for further AI bubble expansion
Buy QQQ Jul 750-800 call spread for $7.62 (6.5x max payout ratio; 28d-5d strikes; ref. 716.07)	08-Jun-26	$7.62	Jul26	Safely keep up with tech rally amidst fragile & uncertain markets
Buy NDX Sep26 105% calls contingent on ATMf < 10y SOFR < ATMf+25bps for 1.35% indicatively (57% discount to vanilla; ref. 30900, 4.09%)	15-Jun-26	1.35%	Sep26	Keep up with tech rally at 60% discount with equity-rates hybrids
Sep-26 SX7E>106%, EURUSD < 1.14 dual-digital for 10.49% (offering 9.5:1 leverage)	22-Jun-26	10.49%	Sep-26	EZ Banks upside: More post-war cyclical relief with potential rotation tailwinds
SX7E Sep26 106% call, contingent on EURUSD <1.14 at maturity for 1.01% (58% discount vs vanilla calls)	22-Jun-26	1.01%	Sep26	EZ Banks upside: More post-war cyclical relief with potential rotation tailwinds
SX7E Sep26 107% call, contingent on SX5E <= 104% at maturity for 1% (54% discount vs vanilla calls). Trade refs: 295, 1.1451, 6294 respectively	22-Jun-26	1%	Sep26	EZ Banks upside: More post-war cyclical relief with potential rotation tailwinds
NDX Dec26 110% call contingent on EURUSD < 100.75% for 1.55% (60% discount to vanilla)	22-Jun-26	1.55%	Dec26	Cheapen tech upside with equity-FX correlation amidst hawkish Fed shift
Buy SPX 2-July 7435 daily straddle for 1.14% (spot ref: 7433) and this can be cheapened to 12bps by selling a SX5E 2-July (End-of-day) 4925 for 1.02% (spot ref: 6231)	29-Jun-26	12bps	02-Jul-26	Capturing NFP asymmetry in US vs Europe via long SPX, short SX5E straddles
Buy Sep26 30D-15D (118%-134%) call spread on ENR fully funded by selling a Sep26 35D put on SXEP (refs: 157.06, 482.47)	29-Jun-26	0	Sep26	ENR's ascent reshapes SXEP: Fund AI-upside with SXEP put
Buy VIX Sep 25-40 call spread for $0.92 (16.3x max payout; ~35d/15d strikes; UXU6 ref. 19.65).	13-Jul-26	$0.92	Sep26	Hedge risk of sharp rise in index vol ahead of seasonally challenging period with >15x payout VIX call spreads
Buy 0.84x Sep26 97% SX5E put, funded by a short 97.6% Sep26 SXXP put (~31% delta each, refs: 6265.98, 640.52 respectively)	13-Jul-26	0	Sep26	SX5E vs SXXP put switch is a historically cheap hedge against cyclical weakness
Buy NKY 3-month 95% put with an 80% Knock Out for 1.15% (indicative, -7% delta, 74% discount to vanilla put)	13-Jul-26	1.15%	13-Oct-26	Cheapen Nikkei correction hedges by 74% by selling large downside vol
Buy the 19-Aug-26 2330 TT 110% 120% 1x2 call ratio for 1.3% (7.7x max payout, +6 delta, 43.0% 39.0% vols) +1x 110% call / -2x 120% calls	13-Jul-26	1.3%	19-Aug-26	TSMC – Cheap stock replacement for 7.7x payout ahead of Thursday's earnings

Source: BofA Global Research. Prices reflective of most recently available data which may be delayed in some cases. "Trade Value" represents current valuation of trades initiated on the "Open Date"

BofA GLOBAL RESEARCH

Summary of Closed Trades (13-Jul-26)

