

Quant Daily Digest

■ Daily Overview

Macro & Sentiment: The quant community faces a reputational hit as a former Two Sigma researcher is federally charged with fraud for allegedly manipulating algorithmic performance metrics. This raises broader concerns about model governance and data integrity in systematic strategies. Meanwhile, hedge fund wealth surges, with the top 10 US managers collectively gaining \$20 billion over the past year, reflecting strong equity market performance and alpha generation. Bank of America signals a potential \$7 trillion liquidity boost by year-end, hinting at an extended risk-on environment fueled by increased investing capacity. **Equities / Rates:** Equity markets remain buoyant, supported by optimism around liquidity inflows. However, caution is warranted given the high concentration risk highlighted by mutual fund data showing 70% of uniquely held stocks crashing up to 50%. This suggests potential idiosyncratic volatility and the need for robust risk controls in concentrated portfolios. Rates markets are likely pricing in stable Fed policy amid steady growth, but the liquidity narrative could steepen curves if inflows materialize as anticipated. **FX & Commodities:** Bitcoin consolidates near \$114K after its mid-August all-time high, exhibiting elevated volatility but lacking clear directional conviction. This mirrors a typical post-euphoria phase in crypto markets. No major moves in traditional commodities or FX noted, though crypto-related equities like Gemini's Nasdaq debut (+14%) reflect sustained investor appetite in digital assets. **What to Watch:** • Regulatory fallout and quant strategy reviews following Two Sigma fraud charges • Bank of America's liquidity boost thesis and its impact on equity and credit spreads • Bitcoin's consolidation range and potential breakout signals for crypto risk assets

■ Hot List

US charges fired Two Sigma quant researcher with fraud

The US government has charged a former quantitative researcher at Two Sigma with fraud, alleging he manipulated trading algorithms to inflate his performance metrics. This development raises concerns about the integrity of quantitative strategies and internal controls within hedge funds. Two Sigma, a major quant hedge fund, may face increased scrutiny from regulators and investors regarding data handling and algorithmic transparency. The case highlights potential risks in quant research, including the reliance on self-reported data and the challenges in monitoring complex trading models. Market participants may reassess risk management and compliance frameworks in response.

[Read more: https://biztoc.com/x/59f059dfb42553e5](https://biztoc.com/x/59f059dfb42553e5)

Biztoc.com

How The 10 Richest American Hedge Fund Managers Got \$20 Billion Richer In A Year

The top 10 richest American hedge fund managers collectively increased their wealth by \$20 billion over the past year, driven by a strong stock market rally. This surge reflects significant gains in equity holdings and successful positioning in key sectors benefiting from market trends. The wealth accumulation highlights the impact of sustained bullish market conditions and effective hedge fund strategies capitalizing on volatility and sector rotations. These managers' portfolios likely saw substantial inflows and strategic reallocations, emphasizing the importance of active management in current market environments. The data underscores the growing concentration of wealth among elite hedge fund operators amid ongoing market expansion.

Read more: <https://www.forbes.com/sites/hanktucker/2025/09/11/how-the-10-richest-american-hedge-fund-managers-got-20-billion-richer-in-a-year/>
Forbes

Bank of America Says \$7 Trillion Boost Could Drive Year-End Rally — Here Are 2 Stocks That Could Jump

Bank of America strategist Savita Subramanian highlights a potential \$7 trillion liquidity boost that could fuel a year-end stock market rally. This influx of cash is expected to enhance market investing capacity, driving significant price appreciation. The strategist identifies two stocks poised for notable gains amid this liquidity surge, emphasizing the critical role of cash flow in underpinning equity markets. The analysis suggests that increased liquidity and favorable positioning could lead to strong market momentum in the coming months. Quant strategies may benefit from tracking these liquidity-driven price movements and sector rotations.

Read more: <https://finance.yahoo.com/news/bank-america-says-7-trillion-100457005.html>
Yahoo Entertainment

Unique Picks: 7 out of 10 stocks held by only one MF crash up to 50%. Do you own any?

An analysis by ETMarkets of mutual fund portfolios in August 2025 identified 201 stocks uniquely held by a single mutual fund scheme. Among these, 70% experienced significant price declines, with some stocks crashing up to 50%. This highlights the risk associated with concentrated mutual fund holdings and potential liquidity issues. The study focused on stocks with notable equity mutual fund ownership, emphasizing the impact of fund-specific positioning on price volatility. Market participants should monitor such unique picks for potential downside risk and portfolio concentration effects.

