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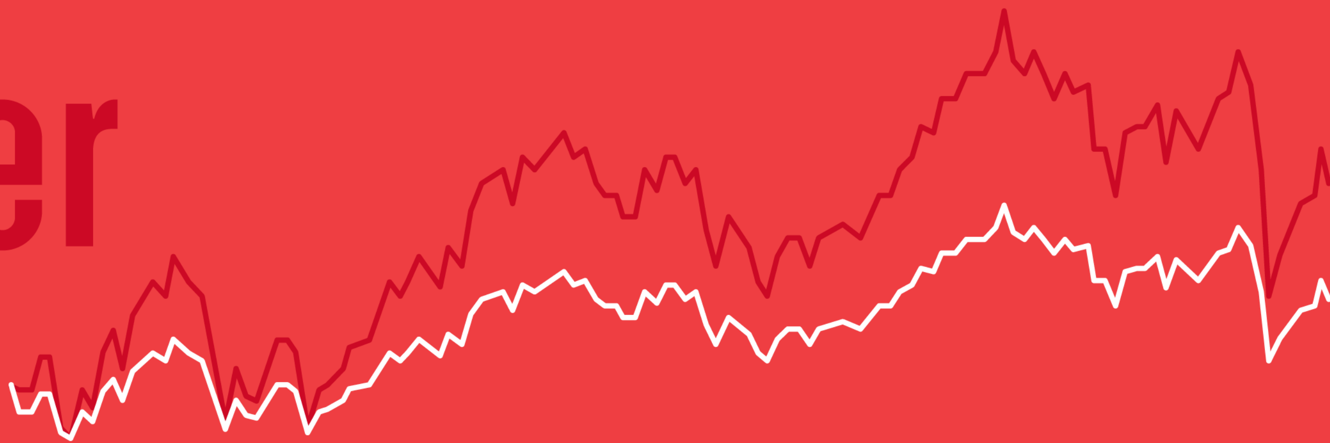

Persistence in Mutual Fund and ETF Performance

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Introduction

Persistent outperformance is one of the most sought-after characteristics of mutual funds and exchange-traded funds. Fund prospectuses typically present information on absolute and relative returns, but they rarely reflect a fund's ability to outperform or underperform year over year. Yet persistence ultimately provides the most meaningful insight into the quality of an investment. Consistent outperformance demonstrates the ability of a manager or strategy to achieve objectives repeatedly over time, but such cases are uncommon.

The academic literature has long attempted to identify persistent outperformers, but it has proven to be a difficult task. From a theoretical perspective, one could argue that persistent outperformance should not exist in the long run. If a fund consistently generates superior returns, new inflows would eventually push it toward capacity limits, or the managers could raise fees. Both erode the fund's advantage.

In practice, markets are never perfectly balanced. Although persistence is difficult to detect on average, it can differ across asset classes, fund characteristics, and market conditions. Recognizing these differences allows investors to better assess where and when consistent performance is more likely to be sustained. Moreover, avoiding persistent underperformers may be just as important as identifying persistent winners.

This study looks at persistence in mutual fund and ETF performance. It attempts to answer the question: how likely is a top performing mutual fund or ETF to maintain its standing as a top performer within its category? It also investigates circumstances that may influence persistence in ETF and mutual fund performance.

The analysis covers nearly 9,000 unique funds, representing approximately $24 trillion in assets, or about two-thirds of the US fund market as of June 2025.

Key Takeaways

- One-year outperformance is a poor predictor of future outperformance. Few funds that ranked in the top quartile of their category maintained that position over the subsequent one, two, or three years.
- Passive and strategic-beta funds do not exhibit greater year-over-year persistence at remaining in the top quartile of their category than actively managed funds.
- Some performance persistence is observed over horizons shorter than one year, likely reflecting momentum effects.
- When fund mergers and liquidations are taken into account, poor relative performance appears to be more persistent than strong performance.
- Periods of high market volatility can disrupt performance trends and reduce persistence.
- Low-fee funds that have performed well show higher probabilities of remaining in the top quartile, whereas high-fee funds with poor performance are less likely to become top performers. The effect is more pronounced over longer horizons.
- Fund categories in which active managers are more likely to outperform passive peers over the long term tend to exhibit moderately higher performance persistence.