Table 2: Summary of closed trades as of 13-Jul-26

Summary of closed trades as of 13-Jul-26

Trade Description	Open Date	Open Level	Close Level	Close Date	Rationale
Buy SPX > RTY Jul25 ATM outperf call for 2.86% indicatively (+85 correl bid; ref. 5747, 2095)	24-Mar-25	2.86%	2.65%	18-Jul-25	Trade expired ITM
Buy SPX > RTY Jul25 ATM outperf call conditional on SPX < 100% for 1.42% indicatively (50% discount to unconditional; +85 correl bid; ref. 5747, 2095)	24-Mar-25	1.42%	0	18-Jul-25	Trade expired
Buy SPX Jul 95% put contingent on 30y SOFR > ATMf + 25bps at expiry for 0.36% indicatively (67% discount to vanilla put; +9 correl bid; ref. 5980, 4.06%)	19-May-25	0.36%	0	18-Jul-25	Trade expired
Sell VIX Jul 17 puts (UXN5 ref. 20.62) to buy SPX Jul 6050/6200 call spreads (spot ref. 5913.44). Sizing for zero cost ~1 SPX call spread for every 100 VIX puts sold	27-May-25	$0	$124	18-Jul-25	Trade expired ITM
Buy SPX Jul 5850/5250 put spread for $39.4 (15.2x max payout ratio; ~25D/5D strikes; ref. 6036.78)	16-Jun-25	$39	0	18-Jul-25	Trade expired
Buy USO Jul 82 / 92 call spread for $1.63 indicatively (6.1x max payout, ~35D/15D strikes, ref. 77.39).	23-Jun-25	$1.36	0	18-Jul-25	Trade expired
Buy KRE Jul 61/66 call spread for $0.74 indicatively (6.8x max payout ratio; ~40D/6D strikes; ref. 59.54).	30-Jun-25	$0.74	$2.27	18-Jul-25	Trade expired ITM
Sell VIX Aug 16.5 puts (UXQ5 ref. 20.1) to buy SPX Aug 6300/6500 call spreads (spot ref. 6188.83). Sizing for zero cost is ~0.65 SPX call spreads for every 100 VIX puts sold.	30-Jun-25	$0	$11.9715	20-Aug-25	Trade expired ITM
Buy SPX 8-Aug 6400 straddles delta-hedged at 10.7% implied vol (spot ref. 6379) paired with long VIX Aug 16.5/15 put spreads for 60c	29-Jul-25	10.7v (1.7%) / 60c	14v / $1.09	20-Aug-25	Trade expired ITM
Long HSCEI 15-Aug-25 9,100 9,800 call spreads for HKD 89	30-Jun-25	HKD89	0	15-Aug-25	Trade expired
Buy NIFTYM 28-Aug-25 25,500 calls for $239 (indic. ~0.95 %, ref: 25,091, +38% delta, 10.9% vol)	22-Jul-25	0.95%	0	Aug-25	Trade expired
Buy SPX Sep 6000 calls cont. on EURUSD < 100% at expiry for 1.17% (60% disc. to vanilla calls; +17 correl bid, ref. 5810f, 1.08 spot)	24-Mar-25	1%	0	19-Sep-25	Trade expired
Buy VIX Sep 30/45 call spread for $1.50 indic mid levels(10x max payout ratio; UXU5 23.75)	4-Apr-25	$1.50	0	17-Sep-25	Trade expired
Buy VIX Sep 30/50 call spread for $2 indicatively (10x max payout ratio; UXU5 ref 23.50)	7-Apr-25	$2.00	0	17-Sep-25	Trade expired
Buy SPX Sep 95%/75% put down & out for 1.03% indicatively (continuous obs.; 58% discount to put spread; ref. 5534.08)	28-Apr-25	1.03%	0	19-Sep-25	Trade expired
Buy SPX Sep 95%/85% put down & out for 26bps indicatively (continuous obs.; 79% discount to put spread; ref. 5912.12)	27-May-25	0.26%	0	19-Sep-25	Trade expired
Buy SPX < 95% / USO > 107% Sep25 dual digital for 8% indicatively (12.5x max payout ratio, correl bid +0, ref. 6073, 80.22)	16-Jun-25	8%	0	19-Sep-25	Trade expired
Buy VIX Sep 18/17/16 put ladder (+1x / -1x/ -1x) for 12c indicatively (8.3x max payout; UXU5 ref. 21.86).	23-Jun-25	12c	86c	17-Sep-25	Trade expired ITM
Buy EEM Sep25 51/55 call spreads for 47c (~35d/5d strikes; ref. 49.1350).	29-Jul-25	47c	$2.01	19-Sep-25	Trade expired ITM
Sell VIX Sep 16.5 puts (UXU5 ref. 20.05) to buy SPX Sep 6250/5900 put spreads (spot ref. 6318.62). Sizing for zero cost is ~0.75 SPX put spreads for every 100 VIX puts sold.	4-Aug-25	$0.00	-$0.64	19-Sep-25	Trade expired
Buy SPX 30-Sep 6350-6100 put spread for $37.2 indicatively (6.7x max payout ratio; ~35d/15d strikes; ref. 6415.54).	2-Sep-25	$37.20	0	30-Sep-25	Trade expired
Buy SX5E 15-Aug-25 40d/25d (98.5%f/94.2%f) put spread for 1% indicatively (60% discount vs naked 40d put, 4x max payout ratio; spot ref. 5326).	27-May-25	1%	0	15-Aug-25	Trade expired
Buy an Aug-25 SX5E up, EURUSD up dual digital qEUR (30-delta strikes on both assets are 5550 and 1.17 respectively) for 12.5% indicatively (refs: 5345 & 1.14)	2-Jun-25	12.5%	0	Aug-25	Trade expired
Long Aug-25 SX7E<95%, Brent futures (COV5) > 85 dual digital for 8.65% indicatives (Correlation bid -18%, refs: SX7E 196.85 and COV5 74.4)	23-Jun-25	8.65%	0	Aug25	Trade expired
Long FTSE Aug25 97.6% (30-delta) puts for 1.06% (ref: 8758.04)	23-Jun-25	1.06%	0	Aug25	Trade expired
Aug25 20D (+1.4x 103%, -1x 96%) zero premium risk reversals on SX5E (ref: 5371)	15-Jul-25	0%	0	Aug-25	Trade expired
Buy +1x QQQ Oct 605-625 call spread (~30D/10D strikes), sell -1x QQQ Oct 545 put (~10D strike) for $1.87 indicatively (ref. 590.97)	15-Sep-25	$1.87	0	17-Oct-25	Trade expired
Long SX5E 12-Sep ATM straddle for 2.4% indic. (Ref: 5291) and look to enter long V2X Oct, short Nov futures at -0.6v or better.	2-Sep-25	2.5%/-0.6v	0/-2.05v	Nov-25	Trade expired
Trade 1 (protection): Zero cost XIN9I 3-month 96% 90% 1x3 put ratios for 0.05% credit, rolled 1-2 months into the trade (indic. spot ref 14,962, delta -6.1%, vols: 18.5/17.4)): +3x 90% puts -1x 96% put	26-Aug-25	0%	0	Nov 25	Trade expired
Trade 2 (participation): XIN9I call spreads for investors wanting to add upside. Buy XIN9I 3m 105% 115% call spread for 1.38% (indic. spot ref: 14,962, 20% delta, vols: 20.1/23.0, 7.2x max payout)	26-Aug-25	1.38%	0	Nov 25	Trade expired
XIN9I 3-month 95% 85% put spreads for 1.7% (indic. spot ref 14,825, delta -22%, vols: 20/21v, 5.9x max payout)	9-Sep-25	1.7%	0	Nov 25	Trade expired
Buy long VIX Nov 18 puts vs short VIX Apr 18 puts for $0.10 indicatively	22-Sep-25	$0.10	$23.9	Nov-25	Trade expired
Buy NDX Dec25 ATM upvar for 17v indicatively (t & t-1 convention, Dec25 var ref. 25.1v)	26-Nov-24	17v	15.77v	19-Dec-25	Trade expired
Buy NDX Dec25 80% upvar for 20.15v indicatively (t & t-1 convention, Dec25 var ref. 25.1v)	26-Nov-24	20.15v	23.36v	19-Dec-25	Trade expired ITM
Buy NDX Dec25 ATM upvar for 16.8v indicatively (t & t-1 convention)	27-Jan-25	16.8v	15.12v	19-Dec-25	Trade expired
Buy NDX Dec25 ATM upvar for 18.15v indicatively (t & t-1 convention)	24-Mar-25	18.15v	14.98v	19-Dec-25	Trade expired
Buy 31-Dec-25 SPX 6250/5750/5250 put ladder (+1x / -1x / -1x) for $40.1 indicatively (12.4x max payout ratio; spot ref. 6373.45)	11-Aug-25	$40.10	0	31-Dec-25	Trade expired
Long SPX Dec 6300/5800 put spreads for ~$75 indicatively or 1.16% of spot (6.6x max payout ratio; ref. 6449.23), outright or paired with long VIX Nov 18/15 put spreads for $1.13 indicatively (2.6x max payout ratio, UXX5 ref. 20.70)	18-Aug-25	$75 / $1.13	0 / 1.99	19-Dec-25	Trade expired
Buy SPX 31-Dec-25 95% / 85% down-and-out put for 0.31% indic (cont. obs., 32x max payout ratio, 68% discount to vanilla put spread; ref. 6654).	13-Sep-25	31bps	0	31-Dec-25	Trade expired
Buy SPX 31-Dec-25 95% / 85% down-and-out put for 0.28% indic (cont. obs., 35x max payout ratio, 65% discount to vanilla put spread; ref. 6735.13).	20-Oct-25	28bps	0	31-Dec-25	Trade expired
Sell VIX Dec 16.5 puts (UXZ5 ref. 19.93) to buy SPX Dec 7000/7250 call spreads (spot ref. 6852.43). Sizing for zero cost is ~0.7 SPX call spreads per ~100 VIX puts sold.	3-Nov-25	$0.00	-$0.49	19-Dec-25	Trade expired
Buy 19-Dec-25 85%/65% Best of Put spreads on NKY/KOSPI2/ SPX for 0.90% (indic. quanto USD, 56% discount to avg vanilla)	26-Nov-24	0.90%	0	19-Dec-25	Trade expired
Buy Sep25 NKY > 104% / USDJPY > 104% dual digital at maturity for 15.8% (+37 correl offer, ref. 37,760, 150.0) 6.3x max payout	3-Mar-25	15.8%	0	Sep-25	Trade expired

Table 2: Summary of closed trades as of 13-Jul-26
Summary of closed trades as of 13-Jul-26

