MACKENZIE Investments

Mackenzie Global Quantitative Equity Team

Optimizing risk and returns with low tracking error strategies

Executive summary

Institutional investors face unique challenges such as long-term liabilities, regulatory constraints and fiduciary oversight, requiring consistent, risk-aware capital deployment. Low tracking error (TE) strategies offer a disciplined active management that seeks modest, repeatable excess returns while closely aligning with benchmarks.

Over the past 25 years, empirical evidence shows that low-TE portfolios for global large cap equity managers have outperformed both higher-TE peers and the MSCI World Index, achieving this with lower volatility and higher information ratios. These strategies combine diversified alpha sources with tight risk controls, supporting efficient use of risk budgets, adherence to investment policy guidelines, and alignment with regulatory requirements, all of which contribute to more predictable funding outcomes. Amid market volatility and increased scrutiny, minimizing return dispersion can be valuable. We believe that low-TE strategies provide a scalable foundation for policy-aligned portfolios. This paper explores their role in institutional asset allocation, highlighting how they can potentially enhance consistency, mitigate governance risk and support funding stability across varied market conditions.

The institutional mandate: stability over speculation

For institutional investors, the goal is not simply to outperform benchmarks, but to meet long-term obligations with consistency and minimal disruption to funding plans or stakeholder confidence. Sharp deviations from benchmarks can lead to reactive reallocations, increased contribution demands or challenges to governance processes.

Tracking error, defined as the standard deviation of portfolio returns relative to a benchmark, is not merely a backward-looking metric. It functions as a forward-looking constraint, guiding how much active risk can be taken relative to the policy benchmark. In many cases, institutions formalize this risk budget by setting explicit tracking error limits within investment mandates.

A low tracking error framework fosters discipline in portfolio construction. Managers must express investment views through many small, deliberate positions rather than a few concentrated bets. This structure encourages alignment with institutional objectives and mitigates unduly large idiosyncratic and factor exposures. High tracking error strategies may carry the allure of greater returns, but they also introduce substantial downside risk and performance dispersion. For long-horizon fiduciaries, this level of volatility may disrupt funding plans, complicate oversight and increase operational stress. Stability, therefore, is not merely a preference — it is a strategic necessity.

Active management through precision and diversification

Low tracking error should not be mistaken for passive management. These strategies reflect an active philosophy that values precision, breadth and scalability. Rather than relying on high-conviction, concentrated positions, managers seek to deliver alpha through a diversified set of well-researched insights — each contributing modestly but deliberately to the total active risk.

These portfolios rely on systematic, risk-efficient implementation and diversified alpha exposures. Sector tilts, factor exposures and individual security selection are carefully measured and deployed in a way that controls downside risk and avoids unintended concentrations.

Over time, this disciplined approach tends to produce more stable patterns of return. As a result, low-TE strategies often achieve higher information ratios than their high-TE peers. By emphasizing repeatability and process, they have the potential to provide a compelling path to consistent outperformance within well-defined risk budgets.

Performance outcomes and risk management

Low tracking error doesn't mean low conviction. These strategies seek alpha through breadth rather than concentration — emphasizing diversified, repeatable processes rooted in multi-factor models and idiosyncratic insights.

By drawing on a broad base of ideas, they reduce the impact of any single decision. This diversification supports more stable returns and protects against large drawdowns linked to concentrated bets.

What defines these strategies is not the absence of risk, but the precision with which it is deployed — making them ideal options to be considered by institutions bound by long-term obligations and strict oversight.

Performance predictability and funding stability

For institutional investors with long-dated liabilities, stable and predictable returns are often more valuable than the potential for dramatic outperformance. When returns are tightly clustered around expectations, asset-liability matching becomes more accurate, funding volatility is reduced and the need for reactive asset allocation decisions diminishes.

Empirical data reinforce this premise in Figure 1. Over the five-year period ending March 31, 2025, global large-cap equity strategies with five-year tracking error below 3% produced median annual returns of 16.6%,[1] outperforming both their higher tracking error peers and the MSCI World Index. These strategies also recorded lower volatility and higher information ratios, underscoring their ability to deliver consistent, risk-adjusted performance.