One-Year Persistence

ONE-YEAR PERSISTENCE

Actively Managed Funds

Investment persistence looks at how well a fund performed in the past and if that performance can be replicated, or persists, in the future. One way to accomplish that is to identify top-performing funds within a category and test if they remained a top performer over subsequent years.

Exhibit 1 shows one-year persistence for actively managed mutual funds and exchange-traded funds, or the number of such funds that landed in the top quartile of their category in 2021 and remained in the top quartile over the subsequent three years.

The number of funds that remained in the top quartile of their category declined quickly across the board. Few top-quartile funds remained in their category's top quartile in 2022, and even fewer persisted through 2023. All top-quartile funds failed to retain their category relative standing for three consecutive years (through 2024) in 11 of the 20 categories.

Funds in some categories fared a little better than others. For example, funds in the intermediate core bond category showed higher persistence than others. However, only six of the initial 35 (or about 17%) top-quartile funds remained in the top quartile at the end of 2024.

Top-quartile performance within a category didn't last long, and that conclusion is not exclusive to actively managed funds.

Exhibit 1 One-Year Persistence of Actively Managed Funds

Category	# of Funds in 2021	# in Top Quartile 2021	# Remaining in Top Quartile 2022	# Remaining in Top Quartile 2023	# Remaining in Top Quartile 2024
Large Blend	323	83	20	1	1
Large Value	300	63	14	1	0
Large Growth	326	61	26	1	1
Mid-Cap Blend	96	34	9	3	0
Mid-Cap Value	103	23	4	2	0
Mid-Cap Growth	150	40	18	1	0
Small Blend	160	44	17	5	3
Small Value	118	31	12	6	3
Small Growth	163	36	15	1	0
Foreign Large Blend	170	49	18	6	4
Foreign Large Value	77	16	7	1	0
Foreign Small/Mid-Blend	23	7	4	0	0
Global Large-Stock Blend	73	16	4	0	0
Diversified Emerging Markets	200	38	16	14	2
Europe Stock	16	4	1	0	0
Real Estate	55	13	0	0	0
Global Real Estate	42	12	0	0	0
Intermediate Core Bond	109	35	16	10	6
Corporate Bond	43	16	5	1	1
High Yield Bond	169	50	10	2	2

Source: Morningstar Direct. Data as of Dec. 31, 2024.

ONE-YEAR PERSISTENCE

Strategic-Beta Funds

Exhibit 2 repeats the same persistence exercise for strategic-beta mutual funds and ETFs. These funds mix elements of active and passive management. Like actively managed funds, they make intentional style bets aimed at outperforming the market or a broad benchmark index. However, they track an index that outlines their investment process rather than rely on a manager to make investment decisions. They typically charge lower fees, which could aid their persistence.

Like actively managed funds, the number of strategic-beta funds remaining in the top quartile of their category deteriorated quickly, and only three categories had one or more top-quartile performer remaining at the end of 2024.

In certain instances, the lack of persistence was trivial. Categories such as foreign small/mid blend, real estate, and intermediate core bond had less than 10 strategic-beta funds available at the beginning of the period, so there were relatively fewer opportunities to observe any meaningful persistence.