Trade Description	Open Date	Open Level	Close Level	Close Date	Rationale
Buy VIX Feb26 15.5/20/25 call spread collar for $0.11 indicatively (UXG6 ref. 17.92)	12-Jan-26	$0.11	0	18-Feb-26	Trade expired
Buy NKY Dec25/Dec26 31,000 straddle FVAs for 21.27% (indic. Q=2.5%, R=0.5%)	7-Apr-25	21.27%	9.39%	Dec25	Trade expired ITM
Dec25 +DAX vs -SXDP zero-premium call switch (20-delta strikes, refs: 24160 and 1036 respectively)	15-Jul-25	0%	-2%	Dec-25	Trade expired
Long SX7E Dec25 Appearing Put Spread (€205-€185-€160) for 2.65% (ref: 216.89)	4-Aug-25	2.65%	0	Dec25	Trade expired
Long Dec25 DAX vs SX5E 102.5% outperformance, conditioned on EURUSD > 1.2 at expiry for 0.84%	11-Aug-25	0.84%	0	Dec25	Trade expired
Buy DAX Dec25 call spread collar (+24800 call-25500 call-22400 put) for 0 cost	18-Aug 25	0	0	Dec 25	Trade expired
Buy DAX Dec25 105% call contingent on EURUSD > 1.20 for 0.77%	18-Aug 25	0.77%	0	Dec 25	Trade expired
Buy SX5E Dec25 put ladder +5350/-5125/-4875 for 10bps premium indicatively	18-Aug 25	10bps	0	Dec 25	Trade expired
Replace FTSE longs with Dec25 103% (~28D) calls for 80bps (ref: 9299.84)	29-Sep-25	80bps	3.21%	Dec-25	Trade expired
Long Dec25 35d-15d (97.2%-92.3%) CAC put spreads for 0.98% indic (max payout ratio of 5.7x)	27-Oct-25	0.98%	0	Dec 25	Trade expired
DAX Dec25 102.5% calls, contingent on the CAC <102.5% at expiry for 39bps (~69% discount vs vanilla calls)	27-Oct-25	39bps	0	Dec 25	Trade expired
Long Dec25 VolSwap dispersion on custom names vs the ESTX50	26-Nov-24	9.5v	12.0v	19-Dec-25	Trade expired +2.5%
Buy DAX Dec-25 85% upvar for 18.3v (fair variance ref of 23.3v)	11-Mar-25	18.3v	17v	19-Dec-25	Trade expired
Long SX5E Dec25 Volswap, short SX5E Dec25 Varswap for a credit of 2.9v indicatively (var ref: 23.75). For a more defensive alternative, short 0.95x Varswap vs the Volswap for 1.7v, indicatively.	6-May-25	2.9 credit	-4.3v	19-Dec-25	Trade expired
Long SX7E-SX5E Mar26 60-110% Corridor Var Spread for 7.7v (vanilla var refs. 9.9v, 31.5v & 21.6 respectively, T&T-1 convention)	4-Aug-25	7.7v	10.2v	20-Mar-26	Trade expired ITM
S&P calls quantoed into EUR (for only 3 bps more than vanilla Dec25 102.5% calls that cost 1.86%).	22-Sep-25	1.89%	0%	19-Dec-25	Trade expired
Cheapening S&P calls by conditioning on EUR higher, also quantoed into EUR for 1.23%, a 35% cheapening vs Dec25 SPX 102.5% calls qEUR).	22-Sep-25	1.23%	0%	19-Dec-25	Trade expired
Sell SX5E Dec25 ATM Downvar vs buy Var to collect 4.7v (T-convention, var ref: 19v)	29-Sep-25	4.7v	4.7v collected	19-Dec-25	Trade expired ITM
Buy Dec25 FTSE div futures as a Dollar (vs Sterling) strength beneficiary	26-Nov-24	299.5	3.9 GBP	19-Dec-25	Trade expired
Buy TWSE > KOSPI2 103% 11-Sep-25 outperformance call contingent on KOSPI2 up for 1.52%	3-Feb-25	1.52%	0	11-Sep-25	Trade expired
Buy a 27-Jun-25 110% Worst of Call on 700 HK / 9988 HK / 1211 HK for 2.5% (63% discount to average vanilla call cost)	18-Feb-25	2.5%	0	27-Jun-25	Trade expired
Buy 12 Sep 25 NKY>SPX 3% outperformance call contingent on USDJPY > 3%, 2.8% offer (indic. contingency gives 38% discount)	14-Apr-25	2.8%	0	Sep25	Trade expired
(Appearing call spread): Buy XIN9I Sep25 105%-115%-125% appearing call spread (continuous obs.) for 1.82% (10.9x max payout ratio, vs 1.75% vanilla 105%-115% call spread, ref. 13,200)	28-Apr-25	1.82%	0	Sep-25	Trade expired
(Up & out call): Buy XIN9I 29-Sep-25 105% calls with 27-Jun-25 window knock out at 115% for 1.83% (indic. 26% discount to vanilla call, ref. 13,200)	28-Apr-25	1.83%	8.13%	Sep-25	Trade expired ITM
Sell TWSE 18.5k/19.5k/21.5k Put Spread Collars (PSC) and collect TWD 34 (~0.17% of spot, indic. spot ref: 20,500, 37d, vols: 28.6%/25.8%/21.4%)	6-May-25	TWD 34	-2800.48 TWD	Aug-25	Trade expired
Buy a TWSE 1m/3m 22k call calendar for TWD 132 (0.64% of spot, indic. spot ref: 20,522, 7d, +15.1 vega, vols: 20.9%/20.8%)	6-May-25	TWD 132	2156.74 (8.8%)	Aug-25	Trade expired ITM
Buy HSCEI delta 1 overlayed by a near zero-cost 15-Aug-25 7,700 9,400 risk reversal for HKD 11 credit (indic. 0.13% of spot)	12-May-25	HKD 11	468.86 HKD	15-Aug-25	Trade expired ITM
Sell NKY 2m +1x/-1x/-1x/+1x 32,500 35,000 40,000 42,500 "iron condor" for JPY 515 (~1.4%, equivalent to 8.2% yield per annum)	19-May-25	JPY515	JPY 515	Jul25	Trade expired
Buy NKY 8-Aug 2025 double-no-touch on 36,000 and 40,000 for 11%, spot ref:37,499 (indic. 9x max payout, continuous observation)	19-May-25	11%	0	8-Aug 25	Trade expired
Buy KOSPI2 2m 105% calls (0.98%) financed by selling KOSPI2 1m 95% put (0.57%) for 0.41% of spot	27-May-25	0.41%	17.31%	Jul-25	Trade expired ITM
Trade NIFTYM 26-Jun-25 24,200 23,500 1x3 put ratios for INR 12 (~0.05% of spot, indic. spot ref: 24,717, -6,5d, vols: 16.84%/15.35%)	2-Jun-25	INR 12	0	26-Jun-25	Trade expired
NIFTYM 31-Jul-25 24,400 23,500 1x3 put ratios for USD 36 (~0.14% of spot, indic. spot ref: 24,946, -8.8d, vols: 14.58%/16.23%) -1x 24,400 put (-29d) & +3x 23,500 puts (-12d)	16-Jun-25	0.14%	0	31-Jul 25	Trade expired
Buy KOSPI2 3-month 360 440 risk reversals for a KRW 0.7 credit (indic. 0.17% of spot) instead of taking profits on longs in Korea	23-Jun-25	KRW 0.7	32.74 KRW	Sep25	Trade expired ITM
Buy TWSE 3m 110% calls & sell KOSPI2 3m 110% calls and collect 0.33% (spot ref 22,615 & 430.78, for TWSE and KOSPI2, respectively; 17.7/19.1% vols, 12.5/17.6 deltas)	15-Jul-25	0.33%	9.68%	Oct-25	Trade expired ITM
Sell NKY 1m 105% calls and buy 3m 105% calls for 0.98% (indic. Spot ref: 39,460, vols: 17.2/17.7)	15-Jul-25	0.98%	9.61%	Oct-25	Trade expired ITM
Buy Nikkei 10-Oct 2025 105%-115% call spread for 1.01% (indic. Spot ref: 40,998, 21% delta, vols: 17.3/18.1, 9.9x max payout).	29-Jul-25	1.01%	8.99%	10-Oct 25	Trade expired ITM
Long HSCEI 21-Nov-25 1x1.5 105% 110% call ratios for 0.39% (indic., options on futs, spot ref: 8,893,12.8x may payout)	4-Aug-25	0.39%	0	21-Nov 25	Trade expired
Buy 12-Dec 25 NKY>SPX 103% outperf calls for 2.60% (indic.)	18-Aug-25	2.60%	1.27%	Dec 25	Trade expired ITM
Buy KOSPI2 3-month 105-115% call spreads for 1.62% (indic. spot ref: 478, 24d, vols: 19.2%/19.4%)	22-Sep-25	1.62%	8.38%	Dec-25	Trade expired ITM
Buy NKY 3-month 105% 115% call spreads for 1.62% (indic. Spot ref: 45,043, 24.6 delta, vols: 19.2/18.8, 6.2x max payout)	29-Sep-25	1.62%	3.29%	Dec-25	Trade expired ITM
Buy a TWSE 1m/2m 30k call calendar for TWD 183 (0.65% of spot, indic. spot ref: 27,994, 9d, +17.3 vega, vols: 18.3%/18.2%)	27-Oct-25	TWD 183	0	Dec-25	Trade expired
Buy NIFTYM 24-Feb-26 25.5k/26.5k call spread for USD 189 (indic. 0.75% of spot, spot ref: 25,048, vols: 11.9%/11.4%, delta 29.3%).	26-Jan-26	$189	0	24-Feb-26	Trade expired
Buy TWSE 18-Mar 34.5k calls funded by selling 23-Feb 30.5k 28.9k put spreads for TW$65 (spot ref: 32,065)	26-Jan-26	TW$65	0	18-Mar-26	Trade expired
Sell NKY 13-Feb 57k calls to fund 13-Mar 57k/60k call spreads for JPY 277: 10.8x max payout (indic. 0.52% of spot, ref: 53,806, 31.9v 28.6v 28.3v, delta -2%)	2-Feb-26	JPY 277	0	13-Mar-26	Trade expired
Buy QQQ Mar26 660-720 call spread for $8.92 indicatively (6.7x max payout ratio; ~27d/7d strikes; ref. 599.44).	29-Sep-25	$8.92	0	Mar26	Trade expired
Buy SPX Mar26 105% call contingent on XAU > 102% at expiry for 1.31% indicatively	29-Sep-25	1.31%	0	Mar26	Trade expired
Buy QQQ Mar26 675-735 call spread for $8.25 (7.3x max payout ratio; ~25d/7d strikes; ref. 611.56).	20-Oct-25	$8.25	0	Mar26	Trade expired
Buy TLT Mar26 88 puts for $1.31 (~30D strike, 4.1% OTM, ref. 91.78)	27-Oct-25	$1.31	$2.17	Mar26	Trade expired ITM
Buy TLT (20+Yr Treasury Bond ETF) Mar26 86 puts for $1.03 (~25D strike, ref. 90.01)	26-Nov-25	$1.03	$0.17	Mar26	Trade expired ITM