Read more: <https://m.economictimes.com/markets/stocks/news/unique-picks-7-out-of-10-stocks-held-by-only-one-mf-crash-up-to-50-do-you-own-any/portfolio-watch/slideshow/123826524.cms>
Economietimes.com

Bitcoin at \$114K: Experts hint at consolidation post hitting all-time high in mid-August

Bitcoin is consolidating around \$114,132 after hitting an all-time high near mid-August, trading within a \$104,000-\$114,000 range. This price action suggests a typical post-euphoria phase with elevated volatility but uncertain long-term direction. Market experts view the current consolidation as a potential pause before the next significant move, reflecting cautious positioning among traders. The range-bound behavior indicates balanced flows between buyers and sellers, with no clear breakout signals yet. Quant strategies may focus on volatility patterns and range-bound indicators to navigate this phase.

Read more: <https://economictimes.indiatimes.com/markets/cryptocurrency/bitcoin-at-114k-experts-hint-at-consolidation-post-hitting-all-time-high-in-mid-august/articleshow/123825301.cms>

The Times of India

Dogecoin To \$0.50? This Channel Break Could Be The Catalyst

Dogecoin is currently trading within a parallel channel, and an analyst suggests a breakout above the channel's upper boundary could trigger a rally to \$0.50. This technical pattern indicates potential bullish

momentum if the resistance level is breached. The analysis highlights the importance of monitoring price action around this channel for signs of increased buying pressure. Such a breakout could attract momentum traders and algorithmic strategies targeting trend continuation. Market participants should watch volume and volatility for confirmation of the move.

Read more: <http://www.newsbtc.com/news/dogecoin/dogecoin-0-50-channel-break-could-the-catalyst/>
newsBTC

ChatGPT Says Solana Aims for \$300 by the End of 2026, Makes Snorter Token Presale Viral

ChatGPT projects Solana (SOL) could reach \$300 by the end of 2026, reflecting growing institutional and retail interest in the token alongside Bitcoin and Ethereum. Solana's prominence in DeFi, Web3, and meme sectors has boosted its market positioning. The recent viral presale of the Snorter token, built on Solana, has further increased attention and potential inflows into the ecosystem. This heightened activity suggests increased trading volumes and speculative positioning around SOL and related tokens. Market participants should monitor Solana's price action and token presale dynamics as indicators of broader crypto market sentiment.

Read more: <https://bitcoinist.com/chatgpt-says-solana-300-by-2026-makes-snorter-token-presale-viral/>
Bitcoinist

Gemini, the Winklevoss' crypto exchange, pops more than 14% in Nasdaq debut

Gemini Space Station, the crypto exchange operated by the Winklevoss twins, surged over 14% in its Nasdaq debut following a \$425 million IPO. The strong opening indicates robust investor demand for crypto-related equities despite recent market volatility. This price action reflects continued interest in digital asset platforms amid evolving regulatory landscapes. The sizable capital raise provides Gemini with enhanced liquidity to expand operations and compete in the growing crypto exchange sector. Market participants should monitor Gemini's stock for potential volatility linked to crypto market movements and regulatory developments.

Read more: <https://www.cnn.com/2025/09/12/gemini-the-winklevoss-crypto-exchange-pops-in-nasdaq-debut.html>
US Top News and Analysis

Pfizer, Moderna shares fall on report that Trump officials will link child deaths to Covid shots

Shares of Pfizer and Moderna declined following reports that former Trump administration officials intend to link child deaths to COVID-19 vaccinations in an upcoming presentation to a CDC advisory panel. This panel influences vaccine access and coverage decisions, potentially impacting public perception and policy around pediatric COVID shots. The news triggered negative sentiment in the market, reflecting concerns over vaccine demand and regulatory scrutiny. The report adds uncertainty to the vaccine sector, which could affect positioning in biotech and pharmaceutical equities. Investors may monitor vaccine-related policy developments closely for further price action.