Exhibit 2 One-Year Persistence of Strategic-Beta Funds

Category	# of Funds in 2021	# in Top Quartile 2021	# Remaining in Top Quartile 2022	# Remaining in Top Quartile 2023	# Remaining in Top Quartile 2024
Large Blend	54	14	5	0	0
Large Value	70	33	10	0	0
Large Growth	26	9	4	0	0
Mid-Cap Blend	24	5	2	0	0
Mid-Cap Value	21	8	1	0	0
Mid-Cap Growth	9	3	2	0	0
Small Blend	27	12	3	0	0
Small Value	14	5	0	0	0
Small Growth	5	5	3	2	1
Foreign Large Blend	25	5	2	0	0
Foreign Large Value	34	11	4	1	0
Foreign Small/Mid-Blend	1	0	0	0	0
Global Large-Stock Blend	4	0	0	0	0
Diversified Emerging Markets	32	22	16	6	3
Europe Stock	10	3	2	1	1
Real Estate	4	1	0	0	0
Global Real Estate	2	1	0	0	0
Intermediate Core Bond	3	0	0	0	0
Corporate Bond	5	0	0	0	0
High Yield Bond	8	1	0	0	0

Source: Morningstar Direct. Data as of Dec. 31, 2024.

Passively Managed Funds

Exhibit 3 shows one-year persistence for passively managed ETFs and mutual funds. These funds replicate the performance of a broad market index, or an index that closely represents the stocks or bonds from a segment of a market.

In many categories, the outcome was worse for passively managed funds than actively managed funds or strategic-beta funds. Many failed to crack the top quartile in 2021, let alone persist over the next three years.

Passively managed funds in the large-blend and large-growth categories were the exceptions. Part of the reason is that short-term category relative performance of a passively managed index fund is closely tied to the success or failure of its market segment. That observation tends to hold because an index is fully invested and often the purest representation of a market segment. US stocks in the large-blend and large-growth categories performed exceptionally well in 2021, while other segments struggled.

Exhibit 3 One-Year Persistence of Passively Managed Funds

Category	# of Funds in 2021	# in Top Quartile 2021	# Remaining in Top Quartile 2022	# Remaining in Top Quartile 2023	# Remaining in Top Quartile 2024
Large Blend	131	30	4	0	0
Large Value	24	3	2	0	0
Large Growth	41	28	3	0	0
Mid-Cap Blend	39	1	1	1	0
Mid-Cap Value	9	2	0	0	0
Mid-Cap Growth	21	2	1	0	0
Small Blend	40	1	1	0	0
Small Value	11	0	0	0	0
Small Growth	9	3	3	0	0
Foreign Large Blend	60	10	5	4	3
Foreign Large Value	2	1	0	0	0
Foreign Small/Mid-Blend	4	0	0	0	0
Global Large-Stock Blend	16	7	0	0	0
Diversified Emerging Markets	36	7	3	2	0
Europe Stock	14	3	3	1	1
Real Estate	26	7	0	0	0
Global Real Estate	10	1	0	0	0
Intermediate Core Bond	28	0	0	0	0
Corporate Bond	19	1	0	0	0
High Yield Bond	35	2	0	0	0

Source: Morningstar Direct. Data as of Dec. 31, 2024.

What Are the Odds?

The historical probabilities also suggest that there is a degree of randomness to short-term (one-year) persistence. Exhibit 4 shows the transition matrix for all actively managed funds over nonoverlapping periods between 2010 and 2024.

The probabilities of landing in one of the quartiles, or columns two through five, would be a little less than 25% if the outcomes were completely random. That accounts for a small portion of funds that change categories or cease to exist through mergers or liquidations. With few exceptions, the realized probabilities were close to that figure.

The results looked a little different for passively managed funds. The historical probability of a fund with a second-quartile total return landing in the second quartile the next year was just shy of 50%. Similarly, a fund with a third -quartile total return had a 36.4% probability of landing in the second quartile and a 32.3% chance of landing in the third quartile. That means many passively managed funds with middling one-year total returns tend to have middling total returns over the next year.

Why does their short-term persistence look so average? The composition of passively managed funds often looks a lot like the average of their peers, so it makes sense that their short-term total returns tend to land near the middle of all their category peers.