Table 2: Summary of closed trades as of 13-Jul-26

Summary of closed trades as of 13-Jul-26

Trade Description	Open Date	Open Level	Close Level	Close Date	Rationale
Buy 30y SOFR > ATMf + 20bps / XAU > 106% Mar26 dual digitals for 7.95% (12.5x max payout ratio, -18 correl offer, ref. 3.955%, 4078.70)	26-Nov-25	7.95%	0	Mar26	Trade expired
Buy GLD Mar26 490-550 call spread for $9.9 indicatively (6x max payout; ~36d (5% OTM) / 11d (18% OTM) strikes; ref. 464.7)	26-Jan-26	$9.9	0	Mar26	Trade expired
Buy 1x EWZ Mar26 40 call, sell 1x Jul26 48 call for 14c indicatively (28d/14d strikes, ref. 37.585)	17-Feb-26	$0.14	-0.18	Mar26	Trade expired
Buy Mar26 straddle on liquid EZ banks vs short SX7E straddle for 2.36%	26-Nov-25	2.36%	1.2%	20-Mar-26	Trade expired ITM
Buy SPX MarQ 6525-5925 put spread for $50 indicatively, ref 6795.99.	9-Mar-26	$50.00	$0	31-Mar-26	Trade expired
Buy IWM MarQ 240-215 put spread for $2.60 indicatively, ref 253.62.	9-Mar-26	$2.60	$0	31-Mar-26	Trade expired
Buy GLD Apr26 450 calls (~106% / 35d strike), sell SLV Apr26 120 calls (~155% / 17d strike) notional-matched for zero cost indicatively (ref. 423.26, 77.34).	12-Jan-26	$0	$0	17-Apr-26	Trade expired
Buy SPX Apr26 6800/6300/5800 put ladder (+1x/-1x/-1x) for $63.8 indicatively (7.8x max payout; ~40d/15d/5d strikes; ref. 6881.62).	2-Mar-26	$63.8	$0	17-Apr-26	Trade expired
Buy SPX Apr26 97%/85% PDO for 57bps indicatively (50% discount to vanilla put spread; ref. 6881.62).	2-Mar-26	57bps	0%	17-Apr-26	Trade expired
Buy VIX Apr 20-18 put spread for $0.50 mid indicatively (4x max payout ratio; UXJ6 ref. 24.30)	23-Mar-26	$0.5 mid	$2	15-Apr-26	Trade expired ITM
Long SX5E Apr26 6175 (~30d) call (1.2%, ref 5992.4), short V2X Apr26 18 put (ref 20.6) in a ~1:8 contract ratio for almost 0 cost (10bps credit of eq. notional)	17-Feb-26	10bps	0	Apr-26	Trade expired
Buy SXEP<95%, USO US > 110% May26 dual digital for qUSD 8.9% indicatively (11.2x max payout; ref. 517.66, 117.06)	16-Mar-26	8.9%	0	May26	Trade expired
Buy USO May26 80/70/60 put fly (+1x/-2x/1x) for $1.9 mid indicatively (5.2x max payout ratio; ~30d/15d/5d strikes; ref. 87.19).	2-Mar-26	$1.9 mid	0	May26	Trade expired
Buy VIX May26 18/25/40 call spread collar for $1.03 indicatively on mids + bid-offer TBD at time of trade (14.5x max payout ratio; UXK6 ref. 22.95).	16-Mar-26	$1.03 mid	0	May26	Trade expired
Buy VIX May 25-35 call spread for $0.82 indicatively (12.2x max payout; UXK6 ref. 21.05).	13-Apr-26	$0.82	0	May26	Trade expired
Buy VIX May 24-40 call spread for $0.93 indicatively (~35d/10d strikes, 17.2x max payout, UXK6 ref. 20.81)	20-Apr-26	$0.93	0	May26	Trade expired
Buy QQQ 29-May-26 635 call for $9 indicatively (1.46% of spot; ~103% / 35d strike; 16.8v; ref. 617.507).	13-Apr-26	$9	$103.31	29-May-26	Trade expired ITM
Buy QQQ 29-May-26 665-700 call spread for $7.5 indicatively (~35d/10d strikes, 4.7x payout, ref. 646.85)	20-Apr-26	$7.5	$35	29-May-26	Trade expired ITM
NIFTYM 31-Jul-25 24,400 23,500 1x3 put ratios for USD 36 (~0.14% of spot, indic. spot ref: 24,946, -8.8d, vols: 14.58%/16.23%) -1x 24,400 put (-29d) & +3x 23,500 puts (-12d)	16-Jun-25	0.75%	0	Sep25	Trade expired
Sell initially delta-hedged KOSPI2 30-Dec-25 110% calls and collect 1.12% (indic. spot ref 535.28, 23.7% vol, 20d). Consider hedging the risk of a global tech rally into year-end by buying QQQ 31-Dec-25 110% calls against the KOSPI2 calls for 0.56% (17.8% vols, 14d)	20-Oct-25	1.12/0.56%	0	30-Dec-25	Trade expired
Buy 1x 20-Mar-2026 106% call on a CSI 1000 tracking basket* for 2.92% (+29d, 27.4v). Sell 1x ASHR US 20-Mar-2026 35 call for $0.71 (~2.15% of spot; the 35.00 strike is 106% of spot, ref 33.00) (*= several banks offer CSI tracking baskets; indic. in quanto USD)	3-Nov-25	2.92/2.15%	0	20-Mar-26	Trade expired
Buy 1x 20-Mar-2026 106% call on a CSI 1000 tracking basket* for 2.32% (+27d, 26v). Sell 1.05x ASHR US 20-Mar-2026 34 calls for $0.55 (~1.73% of spot; the 34.00 strike is ~107% of spot, ref 31.76)	26-Nov-25	2.32%/~1.73%	0.88%	20-Mar-26	Trade expired ITM
Buy KOSPI2 3-month put vs. short call spread for a 0.39% of spot, +1x 88% put / -1x 110% call / +1x 120% call	12-Jan-26	0.39%	0	Apr26	Trade expired
Buy HSCEI 17-Apr-26 9,500 10,500 call spreads financed by selling 8,500 puts for $73 (indic. OOF, Apr fut ref 9,222, 47d)	9-Feb-26	$73	0	Apr26	Trade expired
Buy Jun26 NKY > 104% & USDJPY < 96% dual digital for 9.7% (+48 correl offer, 10.3x max payout, ref. 48626, 157).	26-Nov-25	9.7%	0	12-Jun-26	Trade expired
Buy SPX Jun 6900 / 7600 risk reversal (-1x / +1x), delta-hedged (~95% / 105% strikes; 19.15v/11.96v; spot ref. 7268.50).	5-May-26	~19.2v/12v	~$10.90	Jun26	Trade expired
Buy VIX Jun 25-40 call spread for $1 indic (15x max payout; UXM6 ref. 20.95)	11-May-26	$1	$0	Jun26	Trade expired
Buy TLT Jun 82-78 put spread for 51c indicatively (7.8x max payout ratio; 30d-8d strikes; ref. 83.65)	18-May-26	$0.51	$0	Jun26	Trade expired
Buy SPX Jun26 95% put contingent on Brent > 130 for 84bps indicatively (68% discount to vanilla; ref. 6643.11, 101.84)	16-Mar-26	84bps	$0	Jun26	Trade expired
Buy QQQ Jun26 660-750 call spread for $18 (~35D/10D strikes, 5x max payout ratio, ref. 605.16)	26-Nov-25	$18.00	$80.66	18-Jun-26	Trade expired ITM
Buy Jun26 105% DAX call contingent on CAC < 105% at expiry	26-Nov-25	1.24%	0.2%	19-Jun-26	Trade expired ITM
Long CAC Mar26-Jun26 zero-cost put calendars, e.g. a Jun26 30D put fully funds ~1.6x Mar26 30D puts (spot ref: 8336.72)	12-Jan-26	0	5%	Jun26	Trade expired ITM
Long Jun26 105% DAX call, contingent on CAC < 105% at expiry for 1.12% (>50% discount vs vanilla calls)	12-Jan-26	1.12%	0	Jun26	Trade expired
Buy Jun26 110% Worst-of Call on SXPP, SXEP, SX7E for 76bps offer (~50% discount vs the cheapest vanilla, spot refs: SXPP 737.05, SXEP 435.90, SX7E 275.44).	2-Feb-26	76bps	0	Jun26	Trade expired
SXEP Jun26 500 (~30D) puts initially delta-hedged	20-Apr-26	2.3% (put)	0	Jun26	Trade expired
Buy Jun26 1x2 +19-17 V2X put ratios for 0.475 (fut ref: 21.95)	11-May-26	0.475	1.26	Jun26	Trade expired
Sell SOXX Jun26 485-540 1x2 call ratios (-1x / +2x), delta-hedged (~40d/20d strikes; ~41v/43v; ref. 455.410)	27-Apr-26	41v/43v	$36.62	Jun26	Trade expired ITM

