

The Next Chapter in the Active vs. Passive Debate

An Update to our Analysis of Performance, Consistency, and Persistence

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The ninth iteration of “The Next Chapter in the Active vs. Passive Debate” in which we evaluate the efficacy of active mutual funds¹ in all 17 different categories during the ten-year period ended December 2025. Despite the unprecedented market environments captured in the recent iteration, and variations over time periods since the first edition of the paper in 2007, our primary observations have remained consistent over time.

The constituents of this analysis are all actively-managed strategies as defined by Morningstar. All passively-managed strategies that achieved ten-year track records are analyzed separately at the end of the paper.

Key Observations:

92%

of ten-year top quartile mutual funds were unable to avoid at least one three-year stretch in the bottom half of their peer group. This result is slightly higher than the median of the historical range of 83 to 92 percent in our past eight editions, and equal to our 2024 edition. The higher percentage can be attributed to Value Equities, Small Cap, and Emerging Markets asset classes, which in total represent a high percentage of the funds analyzed.

62%

of ten-year top quartile mutual funds were unable to avoid at least one five-year period in the bottom half of their peer group. This result is near the middle of our historical range of 54 to 63 percent in our past eight editions, and up from 58 percent we observed in our last edition.

¹Distinct portfolio share classes (only) from Morningstar mutual fund database as of December 2025. Not corrected for survivorship bias. All data in all exhibits is sourced as Morningstar and Fiducient Advisors analysis unless stated otherwise.

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Top Quartile

Top quartile mutual funds with three-year stretches in the bottom half of their peer group spend, on average, six consecutive quarters below the median. Top quartile funds spent an average of 25 percent of rolling three-year periods in the bottom half of their peer groups, slightly above 23 percent in our previous edition.

29th Percentile

Owning the 29th percentile mutual fund in each category would have matched the weighted index return for a 70 percent equity and 30 percent fixed income portfolio during the ten-year period. This result is lower than the historical range of 34 to 52 percent in our past eight editions, and lower than the 34th percentile we observed in our last edition. Thus, the trend that more effective manager selection is required to match the weighted index return continues to persist, including during the recent ten-year period.

Consistent with previous editions, several asset classes succeeded in generating outperformance in the top quartile of their peer group and in some instances the median manager did as well.

Investing passively does not completely insulate investors from volatility in relative performance compared to active peers, and in some asset classes guaranteed sub-par results over the most recent ten-year period.

Long-term Success

Falling prey to natural human behavioral tendencies during the manager selection and termination process generally leads to failure. Investors need to make a concerted effort before investing to understand a manager's investment process, sub-style, and whether they possess competitive advantages over their peers that improve the odds of ranking in the top quartile over longer periods. We continue to believe this allows investors to develop the confidence, and more importantly, the patience required for long-term success.

Introduction

The most recent ten-year period includes recession, expansion, quantitative easing, quantitative tightening and both rising and falling markets. Yet, our current findings remain consistent with our previous studies and support our past conclusion that nearly all of the top-ranked managers will struggle at some point over longer periods.

Exhibit 1

Ten-year top quartile funds^{2,3,4} that fell below median during one or more three- and five-year periods

Category	Number of Funds with 10-Year Track Records ^{1,2}	Number of 10-Year Top Quartile Active Managers	Number of 10-Year Top Quartile Active Managers Below Median For a 3-Year Period	Percent of 10-Year Top Quartile Active Managers Below Median For a 3-Year Period	Average Number of Consecutive Quarters Spent In Bottom Half of Peer Group	Number of 10-Year Top Quartile Funds Below Median For a 5-Year Period	Percent of 10-Year Top Quartile Active Managers Below Median For a 5-Year Period
Intermediate Bond	72	21	16	76%	5.5	11	52%
High Yield Bond	128	33	28	85%	5.0	19	58%
International/Global Bond	33	9	7	78%	5.0	4	44%
Large Cap Value	224	57	54	95%	5.7	35	61%
Large Cap Core	233	42	38	90%	5.7	22	52%
Large Cap Growth	216	45	39	87%	7.3	25	56%
Mid Cap Value	84	21	21	100%	5.5	11	52%
Mid Cap Core	68	15	14	93%	6.5	12	80%
Mid Cap Growth	102	25	24	96%	5.8	17	68%
Small Cap Value	104	26	24	92%	6.0	16	62%
Small Cap Core	138	38	37	97%	7.2	24	63%
Small Cap Growth	119	31	30	97%	6.9	22	71%
International Value	72	18	18	100%	6.3	14	78%
International Core	114	33	31	94%	7.4	22	67%
International Growth	63	16	15	94%	6.1	9	56%
Emerging Markets	130	34	34	100%	8.0	27	79%
Real Estate	38	11	8	73%	6.1	5	45%
Total	1938	475	438				
Weighted Average				92%	6.3	295	62%

Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025

Duration of Manager Underperformance

The duration of below peer group median performance can test the patience of even the most sophisticated investors. We believe many accept the premise that strong long-term performing managers can produce poor results from time to time. However, the length of these poor-performing stretches is often surprising. **Exhibit 1** displays that over the recent ten-year period, the average top quartile manager spent over six consecutive quarters in the bottom half of the peer group based on rolling three-year periods. This suggests that one would need to defend and/or discuss a top quartile manager (and eventual long-term winner) for at least six straight quarterly meetings at some point over the recent ten-year period. Depending on the asset class, this ranges from as few as four quarters to as many as eight, so one cannot escape this phenomenon regardless of the asset class.

²Many fund families offer multiple versions of the same fund, but with variations of the fees that are charged and investor qualifications. Morningstar's "distinct portfolio only" feature removes all duplicate options. Morningstar normally designates the oldest share class as the distinct portfolio.

³Morningstar data is not immune to survivorship bias. Each mutual fund that survived the ten-year stretch was captured regardless of performance. In addition, the Morningstar data generates returns net of expenses.

⁴All ten-year calculations across the paper reflect the period from December 31 2015 – December 31 2025.

While the stretch of poor-performance can be long, it can also be frequent across all managers in a diversified asset allocation. **Exhibit 2** shows that ten-year top quartile funds spent about 25 percent of rolling three-year periods (or approximately 7 out of 29 total observations) in the bottom half of their peer group. Therefore, had one possessed enough skill (or luck) to have selected top quartile funds in every single category, one would still have to go through many quarterly performance reviews where at least one of the selected managers achieved below median performance for the recent three-year period. Over rolling five-year periods, top quartile funds spent 13 percent of the time in the bottom half of their peer groups. The ranges are relatively tight and consistent across all 17 analyzed asset classes.

Exhibit 2

Average percent of three- and five-year periods spent in the bottom half by ten-year top quartile funds

Category	Number of 10 year Top Quartile Active Managers	Average Percent of 3-Year Periods Spent in Bottom Half	Average Percent of 5-Year Periods Spent in Bottom Half
Intermediate Bond	21	17%	8%
High Yield Bond	33	17%	13%
International/Global Bond	9	18%	13%
Large Cap Value	57	24%	14%
Large Cap Core	42	24%	17%
Large Cap Growth	45	26%	17%
Mid Cap Value	21	26%	14%
Mid Cap Core	15	30%	23%
Mid Cap Growth	25	26%	19%
Small Cap Value	26	26%	17%
Small Cap Core	38	29%	17%
Small Cap Growth	31	26%	13%
International Value	18	31%	16%
International Core	33	28%	20%
International Growth	16	24%	19%
Emerging Markets	34	31%	22%
Real Estate	11	18%	11%
Weighted Average		25%	16%

Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025

Once a manager is hired, it is unlikely that performance will always be strong when revisiting trailing performance on a quarterly basis, even if the next ten-year period is strong enough to place the manager in the top quartile of their peer group. In fact, the only way to potentially ensure your portfolio will always consist of managers with strong performance over trailing periods is to constantly replace your recent underperforming managers with recent more favorable performers. As behavioral finance suggests, such behavior is subject to significant recency bias. Such restraint is often easier said than done, however, as it requires discipline and patience. Since even the best performing managers periodically struggle, what are the legitimate reasons to consider termination? We believe the answers to the following questions are the most instructive:

1. Has the portfolio manager or team changed the process, investment constraints, or style?
2. Does the performance align with the historical context of the manager's track record in similar market cycles?
3. Have there been any material personnel or organizational changes?
4. Does the process remain consistent despite near-term struggles?
5. Are incentive alignments in place to retain strong talent and encourage long term thinking?
6. Has the manager's competitive advantage decayed as a result of changing market dynamics?

While it may be easier to avoid these difficult questions by simply terminating (and hiring a recent strong-performing manager), there is some evidence to suggest that it will be a futile exercise.

Style Analysis

It is important to know when and by how much active managers are expected to both outperform and underperform. Historically, the greater the benchmark return, the more difficult it has been for active managers to keep pace with the benchmark. Index performance rankings are also cyclical and often fluctuate as much as active strategies in the same asset class. In some cycles, indices can be extremely difficult to beat not only by the median manager, but even by a top quartile manager. **Exhibit 3** illustrates this concept.

Exhibit 3

Index⁵ returns compared to median and top quartile funds

Category	10 Year Index Return	10-Year Index Peer Group Rank	Median Fund Return	Median Fund Excess Return	Top Quartile Fund Return	Top Quartile Fund Excess Return
Intermediate Bond	2.0%	53	2.0%	0.0%	2.4%	0.4%
High Yield Bond	6.5%	13	5.7%	-0.9%	6.1%	-0.4%
International/Global Bond	0.6%	91	2.0%	1.5%	2.6%	2.1%
Large Cap Value	10.5%	57	10.7%	0.2%	11.4%	0.9%
Large Cap Core	14.8%	11	13.7%	-1.1%	14.5%	-0.3%
Large Cap Growth	18.1%	10	15.4%	-2.7%	16.4%	-1.8%
Mid Cap Value	9.8%	43	9.5%	-0.3%	10.4%	0.7%
Mid Cap Core	11.0%	19	10.3%	-0.8%	10.9%	-0.1%
Mid Cap Growth	12.5%	15	10.7%	-1.8%	11.7%	-0.8%
Small Cap Value	9.3%	36	8.8%	-0.4%	9.8%	0.5%
Small Cap Core	9.6%	44	9.5%	-0.2%	10.3%	0.6%
Small Cap Growth	9.6%	59	10.2%	0.6%	11.3%	1.8%
International Value	9.5%	26	8.6%	-0.9%	9.5%	0.0%
International Core	8.9%	23	8.2%	-0.7%	8.8%	-0.1%
International Growth	8.3%	35	7.7%	-0.6%	8.7%	0.5%
Emerging Markets	8.9%	34	8.2%	-0.7%	9.2%	0.3%
Real Estate	5.7%	37	5.3%	-0.4%	5.9%	0.2%

Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025

In the case of International/Global Bond, or Small Cap Growth, the median manager or higher outperformed its index, making a strong case for active management in the asset classes. However, if you do not possess skill in selecting top quartile managers in certain asset classes, your allocation is likely to underperform its respective index. For asset classes such as International Core, Emerging Markets and Real Estate, the median manager underperformed its index while the top quartile manager outperformed.

Use of Indices and Benchmark Return Indices cannot be invested in directly. Index performance is reported gross of fees and expenses and assumes the reinvest dividends and capital gains. Past performance does not indicate future performance and there is a possibility of a loss. See disclosure page for indices representing each asset class.

⁵Indices: Bloomberg Aggregate Bond, Bloomberg U.S. Corporate High Yield, Bloomberg Global Aggregate ex U.S., Russell 1000 Value, S&P 500, Russell 1000 Growth, Russell Mid Cap Value, Russell Mid Cap, Russell Mid Cap Growth, Russell 2000 Value, Russell 2000, Russell 2000 Growth, FTSE NAREIT Equity REITs, MSCI EAFE Value, MSCI EAFE, MSCI EAFE Growth, MSCI Emerging Markets.

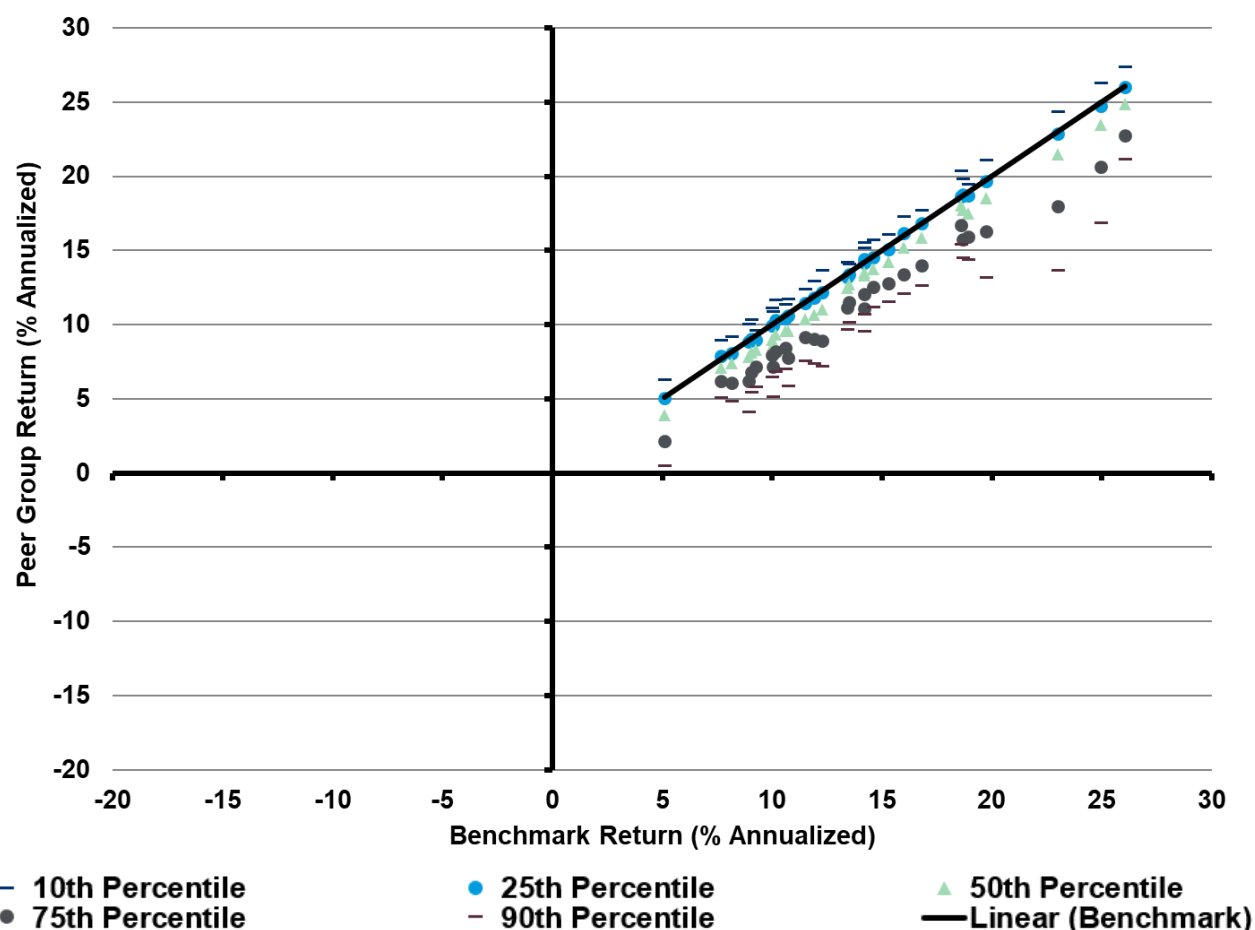
For other asset classes such as High Yield, outperforming the benchmark was extremely difficult. To be successful in generating a positive excess return, an investor would have needed to select a top-decile manager. It is worth noting that not all indices can be efficiently replicated by a passive portfolio. Despite the headwind for active managers in High Yield for example, there are two well-known passive ETFs in the space, and both underperformed the index by roughly -1.0 percent on an annual basis over the last ten years.

Expanding the analysis further, **Exhibit 4** displays a scatterplot of the benchmark return (on a rolling three-year basis) on the horizontal X-axis and multiple peer group returns on the vertical Y-axis. The diagonal line represents the benchmark return and icons above the line indicate outperformance whereas icons below the line indicate underperformance.