Exhibit 4 Transition Matrix for One-Year Persistence of Active Funds

Prior-Year Quartile	Top (%)	2 (%)	3 (%)	Bottom (%)	Merged or Liquidated (%)	Category Change (%)
Top	24.7	19.3	21.3	27.3	3.9	3.5
2	20.7	25.7	27.1	20.6	3.9	2.1
3	21.4	23.3	25.6	22.3	5.1	2.3
Bottom	23.8	17.3	19.0	27.1	8.5	4.5

Exhibit 5 Transition Matrix for One-Year Persistence of Passive Funds

Prior-Year Quartile	Top (%)	2 (%)	3 (%)	Bottom (%)	Merged or Liquidated (%)	Category Change (%)
Top	24.3	25.3	24.8	20.1	3.8	1.7
2	15.8	48.6	25.9	6.9	2.5	0.4
3	16.5	36.4	32.3	11.6	2.5	0.7
Bottom	24.6	20.1	18.0	25.1	10.1	2.0

Source: Morningstar Direct. Data as of Dec. 31, 2024.

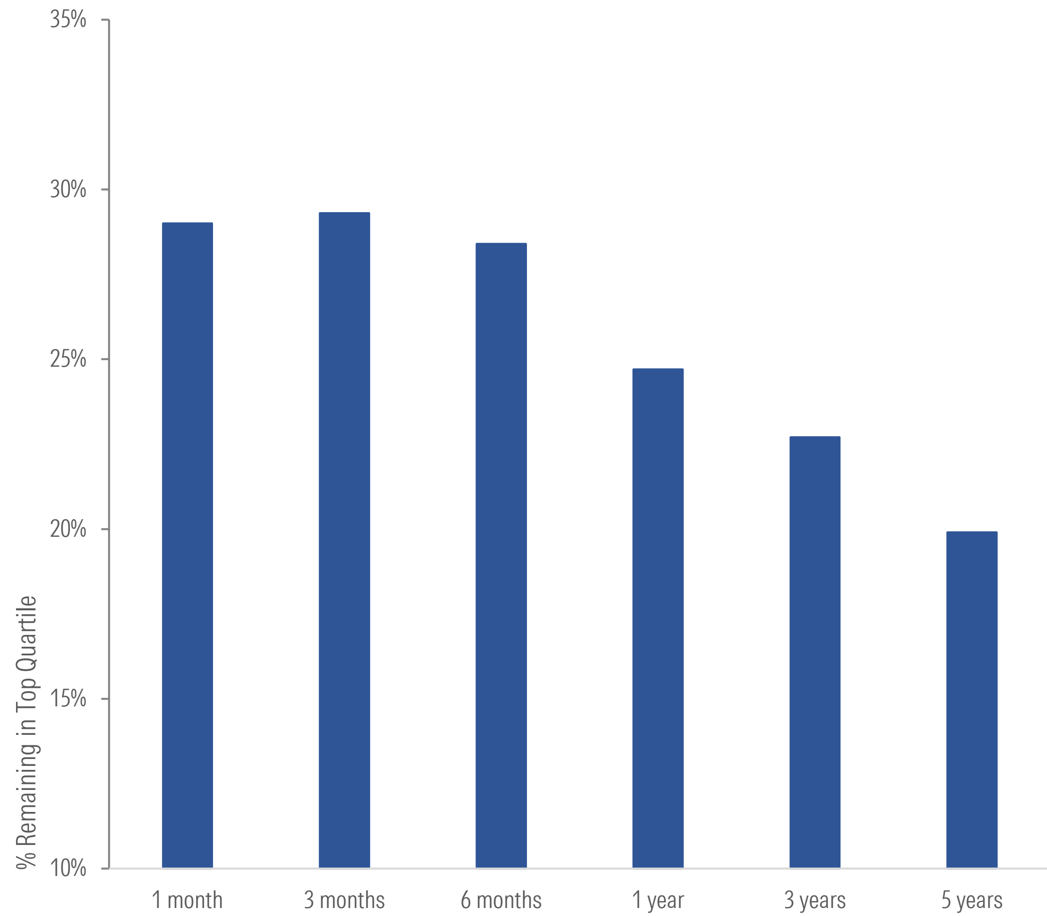
Sorting Through the Noise

Short(er)-Term Persistence

Anecdotally, some of the tendencies of the momentum anomaly may lend some further insight. Momentum relies on the observation that recent past performance tends to persist into the near-term future. In practice, that usually means a stock's return over the prior six to 12 months tends to reasonably predict its total return over the next year. But the effectiveness of that signal deteriorates soon after.

