

SPIVA[®] U.S. Scorecard

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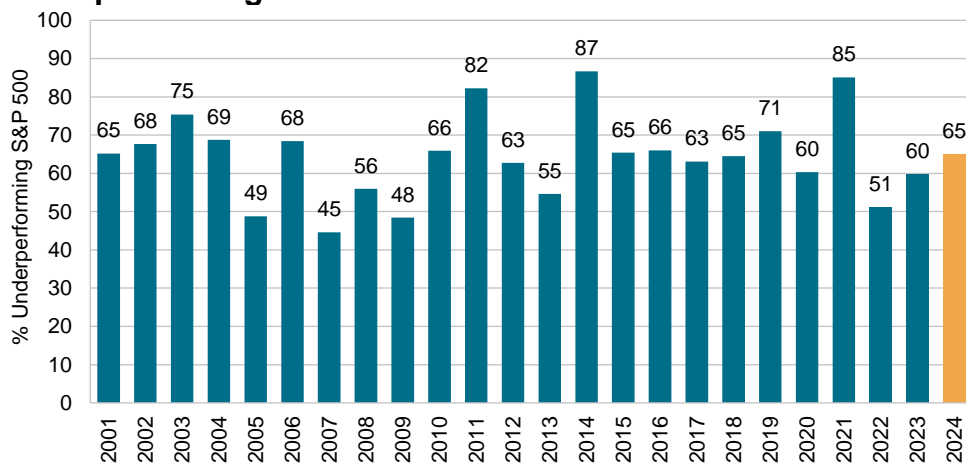
Summary

In an environment characterized by large-cap dominance, it was not surprising to see that a majority of actively managed equity funds underperformed their assigned benchmarks in 2024. Fixed income managers had a mixed year, with pockets of high outperformance.

In our largest and most closely watched comparison, **65% of all active large-cap U.S. equity funds underperformed the S&P 500[®]**, worse than the 60% rate observed in 2023 and slightly above the 64% average annual rate reported over the 24-year history of our SPIVA Scorecards.

Across asset classes, underperformance rates typically rose as time horizons lengthened. At the one-year horizon, 7 of 22 equity categories and 11 of 16 fixed income categories saw majority outperformance. **Over the 15-year period ending December 2024, there were no categories in which a majority of active managers outperformed.**

Exhibit 1: Percentage of Large-Cap Domestic Equity Funds Underperforming the S&P 500 Each Year

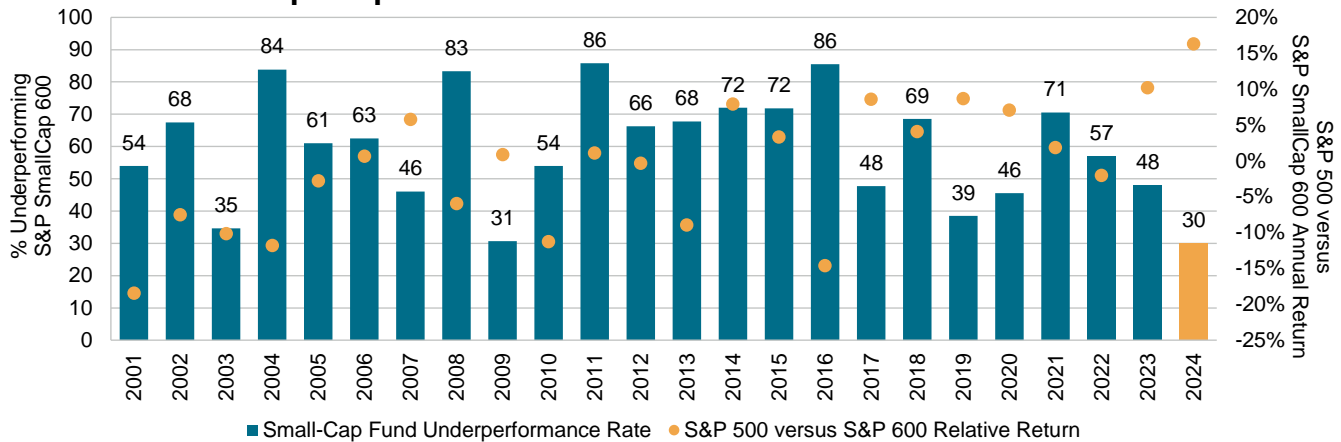


Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2024. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