Read more: <https://www.cnn.com/2025/09/12/pfizer-moderna-shares-fall-on-trump-child-covid-shot-report.html>
US Top News and Analysis

\$7 trillion 'wall of cash' worry is looming for investors once Fed interest rate cuts start

Investors are facing a potential \$7 trillion "wall of cash" challenge as trillions remain parked in money market funds, benefiting from years of elevated Fed interest rates. With the Federal Reserve signaling imminent rate cuts, yields on these funds are expected to decline, prompting significant portfolio reallocations. This shift could trigger increased flows into risk assets or longer-duration securities, impacting market liquidity and volatility. Quant strategies may need to adjust for changing yield curves and altered cash flow dynamics. Monitoring positioning in money markets and related sectors will be crucial as the Fed transitions from tightening to easing.

[Read more:](#)

<https://www.cnn.com/2025/09/12/7-trillion-cash-money-market-yields-fed-interest-rate-cuts.html>

US Top News and Analysis

Eli Lilly, Novo Nordisk prepare to face off in the next obesity drug battleground

Eli Lilly and Novo Nordisk are intensifying competition in the obesity drug market with upcoming launches of weight-loss pills, expanding beyond their existing injectable treatments. This move targets a broader patient base and could significantly impact market share and revenue streams for both companies. Investors should monitor drug approval timelines, pricing strategies, and initial sales data, as these will influence stock performance and sector positioning. The rivalry may also affect biotech and pharmaceutical indices, with potential shifts in capital flows toward obesity treatment innovators. Market participants should watch for regulatory updates and competitive responses in this evolving segment.

[Read more:](#)

<https://www.cnn.com/2025/09/12/obesity-pills-from-eli-lilly-novo-nordisk-near-us-launch.html>

US Top News and Analysis

Nasdaq notches record high close, traders look to Fed meeting

U.S. equities closed mixed on Friday with the Nasdaq hitting a record high, up over 0.4%, while the Dow fell 0.6% and the S&P 500 was flat. Market focus centers on the Federal Reserve's upcoming two-day meeting, where a 25 basis point rate cut is widely anticipated due to soft hiring data and easing inflation pressures. Tech stocks led gains, buoyed by AI-related excitement and notable IPOs like Klarna. Microsoft rose nearly 2% after avoiding an EU antitrust fine, and Tesla surged 7.5% despite ongoing political concerns, though it remains down 2% for 2025. Warner Bros Discovery jumped 17% amid takeover speculation.

[Read more:](#)

<https://finance.yahoo.com/video/nasdaq-notches-record-high-close-222935071.html?.tsrc=rss>

Yahoo! Finance: ^GSPC ^IXIC ^DJI News

Oracle's astonishing jam-tomorrow OpenAI trade

Oracle has made a significant strategic investment in OpenAI, betting on the long-term value of AI-generated data and cloud computing. The deal positions Oracle as a key cloud provider for OpenAI, potentially boosting its cloud revenue and market share against competitors like AWS and Microsoft Azure. This move reflects a broader market trend where tech firms are prioritizing AI infrastructure and data-centric business models. Oracle's stock could see increased volatility as investors weigh the

long-term payoff of this "jam-tomorrow" trade, balancing near-term costs against future growth potential. The partnership underscores the growing importance of AI in driving cloud demand and enterprise IT spending.

Read more: <https://www.ft.com/content/86895a63-2c5b-4aea-b385-418130b64996>

FT Alphaville

Bye, bye, monthly GDP try?

The UK's Office for National Statistics (ONS) is reconsidering its approach to monthly GDP estimates due to data quality and reliability issues. Recent monthly GDP figures have shown significant volatility and revisions, undermining their usefulness for real-time economic analysis and market decision-making. This has raised concerns among economists and market participants who rely on timely, accurate data for positioning and policy assessment. The ONS may shift focus towards quarterly GDP releases, which are more stable and comprehensive, potentially impacting short-term market flows and macroeconomic forecasting. This move could reduce the granularity of UK economic data available to quants and traders.

Read more: <https://www.ft.com/content/8938d80e-b305-4f07-885e-7acb4f0f7a61>

FT Alphaville

■ Articles

Ex-Two Sigma Quant Charged With Fraud by Federal Prosecutors

A former quantitative analyst at Two Sigma has been charged with fraud by federal prosecutors. The individual allegedly engaged in deceptive practices that impacted trading strategies and financial reporting. This development raises concerns about the integrity of data and models used in quantitative trading firms. Market participants may reassess risk management and compliance protocols in light of potential vulnerabilities exposed by the case. The incident underscores the importance of robust oversight in algorithmic and quantitative trading environments. No immediate market price action has been reported in response to the charges.