Exhibit 4

Rolling three-year peer group returns vs. S&P 500

Large Cap Core (Rolling 3-Year Returns)



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Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025

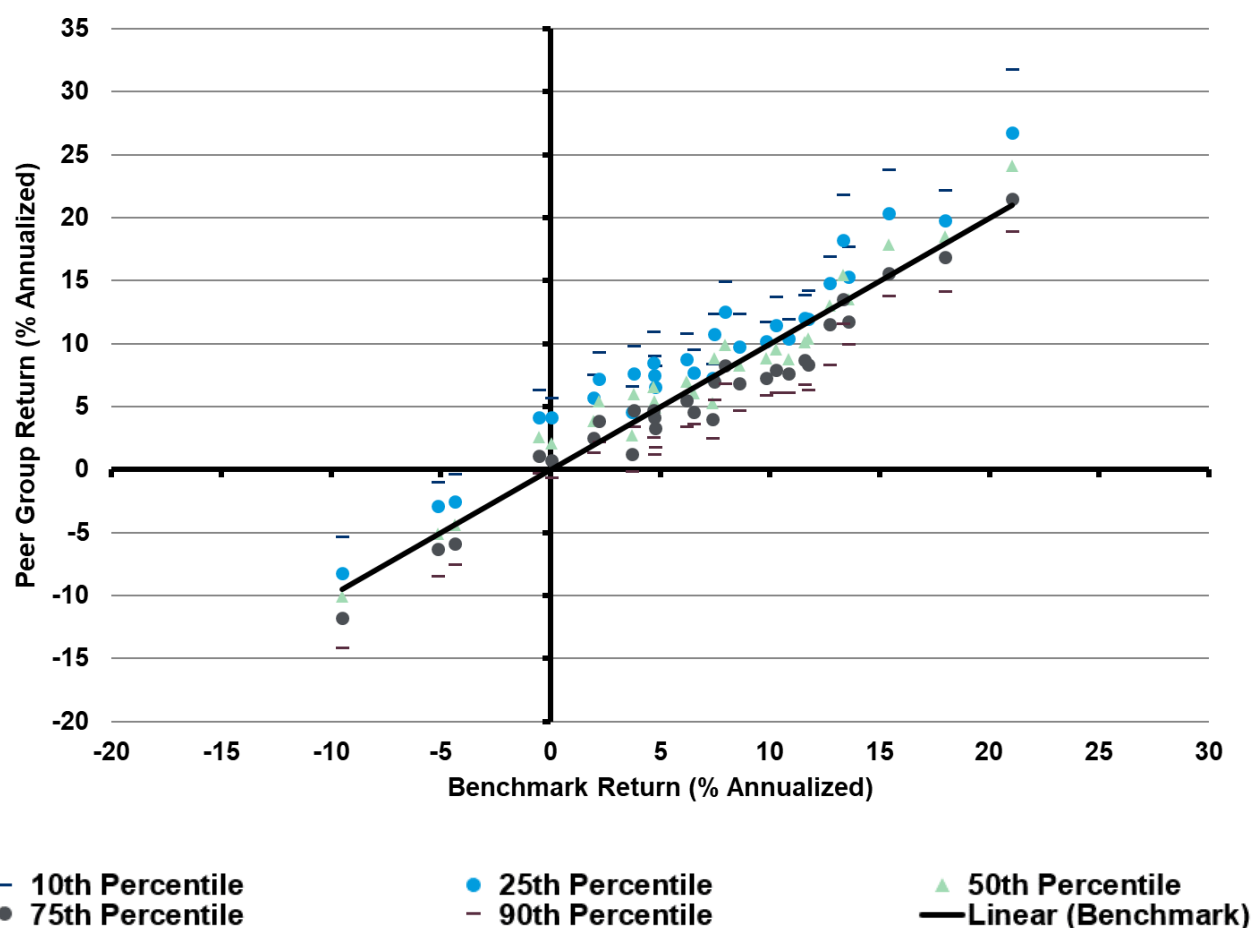
The Large Cap Core space shows very strong and consistent absolute returns on a rolling three-year basis and benchmark performance around the top quartile of peers in each instance. It is noteworthy that for the current ten-year period, every rolling three-year period had positive absolute performance, with the majority of observations being 10 percent annualized returns or greater. Thus, it has been especially difficult for active Large Cap Core managers to outperform the S&P 500 index. In addition, with the market capitalization weighted nature of the benchmark, the high degree of returns generated from a handful of stocks more recently is noteworthy and makes the job of the active manager even more difficult if the manager chooses to be more diversified than the index.

This relationship generally held for domestic core styles across market cap. However, **Exhibit 5** shows outperformance of the top quartile far more often across most levels of benchmark returns for Small Cap Value. Since the light blue dots were usually above the line, a top quartile Small Cap Value manager consistently outperformed the benchmark regardless of the level of benchmark return.

Exhibit 5

Rolling three-year peer group returns vs. Russell 2000 Value

Small Cap Value (Rolling 3-Year Returns)



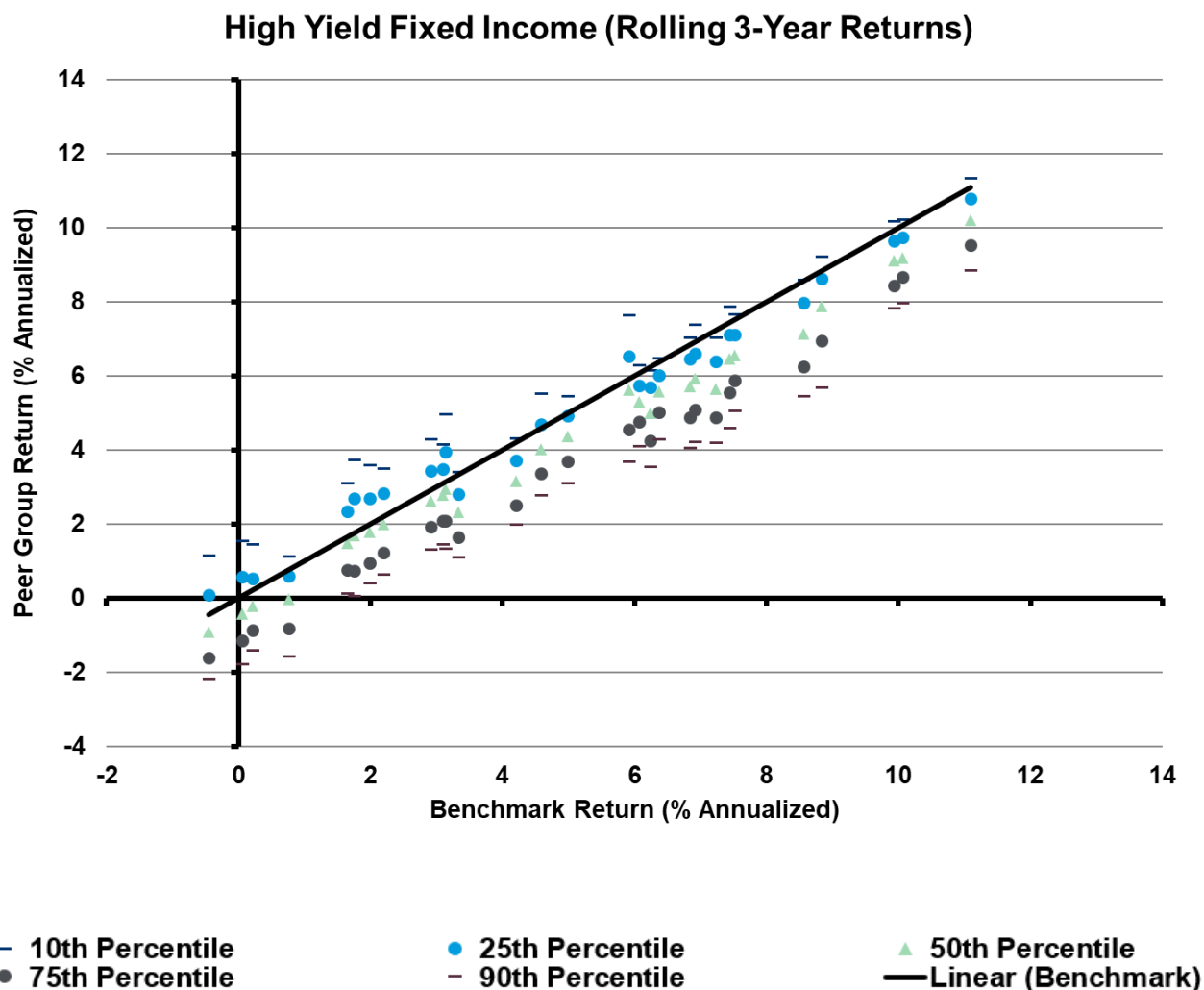
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Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025

High Yield displayed persistent historical underperformance for the top quartile at various periods and even occasionally show in-line or underperformance of the top decile relative to the benchmark. **Exhibit 6** displays High Yield's results as a prime example of just how difficult it has been for active managers to outperform in certain asset classes.

Exhibit 6

Rolling three-year peer group returns vs. Bloomberg US Corporate High Yield



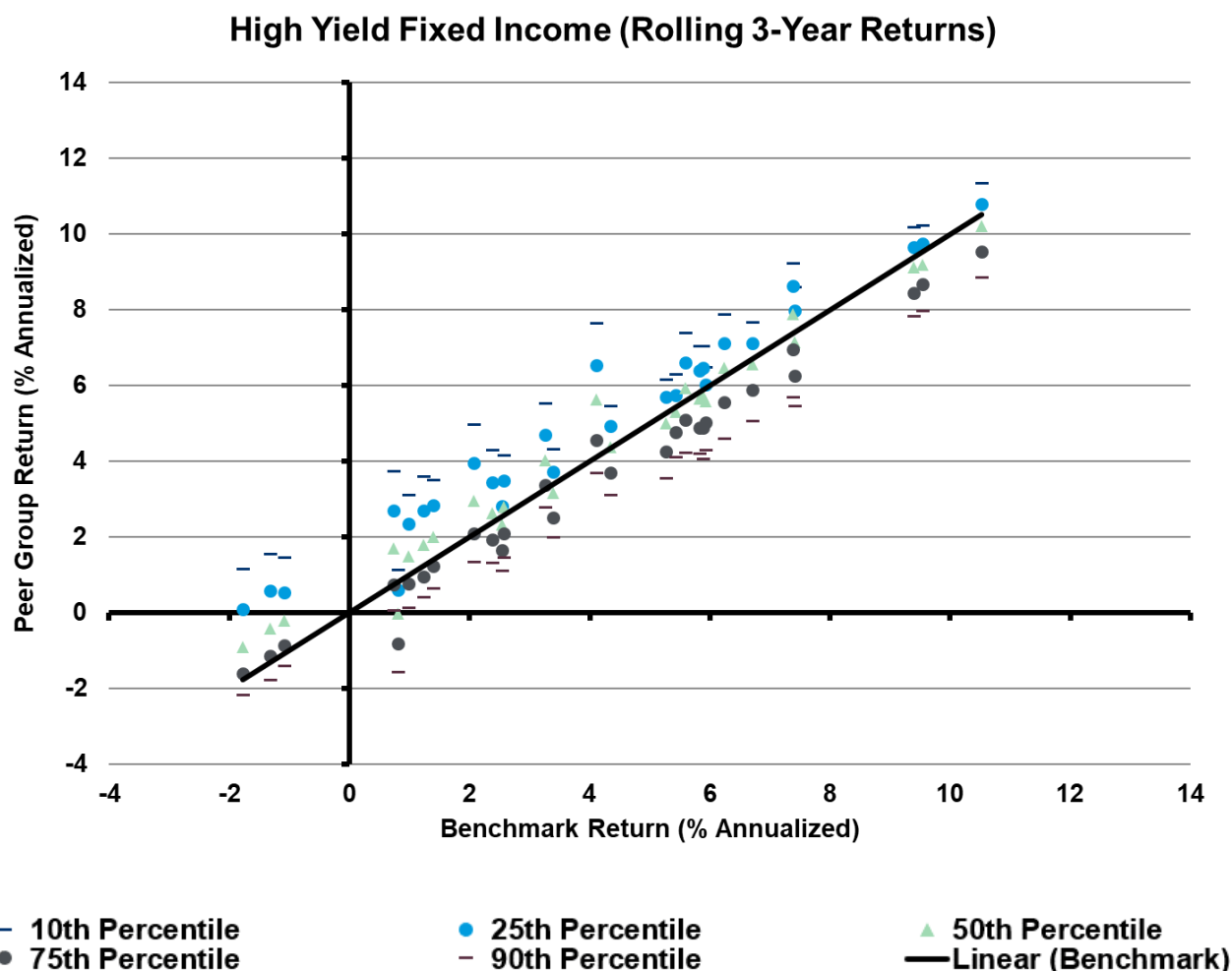
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Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025.

However, the active vs. passive decision also requires an understanding of the instability and nuances of the underlying market index. The High Yield index has survivorship bias, meaning defaulted (and therefore poor performing) credits are dropped from the index. Investors should also be aware that there is no way to replicate or buy the Bloomberg US Corporate High Yield index, so the discussion should center around active managers versus available passive ETFs. **Exhibit 7** displays High Yield's results versus a popular passive alternative, which shows a much stronger case for active management.

Exhibit 7

Rolling three-year peer group returns vs. iShares High Yield Corporate Bond ETF



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Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025

For the remaining asset classes not explored here, please refer to the Appendix for the scatterplots of all 17 asset classes.

Interpreting these results suggests an obvious question: *with many active managers seeking to outperform their benchmarks, why do an overwhelming number fail in a particular asset class?* On the equity side, many benchmarks are market capitalization weighted and the largest companies in each benchmark greatly influence the benchmark's returns. Domestic equity indices have continued to have some very large and concentrated positions and a manager unwilling to hold an even larger and even more concentrated positions will be at a disadvantage if these stocks happen to perform well. As a recent example, the “magnificent seven” names (Meta, Amazon, Tesla, Alphabet [Google], Apple, Nvidia and Microsoft) continue to represent a large portion of U.S. Large Cap Growth universe. Moreover, active managers generally keep some cash on hand to meet redemptions in their funds, so “cash drag” hurts in momentum-driven markets like the recent domestic equity market run.

Exhibit 8 displays each asset class's rolling three-year batting average over the last decade to measure the relationship between relative performance versus the benchmark and peer group rankings. In the example of High Yield, the top quartile active manager generated an excess return of 0 percent to -2 percent during 79 percent of the 29 three-year periods over the last ten years. Large Cap Core was similar as 93 percent of rolling three-year periods produced an excess return of 0 percent to -2 percent. Both serve as reminders that benchmark outperformance is not always guaranteed for strategies that achieve competitive rankings relative to their peers.

Exhibit 8

Batting averages of rolling three-year periods over the last ten years

% of Rolling 3-year periods:						
	Below -4% excess return	Between -2% and -4% excess return	Between 0% and -2% excess return	Between 0% and +2% excess return	Between +2% and +4% excess return	Above +4% excess return
Intermediate Bond						
25% percentile			7%	93%		
50% percentile			52%	48%		
75% percentile			97%	3%		
High Yield Bond						
25% percentile			59%	41%		
50% percentile			100%			
75% percentile		7%	93%			
International/Global Bond						
25% percentile			10%	52%	31%	7%
50% percentile			52%	48%		
75% percentile		10%	79%	10%		
Large Cap Value						
25% percentile				66%	34%	
50% percentile			21%	79%		
75% percentile		3%	97%			

Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025

Use of Indices and Benchmark Return Indices cannot be invested in directly. Index performance is reported gross of fees and expenses and assumes the reinvest dividends and capital gains. Past performance does not indicate future performance and there is a possibility of a loss. See disclosure page for indices representing each asset class.

Exhibit 8 Continued

% of Rolling 3-year periods:						
	Below -4% excess return	Between -2% and -4% excess return	Between 0% and -2% excess return	Between 0% and +2% excess return	Between +2% and +4% excess return	Above +4% excess return
Large Cap Core						
25% percentile			76%	24%		
50% percentile			100%			
75% percentile	3%	59%	38%			
Large Cap Growth						
25% percentile			55%	45%		
50% percentile		52%	48%			
75% percentile	52%	41%	7%			
Mid Cap Value						
25% percentile				62%	38%	
50% percentile			52%	45%	3%	
75% percentile		41%	52%	7%		
Mid Cap Core						
25% percentile			34%	45%	21%	
50% percentile		21%	41%	38%		
75% percentile	7%	48%	45%			
Mid Cap Growth						
25% percentile		10%	14%	55%	21%	
50% percentile	10%	14%	52%	24%		
75% percentile	34%	45%	21%			
Small Cap Value						
25% percentile			7%	45%	24%	24%
50% percentile			41%	38%	21%	
75% percentile		28%	38%	34%		
Small Cap Core						
25% percentile			14%	41%	21%	24%
50% percentile		3%	45%	24%	28%	
75% percentile		41%	28%	31%		
Small Cap Growth						
25% percentile				17%	28%	55%
50% percentile		7%	14%	34%	38%	7%
75% percentile	10%	24%	38%	28%		
International Value						
25% percentile			14%	69%	17%	
50% percentile		10%	48%	41%		
75% percentile	3%	31%	62%	3%		
International Core						
25% percentile			14%	83%	3%	
50% percentile		3%	62%	34%		
75% percentile		14%	86%			
International Growth						
25% percentile				62%	38%	
50% percentile			41%	59%		
75% percentile		24%	76%			
Emerging Markets						
25% percentile			3%	41%	48%	7%
50% percentile			66%	34%		
75% percentile	3%	52%	45%			
Real Estate						
25% percentile			41%	28%	31%	
50% percentile		14%	34%	41%	10%	
75% percentile		41%	41%	17%		

Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025.

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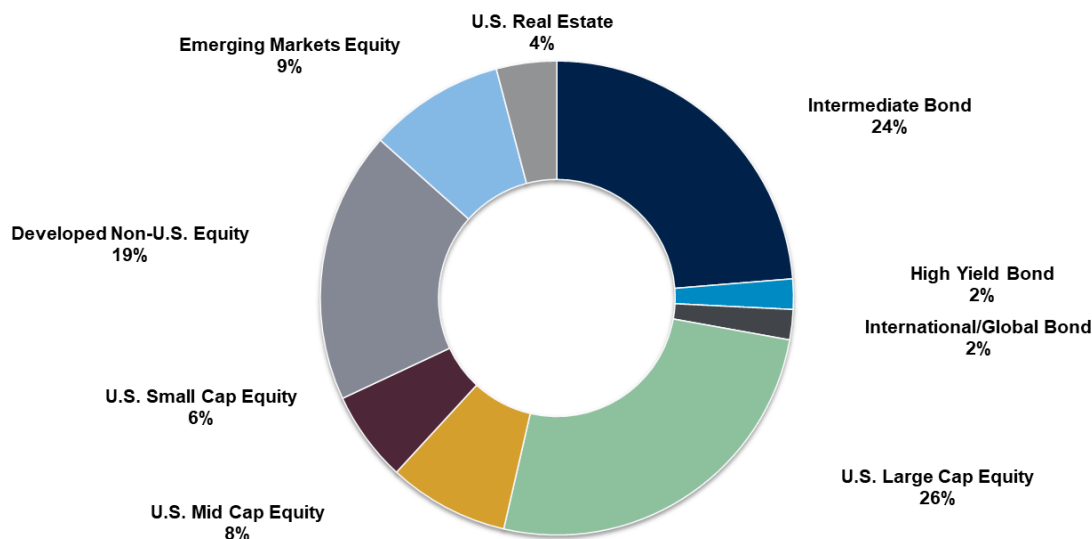
Peer Group Rank Required to Match the Benchmark Return

For a hypothetical 70 percent equity and 30 percent fixed income portfolio highlighted in **Exhibit 9**, the required peer group ranking of each of the 17 asset classes to match the weighted index return⁷ is the 29th percentile. One can see in **Exhibit 10** that simply matching the median return in each asset class was not good enough to beat the weighted benchmark return.