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Despite opportunities to tilt toward outperforming large caps,¹ **62% of All Mid-Cap funds lagged the [S&P MidCap 400®](#)**. But there was a striking divergence in the performance of smaller-capitalization U.S. equity managers. Perhaps benefiting from the relatively lower benchmark performance—a 16% return differential separated The 500™ and the [S&P SmallCap 600®](#)—only **30% of All U.S. Small-Cap funds underperformed**. That was their lowest underperformance rate across more than two decades of our annual SPIVA Scorecards (see Exhibit 2).

Exhibit 2: Small-Cap Outperformance Reached a New Record



Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2024. Index performance based on total returns in USD. Past performance is no guarantee of future results. Charts are provided for illustrative purposes.

The positive momentum for small-cap managers was not confined to the U.S, as evidenced by just 43% of International Small-Cap funds underperforming at the one-year horizon. Other international equity categories were not as fortunate: **84% of funds in the Global category underperformed the [S&P World Index](#)**, and 69% of International funds underperformed the [S&P World Ex-U.S. Index](#). Meanwhile, reversing their H1 2024 majority outperformance, **71% of Emerging Markets funds underperformed over the full year in 2024**. China’s weak performance in H1 and strong recovery in H2 may have posed a headwind for managers who had previously benefited from an underweight to China.²

Fixed income results were generally better, with an average one-year underperformance rate of 41% across all fund categories³ and majority outperformance reported in 11 out of our 16 categories. Performance among credit managers was mixed: **70% of General Investment-Grade funds outperformed, but 66% of High Yield funds underperformed**. Municipal categories saw majority outperformance across the board as did emerging debt. At the other extreme, **95% of Government Intermediate funds underperformed**.

¹ Ganti, Anu and Craig J. Lazzara, “[Style Bias and Active Performance](#),” S&P Dow Jones Indices, March 2021.

² Ganti, Anu, “[Clash of Titans: Diverging Global and Emerging Market Mid-Year Active Performance](#),” S&P Dow Jones Indices, October 2024.