Read more: <https://biztoc.com/x/5fd63f398e25b71f>

Biztoc.com

The rationalist murders

The article "The rationalist murders" from Newhumanist.org.uk discusses a series of killings associated with a group identifying as "rationalists." It explores the ideology behind this movement, which claims to prioritize reason and logic but has been linked to violent acts. The piece delves into the beliefs and motivations driving these individuals, questioning the true nature of their rationalism. While the article is insightful for understanding the social and ideological context, it does not provide data points, price action, policy changes, market flows, or positioning relevant to financial markets or quantitative analysis.

Read more: https://newhumanist.org.uk/articles/6458/the-rationalist-murders#utm_source=rss

Newhumanist.org.uk

Rachel Comey Meets Women Where They Are at for Spring 2026

The article discusses Rachel Comey's Spring 2026 collection, highlighting her approach to designing for women's practical needs. While primarily focused on fashion, the piece does not provide direct

financial data, market movements, or policy impacts relevant to market or quant analysis. There is no mention of pricing, sales figures, investor flows, or positioning strategies that would influence financial markets or trading models.

Read more: <http://wwd.com/runway/spring-2026/new-york/rachel-comey/review/>

WWD

Reddington to deliver Mastercard cyber-secure tech in Azerbaijan

Redington and Mastercard have formed a strategic partnership to provide advanced cybersecurity solutions to businesses in Azerbaijan. This collaboration aims to enhance digital security infrastructure, potentially boosting confidence in electronic payments and fintech adoption in the region. While no direct market data or price action is reported, the partnership could influence regional fintech sector flows and positioning by fostering safer transaction environments. The move aligns with broader trends of increasing cybersecurity investments amid rising digital threats. Quant strategies focusing on regional fintech growth or cybersecurity sector exposure may find this development relevant.

Read more: <https://www.finextra.com/pressarticle/107048/reddington-to-deliver-mastercard-cyber-secure-tech-in-azerbaijan>

Finextra

Charlie Kirk shooter: Officials identify Tyler Robinson as suspect after arrest

The news reports that Tyler Robinson has been identified and arrested as the suspect in the shooting of Charlie Kirk, a prominent ally of former President Donald Trump, during an event at Utah Valley University. This incident triggered a multi-day manhunt, highlighting potential security concerns around political events. While the immediate market impact appears limited, heightened political tensions could influence risk sentiment and volatility in related sectors. Investors may monitor any policy responses or shifts in political risk premiums. No direct data points or flows are currently reported.

Read more: <https://www.cnbc.com/2025/09/12/trump-charlie-kirk-shooter-suspect.html>

US Top News and Analysis

Here's Why SharkNinja, Inc. (SN) Fell More Than Broader Market

SharkNinja, Inc. (SN) shares declined 1.39% to close at \$113.93, underperforming the broader market in the latest session. The drop reflects company-specific factors rather than sector-wide trends, suggesting potential concerns around earnings, guidance, or competitive pressures. No significant macroeconomic or policy changes were noted to impact the stock directly. Market positioning may have shifted as investors reassess growth prospects or margin pressures. The price action indicates cautious sentiment among traders, possibly leading to increased volatility or volume in upcoming sessions.

Read more: <https://finance.yahoo.com/news/heres-why-sharkninja-inc-sn-214505141.html?.tsrc=rss>

Yahoo! Finance: ^GSPC ^IXIC ^DJI News

ODP Corp. (ODP) Falls More Steeply Than Broader Market: What Investors Need to Know

ODP Corp. (ODP) closed at \$20.73, down 2.68%, underperforming the broader market indices. This decline suggests increased selling pressure or negative sentiment specific to ODP, contrasting with the

overall market trend. The price action may indicate shifts in investor positioning or reaction to company-specific news or sector dynamics. Quantitative strategies might note this relative weakness for potential short opportunities or risk adjustments. No broader market policy changes or flow data were reported in conjunction with this move.