Exhibit 9

Hypothetical 70/30 Portfolio⁷

As of 12/31/2025



Source: Fiducient Advisors' Frontier Engineer®

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⁷This analysis does not incorporate rebalancing and does not adjust for survivorship bias.

Exhibit 10

Fund Return and Excess Return by Asset Class and Ranking

Category	Asset Mix	10-Year Index Return	Index Peer Group Rank	Absolute Top Funds		Top Quartile Funds		29th Percentile Funds (Required to Match Indices)		Median Funds		Bottom Quartile Funds		Absolute Bottom Funds	
				Return	Excess Return	Return	Excess Return	Return	Excess Return	Return	Excess Return	Return	Excess Return	Return	Excess Return
Intermediate Bond	24%	2.0%	53	3.1%	1.1%	2.4%	0.4%	2.3%	0.3%	2.0%	0.0%	1.9%	-0.1%	0.6%	-1.4%
High Yield Bond	2%	6.5%	13	8.0%	1.4%	6.1%	-0.4%	6.0%	-0.5%	5.7%	-0.9%	5.3%	-1.3%	3.4%	-3.2%
International/Global Bond	2%	0.6%	91	4.8%	4.2%	2.6%	2.1%	2.6%	2.0%	2.0%	1.5%	1.2%	0.6%	-0.2%	-0.7%
Large Cap Value	9%	10.5%	57	13.9%	3.4%	11.4%	0.9%	11.3%	0.8%	10.7%	0.2%	9.9%	-0.6%	1.6%	-9.0%
Large Cap Core	9%	14.8%	11	15.8%	1.0%	14.5%	-0.3%	14.4%	-0.4%	13.7%	-1.1%	12.6%	-2.3%	7.3%	-7.5%
Large Cap Growth	9%	18.1%	10	20.9%	2.7%	16.4%	-1.8%	16.2%	-1.9%	15.4%	-2.7%	14.1%	-4.1%	9.8%	-8.3%
Mid Cap Value	3%	9.8%	43	12.7%	2.9%	10.4%	0.7%	10.4%	0.6%	9.5%	-0.3%	8.7%	-1.1%	6.7%	-3.1%
Mid Cap Core	3%	11.0%	19	13.9%	2.8%	10.9%	-0.1%	10.7%	-0.3%	10.3%	-0.8%	9.5%	-1.6%	3.6%	-7.4%
Mid Cap Growth	3%	12.5%	15	18.8%	6.3%	11.7%	-0.8%	11.6%	-0.9%	10.7%	-1.8%	9.5%	-3.0%	5.7%	-6.8%
Small Cap Value	2%	9.3%	36	13.6%	4.3%	9.8%	0.5%	9.7%	0.4%	8.8%	-0.4%	7.9%	-1.3%	6.1%	-3.2%
Small Cap Core	2%	9.6%	44	13.9%	4.3%	10.3%	0.6%	10.0%	0.4%	9.5%	-0.2%	8.5%	-1.1%	4.7%	-4.9%
Small Cap Growth	2%	9.6%	59	18.1%	8.5%	11.3%	1.8%	11.0%	1.5%	10.2%	0.6%	8.8%	-0.7%	5.9%	-3.6%
International Value	6%	9.5%	26	11.9%	2.4%	9.5%	0.0%	9.3%	-0.1%	8.6%	-0.9%	7.7%	-1.8%	5.1%	-4.4%
International Core	6%	8.9%	23	10.5%	1.6%	8.8%	-0.1%	8.6%	-0.3%	8.2%	-0.7%	7.6%	-1.3%	4.6%	-4.4%
International Growth	6%	8.3%	35	10.6%	2.4%	8.7%	0.5%	8.4%	0.1%	7.7%	-0.6%	6.6%	-1.6%	3.7%	-4.5%
Emerging Markets	9%	8.9%	34	12.4%	3.5%	9.2%	0.3%	9.1%	0.2%	8.2%	-0.7%	7.2%	-1.6%	2.5%	-6.3%
Real Estate	4%	5.7%	37	9.2%	3.5%	5.9%	0.2%	5.8%	0.1%	5.3%	-0.4%	4.3%	-1.4%	2.0%	-3.7%
Aggregate Excess Return of Managers					2.55%		0.13%		0.00%		-0.59%		-1.36%		-4.82%

Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025

Use of Indices and Benchmark Return Indices cannot be invested in directly. Index performance is reported gross of fees and expenses and assumes the reinvest dividends and capital gains. Past performance does not indicate future performance and there is a possibility of a loss. See disclosure page for indices representing each asset class.

In **Exhibit 11**, we calculate a “fee bogey” for active managers (on a weighted basis) by estimating the expense drag of employing all the most competitively priced passive funds for each asset class. The active managers in this example would have to generate approximately 0.71 percent more in annual return to make active management advantageous. Otherwise, an investor would be better off by simply hiring a passive strategy for each portfolio allocation.

Exhibit 11

Difference in fees for an all active vs. all passive portfolio⁸

Category	Allocation	Adjusted Peer Group Median Expense Ratio ⁵	Applicable Index Fund Expense Ratio	Δ Expenses
Intermediate Bond	24%	0.45	0.05	0.40
High Yield Bond	2%	0.75	0.05	0.70
International/Global Bond	2%	0.71	0.06	0.65
Large Cap Value	9%	0.70	0.05	0.65
Large Cap Core	9%	0.48	0.02	0.46
Large Cap Growth	9%	0.72	0.05	0.67
Mid Cap Value	3%	0.86	0.07	0.79
Mid Cap Core	3%	0.84	0.05	0.79
Mid Cap Growth	3%	0.93	0.07	0.86
Small Cap Value	2%	1.00	0.07	0.93
Small Cap Core	2%	0.86	0.05	0.81
Small Cap Growth	2%	0.99	0.07	0.92
International Value	6%	0.88	0.07	0.81
International Core	6%	0.61	0.07	0.54
International Growth	6%	0.86	0.07	0.79
Emerging Markets	9%	1.00	0.14	0.86
Real Estate	4%	1.00	0.07	0.93
Total	100%			
Weighted Average		0.71	0.06	0.65

Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025

Passive Fund Options

Based solely on fees, passive strategies have their advantages. However, **Exhibit 12** displays the characteristics of all passively-managed funds with ten-year track records in the same manner as **Exhibit 1** does for actively-managed strategies. If we define success as achieving the top quartile over the last ten years, **Exhibit 12** paints a far less rosy picture for passive investing. For example, there are 15 Intermediate-Term Bond passive funds that have achieved ten-year track records and only 6 percent of the time finished in the top quartile over the last ten-year period. Small Cap Growth, International Core, Emerging Markets and Real Estate have 2, 25, 7 and 3 passive funds with ten-year track records, respectively, yet achieved the top quartile less than 15 percent of the time. In fact, the only asset classes that are the exception are Large Cap Core and Large Cap Growth, which had average ranks of 28th and 23rd, respectively. This also came with reasonable persistency as only 17 and 26 percent of the total rolling three-year periods for each respective group was below the median. In retrospect, hiring a low-cost passive strategy in Large Cap Core was a clear winning strategy over the last ten years, but passively-managed strategies

⁸The fees for the "Example Portfolio" are those of our recommended managers in each asset class utilized for a \$150 million nonprofit portfolio with a Discretionary mandate. The applicable passive fund expenses are shown as the lowest cost passive option in each applicable asset class.

in all other asset classes have been significantly less effective to varying degrees. This supports our “pragmatic not dogmatic” thesis that the active vs. passive decision ought to be made asset class by asset class.

Exhibit 12

Passive Strategies (Open-Ended Mutual Funds Only)⁹

Asset Class	# of Index Funds with 10 Year Track Records	Peer Rank Relative to Respective Morningstar Category			% of Rolling 3-Year Periods			
		Best 10-Year Peer Rank	Worst 10-Year Peer Rank	Mean 10-Year Peer Rank	% Top Quartile	% Second Quartile	% Third Quartile	% Bottom Quartile
Intermediate Bond	15	22	96	74	6%	16%	50%	28%
High Yield Bond	-	-	-	-	-	-	-	-
International/Global Bond	-	-	-	-	-	-	-	-
Large Cap Value	12	3	91	45	22%	30%	31%	17%
Large Cap Core	60	5	89	28	17%	65%	14%	3%
Large Cap Growth	17	4	98	23	48%	26%	13%	13%
Mid Cap Value	-	-	-	-	-	-	-	-
Mid Cap Core	24	10	85	37	17%	34%	36%	13%
Mid Cap Growth	4	16	99	57	16%	32%	22%	29%
Small Cap Value	5	13	89	53	16%	37%	26%	22%
Small Cap Core	25	14	97	53	11%	33%	31%	25%
Small Cap Growth	2	51	98	75	2%	22%	41%	34%
International Value	1	17	17	17	45%	45%	10%	0%
International Core	25	1	94	47	13%	39%	44%	5%
International Growth	-	-	-	-	-	-	-	-
Emerging Markets	7	6	59	46	9%	35%	52%	4%
Real Estate	3	52	87	73	5%	21%	36%	39%

Source: Morningstar, Fiducient Advisors’ analysis; as of December 31, 2025

When further analyzing the performance of passively-managed strategies, we’d expect the gross of fee return to exactly match the underlying index and net of fee the fund should underperform the index solely by its fee.

Exhibit 13 takes all open-ended passively-managed mutual funds track mainstream benchmarks (e.g. Standard & Poor’s, Bloomberg, Russell, MSCI, FTSE, etc.) and calculates the excess return over the last ten years of each strategy over our preferred benchmark in each space¹⁰. If we then back out each fund’s expense ratio, we can determine which asset classes performed in line with the theoretical expectation of passively-managed funds. In some examples such as Large Cap Core and Intermediate Bonds, the average passive fund underperformed its benchmark closely to its fee.

⁹The underlying portfolios included in this exhibit are open-ended mutual funds with ten-year track records that are classified as passive strategies based on Morningstar’s definition.

However, High Yield was the opposite where the three applicable passive strategies underperformed their stated benchmarks by more than -0.57 percent after deducting fees, which is evidence of a difficult to replicate index. Further, Emerging Markets and Real Estate underperformed by far more than the average fee, which ought to underwhelm investors favoring passive strategies across the board.

Exhibit 13

Passive Performance¹⁰

Category	Number of Index Funds with 10-Year Track Records	Average Index Fund Fee Last Ten Years	Average Excess Return Last 10 Years	Average Excess Return less 10 Year Avg Fee
Short Term Bond	14	0.13	0.02	0.15
Intermediate Bond	13	0.20	-0.18	0.02
TIPS	4	0.04	-0.04	0.00
Intermediate Muni	1	0.09	0.29	0.38
Long Term Bond	6	0.05	0.46	0.51
High Yield Bond	13	0.37	-0.93	-0.57
Large Cap Value	9	0.67	0.49	1.16
Large Cap Core	55	0.28	-0.43	-0.15
Large Cap Growth	14	0.73	-0.88	-0.16
Mid Cap Value	0	0.00	0.00	0.00
Mid Cap Core	18	0.41	-0.63	-0.21
Mid Cap Growth	3	1.25	-3.35	-2.10
Small Cap Value	5	1.37	-0.47	0.90
Small Cap Core	20	0.53	-0.39	0.14
Small Cap Growth	2	0.87	-1.24	-0.37
International Value	1	0.26	0.45	0.72
International Core	19	0.28	-0.73	-0.46
International Small Cap	3	0.13	-0.01	0.11
Emerging Markets	6	0.27	-0.35	-0.07
Real Estate	3	0.34	-1.38	-1.04
Global Real Estate	7	0.28	-1.09	-0.81
Commodities	2	1.15	0.33	1.48
Total / Average	218	0.44	-0.46%	-0.02%

Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025

Use of Indices and Benchmark Return Indices cannot be invested in directly. Index performance is reported gross of fees and expenses and assumes the reinvest dividends and capital gains. Past performance does not indicate future performance and there is a possibility of a loss. See disclosure page for indices representing each asset class.

¹⁰Open-ended mutual funds that Morningstar classified as passively managed were included in the analysis, as well as the two previously mentioned Corporate High Yield ETFs. Given the theoretical construct that a passively-managed fund ought to underperform its benchmark by its fees, we calculate each fund's excess return over the last ten years relative to our preferred benchmark for the asset class and subtract the expense ratio to determine whether a passive strategy achieved its theoretical expectation.

Incorporating Taxes

The active versus passive debate is often framed around net returns, but for taxable investors, after-tax return is the more relevant metric. The tax treatment of active mutual funds relative to passive ETFs creates a structural headwind for active management that compounds over time and must be incorporated into the asset class-by-asset class assessment.

Active mutual funds distribute realized capital gains to shareholders, creating taxable events independent of the investor's own trading activity. Passive ETFs, by contrast, utilize an in-kind creation and redemption mechanism that allows the fund to shed low-basis securities without triggering a gain at the fund level. This structural advantage is not uniform across asset classes. **Exhibit 14** shows that in markets with lower liquidity, securities less amenable to in-kind trading, or income-driven returns such as High Yield, International Equity, Real Estate, the tax cost differential between passive ETFs and the average active mutual fund narrows meaningfully.

Exhibit 14

Tax Drag of Index ETF versus Active Mutual Funds

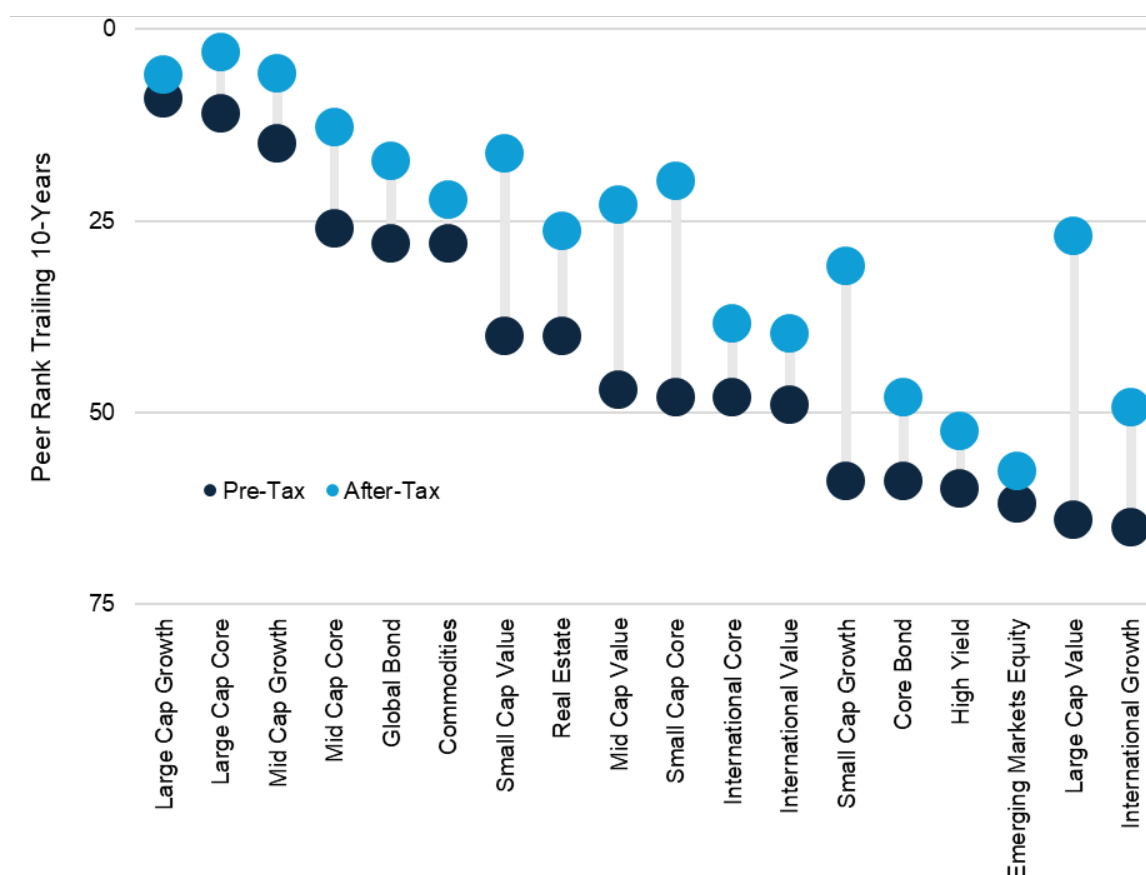
Asset Class	Index Fund	Index Fund Tax Cost Ratio 10-yr	Average Active Manager Tax Cost Ratio 10-yr	Tax Cost Difference (active minus index)
Global Bond	iShares Core International Aggt Bd ETF	1.03	1.09	0.06
High Yield Bond	iShares iBoxx \$ High Yield Corp Bd ETF	2.16	2.24	0.08
Intermediate Core Bond	iShares Core US Aggregate Bond ETF	1.12	1.25	0.13
Diversified Emerging Mkts	iShares MSCI Emerging Markets ETF	0.73	0.95	0.22
Foreign Large Value	iShares MSCI EAFE Value ETF	1.10	1.47	0.37
Foreign Large Blend	iShares MSCI ACWI ex US ETF	0.84	1.22	0.38
Foreign Large Growth	iShares MSCI EAFE Growth ETF	0.46	0.98	0.52
Real Estate	iShares Core US REIT ETF	1.39	2.09	0.70
Small Value	iShares Russell 2000 Value ETF	0.61	1.76	1.15
Mid-Cap Blend	iShares Russell Mid-Cap ETF	0.47	1.67	1.20
Mid-Cap Value	iShares Russell Mid-Cap Value ETF	0.59	1.82	1.23
Large Value	iShares Russell 1000 Value ETF	0.65	1.93	1.28
US Fund Small Blend	iShares Russell 2000 ETF	0.42	1.79	1.37
Large Blend	Vanguard S&P 500 ETF	0.40	1.83	1.43
Small Growth	iShares Russell 2000 Growth ETF	0.22	1.75	1.53
Mid-Cap Growth	iShares Russell Mid-Cap Growth ETF	0.18	1.79	1.61
Large Growth	iShares Russell 1000 Growth ETF	0.24	1.95	1.71
Commodities Broad Basket	Invesco DB Commodity Tracking	0.67	2.67	2.00

Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025

The after-tax peer rank an active manager must achieve simply to match a passive ETF rises as a result. **Exhibit 15** quantifies this hurdle by asset class. In US large cap and mid cap equity, the pre-tax bar was already high enough that after-tax considerations are secondary and the case for active management fails before taxes enter the picture. In US small cap, the structural tax efficiency of passive ETFs is large enough to shift the required rank from roughly the median to the top quartile. In international equity and fixed income, the incremental after-tax hurdle is more modest.