Source: BofA Global Research. Prices reflective of most recently available data which may be delayed in some cases. "Trade Value" represents current valuation of trades initiated on the "Open Date"

BofA GLOBAL RESEARCH

Acronyms

BTD: Buy-the-dip

FOMC = Federal Open Market Committee

NFP = Non-Farm Payrolls

SPY = SPDR S&P 500 ETF Trust (ETF)

QQQ = Invesco QQQ Trust (ETF)

CPI = Consumer Price Index

XLF = Financial Select Sector SPDR Fund (ETF)

ATM = At-The-Money

Options Risk Statement

Potential Risk at Expiry & Options Limited Duration Risk

Unlike owning or shorting a stock, employing any listed options strategy is by definition governed by a finite duration. The most severe risks associated with general options trading are total loss of capital invested and delivery/assignment risk, all of which can occur in a short period.

Investor suitability

The use of standardized options and other related derivatives instruments are considered unsuitable for many investors. Investors considering such strategies are encouraged to become familiar with the "Characteristics and Risks of Standardized Options" (an OCC authored white paper on options risks). U.S. investors should consult with a FINRA Registered Options Principal. For detailed information regarding the risks involved with investing in listed options, see the Options Clearing Corporation's Characteristics and Risks of Standardized Options website.

Analyst Certification

I, Benjamin Bowler, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

Special Disclosures

BofA Securities is currently acting as financial advisor and will provide a fairness opinion to Orange SA in connection with its proposed acquisition of SFR SA in consortium with Bouygues Telecom SA and Iliad SA, which was announced on 6 June 2026.

BofA Securities is currently acting as financial advisor to Allianz SE on (i) Allianz Greece entering into a long-term bancassurance agreement with the National Bank of Greece, and (ii) National Bank of Greece acquiring a 30% stake in Allianz European Reliance (Allianz Greece), which was announced on May 7 2026.

BofA Securities is currently acting as financial advisor to Cemex SAB de CV in connection with its proposed divestment of certain operations in Colombia to Holcim AG, which was announced on March 12, 2026.

Disclosures

Important Disclosures

One or more analysts contributing to this report owns stock of the covered issuer: Meta Platforms, Microsoft Corp, NVIDIA, Siemens Energy AG, Taiwan Semi Mfg Co

BofAS or one of its affiliates acts as a market maker for the equity securities recommended in the report: ASML, Invesco QQQ ETF, Invesco S&P EW ETF, iShare Silver, iShares CH LrgCp ETF, iShares iBoxx $ HYC, iShares Long UST, iShares MSCI EM ETF, iShares Russell ETF, iShares Semicond ETF, Meta Platforms, Microsoft, Nokia, NVIDIA, Oil&Gas Exp ETF, SPDR Energy ETF, SPDR Financ ETF, SPDR Gold Shares, SPDR Material ETF, SPDR S&P 500 ETF, SPDR S&P Homebuilder, SPDR S&P Met&Min, Taiwan Semi Mfg Co, United States Oil, Xtrackers CSI ETF.

BofAS or an affiliate was a manager of a public offering of securities of this issuer within the last 12 months: Axa, DHL Group, Infineon.

The issuer is or was, within the last 12 months, an investment banking client of BofAS and/or one or more of its affiliates: Adyen, Air Liquide, ASML, Axa, Barclays, BlackRock, Deutsche Bank, DHL Group, E.ON, Hermes, Infineon, Invesco, Julius Baer, KPN, LVMH, Meta Platforms, Microsoft Corp, Nokia, Prysmian, Sandvik, SEMCO, Siemens Energy AG, State Street, Taiwan Semi Mfg Co.