Read more: <https://finance.yahoo.com/news/odp-corp-odp-falls-more-214505901.html?.tsrc=rss>

Yahoo! Finance: ^GSPC ^IXIC ^DJI News

Why the Market Dipped But Vistra Corp. (VST) Gained Today

Vistra Corp. (VST) outperformed the broader market in the latest session, closing at \$209.70, up 2.77% despite a general market dip. This divergence suggests sector-specific strength or positive company-specific news driving VST's price action. The broader indices, including the S&P; 500, Nasdaq, and Dow Jones, experienced declines, indicating risk-off sentiment or profit-taking in other sectors. VST's gain may reflect favorable energy sector flows or positioning shifts, potentially driven by recent earnings, regulatory updates, or commodity price movements. Quant strategies might note this as a relative strength signal amid broader market weakness.

Read more: <https://finance.yahoo.com/news/why-market-dipped-vistra-corp-214505313.html?.tsrc=rss>

Yahoo! Finance: ^GSPC ^IXIC ^DJI News

Reddit Inc. (RDDT) Dips More Than Broader Market: What You Should Know

Reddit Inc. (RDDT) shares declined 2.4% to close at \$254.29, underperforming the broader market in the latest session. This drop suggests potential short-term selling pressure or profit-taking amid broader market volatility. No specific catalysts or policy changes were noted, indicating the move may be driven by technical factors or shifts in investor positioning. Market participants should monitor volume and sentiment for further directional cues. The stock's relative weakness compared to indices like the S&P; 500 may attract quant strategies focusing on momentum or mean reversion.

Read more: <https://finance.yahoo.com/news/reddit-inc-rddt-dips-more-214505450.html?.tsrc=rss>

Yahoo! Finance: ^GSPC ^IXIC ^DJI News

FTAV's Friday charts quiz

The FT Alphaville's Friday charts quiz presents a series of financial charts designed to test readers' knowledge of recent market trends and data points. While the article itself is a quiz format, it highlights key market movements, including shifts in equity indices, bond yields, and currency fluctuations. The charts emphasize the impact of recent policy decisions and macroeconomic data releases on asset prices. Notably, the quiz underscores the importance of understanding market positioning and flow dynamics in interpreting price action. This resource serves as a practical tool for quants and market participants to refine their analytical skills.

Read more: <https://www.ft.com/content/5d58ca38-269c-4763-82b7-892a35105128>

FT Alphaville

FTAV's further reading

The FT Alphaville article titled "FTAV's further reading" covers a range of topics including Jeffrey Epstein, Oracle's business moves, Federal Reserve policy updates, and market psychology. It highlights recent Fed speeches that provide insights into potential monetary policy shifts, which are

critical for interest rate-sensitive assets. The piece also touches on behavioral finance aspects, such as market psychosis, influencing investor sentiment and positioning. While specific data points or price actions are not detailed, the article suggests monitoring Fed communications and corporate developments for quant strategies. Overall, it underscores the importance of integrating macro policy cues and sentiment analysis in market models.

Read more: <https://www.ft.com/content/50cd92c1-c47d-49a4-a57b-0b4d8bebfaba>

FT Alphaville

AI can't write good analyst research yet, says analyst

Bernstein Research criticizes AI-driven analyst tools, stating they currently produce numerous errors, lack predictive accuracy, and fail to capture broader market insights. Despite advancements, these "finbots" are not yet reliable for generating high-quality investment research or actionable market forecasts. The report suggests human analysts remain essential for interpreting complex data and market dynamics. This highlights ongoing challenges in integrating AI into quantitative and fundamental research workflows, impacting how firms might allocate resources between automated and human-driven analysis. Market participants should be cautious about over-relying on AI-generated research outputs at this stage.

Read more: <https://www.ft.com/content/893c2e34-fcd4-4988-b03c-47c6c69f4256>

FT Alphaville

■ AI & Finance

Alonaw Business School Celebrates Five-Year Milestone with Record Enrollment in AI-Enhanced Investment Course

Alonaw Business School has reached a five-year milestone, marking significant growth in retail investor education across Southeast Asia. Their AI-enhanced investment course series attracted over 2,500 registrations within the first week, indicating strong demand for data-driven investment strategies. This surge reflects increasing retail interest in leveraging AI tools for market analysis and portfolio management. The course's popularity suggests a growing trend of retail investors seeking quantitative and algorithmic approaches to investing. Such educational initiatives could influence market behavior by enhancing retail participation and sophistication in AI-based trading techniques.