Exhibit 15

Peer Rank to Outperform



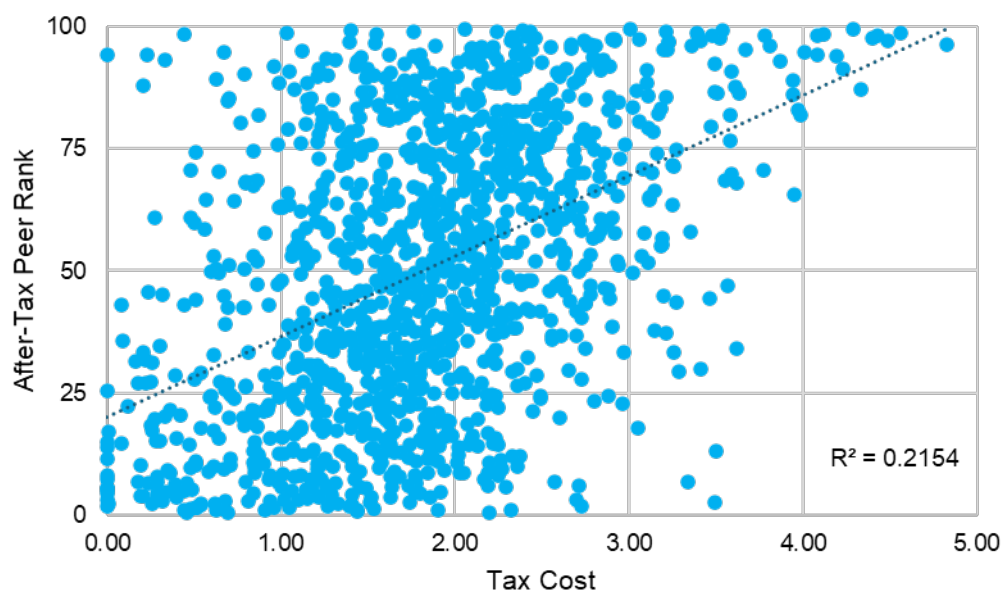
Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025

After-Tax peer ranks are calculated using the 10-year tax cost ratio in Morningstar. Passive ETFs in Exhibit 14 are used as investible index pre- and post-tax cost.

A natural instinct for taxable investors is to screen active managers on tax efficiency — favoring low-turnover, low-distribution strategies on the assumption that a more tax-conscious manager will deliver better after-tax outcomes. The data in **Exhibits 16 and 17** does not support this approach. When tax cost ratios across active managers are plotted against after-tax peer ranks, the relationship is effectively flat. A manager with a low tax cost ratio is no more likely to rank well after taxes than one with a high tax cost ratio. Tax efficiency, in isolation, is not a predictor of after-tax performance.

Exhibit 16

US Equity 10-Year Tax Cost vs. After-Tax Peer Rank

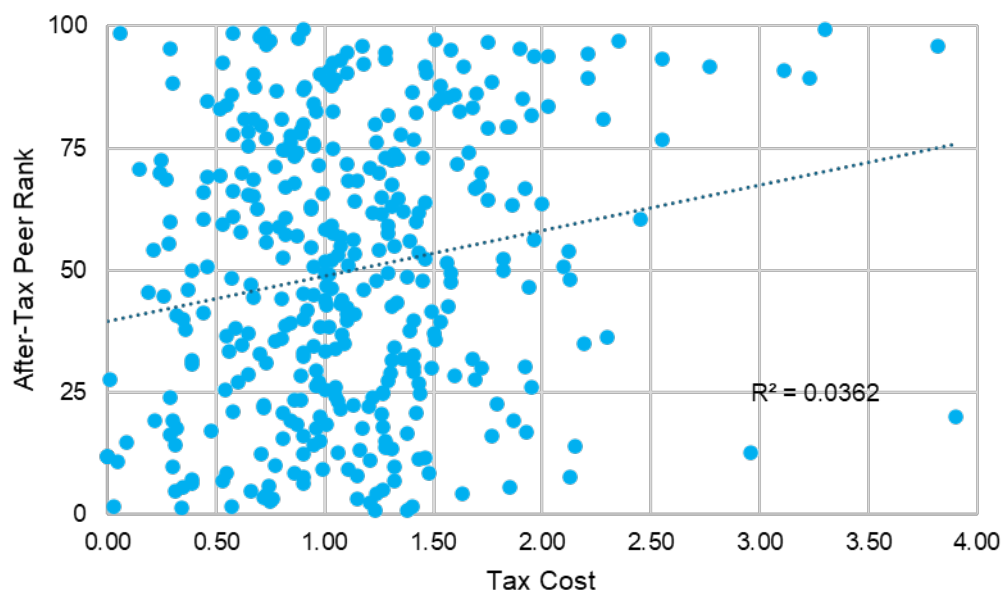


Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025

US Equity consists of US Large Value, US Large Core, US Large Growth, US Mid-Cap Value, US Mid-Cap Core, US Mid-Cap Growth, US Small Value, US Small Core, US Small Growth peer groups from Morningstar. After-Tax peer ranks are calculated using the 10-year tax cost ratio in Morningstar. Passive ETFs in Exhibit 14 are used as investible index pre- and post-tax cost. Active managers with a 10-year history shown. After-Tax Rank is calculated by subtracting the 10-year tax cost associated with each manager and re-ranking the individual peer groups.

Exhibit 17

International Equity 10-Year Tax Cost vs. After-Tax Peer Rank



Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025

International Equity consists of Foreign Large Value, Foreign Large Core, Foreign Large Growth, and Diversified Emerging Markets peer groups from Morningstar. After-Tax peer ranks are calculated using the 10-year tax cost ratio in Morningstar. Passive ETFs in Exhibit 14 are used as investible index pre- and post-tax cost. Active managers with a 10-year history shown. After-Tax Rank is calculated by subtracting the 10-year tax cost associated with each manager and re-ranking the individual peer groups.

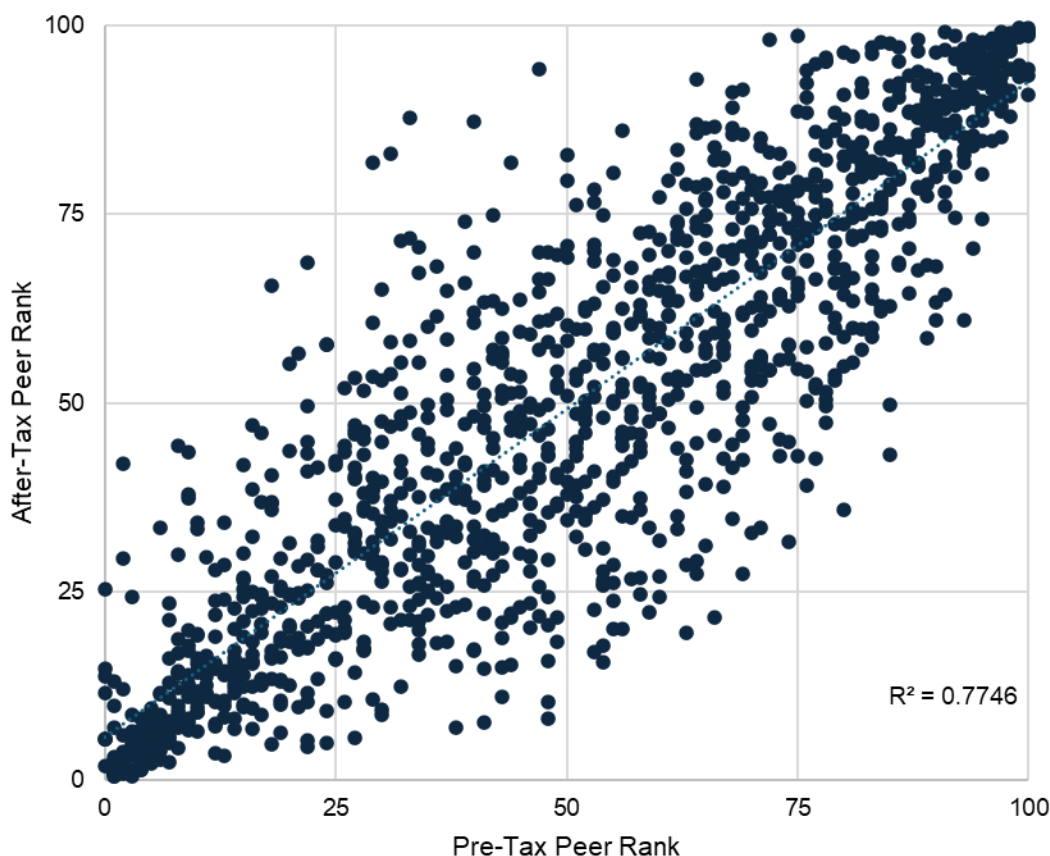
The explanation is straightforward. After-tax peer rank is driven primarily by pre-tax investment skill, not by how tax-efficiently a manager harvests that skill. A manager who generates strong alpha through higher turnover will frequently deliver better after-tax results than a low-turnover manager generating modest pre-tax returns, even if the latter distributes fewer capital gains.

To assess whether pre-tax manager quality survives tax treatment, **Exhibits 18 and 19** plot pre-tax versus after-tax ten-year peer ranks across the US and international equity universes. The R^2 of 0.77 for US equity and 0.86 for international equity confirms that manager quality is not materially obscured by tax treatment. Strong pre-tax managers tend to remain strong after taxes, and weaker performers tend to remain weak.

In practice, manager selection discipline remains the primary lever. The tax burden of active management is real but manageable for investors who can identify and access top-quartile talent. The challenge is that identifying such managers ex ante is non-trivial, and requires advisors to have an experienced investment team and thorough due diligence process.

Exhibit 18

US Equity Pre/Post-Tax 10-Year Peer Ranks

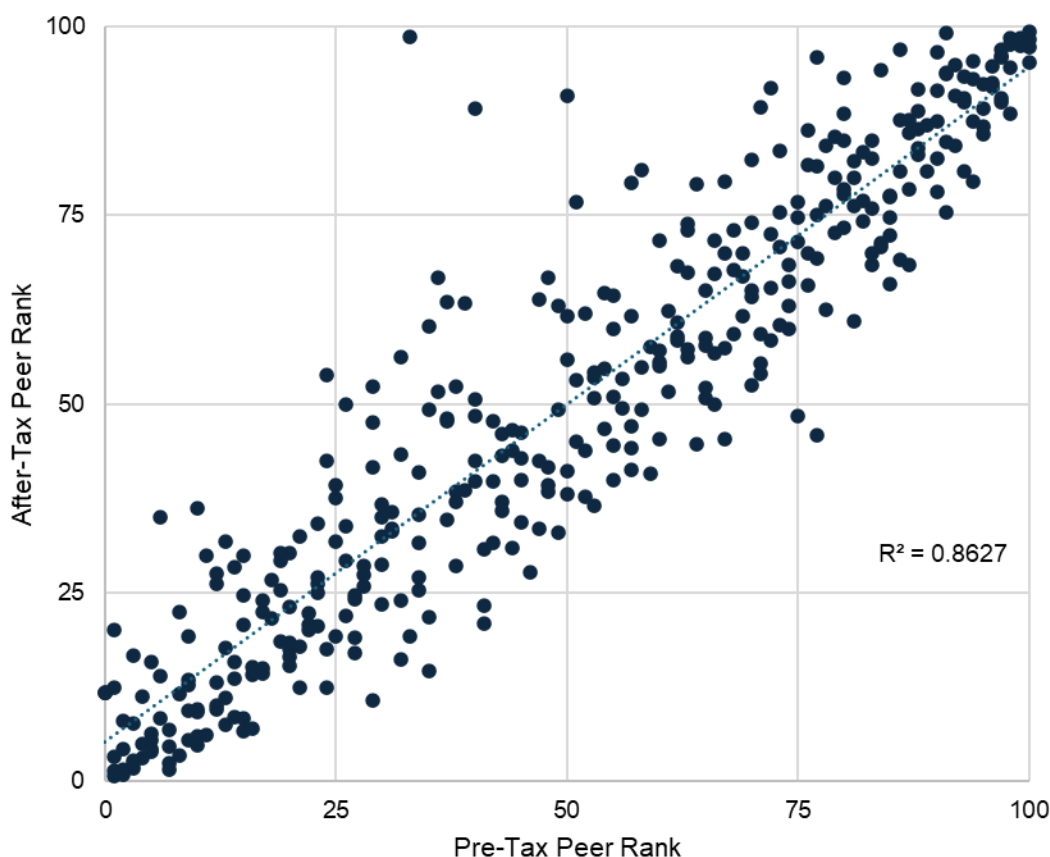


Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025

US Equity consists of US Large Value, US Large Core, US Large Growth, US Mid-Cap Value, US Mid-Cap Core, US Mid-Cap Growth, US Small Value, US Small Core, US Small Growth peer groups from Morningstar. After-Tax peer ranks are calculated using the 10-year tax cost ratio in Morningstar. Passive ETFs in Exhibit 14 are used as investible index pre- and post-tax cost. Active managers with a 10-year history shown. After-Tax Rank is calculated by subtracting the 10-year tax cost associated with each manager and re-ranking the individual peer groups.

Exhibit 19

International Equity Pre/Post-Tax Peer Ranks



Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025

International Equity consists of Foreign Large Value, Foreign Large Core, Foreign Large Growth, and Diversified Emerging Markets peer groups from Morningstar Passive ETFs in Exhibit 14 are used as investible index pre- and post-tax cost. Active managers with a 10-year history shown. After-Tax Rank is calculated by subtracting the 10-year tax cost associated with each manager and re-ranking the individual peer groups.

Active Management and Financial Planning

The active versus passive decision does not exist in a vacuum. It is embedded in a client's full financial picture which includes tax situation, account structure, wealth level, and time horizon. The optimal implementation varies across all four dimensions and several practical considerations are important to consider in the active versus passive discussion.

Account Type and Asset Location

The structural tax advantage of passive ETFs documented in the prior section is specific to taxable accounts. In tax-deferred vehicles such as 401(k) plans and IRAs, capital gains distributions are irrelevant because taxes are deferred until withdrawal. The bogey for active management in tax-deferred accounts is therefore lower than in taxable accounts, and the case for active management is commensurately stronger. This principle is especially

important in asset classes where active has demonstrated a pre-tax edge, such as Small Cap Value and select fixed income categories.

Life Stage and Distribution Risk

The analysis in this paper implicitly assumes an accumulation context, where multi-year periods of underperformance are costly but recoverable. For clients in or near the distribution phase, the calculus is different. “Sequence of returns” risk, which is the sensitivity of a portfolio to poor performance in the early years of withdrawal, means that a prolonged drawdown episode around retirement can produce permanent capital impairment that no subsequent recovery can fully offset. This particularly relevant given the index exposures in certain asset classes can be extremely concentrated in the top ten stocks, or have significant exposure to low quality companies. The relevant performance metric in this instance is not solely excess returns but drawdown behavior and volatility.

Direct Indexing

For taxable clients with sufficient assets in a single asset class, direct indexing represents a third option that the binary active versus passive framing obscures. Direct indexing replicates an index through individual security ownership, enabling systematic tax-loss harvesting that can generate meaningful after-tax alpha at fee levels well below traditional active management. In asset classes where the passive ETF is already the preferred pre-tax vehicle, direct indexing can add to that advantage. In asset classes where active management holds a pre-tax edge, direct indexing does not replace a skilled active manager but raises the bar that a manager must clear.

Manager Access and Implementation

The data in this study is drawn from open-ended mutual funds. Institutional separate accounts and collective investment trusts are available options to larger plan sponsors and HNW clients and often carry lower fees and different tax treatment than mutual fund vehicles. The fee bogey of 0.71 percent calculated in Exhibit 11 is based on mutual fund expense ratios but institutional vehicle access can compress that bogey and potentially expand the universe of asset classes where active management can clear a lower hurdle.

The Alternatives Landscape

The active versus passive framework as constructed here applies exclusively to liquid public markets. In alternatives such private equity, private credit, and hedge funds, the debate will be different. Passive alternatives are largely unavailable, so the relevant question shifts from active versus passive to access and manager selection. This distinction matters because return dispersion between top and bottom quartile managers in private markets and hedge funds is substantially wider than in any of the 17 public market asset classes analyzed here. Advisors allocating to alternatives on behalf of clients should treat manager access and selection as the primary risk.