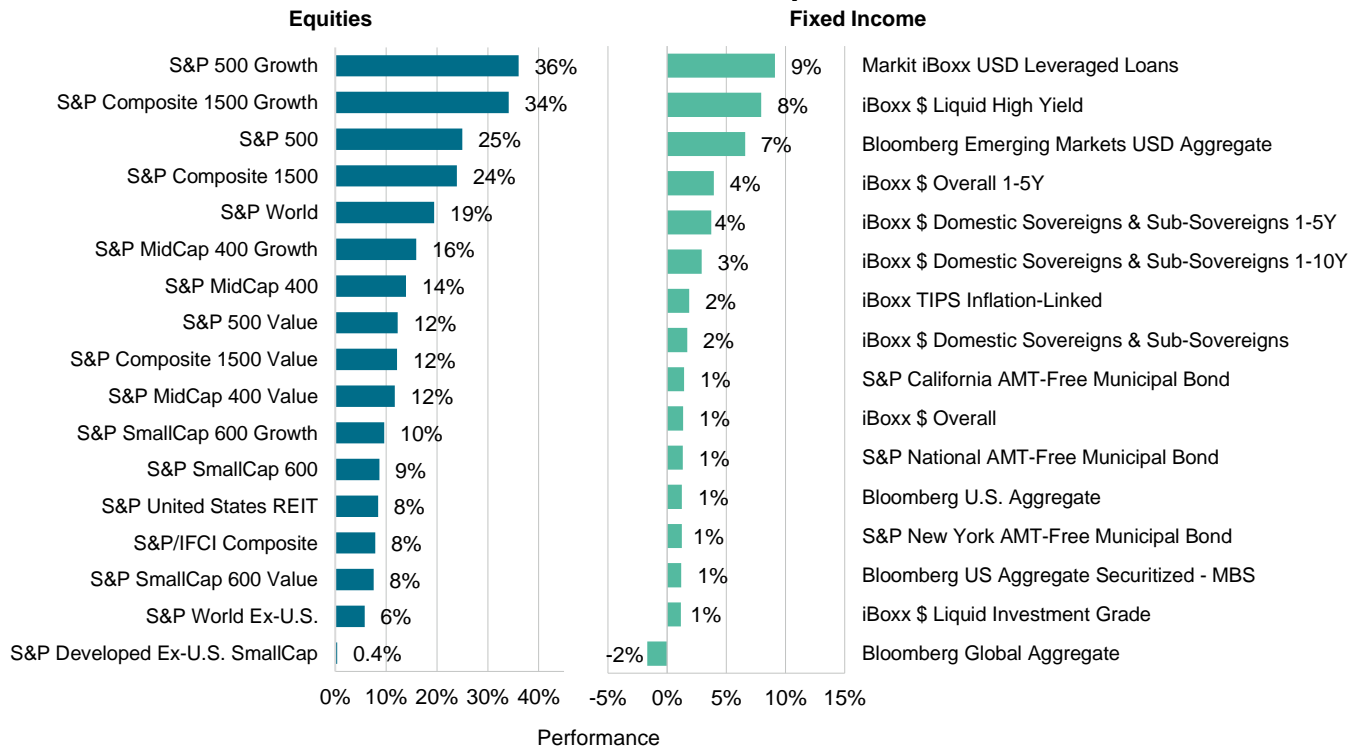
³ See Appendix C of [SPIVA U.S. Scorecard Year-End 2022](#) for details on change of categories and benchmarks in fixed income categories since 2022.

Market Context

U.S. equity markets experienced an impressive year in 2024, characterized by 57 all-time closing highs. **The 500 finished up 25%, marking its best two-year run since 1998.** The broadening of the rally ahead of the Presidential election, though not sustainable through the end of the year, led to gains for the S&P MidCap 400 and the S&P SmallCap 600 of 14% and 9%, respectively. Fixed income markets also gained ground, despite inflation concerns, volatility in 10-year Treasury bond yields and fewer than expected Fed rate cuts.

All but one of our 38 category benchmarks delivered positive performance in 2024. Powered by mega-cap outperformance and AI-related optimism, the S&P 500 Growth outperformed The 500 by 11%. On the fixed income side, higher yielding, lower quality bonds benefited, led by outperformance from leveraged loans and high yield.