FIGURE 1 – Global large-cap equity strategies as at March 31, 2025, by tracking error tier

eVestment Global Large Cap Equity strategies* As at March 31, 2025, USD terms	**# of products**	**Tracking error (TE)**	**Return**	**Excess return** (vs. manager preferred benchmark)	**Standard deviation**	**Information ratio**
Products with 5-year TE < 3%	72	2.1%	16.6%	0.8%	16.2%	0.46
Products with 5-year TE 3% - 5%	176	4.1%	15.1%	-0.4%	16.2%	-0.06
Products with 5-year TE > 5%	295	7.9%	14.3%	-1.5%	17.5%	-0.20
All products	**543**	**5.9%**	**14.9%**	**-0.8%**	**16.9%**	**-0.07**

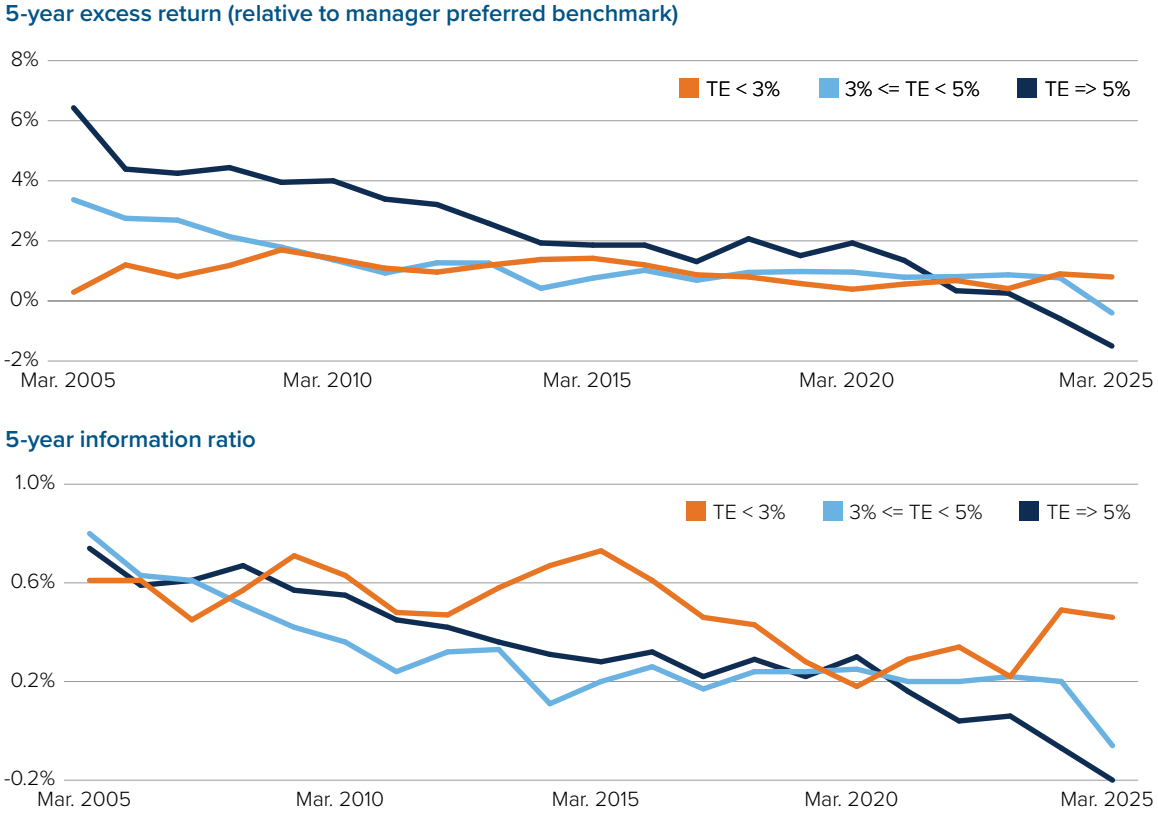
Source: eVestment Alliance, LLC, March 31, 2025. *As at March 31, 2025, there were 764 products in the eVestment Global Large Cap Equity universe. 543 of the 764 products were included in the analysis above, while 221 products were excluded (49 were indexes and 172 strategies did not have five-year data as of March 31, 2025). Five-year tracking error, return, excess return (relative to each manager's preferred benchmark), standard deviation and information ratio calculated for global large-cap equity managers, grouped into low (<3%), mid (3–5%) and high (>5%) tracking error categories. The dataset covers March 31, 2000, to March 31, 2025, using five-year rolling periods, ending each March 31 from 2005 to 2025. Five-year excess return calculated for the 543 products in the eVestment Global Large Cap Equity universe, each relative to the manager preferred benchmark. eVestment Alliance, LLC and its affiliated entities (collectively "Nasdaq eVestment") collect information directly from investment management firms and other sources believed to be reliable, however, Nasdaq eVestment does not guarantee or warrant the accuracy, timeliness or completeness of the information provided and is not responsible for any errors or omissions. Performance results may be provided with additional disclosures available on Nasdaq eVestment's systems and other important considerations such as fees that may be applicable. *All categories not necessarily included.