Active ETFs

The active ETF market warrants attention even if it does not yet warrant broad implementation. Actively-managed ETFs inherit the in-kind creation and redemption mechanism of passive ETFs, which eliminates the capital gains distribution problem that drives much of the after-tax disadvantage of active mutual funds. In asset classes where this study shows the ETF tax advantage materially raises the required peer rank such as US Small Cap being the clearest example, an active ETF vehicle closes a portion of that gap without requiring any improvement in the underlying investment process. The universe is limited and the track records are too short to evaluate with the same rigor applied to the mutual fund data in this study. However, as assets migrate into the ETF structure and track records lengthen, the after-tax dimension of the active versus passive debate will need to be revisited.

Conclusion

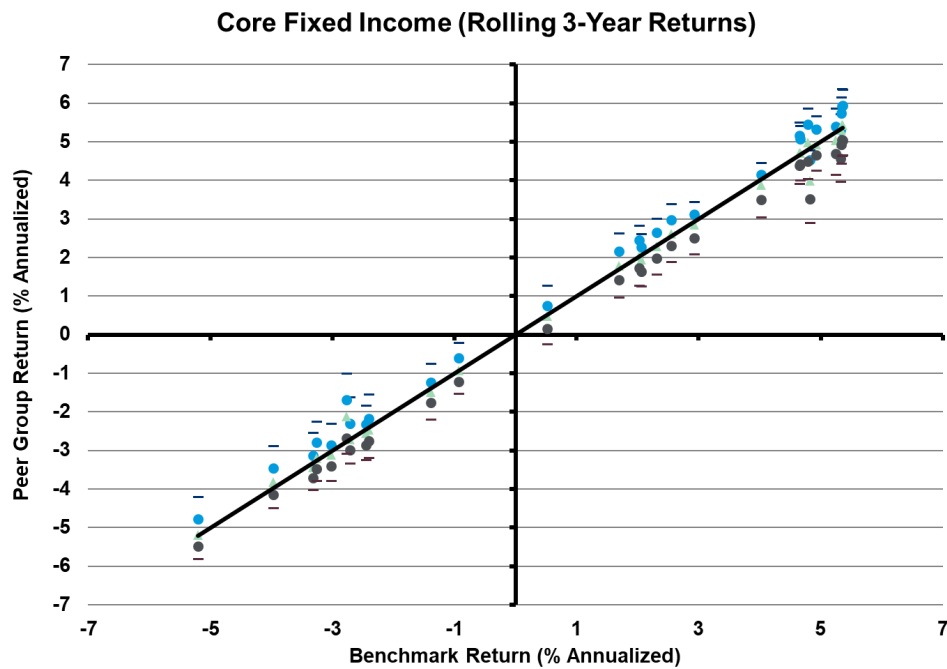
The active versus passive decision is neither universally resolved in favor of low-cost indexing nor uniformly vindicated by the case for skilled active management. It is determined asset class by asset class, and the data is specific enough to guide implementation. Two practical implications cut across all asset classes. First, patience is not optional under any strategy. Poor relative performance is not an indicator of a strategy failure and it is a predictable feature of every strategy whether active or passive. Termination and replacement decisions should be grounded in the six qualitative questions outlined earlier in this paper, not in trailing return rankings. Second, the investment vehicle, account type, and client tax situation are ***not*** afterthoughts to the active versus passive decision. The same active manager can be the right answer in a tax-deferred account and the wrong answer in a taxable account depending on the asset class. The purpose of this framework is neither to defend active management categorically nor to concede the debate to passive. It is to ensure that each decision is made on defensible, evidence-based grounds and that investors and their advisors enter every strategy with clear expectations about what underperformance will look like, how long it may last, and why it does not, by itself, constitute a reason to change course.

For more information, please contact any of the professionals at Fiducient Advisors or [visit our website](#) for additional insights.

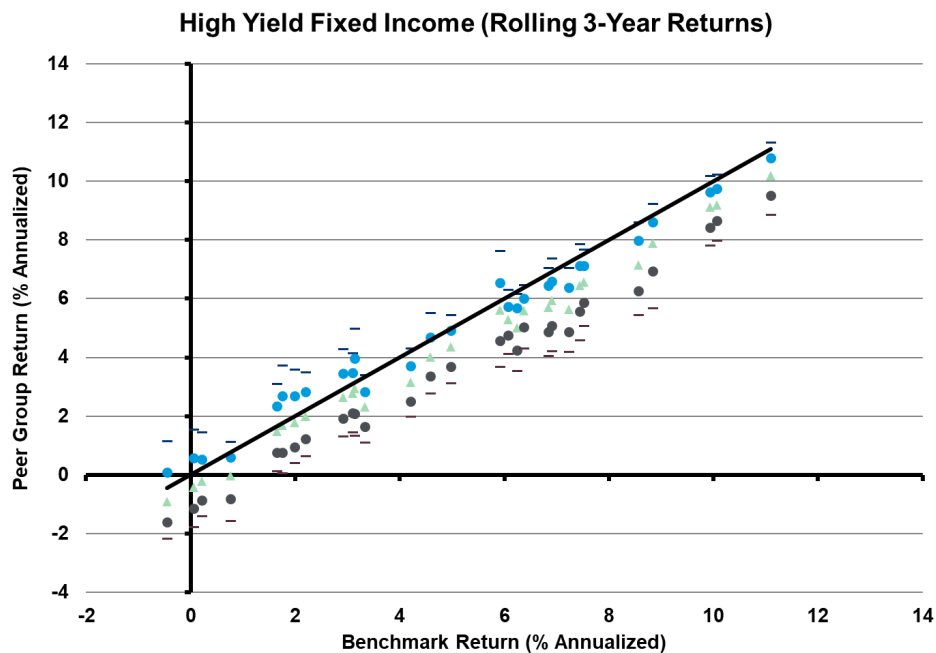
Appendix

Rolling three-year percentile ranks for all 17 asset classes
(10 years ending December 31, 2025)

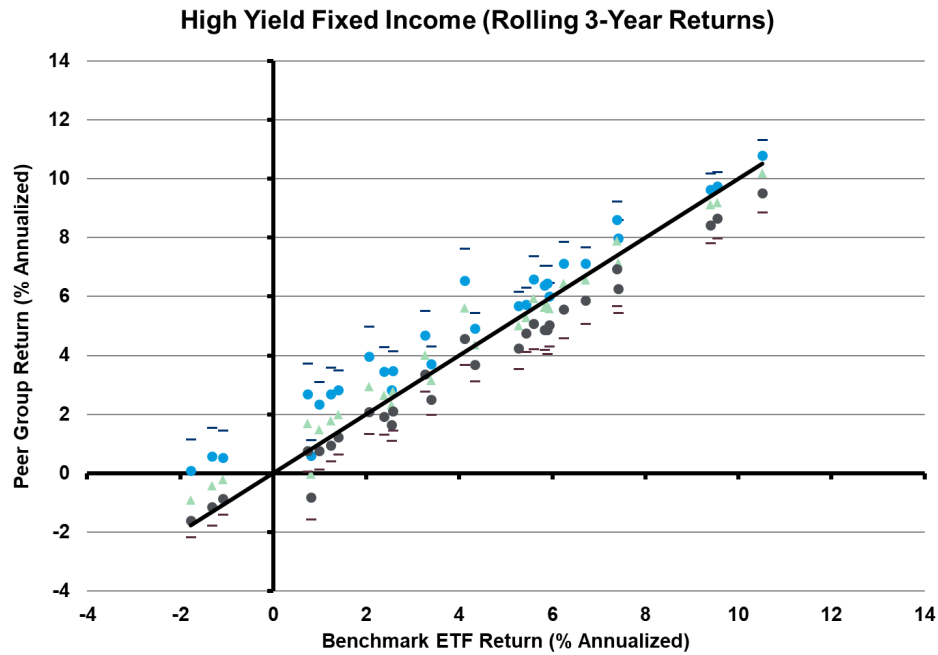
- 10th Percentile
- 25th Percentile
- ▲ 50th Percentile
- 75th Percentile
- 90th Percentile
- Linear (Benchmark)



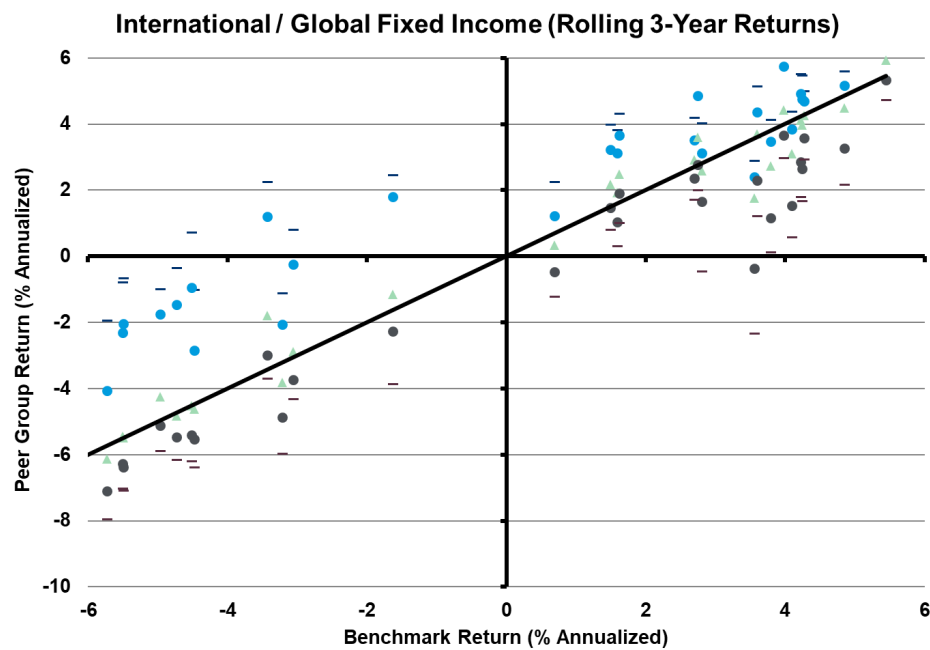
Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025



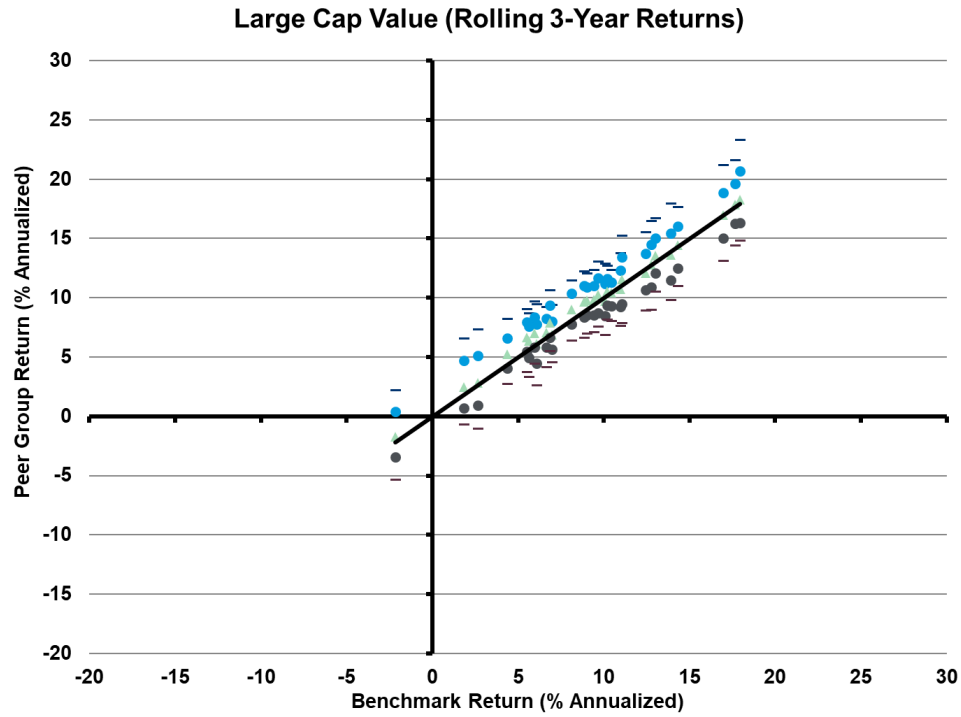
Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025



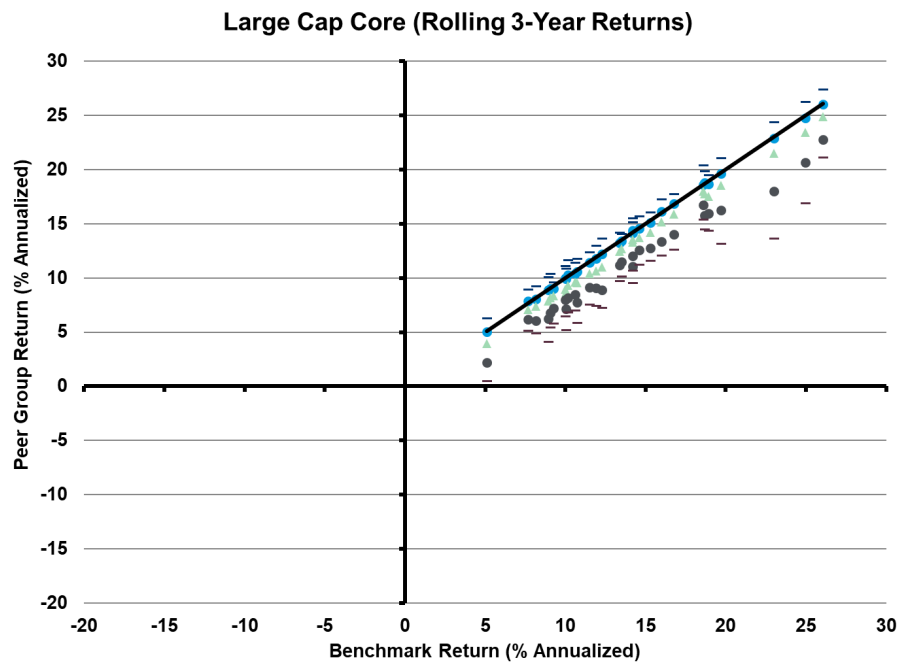
Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025



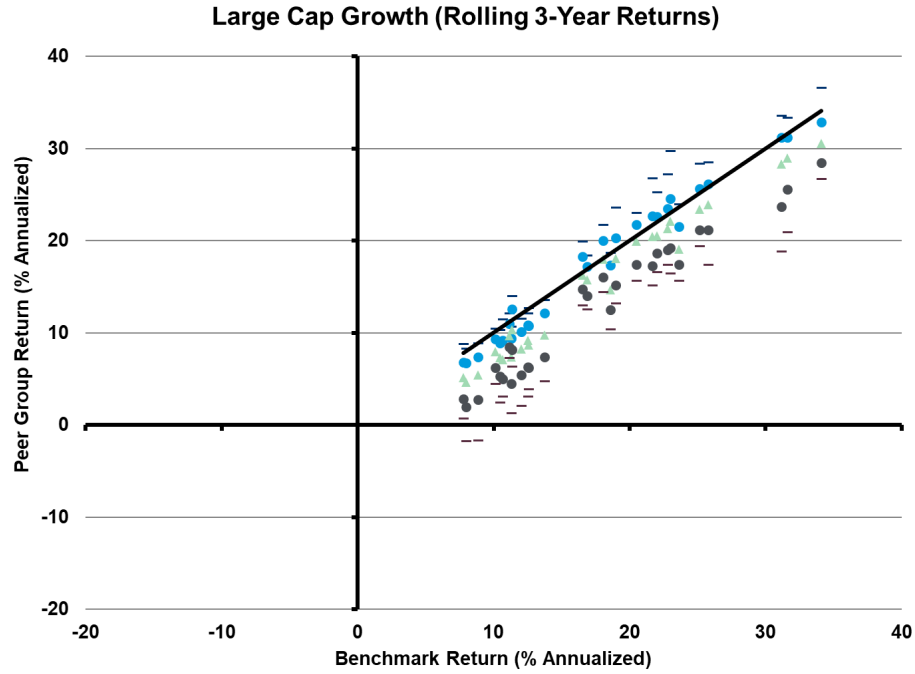
Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025



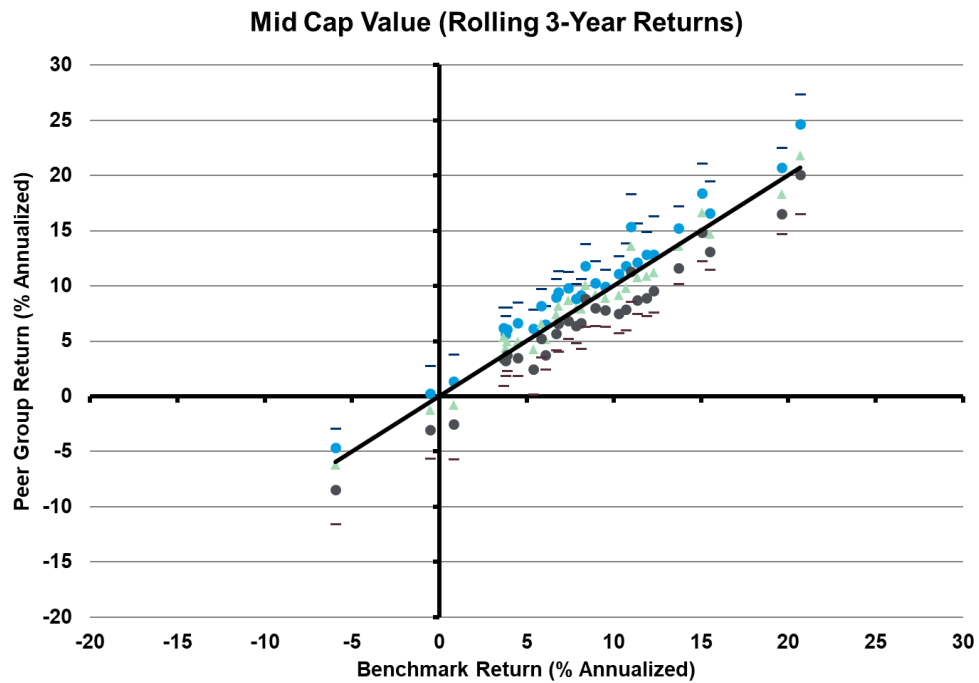
Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025