The observation that actively managed mutual fund and ETF persistence deteriorates within a year is consistent with the momentum concept. Exhibit 6 shows the probability of a top-quartile fund remaining in the top quartile over the ensuing months and years. For one-, three-, and six-month horizons the probability was just shy of 30%, and it started to decline for periods of one year and longer.

Exhibit 6 The Decline of One-Year Persistence



Source: Morningstar Direct. Data as of Dec. 31, 2024.

The Long Game

Looking at persistence over longer periods could smooth out some of the short-term volatility and potentially provide more insight.

That was not the case for high-performing actively managed funds. Exhibits 7 and 8 show that when persistence is measured over longer horizons (three and five years), the probability of an actively managed fund remaining in the top quartile during the subsequent period is close to a random chance. The slight shortfall from 25% reflects the impact of mergers, liquidations, and category changes.

More striking, however, is the persistence of weak performance. For funds that performed poorly, the probability of remaining in the bottom quartile or being merged or liquidated increases substantially with time. Over a five-year horizon, this probability rises above 50%. In other words, while strong past performance provides little indication of future success, poor past performance is a more reliable predictor of continued weakness. Funds with a bottom-quartile five-year total return were more than twice as likely to shut down as those in the top two quartiles.

Exhibit 7 Transition Matrix for Three-Year Persistence of Active Funds

Prior 3-Year Quartile	Top (%)	2 (%)	3 (%)	Bottom (%)	Merged or Liquidated (%)	Category Change (%)
Top	22.7	20.2	19.7	23.5	8.1	5.8
2	18.3	22.9	23.6	20.4	10.2	4.6
3	17.2	19.9	23.0	19.2	13.7	7.0
Bottom	17.0	12.7	14.9	21.1	22.8	11.4

Exhibit 8 Transition Matrix for Five-Year Persistence of Active Funds

Prior 5-Year Quartile	Top (%)	2 (%)	3 (%)	Bottom (%)	Merged or Liquidated (%)	Category Change (%)
Top	19.9	19.3	22.1	22.3	10.8	5.7
2	18.0	21.5	19.7	17.9	15.7	7.3
3	14.7	15.7	21.4	16.5	20.9	10.9
Bottom	12.2	11.3	12.7	16.5	33.8	13.5

Source: Morningstar Direct. Data as of Dec. 31, 2024.