While the above analysis focuses on a recent five-year window, longer-term data supports the same conclusion.

As illustrated in Figure 2, low tracking error strategies have demonstrated remarkable consistency in delivering excess return — averaging approximately 49 basis points across all of the five-year periods. By contrast, the performance of higher tracking error strategies has deteriorated over time. Historically, these higher-risk approaches offered a return premium, but that advantage has eroded significantly over the past two decades. Notably, while low-TE strategies have maintained their stability throughout, mid- and high-TE strategies have exhibited far greater variability in both risk and return. This structural shift strengthens the case for low tracking error approaches, particularly for fiduciaries prioritizing risk-managed return and funding predictability.

1 eVestment, March 31, 2025, gross of fees.

FIGURE 2 – Low-TE strategies have typically outperformed high-TE peers on a risk-adjusted basis
Rolling five-year returns and information ratios for global large-cap equity managers from 2000 to 2025.

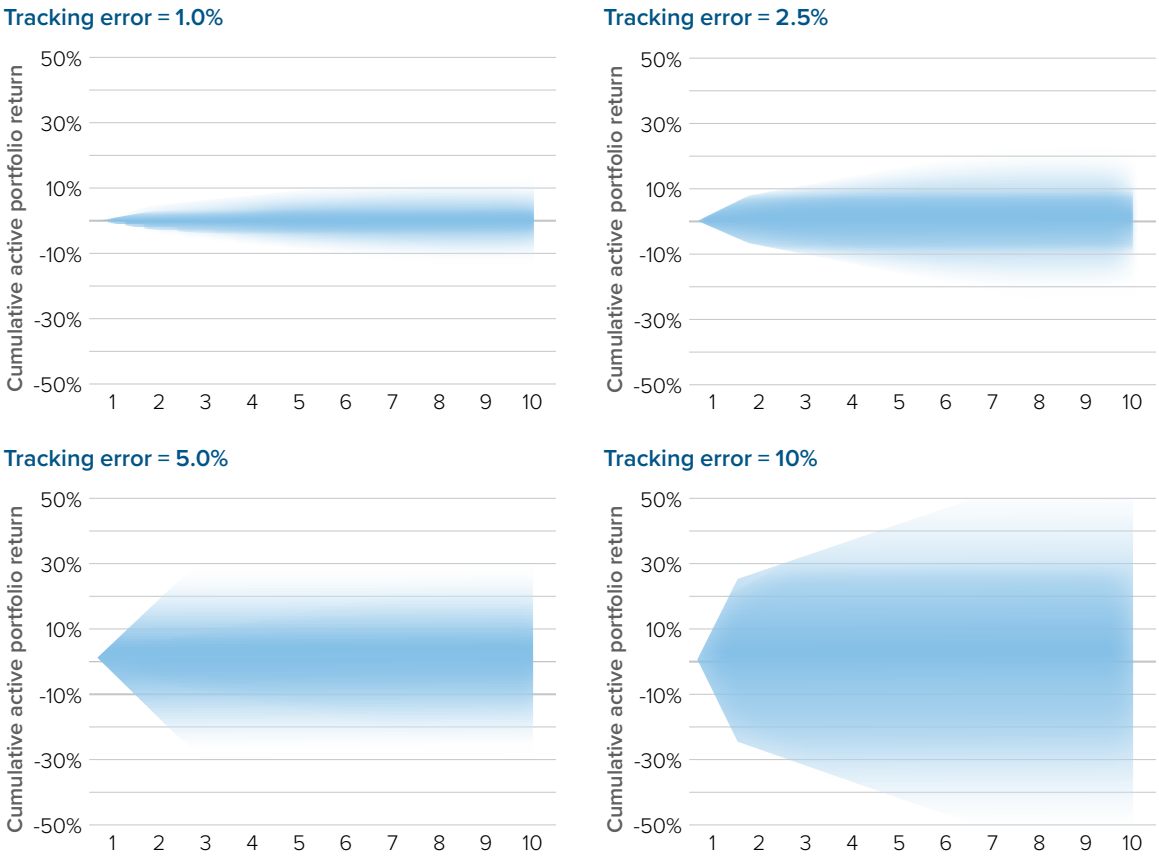


Source: eVestment Alliance, LLC, March 31, 2025. *Used rolling five-year periods from Mar. 31, 2005, to Mar. 31, 2025, with 12-month rollback. The number of products analyzed in each of the twelve periods excluded index data within the category and products with no data. The following is a list of the 12 five-year period end dates and number of products analyzed with 12-month rollback: Mar. 31, 2005: 51, Mar. 31, 2006: 60, Mar. 31, 2007: 68, Mar. 31, 2008: 80, Mar. 31, 2009: 99, Mar. 31, 2010: 114, Mar. 31, 2011: 137, Mar. 31, 2012: 159, Mar. 31, 2013: 187, Mar. 31, 2014: 207, Mar. 31, 2015: 230, Mar. 31, 2016: 267, Mar. 31, 2017: 310, Mar. 31, 2018: 341, Mar. 31, 2019: 379, Mar. 31, 2020: 406, Mar. 31, 2021: 439, Mar. 31, 2022: 465, Mar. 31, 2023: 491, Mar. 31, 2024: 529, Mar. 31, 2025: 543. Five-year excess returns calculated for each product in the eVestment Global Large Cap Equity universe by period are relative to the manager preferred benchmark. eVestment Alliance, LLC and its affiliated entities (collectively "Nasdaq eVestment") collect information directly from investment management firms and other sources believed to be reliable, however, Nasdaq eVestment does not guarantee or warrant the accuracy, timeliness or completeness of the information provided and is not responsible for any errors or omissions. Performance results may be provided with additional disclosures available on Nasdaq eVestment's systems and other important considerations such as fees that may be applicable. * All categories not necessarily included.