Exhibit 3: 2024 Performance of U.S. Scorecard Comparison Indices



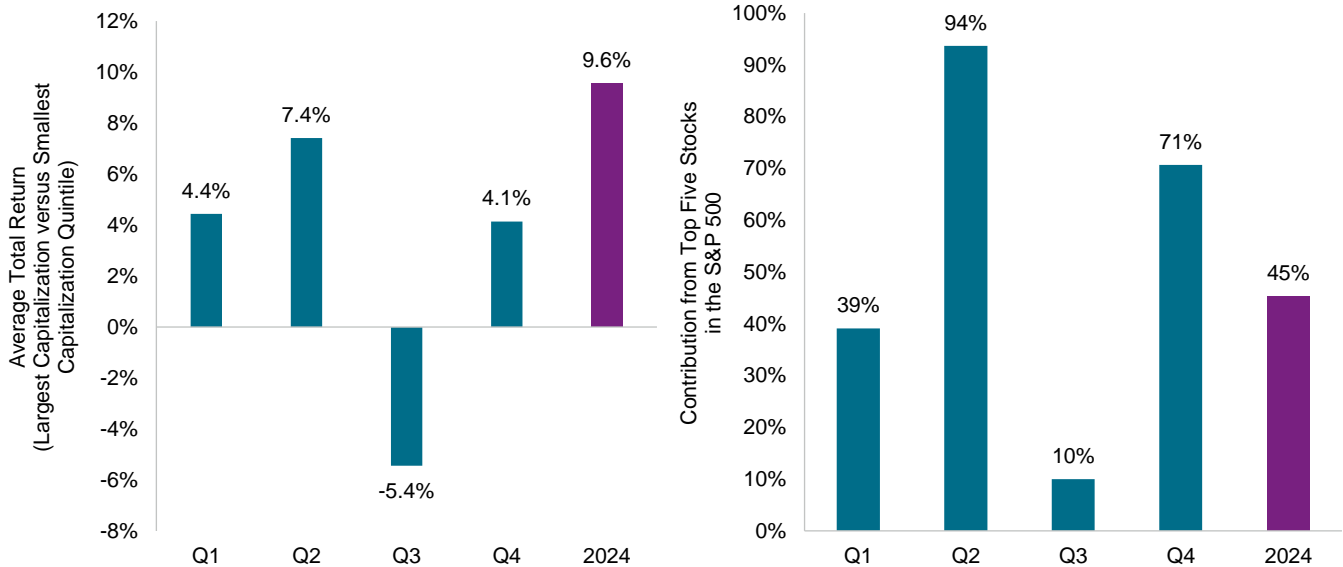
Source: S&P Dow Jones Indices LLC, Bloomberg LLC. Data as of Dec. 31, 2024. Index performance based on total returns in USD. Past performance is no guarantee of future results. Charts are provided for illustrative purposes.

Consistent with what we observed in 2023, mega-cap outperformance was a major market theme last year, with the average return for The 500’s largest capitalization quintile outpacing the smallest quintile’s average by 10% in 2024. However, Exhibit 4 shows that **large-cap outperformance did not occur in a consistent pattern.** The difference in the average return of stocks in the top and bottom size quintiles grew from 4% to 7% from Q1 to Q2. A decline of

5% followed in Q3 as enthusiasm ensued for domestically sensitive smaller stocks ahead of the election and reversed in Q4 to 4% as mega caps returned to favor.

Another way to visualize the changing degree of large-cap dominance is through the contribution from the top five stocks to S&P 500 performance. The top five’s contribution spiked from 39% to 94% in Q2, followed by a sharp decline to 10% in Q3 and a reversal upward to 71% in Q4.

Exhibit 4: Rotation to Smaller Size in Q3 Was Short-Lived



Source: S&P Dow Jones Indices LLC, FactSet. Data as of Dec. 31, 2024. Average total return shows the difference in the unweighted average total return of stocks in the top and bottom S&P 500 capitalization quintile as of the prior quarter. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