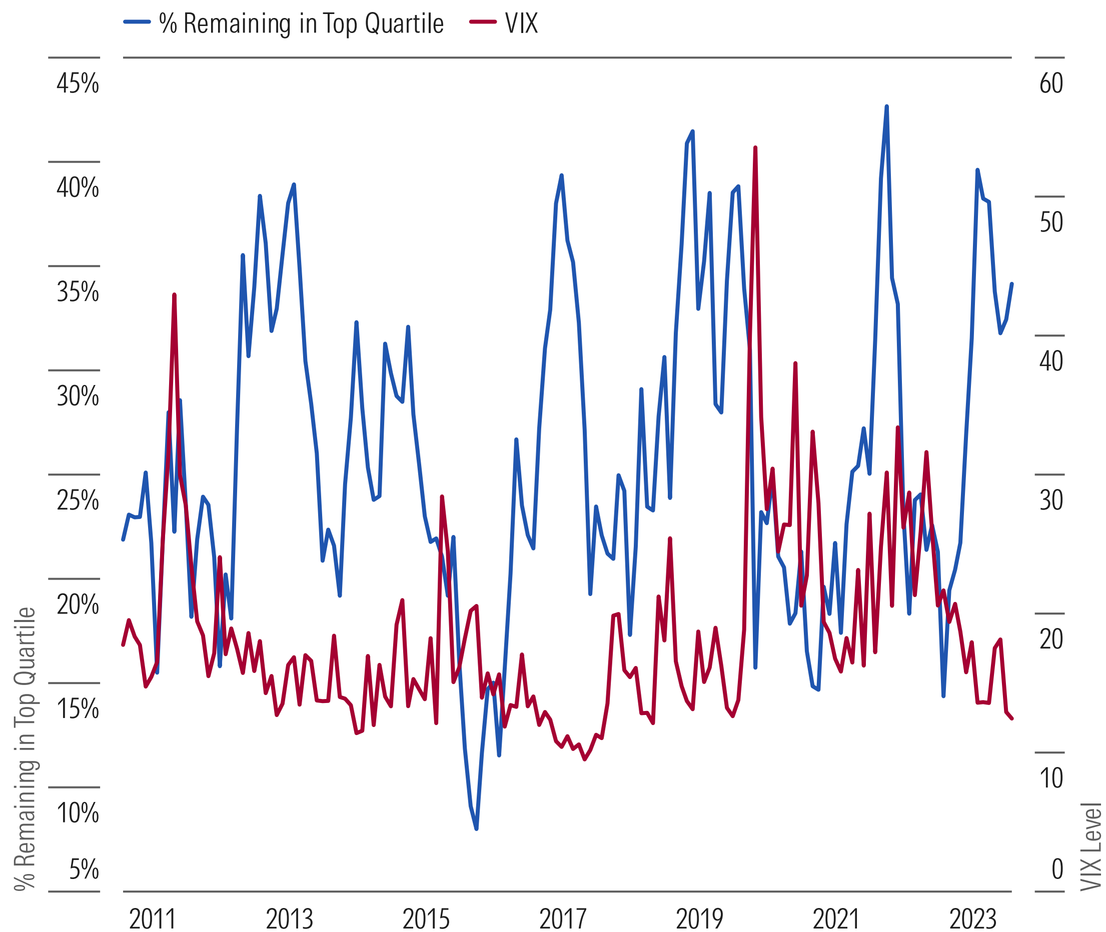
Persistence and Volatility

Persistent outperformance among actively managed mutual funds and ETFs is more attainable when markets are stable and move in a consistent direction. Stable market conditions provide a more predictable environment in which top-performing managers or strategies can maintain their success, whereas periods of heightened uncertainty create greater variability in outcomes, making consistent outperformance more difficult to sustain.

The graph illustrates this relationship by plotting the probability of remaining in the top quartile for two consecutive years against the VIX Index, a widely recognized proxy for the overall market volatility. The VIX is derived from option prices on the S&P 500 and reflects market expectations of near-term fluctuations, making it a standard reference point in analyses of market conditions.

The data indicate that during calmer periods, managers' performance tends to be more persistent. Between 2016 and 2019, when the VIX remained relatively subdued, the average one-year probability of remaining in the top quartile frequently exceeded 30% and occasionally approached 40%. By contrast, the probability declined in periods of elevated volatility. The VIX spiked in early 2020 and probability dropped to around 15%, the lowest level in five years. This underscores the greater difficulty of sustaining top-quartile performance under turbulent market conditions.

Exhibit 9 One-Year Persistence and Volatility



Source: Morningstar Direct. Data as of Dec. 31, 2024.

The Effect of Fees

Actively managed fund performance itself may not be highly persistent over time, but one component of investor returns consistently stands out: fees. Evidence shows that, in the long run, funds with higher fees tend to underperform their cheaper counterparts on average.