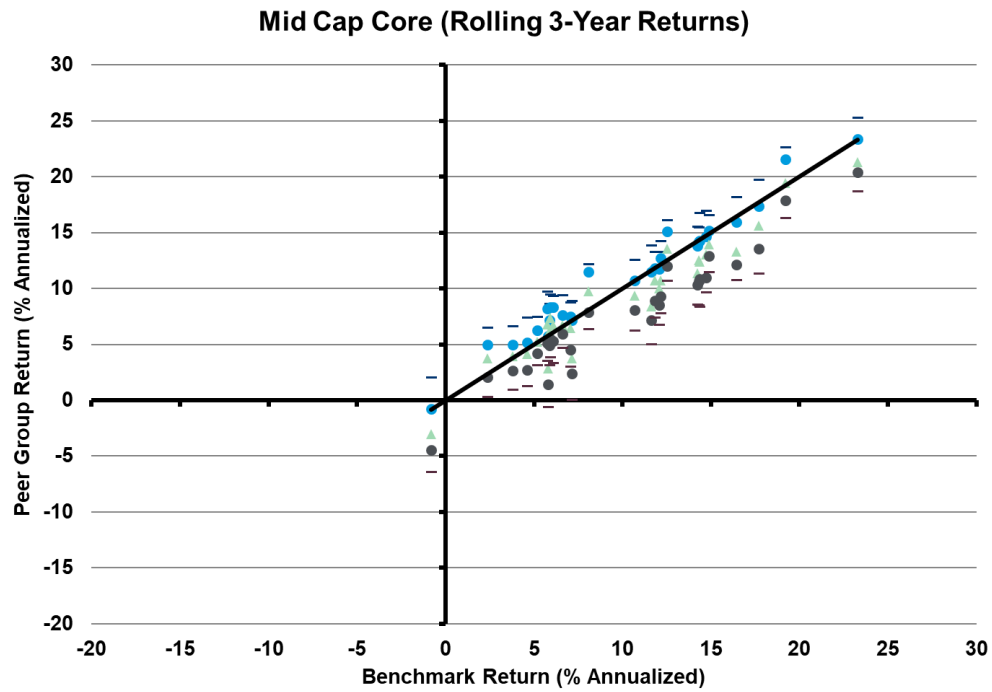
Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025



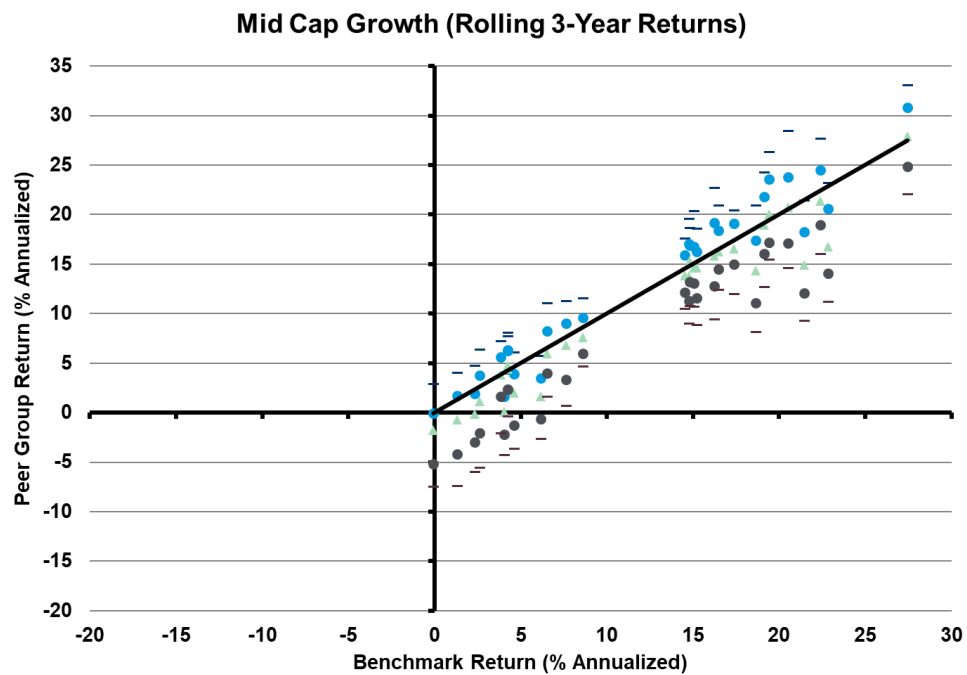
Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025



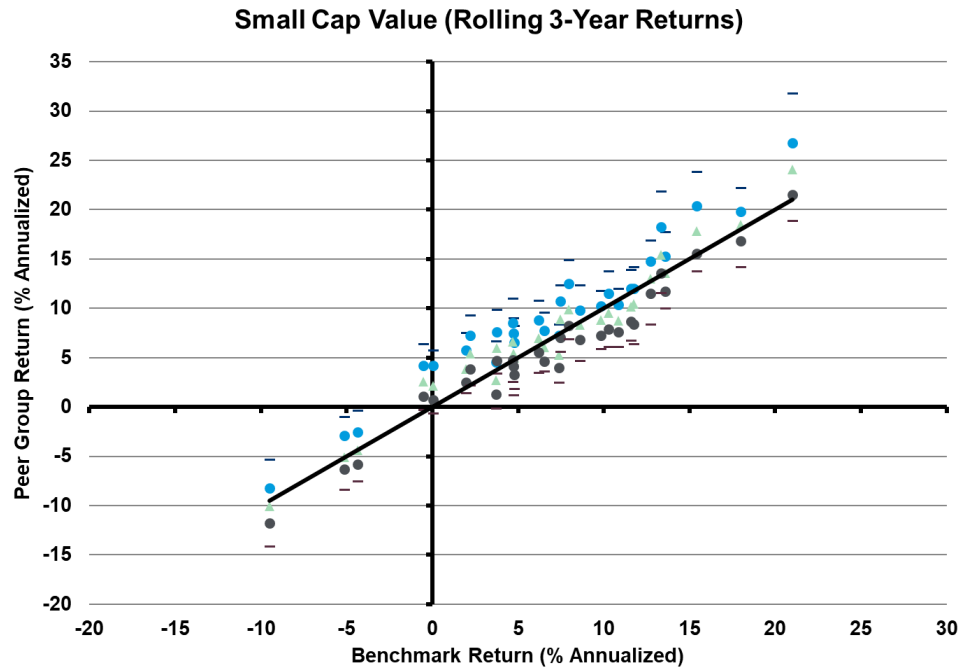
Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025



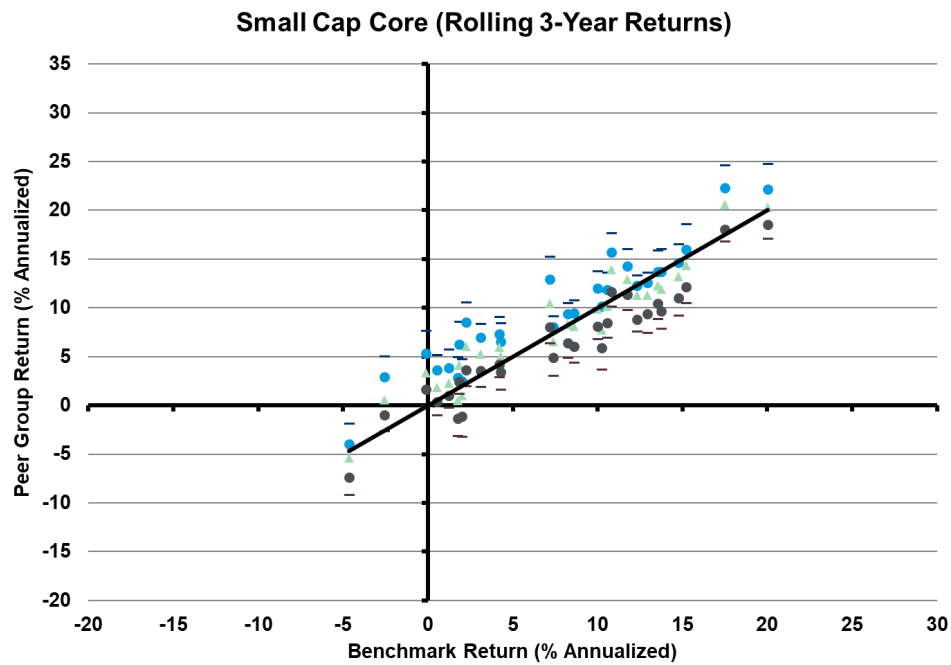
Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025



Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025

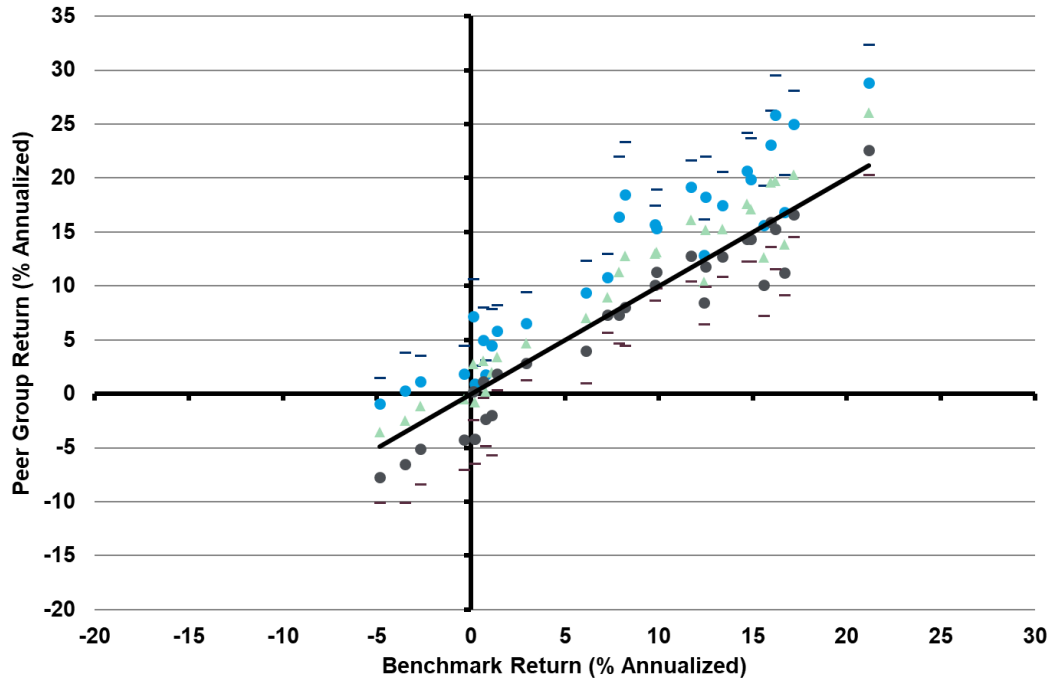


Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025



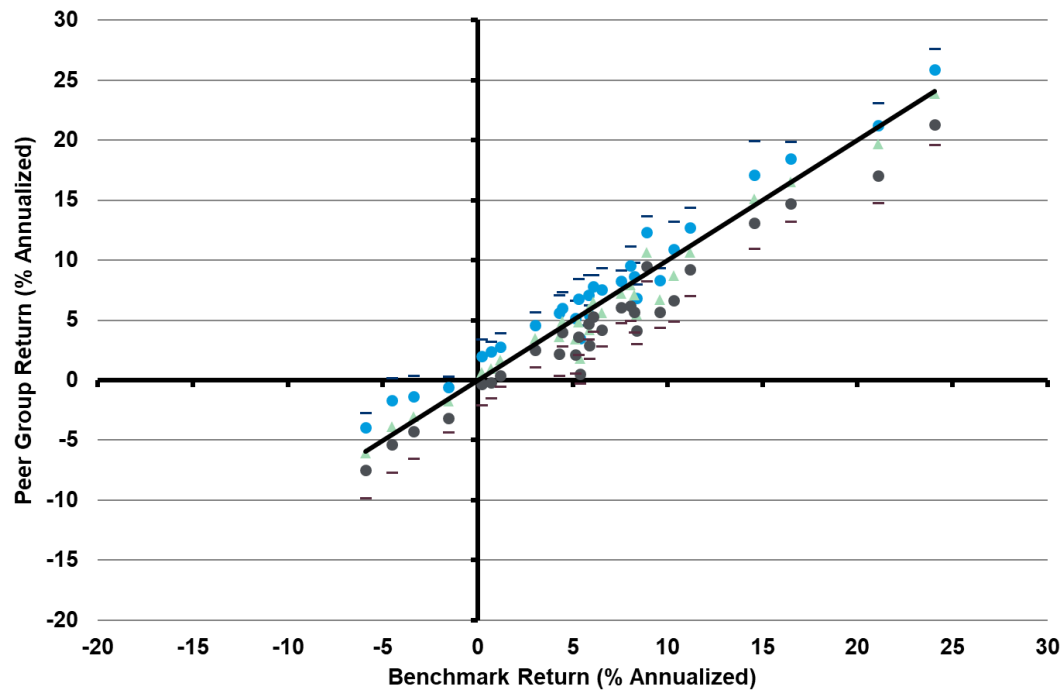
Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025

Small Cap Growth (Rolling 3-Year Returns)

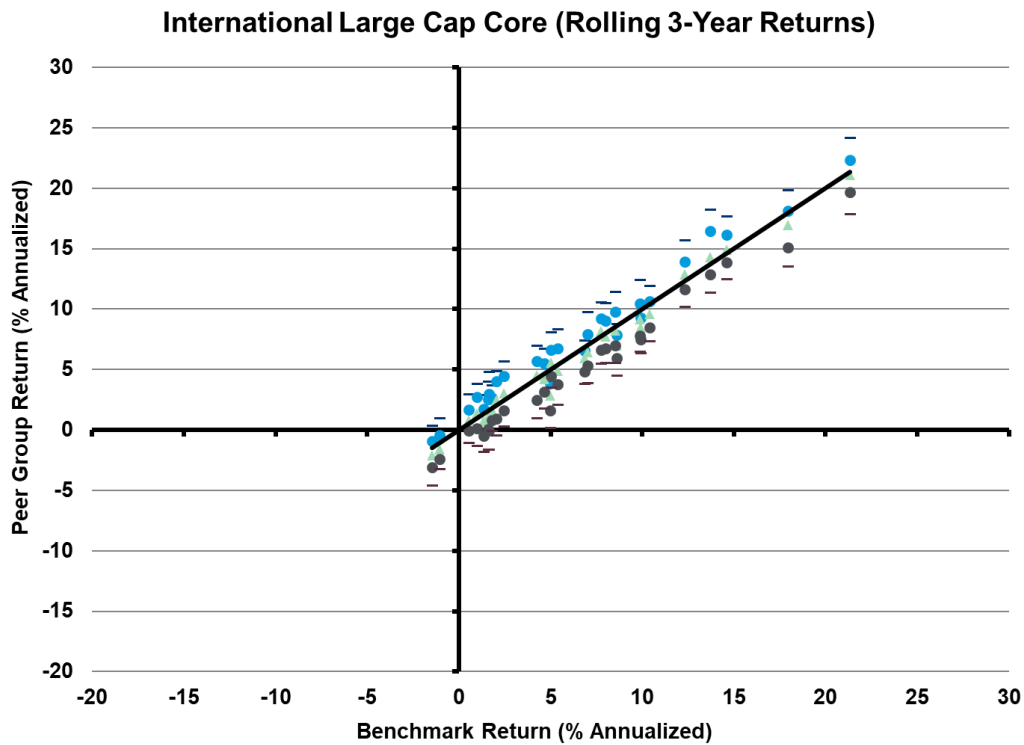


Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025

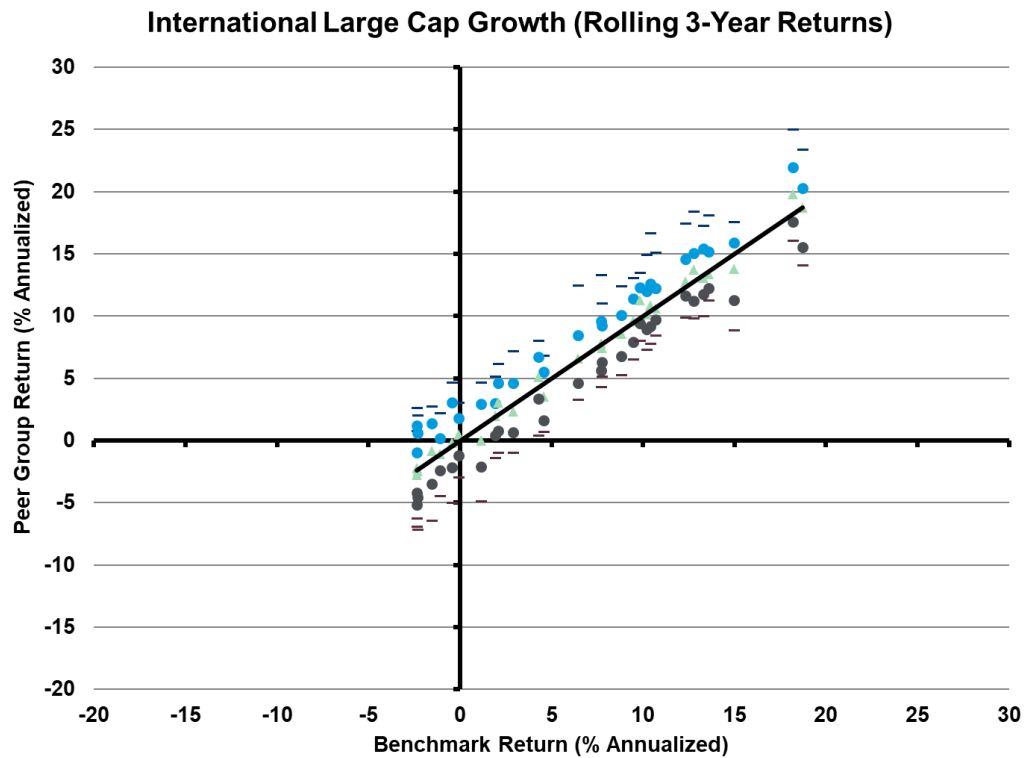
International Large Cap Value (Rolling 3-Year Returns)