BofAS or an affiliate has received compensation from the issuer for non-investment banking services or products within the past 12 months: Adyen, Air Liquide, ASML, Axa, Barclays, BlackRock, Capgemini, Deutsche Bank, DHL Group, E.ON, Hermes, Infineon, Invesco, Julius Baer, LVMH, Meta Platforms, Microsoft Corp, Nokia, NVIDIA, Prysmian, Sandvik, SEMCO, Siemens Energy AG, State Street, Swiss Life, Taiwan Semi Mfg Co.

The issuer is or was, within the last 12 months, a non-securities business client of BofAS and/or one or more of its affiliates: Adyen, Air Liquide, ASML, Atlas Copco, Axa, Barclays, BlackRock, Capgemini, Deutsche Bank, DHL Group, E.ON, Hermes, Infineon, Invesco, Julius Baer, KION Group AG, KPN, LVMH, Meta Platforms, Microsoft Corp, Nokia, NVIDIA, Prysmian, Sandvik, SEMCO, Siemens Energy AG, State Street, Swiss Life, Taiwan Semi Mfg Co.

In the US, retail sales and/or distribution of this report may be made only in states where these securities are exempt from registration or have been qualified for sale: Advantest, Adyen, Air Liquide, Atlas Copco, Axa, Capgemini, DHL Group, E.ON, Geberit, Hermes, Infineon, Julius Baer, KION Group AG, KPN, LVMH, Prysmian, Sandvik, SEMCO, Siemens Energy AG, Swiss Life, Tokyo

Electron.
BofAS or an affiliate has received compensation for investment banking services from this issuer within the past 12 months: Air Liquide, ASML, Axa, Barclays, BlackRock, Deutsche Bank, DHL Group, E.ON, Infineon, Invesco, LVMH, Meta Platforms, Nokia, SEMCO, Siemens Energy AG, State Street.
BofAS or an affiliate expects to receive or intends to seek compensation for investment banking services from this issuer or an affiliate of the issuer within the next three months: Adyen, Air Liquide, ASML, Axa, Barclays, BlackRock, Deutsche Bank, DHL Group, E.ON, Hermes, Infineon, Invesco, Julius Baer, KPN, LVMH, Meta Platforms, Microsoft Corp, Nokia, Prysmian, Sandvik, SEMCO, Siemens Energy AG, State Street, Taiwan Semi Mfg Co.
BofAS together with its affiliates beneficially owns one percent or more of the common stock of this issuer. If this report was issued on or after the 9th day of the month, it reflects the ownership position on the last day of the previous month. Reports issued before the 9th day of a month reflect the ownership position at the end of the second month preceding the date of the report: Atlas Copco, Axa, Capgemini, Infineon, KION Group AG, KPN, Meta Platforms, Microsoft Corp.
BofAS together with its affiliates beneficially owns one percent or more of the shares of this fund. If this report was issued on or after the 9th day of the month, it reflects the ownership position on the last day of the previous month. Reports issued before the 9th day of the month reflect the ownership position at the end of the second month preceding the date of the report: Invesco QQQ ETF, Invesco S&P EW ETF, iShare Silver, iShares CH LrgCp ETF, iShares iBoxx $ HYC, iShares Long UST, iShares MSCI EM ETF, iShares Russell ETF, iShares Semicond ETF, Oil&Gas Exp ETF, SPDR Energy ETF, SPDR Financ ETF, SPDR Gold Shares, SPDR Material ETF, SPDR S&P 500 ETF, SPDR S&P Homebuilder, SPDR S&P Met&Min, United States Oil, Xtrackers CSI ETF.
The country in which this issuer is organized has certain laws or regulations that limit or restrict ownership of the issuer's shares by nationals of other countries: Taiwan Semi Mfg Co.
BofAS or one of its affiliates is willing to sell to, or buy from, clients the common equity of the issuer on a principal basis: Adyen, ASML, Atlas Copco, DHL Group, Hermès, Infineon, Invesco QQQ ETF, Invesco S&P EW ETF, iShare Silver, iShares CH LrgCp ETF, iShares iBoxx $ HYC, iShares Long UST, iShares MSCI EM ETF, iShares Russell ETF, iShares Semicond ETF, Julius Baer, LVMH, Meta Platforms, Microsoft, Nokia, NVIDIA, Oil&Gas Exp ETF, Sandvik, Siemens Energy AG, SPDR Energy ETF, SPDR Financ ETF, SPDR Gold Shares, SPDR Material ETF, SPDR S&P 500 ETF, SPDR S&P Homebuilder, SPDR S&P Met&Min, Taiwan Semi Mfg Co, United States Oil, Xtrackers CSI ETF.
The issuer is or was, within the last 12 months, a securities business client (non-investment banking) of BofAS and/or one or more of its affiliates: Adyen, Air Liquide, ASML, Axa, Barclays, BlackRock, Capgemini, Deutsche Bank, DHL Group, E.ON, Hermes, Infineon, Invesco, Julius Baer, LVMH, Meta Platforms, Microsoft Corp, Nokia, NVIDIA, Prysmian, SEMCO, Siemens Energy AG, State Street, Swiss Life, Taiwan Semi Mfg Co.
Due to the nature of the market for derivative securities, the issuers or securities recommended or discussed in this report are not continuously followed. Accordingly, investors must regard this report as providing stand-alone analysis and should not expect continuing analysis or additional reports relating to such issuers and/or securities.
Due to the nature of strategic analysis, the issuers or securities recommended or discussed in this report are not continuously followed. Accordingly, investors must regard this report as providing stand-alone analysis and should not expect continuing analysis or additional reports relating to such issuers and/or securities.
BofA Global Research personnel (including the analyst(s) responsible for this report) receive compensation based upon, among other factors, the overall profitability of Bank of America Corporation, including profits derived from investment banking. The analyst(s) responsible for this report may also receive compensation based upon, among other factors, the overall profitability of the Bank's sales and trading businesses relating to the class of securities or financial instruments for which such analyst is responsible.
BofAS and/or its affiliates participate in the creation and redemption of these ETFs and are an authorized participant for such ETFs: Invesco QQQ ETF, Invesco S&P EW ETF, iShare Silver, iShares CH LrgCp ETF, iShares iBoxx $ HYC, iShares Long UST, iShares MSCI EM ETF, iShares Russell ETF, iShares Semicond ETF, Oil&Gas Exp ETF, SPDR Energy ETF, SPDR Financ ETF, SPDR Gold Shares, SPDR Material ETF, SPDR S&P 500 ETF, SPDR S&P Homebuilder, SPDR S&P Met&Min, United States Oil, Xtrackers CSI ETF
One of the analysts contributing to this report is a former employee of the manager of the issuer and, in that capacity, received compensation from the manager of the issuer within the past 12 months: Blackrock.
One or more analysts responsible for covering the funds in this report own(s) a position in a company that constitutes a significant portion of the assets of the subject funds: SPDR Financ ETF.
The lead analyst covering the following issuers has accepted an offer of employment at an insurance company in the same coverage cluster: Axa, Swiss Life

Other Important Disclosures

The covered issuer and/or one or more of its affiliates holds 5% or more of the total issued share capital of Bank of America Corporation: BlackRock.
Prices are indicative and for information purposes only. Except as otherwise stated in the report, for any recommendation in relation to an equity security, the price referenced is the publicly traded price of the security as of close of business on the day prior to the date of the report or, if the report is published during intraday trading, the price referenced is indicative of the traded price as of the date and time of the report and in relation to a debt security (including equity preferred and CDS), prices are indicative as of the date and time of the report and are from various sources including BofA Securities trading desks.
The date and time of completion of the production of any recommendation in this report shall be the date and time of dissemination of this report as recorded in the report timestamp.