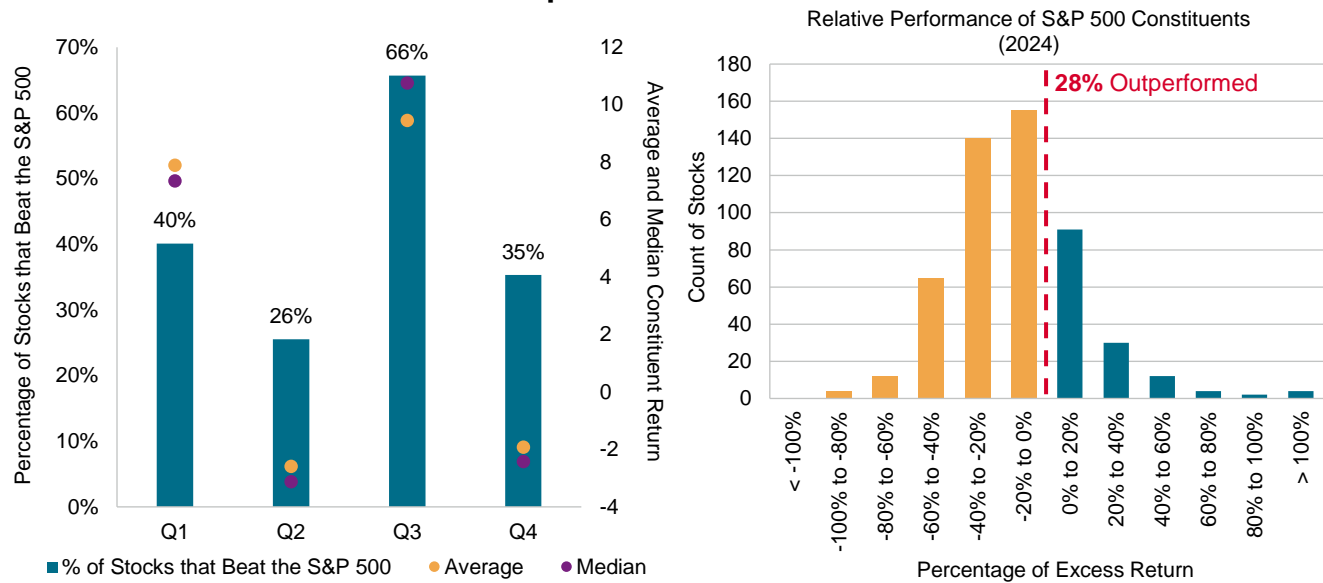
When an index’s largest constituents are outperforming, active management may become especially challenging,⁴ since larger stocks are often underweighted by active managers.⁵ Still, **35% of All Large-Cap funds managed to outperform The 500**, so there may have been pockets of opportunity for nimble stock pickers. Exhibit 5 shows the percentage of stocks that beat the S&P 500, along with the average and median constituent return by quarter. The distribution of the excess returns of the members of the S&P 500 for the full year is also shown.

Although only 28% of stocks outperformed for the year, 66% of stocks outperformed the benchmark during Q3, the highest percentage compared to the rest of the year. A negatively skewed distribution of returns during this period, with an average return below that of the median, may have provided a much-needed, though ephemeral, tailwind—a natural consequence of the broadening of the rally.

⁴ Lazzara, Craig J. and Fei Mei Chan, “[Degrees of Difficulty: Indications of Active Success](#),” S&P Dow Jones Indices, January 2022.

⁵ Ganti, Anu, “[Mutual Fund Portfolios: Equal Weight or Cap Weight?](#)” S&P Dow Jones Indices, July 2017.