Read more: <https://www.globenewswire.com/news-release/2025/09/11/3148856/0/en/Alonaw-Business-School-Celebrates-Five-Year-Milestone-with-Record-Enrollment-in-AI-Enhanced-Investment-Course.html>

GlobeNewswire

Ridge Capital Solutions Shares Why Strategy Diversification Matters More Than Ever

Ridge Capital Solutions highlights the increasing importance of strategy diversification amid evolving market dynamics where traditional asset diversification may fall short. Their AI-driven platform aims to enhance portfolio resilience by integrating multiple trading strategies, potentially reducing correlation risks and improving risk-adjusted returns. This approach is particularly relevant as markets face heightened volatility and shifting macroeconomic conditions. The firm's emphasis on strategy diversification aligns with quant investors' focus on systematic, data-driven methods to optimize portfolio construction and manage exposure. The article underscores the growing role of AI in adapting to complex market environments.

Read more: <https://dailycaller.com/2025/09/11/ridge-capital-solutions-shares-why-strategy-diversification-matters-more-than-ever/>

The Daily Caller

Hollow Knight: Silksong review

The provided content is a video game review and does not contain financial market data, price action, policy updates, flows, or positioning information relevant to market or quant analysis.

Read more: <https://www.eurogamer.net/hollow-knight-silksong-review>

Eurogamer.net

Taming Chaos with Antifragile GenAI Architecture

The article explores the integration of Nassim Taleb's antifragility concept with generative AI to create organizational architectures that thrive on uncertainty rather than merely withstand it. This approach leverages generative AI's adaptive capabilities to enhance decision-making and operational resilience in volatile environments. While not directly tied to financial markets, the principles suggest potential applications in risk management, algorithmic trading, and portfolio optimization by exploiting market chaos for strategic advantage. The framework may influence future quant strategies that prioritize robustness and adaptability amid unpredictable market conditions.

Read more:

<https://www.oreilly.com/radar/taming-chaos-with-antifragile-genai-architecture/#BlogPosting>

Oreilly.com

■ Quant Keywords & Mini-Glossary

Algorithmic Transparency — [Clarity and openness about how trading algorithms operate and make decisions.]

Performance Metrics Manipulation — [Altering reported results to falsely enhance perceived trading strategy success.]

Liquidity Boost — [An increase in available cash or capital that can drive asset price appreciation.]

Sector Rotation — [Shifting investment allocations between industry sectors to capitalize on market trends.]

Portfolio Concentration Risk — [Risk arising from holding large positions in few assets, increasing volatility exposure.]

Price Volatility — [The degree of variation in asset prices over time, indicating market uncertainty.]

Range-Bound Trading — [Price movement confined within a defined upper and lower boundary without breakout.]

Technical Breakout — [Price movement beyond a defined resistance or support level signaling potential trend change.]

Trading Volume — [The total quantity of shares or contracts traded for an asset during a given period.]

IPO Volatility — [Price fluctuations commonly observed after a company's initial public offering.]

Regulatory Scrutiny — [Increased examination by authorities affecting market operations and compliance.]

Risk Management Framework — [Systems and processes to identify, assess, and mitigate financial risks.]

Cash Flow Dynamics — [Patterns and changes in the movement of cash within markets or portfolios.]

Yield Curve — [Graph showing interest rates across different bond maturities, reflecting economic expectations.]

Portfolio Reallocation — [Adjusting asset weights within a portfolio in response to market or strategy changes.]

Momentum Trading — [Strategy that buys assets showing upward price trends and sells those trending down.]

Volatility Patterns — [Recurring behaviors or structures in price volatility used for forecasting.]

Order Flow Imbalance — [Disparity between buy and sell orders impacting short-term price movements.]

Risk Premium — [Additional return expected by investors for taking on higher risk.]

Market Positioning — [The aggregate stance of investors or funds in terms of asset exposure and risk.]

Algorithmic Trading Models — [Computerized systems using quantitative methods to execute trades automatically.]

Quantitative Strategy Integrity — [Reliability and trustworthiness of data and models underpinning quant trading.]

Realized vs Implied Volatility — [Comparison of actual historical volatility to market-expected future volatility.]

Systematic Diversification — [Using multiple uncorrelated strategies to reduce portfolio risk.]

Antifragility in Trading — [Designing strategies that improve performance when exposed to market volatility or shocks.]