Recipients who are not institutional investors or market professionals should seek the advice of their independent financial advisor before considering information in this report in connection with any investment decision, or for a necessary explanation of its contents.
Officers of BofAS or one or more of its affiliates (other than research analysts) may have a financial interest in securities of the issuer(s) or in related investments.
Refer to BofA Global Research policies relating to conflicts of interest.
"BofA Securities" includes BofA Securities, Inc. ("BofAS") and its affiliates. Investors should contact their BofA Securities representative or Merrill Global Wealth Management financial advisor if they have questions concerning this report or concerning the appropriateness of any investment idea described herein for such investor. "BofA Securities" is a global brand for BofA Global Research.
Information relating to Non-US affiliates of BofA Securities and Distribution of Affiliate Research Reports:
BofAS and/or Merrill Lynch, Pierce, Fenner & Smith Incorporated ("MLPF&S") may in the future distribute, information of the following non-US affiliates in the US (short name: legal name, regulator): Merrill Lynch (South Africa): Merrill Lynch South Africa (Pty) Ltd., regulated by the Financial Sector Conduct Authority; MLI (UK): Merrill Lynch International, regulated by the Financial Conduct Authority (FCA) and the Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers (AMF). BofA Securities Europe SA ("BofASE") with registered address at 51, rue La Boétie, 75008 Paris is registered under no 842 602 690 RCS Paris. In accordance with the provisions of French Code Monétaire et Financier (Monetary and Financial Code), BofASE is an établissement de crédit et d'investissement (credit and investment institution) that is authorised and supervised by the European Central Bank and the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers. BofASE's share capital can be found at www.bofaml.com/BofASEdisclaimer; BofA Europe (Milan): Bank of America Europe Designated Activity Company, Milan Branch, regulated by the Bank of Italy, the European Central Bank (ECB) and the Central Bank of Ireland (CBI); BofA Europe (Frankfurt): Bank of America Europe Designated Activity Company, Frankfurt Branch regulated by BaFin, the ECB and the CBI; BofA Europe (Zurich): Bank of America Europe Designated Activity Company, Zurich Branch, regulated by the Swiss Financial Market Supervisory Authority FINMA, the ECB and CBI; BofA Europe (Madrid): Bank of America Europe Designated Activity Company, Sucursal en España, regulated by the Bank of Spain, the ECB and the CBI; Merrill Lynch (Australia): Merrill Lynch Equities (Australia) Limited, regulated by the Australian Securities and Investments Commission; Merrill Lynch (Hong Kong): Merrill Lynch (Asia Pacific) Limited, regulated by the Hong Kong Securities and Futures Commission (HKSFC); Merrill Lynch (Singapore): Merrill Lynch (Singapore) Pte Ltd, regulated by the Monetary Authority of Singapore (MAS); Merrill Lynch (Canada): Merrill Lynch Canada Inc, regulated by the Canadian Investment Regulatory Organization; Merrill Lynch (Mexico): Merrill Lynch Mexico, SA de CV, Casa de Bolsa, regulated by the Comisión Nacional Bancaria y de Valores; BofAS Japan: BofA Securities Japan Co., Ltd., regulated by the Financial Services Agency; Merrill Lynch (Seoul): Merrill Lynch International, LLC Seoul Branch, regulated by the Financial Supervisory Service; Merrill Lynch (Taiwan): Merrill Lynch Securities (Taiwan) Ltd., regulated by the Securities and Futures Bureau; BofAS India: BofA Securities India Limited, regulated by the Securities and Exchange Board of India (SEBI); Merrill Lynch (Israel): Merrill Lynch Israel Limited, regulated by Israel Securities Authority; Merrill Lynch (DIFC): Merrill Lynch International (DIFC Branch), regulated by the Dubai Financial Services Authority (DFSA); Merrill Lynch (Brazil): Merrill Lynch S.A. Corretora de Títulos e Valores Mobiliários, regulated by Comissão de Valores Mobiliários; Merrill Lynch KSA Company: Merrill Lynch Kingdom of Saudi Arabia Company, regulated by the Capital Market Authority.
This information: has been approved for publication and is distributed in the United Kingdom (UK) to professional clients and eligible counterparties (as each is defined in the rules of the FCA and the PRA) by MLI (UK), which is authorized by the PRA and regulated by the FCA and the PRA - details about the extent of our regulation by the FCA and PRA are available from us on request; has been approved for publication and is distributed in the European Economic Area (EEA) by BofASE (France), which is authorized by the ACPR and regulated by the ACPR and the AMF; has been considered and distributed in Japan by BofAS Japan, a registered securities dealer under the Financial Instruments and Exchange Act in Japan, or its permitted affiliates; is issued and

distributed in Hong Kong by Merrill Lynch (Hong Kong) which is regulated by HKSFC; is issued and distributed in Taiwan by Merrill Lynch (Taiwan); is issued and distributed in India by BofAS India; and is issued and distributed in Singapore to institutional investors and/or accredited investors (each as defined under the Financial Advisers Regulations) by Merrill Lynch (Singapore) (Company Registration No 198602883D). Merrill Lynch (Singapore) is regulated by MAS. Merrill Lynch Equities (Australia) Limited (ABN 65 006 276 795), AFS License 235132 (MLEA) distributes this information in Australia only to 'Wholesale' clients as defined by s.761G of the Corporations Act 2001. With the exception of Bank of America N.A., Australia Branch, neither MLEA nor any of its affiliates involved in preparing this information is an Authorised Deposit-Taking Institution under the Banking Act 1959 nor regulated by the Australian Prudential Regulation Authority. No approval is required for publication or distribution of this information in Brazil and its local distribution is by Merrill Lynch (Brazil) in accordance with applicable regulations. Merrill Lynch (DIFC) is authorized and regulated by the DFSA. Information prepared and issued by Merrill Lynch (DIFC) is done so in accordance with the requirements of the DFSA conduct of business rules. BofA Europe (Frankfurt) distributes this information in Germany and is regulated by BaFin, the ECB and the CBI. BofA Securities entities, including BofA Europe and BofASE (France), may outsource/delegate the marketing and/or provision of certain research services or aspects of research services to other branches or members of the BofA Securities group. You may be contacted by a different BofA Securities entity acting for and on behalf of your service provider where permitted by applicable law. This does not change your service provider. Please refer to the Electronic Communications Disclaimers for further information.

This information has been prepared and issued by BofAS and/or one or more of its non-US affiliates. The author(s) of this information may not be licensed to carry on regulated activities in your jurisdiction and, if not licensed, do not hold themselves out as being able to do so. BofAS and/or MLPF&S is the distributor of this information in the US and accepts full responsibility for information distributed to BofAS and/or MLPF&S clients in the US by its non-US affiliates. Any US person receiving this information and wishing to effect any transaction in any security discussed herein should do so through BofAS and/or MLPF&S and not such foreign affiliates. Hong Kong recipients of this information should contact Merrill Lynch (Asia Pacific) Limited in respect of any matters relating to dealing in securities or provision of specific advice on securities or any other matters arising from, or in connection with, this information. Singapore recipients of this information should contact Merrill Lynch (Singapore) Pte Ltd in respect of any matters arising from, or in connection with, this information. For clients that are not accredited investors, expert investors or institutional investors Merrill Lynch (Singapore) Pte Ltd accepts full responsibility for the contents of this information distributed to such clients in Singapore.

General Investment Related Disclosures:

Taiwan Readers: Neither the information nor any opinion expressed herein constitutes an offer or a solicitation of an offer to transact in any securities or other financial instrument. No part of this report may be used or reproduced or quoted in any manner whatsoever in Taiwan by the press or any other person without the express written consent of BofA Securities.