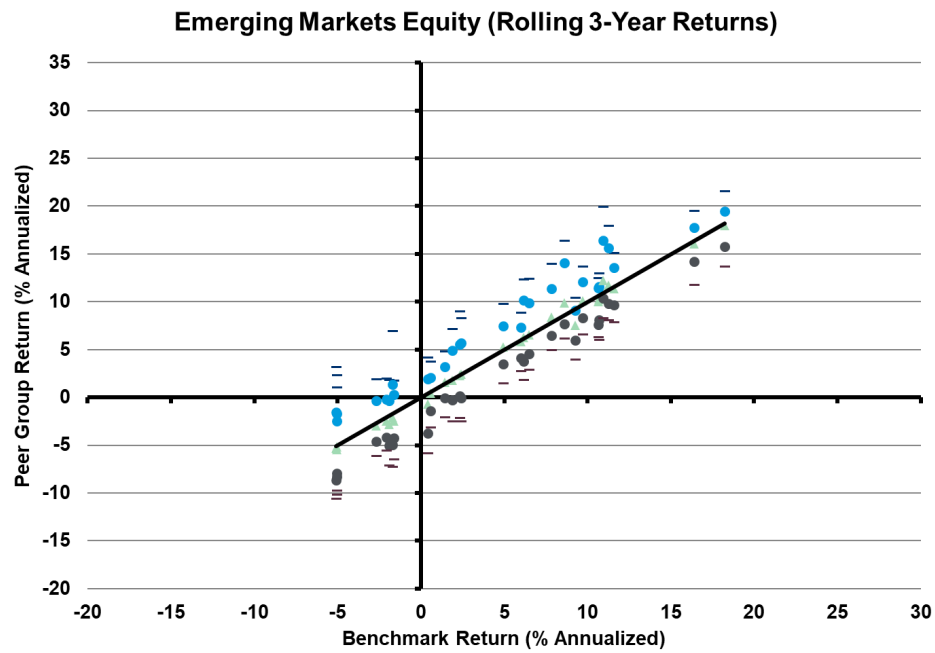
Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025



Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025



Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025



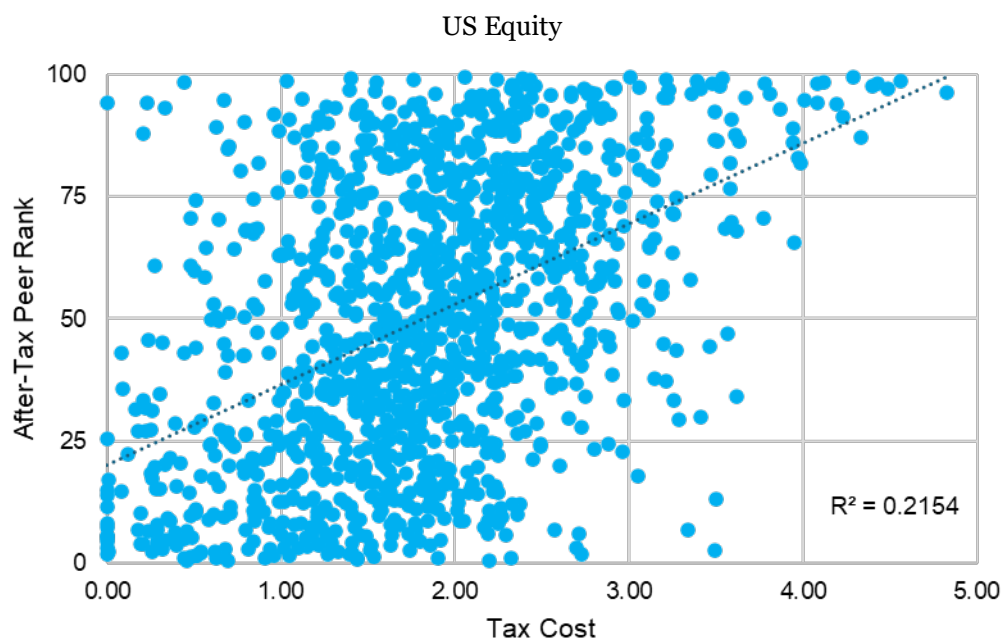
Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025



Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025

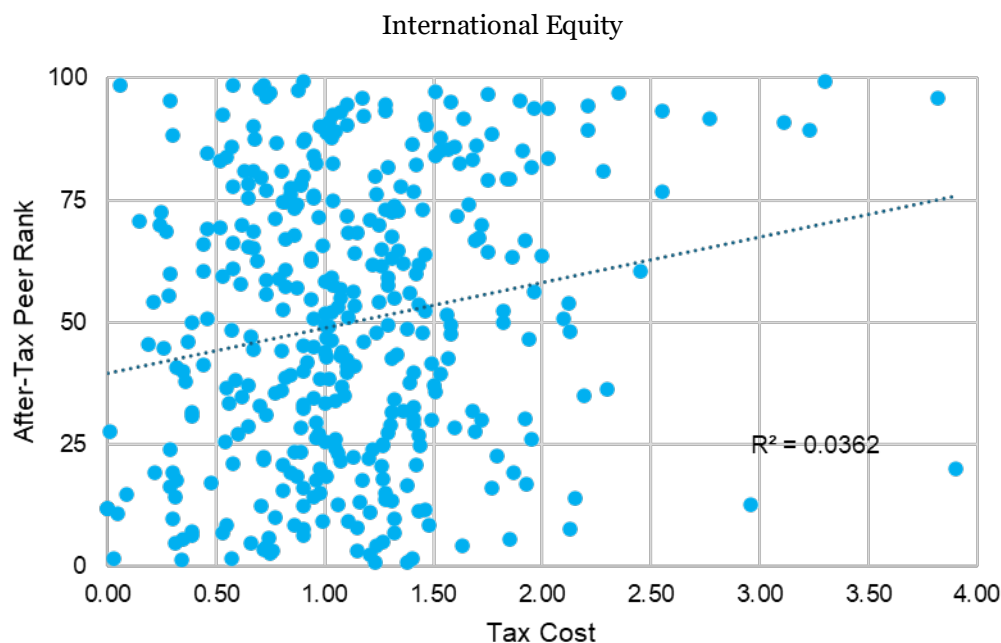
Tax-Cost versus After-Tax Peer Rank

(10 years ending December 31, 2025)



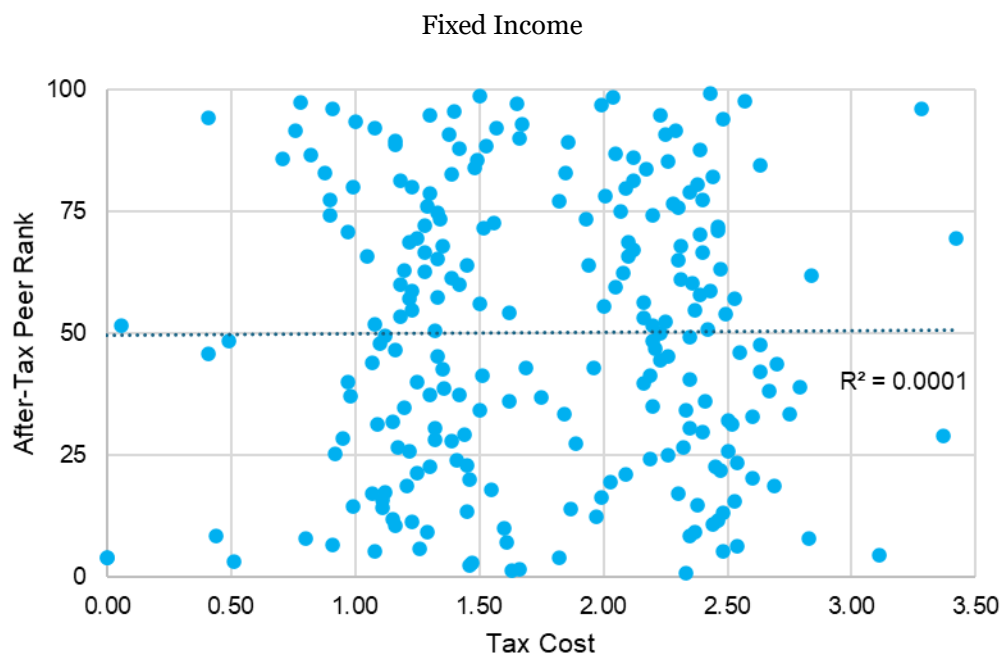
Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025

US Equity consists of US Large Value, US Large Core, US Large Growth, US Mid-Cap Value, US Mid-Cap Core, US Mid-Cap Growth, US Small Value, US Small Core, US Small Growth peer groups from Morningstar. After-Tax peer ranks are calculated using the 10-year tax cost ratio in Morningstar. Passive ETFs in Exhibit 14 are used as investible index pre- and post-tax cost. Active managers with a 10-year history shown. After-Tax Rank is calculated by subtracting the 10-year tax cost associated with each manager and re-ranking the individual peer groups.



Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025

International Equity consists of Foreign Large Value, Foreign Large Core, Foreign Large Growth, and Diversified Emerging Markets peer groups from Morningstar. After-Tax peer ranks are calculated using the 10-year tax cost ratio in Morningstar. Passive ETFs in Exhibit 14 are used as investible index pre- and post-tax cost. Active managers with a 10-year history shown. After-Tax Rank is calculated by subtracting the 10-year tax cost associated with each manager and re-ranking the individual peer groups.



Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025

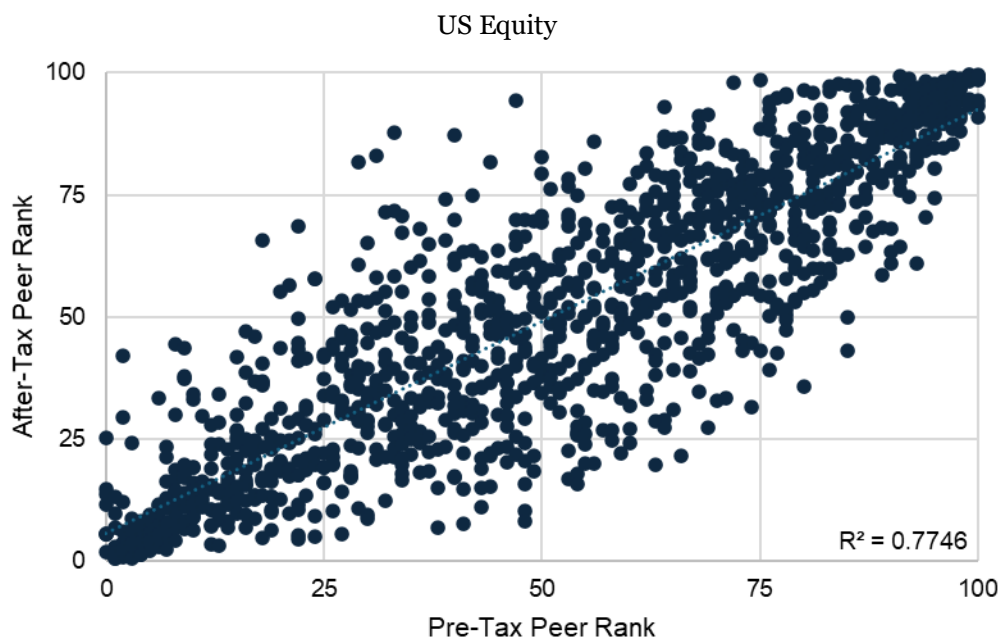
Fixed Income consists of Intermediate Core Bond, US High Yield, and Global Bond peer groups from Morningstar. After-Tax peer ranks are calculated using the 10-year tax cost ratio in Morningstar. Passive ETFs in Exhibit 14 are used as investible index pre- and post-tax cost. Active managers with a 10-year history shown. After-Tax Rank is calculated by subtracting the 10-year tax cost associated with each manager and re-ranking the individual peer groups.



Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025

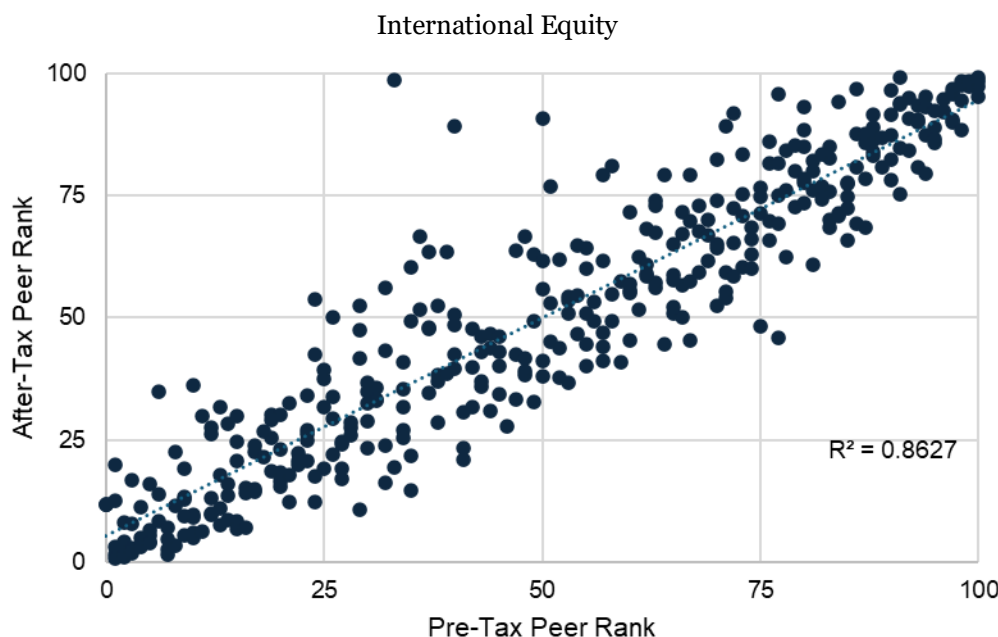
Real Assets consists of US Real Estate and Commodities Broad Basket peer groups from Morningstar. After-Tax peer ranks are calculated using the 10-year tax cost ratio in Morningstar. Passive ETFs in Exhibit 14 are used as investible index pre- and post-tax cost. Active managers with a 10-year history shown. After-Tax Rank is calculated by subtracting the 10-year tax cost associated with each manager and re-ranking the individual peer groups.

Pre-Tax Peer Rank versus After-Tax Peer Rank
 (10 years ending December 31, 2025)



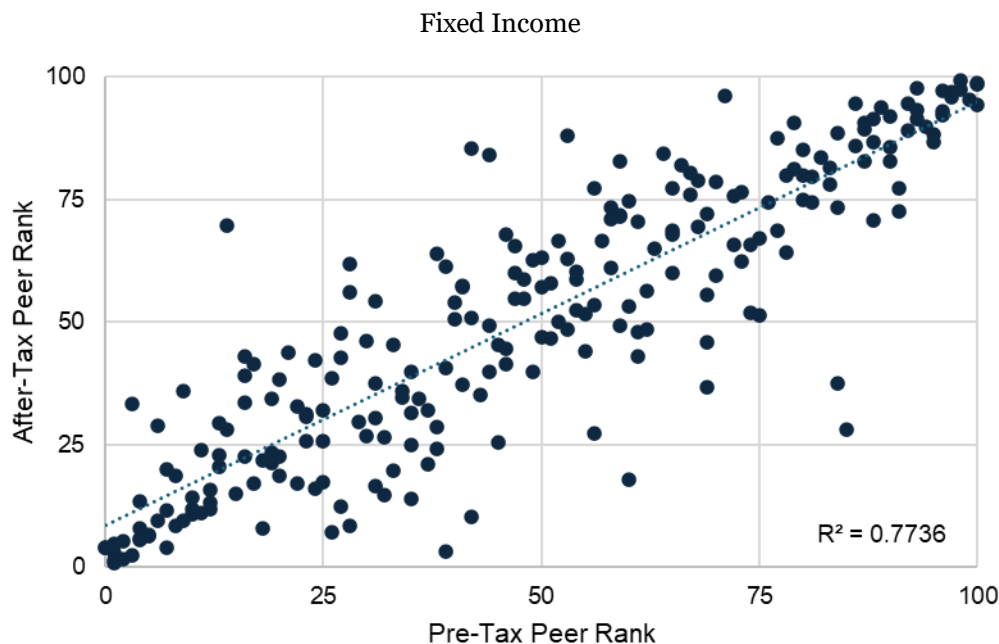
Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025

US Equity consists of US Large Value, US Large Core, US Large Growth, US Mid-Cap Value, US Mid-Cap Core, US Mid-Cap Growth, US Small Value, US Small Core, US Small Growth peer groups from Morningstar. After-Tax peer ranks are calculated using the 10-year tax cost ratio in Morningstar. Passive ETFs in Exhibit 14 are used as investible index pre- and post-tax cost. Active managers with a 10-year history shown. After-Tax Rank is calculated by subtracting the 10-year tax cost associated with each manager and re-ranking the individual peer groups.