Beyond historical evidence, theoretical analysis further illustrates the effect of tracking error on outcome dispersion. Consider a Monte Carlo simulation framework that models 10-year cumulative active returns for portfolios constrained to various annual tracking error levels: 1%, 2.5%, 5% and 10% (Figure 3). In these simulations, average alpha is assumed to be 0% — a deliberate decision to isolate the effect of tracking error alone. This assumption assures that all observed variation in outcomes stems purely from differing levels of active risk, not manager skill. As Qian, Edward (2006) "On the Financial Interpretation of Risk Contribution: Risk Budgets Do Add Up" notes, using zero alpha creates a neutral baseline for evaluating the structural implications of tracking error under uncertainty.

The simulation results show that portfolios with lower TE produce tighter and more stable return distributions, while those with higher TE exhibit greater dispersion and significantly higher downside. Even when alpha is held constant, higher TE increases the likelihood of underperformance — an outcome that can jeopardize funding stability and erode confidence in governance processes.

FIGURE 3 – Portfolio outcomes are more predictable over time with lower TE
Simulated cumulative active returns (relative to benchmark) over 10 years at different levels of TE



Implementation: core-satellite integration and governance

We believe that low tracking error strategies integrate effectively within a core-satellite portfolio design. As the policy-aligned core, they have the potential to provide a stable foundation that preserves capital and aligns with benchmark exposures. Surrounding this core, satellite allocations can take on higher risk or more concentrated themes — including alternatives, thematic equities or opportunistic mandates.

This configuration enables institutions to extract more value from their risk budgets, allocating incremental risk to the highest-conviction ideas. Because low-TE strategies consume minimal active risk, they preserve capacity for more idiosyncratic allocations elsewhere in the portfolio.

Moreover, the systematic nature of low-TE strategies makes them easier to govern. Their rule-based construction, smaller deviations and extensive documentation support clear reporting, consistent attribution and transparent oversight — qualities that are essential in regulated or multi-stakeholder investment environments.

Conclusion: a scalable foundation for long-term success

Low tracking error strategies can provide institutional investors with a robust framework for achieving consistent, benchmark-relative returns with defined risk budgets. They can accomplish this through breadth of exposure, disciplined portfolio design and process-driven execution.

By enhancing predictability, mitigating downside risks and facilitating efficient capital allocation, these strategies strengthen governance structures and help investors maintain long-term funding discipline. In today's dynamic and increasingly complex capital markets, we believe they represent a durable foundation for sustained institutional success.

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