This document provides general information only, and has been prepared for, and is intended for general distribution to, BofA Securities clients. Neither the information nor any opinion expressed constitutes an offer or an invitation to make an offer, to buy or sell any securities or other financial instrument or any derivative related to such securities or instruments (e.g., options, futures, warrants, and contracts for differences). This document is not intended to provide personal investment advice and it does not take into account the specific investment objectives, financial situation and the particular needs of, and is not directed to, any specific person(s). This document and its content do not constitute, and should not be considered to constitute, investment advice for purposes of ERISA, the US tax code, the Investment Advisers Act or otherwise. Investors should seek financial advice regarding the appropriateness of investing in financial instruments and implementing investment strategies discussed or recommended in this document and should understand that statements regarding future prospects may not be realized. Any decision to purchase or subscribe for securities in any offering must be based solely on existing public information on such security or the information in the prospectus or other offering document issued in connection with such offering, and not on this document.

Securities and other financial instruments referred to herein, or recommended, offered or sold by BofA Securities, are not insured by the Federal Deposit Insurance Corporation and are not deposits or other obligations of any insured depository institution (including, Bank of America, N.A.). Investments in general and, derivatives, in particular, involve numerous risks, including, among others, market risk, counterparty default risk and liquidity risk. No security, financial instrument or derivative is suitable for all investors. Digital assets are extremely speculative, volatile and are largely unregulated. In some cases, securities and other financial instruments may be difficult to value or sell and reliable information about the value or risks related to the security or financial instrument may be difficult to obtain. Investors should note that income from such securities and other financial instruments, if any, may fluctuate and that price or value of such securities and instruments may rise or fall and, in some cases, investors may lose their entire principal investment. Past performance is not necessarily a guide to future performance. Levels and basis for taxation may change.

This report may contain a short-term trading idea or recommendation, which highlights a specific near-term catalyst or event impacting the issuer or the market that is anticipated to have a short-term price impact on the equity securities of the issuer. Short-term trading ideas and recommendations are different from and do not affect a stock's fundamental equity rating, which reflects both a longer term total return expectation and attractiveness for investment relative to other stocks within its Coverage Cluster. Short-term trading ideas and recommendations may be more or less positive than a stock's fundamental equity rating.

Futures and options are not appropriate for all investors. Such financial instruments may expire worthless. Before investing in futures or options, clients must receive the appropriate risk disclosure documents. Investment strategies explained in this report may not be appropriate at all times. Costs of such strategies do not include commission or margin expenses.

BofA Securities is aware that the implementation of the ideas expressed in this report may depend upon an investor's ability to "short" securities or other financial instruments and that such action may be limited by regulations prohibiting or restricting "shortselling" in many jurisdictions. Investors are urged to seek advice regarding the applicability of such regulations prior to executing any short idea contained in this report.

Foreign currency rates of exchange may adversely affect the value, price or income of any security or financial instrument mentioned herein. Investors in such securities and instruments, including ADRs, effectively assume currency risk.

BofAS or one of its affiliates is a regular issuer of traded financial instruments linked to securities that may have been recommended in this report. BofAS or one of its affiliates may, at any time, hold a trading position (long or short) in the securities and financial instruments discussed in this report.

BofA Securities, through business units other than BofA Global Research, may have issued and may in the future issue trading ideas or recommendations that are inconsistent with, and reach different conclusions from, the information presented herein. Such ideas or recommendations may reflect different time frames, assumptions, views and analytical methods of the persons who prepared them, and BofA Securities is under no obligation to ensure that such other trading ideas or recommendations are brought to the attention of any recipient of this information.

In the event that the recipient received this information pursuant to a contract between the recipient and BofAS for the provision of research services for a separate fee, and in connection therewith BofAS may be deemed to be acting as an investment adviser, such status relates, if at all, solely to the person with whom BofAS has contracted directly and does not extend beyond the delivery of this report (unless otherwise agreed specifically in writing by BofAS). If such recipient uses the services of BofAS in connection with the sale or purchase of a security referred to herein, BofAS may act as principal for its own account or as agent for another person. BofAS is and continues to act solely as a broker-dealer in connection with the execution of any transactions, including transactions in any securities referred to herein.

ETFs are redeemable only in Creation Unit size through an Authorized Participant and may not be individually redeemed. ETFs also are redeemable on an “in-kind” basis. The mechanism for creation and redemption of ETFs may be disrupted due to market conditions or otherwise.

The public trading price of an ETF may be different from its net asset value, and an ETF could trade at a premium or discount to its net asset value.

Investors in ETFs with international securities assume currency risk.

U.S. exchange-listed, open-end ETFs must be offered under and sold only pursuant to a prospectus. U.S. exchange-listed ETFs may not be marketed or sold in a number of non-U.S. jurisdictions and may not be suitable for all investors. Investors should consider the investment objectives, risks, charges and expenses of the ETF carefully before investing. The prospectus for the ETF contains this and other information about the ETF. Clients may obtain prospectuses for the ETFs mentioned in this report from the ETF distributor or their Merrill Global Wealth Management financial advisor. The prospectuses contain more complete and important information about the ETFs mentioned in this report and should be read carefully before investing.

“Standard & Poor’s®”, “S&P®”, “S&P 500®”, “Standard & Poor’s 500”, “500”, “Standard & Poor’s Depositary Receipts®”, “SPDRs®”, “Select Sector SPDR” and “Select Sector Standard & Poor’s Depositary Receipts” are trademarks of The McGraw-Hill Companies, Inc. and have been licensed for use in connection with the listing and trading of Select Sector SPDRs on the AMEX. The stocks included in each Select Sector Index (upon which the Select Sector SPDRs are based) were selected by the index compilation agent in consultation with S&P from the universe of companies represented by the S&P 500 Index. The composition and weightings of the stocks included in each Select Sector Index can be expected to differ from the composition and weighting of stock included in any similar S&P 500 sector index that is published and disseminated by S&P.

For clients in Wealth Management, to the extent that the securities referenced in this report are ETFs or CEFs, investors should note that (1) the views and ratings presented by BofA Global Research personnel may vary from those of other business units of BofA Securities. including the Due Diligence group within the Chief Investment Office of MLPF&S (“CIO Due Diligence”); and (2) the CIO Due Diligence review process is used to determine the availability of an ETF or CEF for purchase through the Wealth Management division of MLPF&S and its affiliates.

Copyright and General Information:

Research Analysts

Benjamin Bowler
Equity-Linked Analyst
BofAS
+1 415 676 3595
benjamin.bowler@bofa.com

Abhinandan Deb >>
Equity-Linked Analyst
MLI (UK)
+44 20 7995 7148
abhinandan.deb@bofa.com

Nitin Saksena
Equity-Linked Analyst
BofAS
+1 646 855 5480
nitin.saksena@bofa.com

Lars Naeckter >>
Equity-Linked Analyst
Merrill Lynch (DIFC)
+971 4425 8218
lars.naeckter@bofa.com

Chintan Kotecha
Equity-Linked Analyst
BofAS
+1 646 855 5478
chintan.kotecha@bofa.com

Riddhi Prasad >>
Equity-Linked Analyst
MLI (UK)
+44 20 7995-7852
riddhi.prasad@bofa.com

Michael Youngworth, CFA
CBs, Pfds & Derivs Strategist
BofAS
+1 646 855 6493
michael.youngworth@bofa.com

Vittoria Volta >>
Equity-Linked Analyst
BofASE (France)
+33 1 8770 0703
vittoria.volta@bofa.com

Nicholas Dunne
Equity-Linked Analyst
BofAS
+1 646 855 2631
nicholas.dunne@bofa.com

Arjun Goyal
Equity-Linked Analyst
BofAS
+1 646 743 4273
arjun.goyal@bofa.com

Meriem Hafid >>
Research Analyst
BofASE (France)
+33 1 5365 5664
meriem.hafid@bofa.com