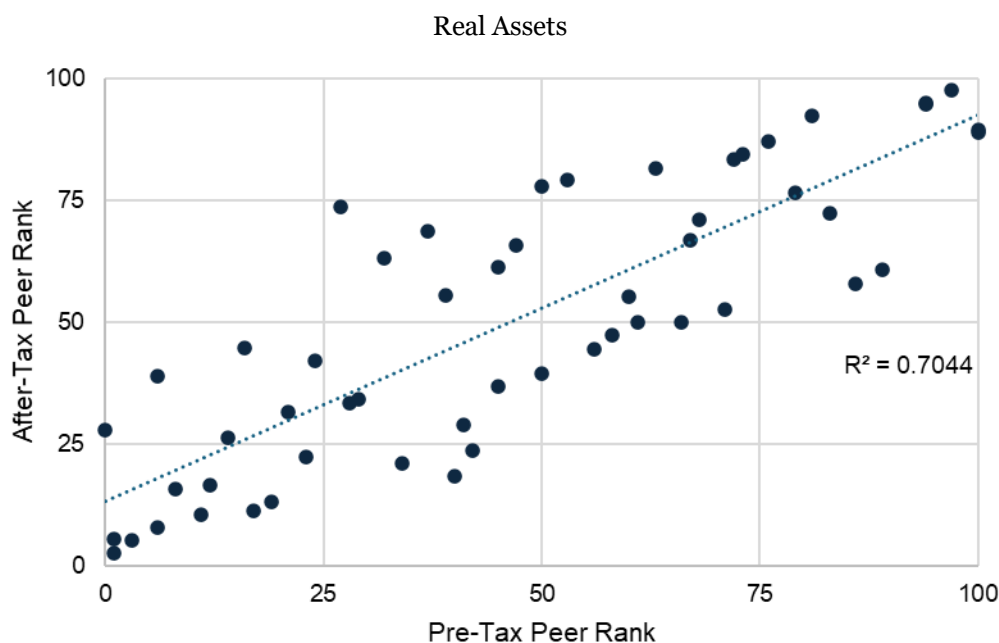
Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025

International Equity consists of Foreign Large Value, Foreign Large Core, Foreign Large Growth, and Diversified Emerging Markets peer groups from Morningstar. After-Tax peer ranks are calculated using the 10-year tax cost ratio in Morningstar. Passive ETFs in Exhibit 14 are used as investible index pre- and post-tax cost. Active managers with a 10-year history shown. After-Tax Rank is calculated by subtracting the 10-year tax cost associated with each manager and re-ranking the individual peer groups.



Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025

Fixed Income consists of Intermediate Core Bond, US High Yield, and Global Bond peer groups from Morningstar. After-Tax peer ranks are calculated using the 10-year tax cost ratio in Morningstar. Passive ETFs in Exhibit 14 are used as investible index pre- and post-tax cost. Active managers with a 10-year history shown. After-Tax Rank is calculated by subtracting the 10-year tax cost associated with each manager and re-ranking the individual peer groups.



Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2025

Real Assets consists of US Real Estate and Commodities Broad Basket peer groups from Morningstar. After-Tax peer ranks are calculated using the 10-year tax cost ratio in Morningstar. Passive ETFs in Exhibit 14 are used as investible index pre- and post-tax cost. Active managers with a 10-year history shown. After-Tax Rank is calculated by subtracting the 10-year tax cost associated with each manager and re-ranking the individual peer groups.

About the Authors



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Collin is responsible for sourcing and conducting due diligence on public and private investment managers across credit, municipal bonds, and wealth solutions. He is a member of the firm's Global Public Markets Team and Mission-Aligned Investing Council. Collin joined the firm in 2015 as a performance analyst after working as a portfolio administration analyst at McDonnell Investment Management. Collin has a Bachelor of Business Administration in Finance with a minor in Economics from the Tippie College of Business at the University of Iowa. He is a CFA® charterholder and a member of the CFA Society of Chicago. In his free time, Collin enjoys skiing, golf and playing guitar.



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Anthony is a Partner, Research Director at the firm and leads the Marketable Alternatives and Capital Markets research efforts. He is a member of the firm's Investment Committee, Discretionary Committee, Research Forum and Marketable Alternatives Research Team. Prior to joining the firm in 2011, Anthony held various roles in equity research and due diligence. Anthony received a Master of Business Administration from the University of Chicago Booth School of Business with concentrations in Analytic Finance, Economics & Entrepreneurship and a Bachelor of Arts in Finance from the Eli Broad College of Business at Michigan State University. He is a CFA® charterholder and member of the CFA Society Chicago and CFA Institute. He is on the Advisory Board for the Michigan State University Financial Markets Institute and the University of Chicago Alumni Club of Chicago. In his free time, Anthony enjoys playing guitar, collecting vinyl, history, golf and spending time with his wife and two sons.

Disclosures

Comparisons to any indices referenced herein are for illustrative purposes only and are not meant to imply that actual returns or volatility will be similar to the indices. Indices cannot be invested in directly. Unmanaged index returns assume reinvestment of any and all distributions and do not reflect our fees or expenses.

Material Risks Disclosures

Fixed Income securities are subject to interest rate risks, the risk of default and liquidity risk. U.S. investors exposed to non-U.S. fixed income may also be subject to currency risk and fluctuations.

Domestic Equity can be volatile. The rise or fall in prices take place for a number of reasons including, but not limited to changes to underlying company conditions, sector or industry factors, or other macro events. These may happen quickly and unpredictably.

International Equity can be volatile. The rise or fall in prices take place for a number of reasons including, but not limited to changes to underlying company conditions, sector or industry impacts, or other macro events. These may happen quickly and unpredictably. International equity allocations may also be impact by currency and/or country specific risks which may result in lower liquidity in some markets.

Private Real Estate involves higher risk and is suitable only for sophisticated investors. Real estate assets can be volatile and may include unique risks to the asset class like leverage and/or industry, sector or geographical concentration. Declines in real estate value may take place for a number of reasons including, but are not limited to economic conditions, change in condition of the underlying property or defaults by the borrow.

Index and Benchmark Definitions

Fixed Income

- **Bloomberg 1-3 Month U.S. Treasury Bill Index** is designed to measure the performance of public obligations of the U.S. Treasury that have a remaining maturity of greater than or equal to 1 month and less than 3 months.
- **Bloomberg U.S. Aggregate Index** covers the U.S. investment grade fixed rate bond market, with index components for government and corporate securities, mortgage pass-through securities, and asset-backed securities.
- **Bloomberg Global Aggregate ex. USD Indices** represent a broad-based measure of the global investment-grade fixed income markets. The two major components of this index are the Pan-European Aggregate and the Asian-Pacific Aggregate Indices. The index also includes Eurodollar and Euro-Yen corporate bonds and Canadian government, agency and corporate securities.

- **Bloomberg U.S. Corporate High Yield Index** covers the universe of fixed rate, non-investment grade debt. Eurobonds and debt issues from countries designated as emerging markets (sovereign rating of Baa1/BBB+/BBB+ and below using the middle of Moody's, S&P, and Fitch) are excluded, but Canadian and global bonds (SEC registered) of issuers in non-EMG countries are included.
- **Bloomberg US Government/Credit 1-3 Year Index** is the 1-3 year component of the U.S. Government/Credit Index, which includes securities in the Government and Credit Indices. The Government Index includes treasuries and agencies, while the credit index includes publicly issued U.S. corporate and foreign debentures and secured notes that meet specified maturity, liquidity, and quality requirements.
- **Bloomberg US Government/Credit Long Index** is the Long component of the U.S. Government/Credit Index, which includes securities in the Government and Credit Indices. The Government Index includes treasuries and agencies, while the credit index includes publicly issued U.S. corporate and foreign debentures and secured notes that meet specified maturity, liquidity and quality requirements.
- **Bloomberg US Treasury Inflation Protected Securities Index** consists of Inflation-Protection securities issued by the U.S. Treasury.
- **Bloomberg Muni Index** is a rules-based, market-value-weighted index engineered for the long-term tax-exempt bond market. Bonds must be rated investment-grade by at least two ratings agencies.
- **Bloomberg High Yield Municipal Bond Index** covers the universe of fixed rate, non-investment grade debt.
- **Bloomberg Intermediate U.S. Gov't/Credit** is the Intermediate component of the U.S. Government/Credit index, which includes securities in the Government and Credit Indices. The Government Index includes treasuries and agencies, while the credit index includes publicly issued U.S. corporate and foreign debentures and secured notes that meet specified maturity, liquidity, and quality requirements.

Equity

- **The S&P 500 Index** is a capitalization-weighted index designed to measure performance of the broad domestic economy through changes in the aggregate market value of 500 stocks representing all major industries. Russell 3000 Index is a market-cap-weighted index which consists of roughly 3,000 of the largest companies in the U.S. as determined by market capitalization. It represents nearly 98% of the investable U.S. equity market.
- **Russell 1000 Index** consists of the largest 1000 companies in the Russell 3000 Index.
- **Russell 1000 Growth Index** measures the performance of those Russell 1000 companies with higher P/B ratios and higher forecasted growth values.
- **Russell 1000 Value Index** measures the performance of those Russell 1000 companies with lower P/B ratios and lower forecasted growth values.

- **Russell Mid Cap Index** measures the performance of the 800 smallest companies in the Russell 1000 Index.
- **Russell Mid Cap Growth Index** measures the performance of those Russell Mid Cap companies with higher P/B ratios and higher forecasted growth values.
- **Russell Mid Cap Value Index** measures the performance of those Russell Mid Cap companies with lower P/B ratios and lower forecasted growth values.
- **Russell 2000** consists of the 2,000 smallest U.S. companies in the Russell 3000 index.
- **Russell 2000 Growth Index** measures the performance of the Russell 2000 companies with higher P/B ratios and higher forecasted growth values.
- **Russell 2000 Value Index** measures the performance of those Russell 2000 companies with lower P/B ratios and lower forecasted growth values.
- **MSCI ACWI (All Country World Index) ex. U.S. Index** captures large and mid-cap representation across Developed Markets countries (excluding the United States) and Emerging Markets countries. The index covers approximately 85% of the global equity opportunity set outside the U.S.
- **MSCI EAFE Index** is an equity index which captures large and mid-cap representation across Developed Markets countries around the world, excluding the U.S. and Canada. The index covers approximately 85% of the free float-adjusted market capitalization in each country.
- **MSCI Emerging Markets Index** captures large and mid-cap representation across Emerging Markets countries. The index covers approximately 85% of the free-float adjusted market capitalization in each country.
- **MSCI EAFE Large Value Index** captures large cap securities exhibiting overall value style characteristics across Developed Markets countries around the world, excluding the US and Canada. The value investment style characteristics for index construction are defined using three variables: book value to price, 12-month forward earnings to price and dividend yield.
- **MSCI EAFE Large Cap Index** is an equity index which captures large cap representation across Developed Markets countries around the world, excluding the US and Canada. The index covers approximately 70% of the free-float adjusted market capitalization in each country.
- **MSCI EAFE Large Growth Index** captures large cap securities exhibiting overall growth style characteristics across Developed Markets countries around the world, excluding the US and Canada. The growth investment style characteristics for index construction are defined using five variables: long-term forward EPS growth rate, short-term forward EPS growth rate, current internal growth rate and long-term historical EPS growth trend and long-term historical sales per share growth trend.
- **MSCI EAFE Mid Value Index** captures mid cap securities exhibiting overall value style characteristics across Developed Markets countries around the world, excluding the US and Canada. The value investment style characteristics for index construction are defined using three variables: book value to price, 12-month forward earnings to price and dividend yield.

- **MSCI EAFE Mid Cap Index** is an equity index which captures mid cap representation across Developed Markets countries around the world, excluding the US and Canada. The index covers approximately 15% of the free-float adjusted market capitalization in each country.
- **MSCI EAFE Mid Cap Growth Index** captures mid cap securities exhibiting overall growth style characteristics across Developed Markets countries around the world, excluding the US and Canada. The growth investment style characteristics for index construction are defined using five variables: long-term forward EPS growth rate, short-term forward EPS growth rate, current internal growth rate and long-term historical EPS growth trend and long-term historical sales per share growth trend.
- **MSCI EAFE Small Cap Value Index** captures small cap securities exhibiting overall value style characteristics across Developed Markets countries around the world, excluding the US and Canada. The value investment style characteristics for index construction are defined using three variables: book value to price, 12-month forward earnings to price and dividend yield.
- **MSCI EAFE Small Cap Index** is an equity index which captures small cap representation across Developed Markets countries around the world, excluding the US and Canada. The index covers approximately 14% of the free float adjusted market in each country.
- **MSCI EAFE Small Cap Growth Index** captures small cap securities exhibiting overall growth style characteristics across Developed Markets countries around the world, excluding the US and Canada. The growth investment style characteristics for index construction are defined using five variables: long-term forward EPS growth rate, short-term forward EPS growth rate, current internal growth rate and long-term historical EPS growth trend and long-term historical sales per share growth trend.
- **MSCI ACWI (All Country World Index) ex USA Large Value Index** captures large-cap securities exhibiting overall value style characteristics across Developed Markets countries (excluding the US) and Emerging Markets (EM) countries. The value investment style characteristics for index construction are defined using three variables: book value to price, 12-month forward earnings to price and dividend yield.
- **MSCI ACWI (All Country World Index) ex USA Large Index** captures large cap representation across Developed Markets countries (excluding the US) and Emerging Markets countries. The index covers approximately 70% of the free float-adjusted market capitalization in each country.
- **MSCI ACWI (All Country World Index) ex USA Large Growth Index** captures large-cap securities exhibiting overall growth style characteristics across Developed Markets countries (excluding the US) and Emerging Markets countries. The growth investment style characteristics for index construction are defined using five variables: long-term forward EPS growth rate, short-term forward EPS growth rate, current internal growth rate and long-term historical EPS growth trend and long-term historical sales per share growth trend.
- **MSCI ACWI (All Country World Index) ex USA Mid Value Index** captures mid cap securities exhibiting overall value style characteristics across Developed Markets countries (excluding the US) and

Emerging Markets (EM) countries. The value investment style characteristics for index construction are defined using three variables: book value to price, 12-month forward earnings to price and dividend yield.

- **MSCI ACWI (All Country World Index) ex USA Mid Cap Index** captures mid cap representation across Developed Markets countries (excluding the US) and Emerging Markets (EM) countries. The index covers approximately 15% of the free float-adjusted market capitalization in each country.
- **MSCI ACWI (All Country World Index) ex USA Mid Growth Index** captures mid-cap securities exhibiting overall growth style characteristics across Developed Markets countries (excluding the US) and Emerging Markets countries. The growth investment style characteristics for index construction are defined using five variables: long-term forward EPS growth rate, short-term forward EPS growth rate, current internal growth rate and long-term historical EPS growth trend and long-term historical sales per share growth trend.
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- **MSCI Emerging Markets (EM) Large Value Index** captures large-cap securities exhibiting overall value style characteristics across Emerging Markets (EM) countries. The value investment style characteristics for index construction are defined using three variables: book value to price, 12-month forward earnings to price and dividend yield.
- **MSCI Emerging Markets (EM) Large Index** includes large-cap representation across Emerging Markets countries. The index covers approximately 70% of the free float-adjusted market capitalization in each country.
- **MSCI Emerging Markets (EM) Large Growth Index** captures large-cap securities exhibiting overall growth style characteristics across Emerging Markets (EM) countries. The growth investment style characteristics for index construction are defined using five variables: long-term forward EPS growth rate, short-term forward EPS growth rate, current internal growth rate and long-term historical EPS growth trend and long-term historical sales per share growth trend.

- **MSCI Emerging Markets (EM) Mid Value Index** captures mid cap securities exhibiting overall value style characteristics across Emerging Markets (EM) countries. The value investment style characteristics for index construction are defined using three variables: book value to price, 12-month forward earnings to price and dividend yield.
- **MSCI Emerging Markets (EM) Mid Index** includes mid-cap representation across Emerging Markets countries. The index covers approximately 15% of the free float-adjusted market capitalization in each country.
- **MSCI Emerging Markets (EM) Mid Growth Index** captures mid cap securities exhibiting overall growth style characteristics across Emerging Markets (EM) countries. The growth investment style characteristics for index construction are defined using five variables: long-term forward EPS growth rate, short-term forward EPS growth rate, current internal growth rate and long-term historical EPS growth trend and long-term historical sales per share growth trend.
- **MSCI Emerging Markets (EM) Small Value Index** captures small cap securities exhibiting overall value style characteristics across Emerging Markets (EM) countries. The value investment style characteristics for index construction are defined using three variables: book value to price, 12-month forward earnings to price and dividend yield.
- **MSCI Emerging Markets (EM) Small Cap Index** includes small cap representation across Emerging Markets countries. The index covers approximately 14% of the free float-adjusted market capitalization in each country. The small cap segment tends to capture more local economic and sector characteristics relative to larger Emerging Markets capitalization segments.
- **MSCI Emerging Markets (EM) Small Growth Index** captures small cap securities exhibiting overall growth style characteristics across Emerging Markets (EM) countries. The growth investment style characteristics for index construction are defined using five variables: long-term forward EPS growth rate, short-term forward EPS growth rate, current internal growth rate and long-term historical EPS growth trend and long-term historical sales per share growth trend.

Alternatives & Miscellaneous

- **S&P Real Asset Index** is designed to measure global property, infrastructure, commodities, and inflation-linked bonds using liquid and investable component indices that track public equities, fixed income, and futures. In the index, equity holds 50% weight, commodities 10%, and fixed income 40%.
- **FTSE Nareit Equity REITs Index** contains all Equity REITs not designed as Timber REITs or Infrastructure REITs.