Fees also serve as a useful indicator of persistence. Even over a one-year horizon, differences emerge. The likelihood of remaining a top performer is only marginally higher for low-cost funds. However, poor-performing expensive funds carry a significantly greater chance, around 13% higher, of staying in the bottom quartile or being merged/liquidated within the following year (Exhibit 10).

The effect becomes even more pronounced over longer periods. As shown in Exhibit 11, the probability of consistently staying among top performers is about 6% higher for cheap funds compared with the expensive ones. Conversely, poor-performing expensive funds are much more likely remain poor performers or face closure.

In sum, fees are a reliable signal of long-term performance persistence. For investors with extended horizons, the combination of past performance and fee levels deserve careful attention when selecting funds.

Exhibit 10 Differences in One-Year Persistence Probabilities
Cheap Funds Minus Expensive Funds

Prior-Year Quartile	Top (%)	2 (%)	3 (%)	Bottom (%)	Merged or Liquidated (%)	Category Change (%)
Top	1.8	6.6	6.2	-11.2	-1.7	-1.7
2	2.5	8.7	5.9	-14.0	-2.1	-1.0
3	3.8	7.7	3.3	-9.4	-3.2	-2.1
Bottom	5.7	4.3	4.2	-8.1	-4.7	-1.3

Exhibit 11 Differences in Three-Year Persistence Probabilities
Cheap Funds Minus Expensive Funds

Prior-Year Quartile	Top (%)	2 (%)	3 (%)	Bottom (%)	Merged or Liquidated (%)	Category Change (%)
Top	6.3	8.5	1.7	-11.6	-1.3	-3.6
2	3.4	13.3	-0.8	-11.1	-4.3	-0.6
3	5.7	7.9	2.6	-8.5	-4.2	-3.5
Bottom	6.1	6.2	8.1	-9.4	-11.3	0.2

Source: Morningstar Direct. Data as of Dec. 31, 2024.

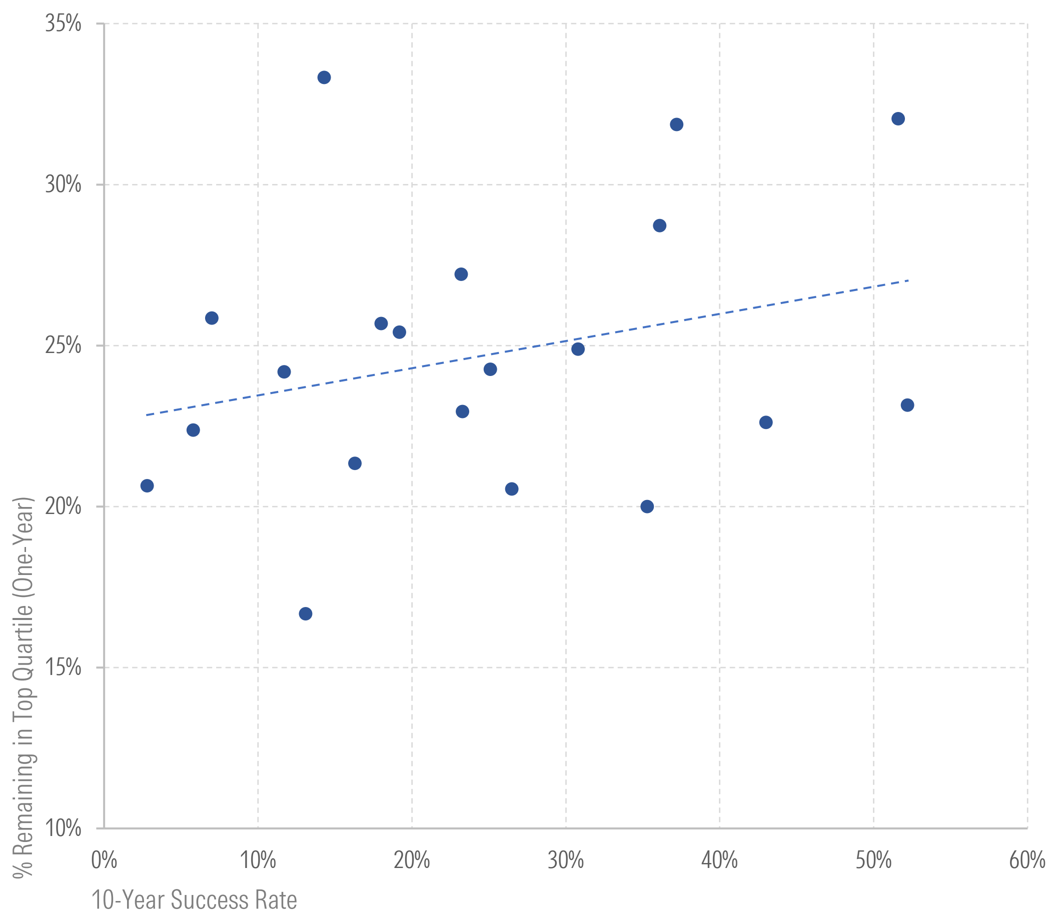
Short-Term Meets Long-Term

As the time horizon increases beyond five years, past performance becomes less important in determining a fund's category relative performance. Low fees, sound investment processes and managers, and a fund's category (or peer group) become more important.

Morningstar's US Active/Passive Barometer report summarizes long- and short-term success rates for active managers against their passively managed peers. Those reports find that active managers can have reasonably high success rates over one-year periods, or that passively managed funds tend to have one-year total returns that land near the middle of their category. However, the success rates of active managers decline as the time period increases, and those rates vary across categories.

Long-term success rates appear to have a modest positive relationship to the one-year persistence probabilities of actively managed funds. Exhibit 7 plots the probability of a top-quartile actively managed fund remaining in its category's top quartile versus the 10-year success rate of actively managed funds. Greater one-year persistence in categories with higher 10-year success rates suggests that managers in those categories may have relatively greater skill or more opportunities to demonstrate their skill.

Exhibit 12 One-Year Persistence Versus 10-Year Success Rate



Source: Morningstar Direct. Data as of Dec. 31, 2024.

Appendix

Methodology

The sample of funds used in this analysis covers 20 categories: US Large Blend, US Large Value, US Large Growth, US Mid-Blend, US Mid-Value, US Mid-Growth, US Small Blend, US Small Value, US Small Growth, Foreign Large Blend, Foreign Large Value, Foreign Small/Mid-Blend, Global Large Blend, Diversified Emerging Markets, Europe Stock, US Real Estate, Global Real Estate, Intermediate Core Bond, Corporate Bond, and High-Yield Bond.

Funds of funds and funds with assets below $10 million are excluded. All other ETFs and open-end mutual funds in these Morningstar categories constitute the eligible universe. The study period spans 2010 to 2024.

The analysis is conducted at the fund level. For funds with multiple share classes, we compute a single return figure using the asset-weighted average of all share class returns. To be included in the sample, a fund must have valid assets and return data for at least one share class.

Persistence is defined as the probability that a fund remains in a given return quartile within its category. For example, persistent outperformance is measured as the probability that a fund ranked in the top quartile in one period remains in the top quartile in the subsequent period. The period of performance measurement is one year, unless stated otherwise. Quartiles are calculated relative to all funds in the category, including active, passive, and strategic-beta strategies.

Fund fees are measured by aggregating annual net expense ratios from share class level to the fund level. Cheap funds are defined as the 25% of active funds with the lowest fees within each category at a given date, while expensive funds are the 25% with the highest fees.

The passive and strategic-beta classifications used were consistent with the classification used in Morningstar's rating framework. Passively managed index funds were those that reasonably represent the opportunity set of stocks or bonds eligible to actively managed funds in that category. Strategic-beta funds were those that track an index but employ specific risk exposures that are intended to help them outperform the market or a market segment over long periods.

All data for the study come from Morningstar Direct. Additional data definitions can be found there.

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