Exhibit 5: Two Thirds of Stocks Outperformed the S&P 500 in Q3

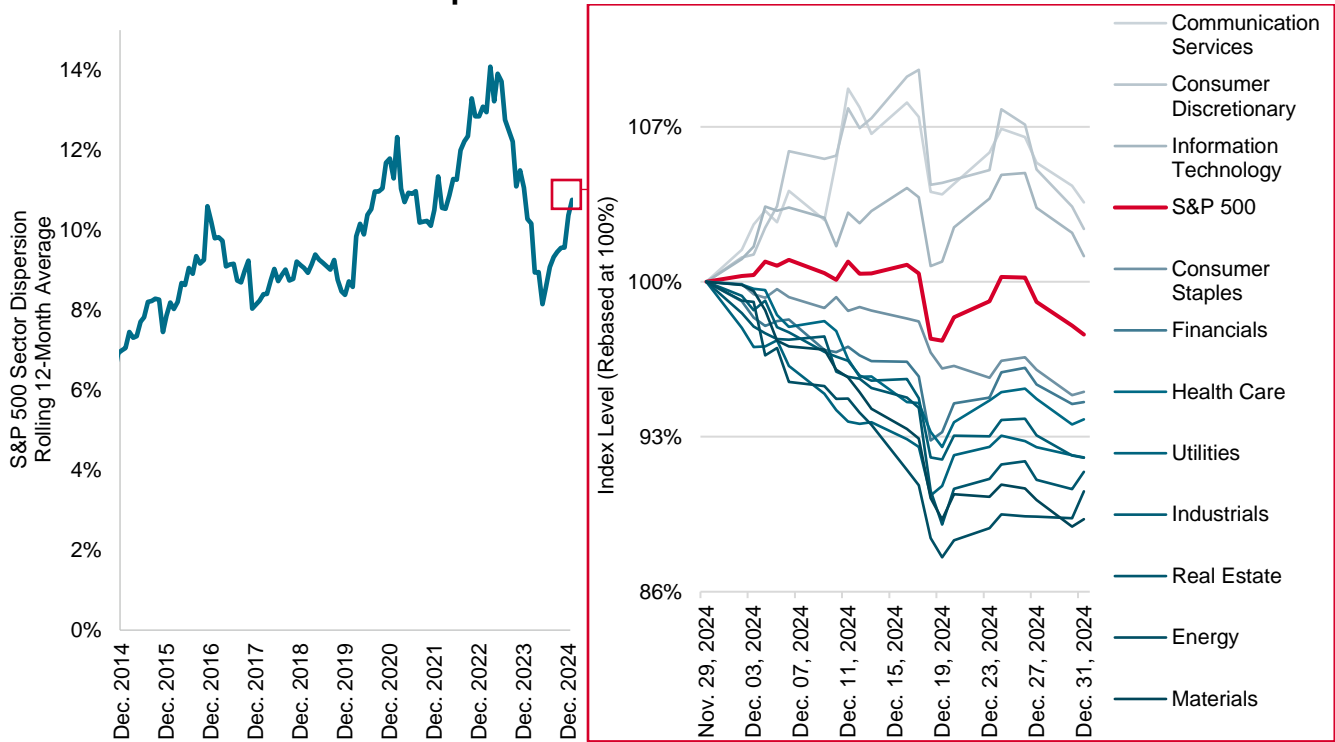


Source: S&P Dow Jones Indices LLC, FactSet. Data as of Dec. 31, 2024. Past performance is no guarantee of future results. Charts are provided for illustrative purposes.

While the prospects for stock selection may have been slim, **there may have been plenty of potential opportunities for skillful sector rotators in the latter half of the year.** Dispersion among S&P 500 sectors gained from May onward, as market participants gauged which sectors would be the beneficiaries or laggards of the new Presidential regime. Driven by significant repricing among sectors in December after the election outcome, a 14% performance spread developed between leader Communication Services and laggard Materials. The greater importance of sectors in 2024 is generally consistent with the trends observed in past election years.⁶

⁶ Ganti, Anu and Craig J. Lazzara, "Sector Effects During Elections," S&P Dow Jones Indices, September 2020.

Exhibit 6: S&P 500 Sector Dispersion Rose ahead of and after the Election



Source: S&P Dow Jones Indices LLC. Data as of Dec. 31, 2024. Past performance is no guarantee of future results. Charts are provided for illustrative purposes.

Consistent with ripe style bias conditions within equities, **out-of-benchmark exposures can matter as much or even more for fixed income managers.**⁷ Exhibit 7 summarizes the relative performance of term, credit and liquidity—the traditional sources of excess return for bond pickers⁸—through the representative USD iBoxx indices. The fortunes for U.S.-domiciled fixed income managers may have largely depended on which side of the credit or duration spectrum they landed on. Reaching for riskier credit exposures, particularly at the long end of the maturity spectrum, could have paid off handsomely, with a 9% excess return between the iBoxx USD High Developed Markets 10+ and the iBoxx \$ Corporates 10Y+.

However, in an unusual rate regime that began with an inverted yield curve followed by rising long-term yields, **taking on greater duration risk would not have helped.** Instead, bond managers who shortened their duration exposures could have benefited. Notably, only 12% of Investment-Grade Short & Intermediate funds underperformed the iBoxx \$ Overall 1-5Y, perhaps by capitalizing on both favorable long credit and short duration trends. Tilting toward more illiquid bond exposures could have helped as well, but to a lesser extent.

⁷ Chapman, Florence et. al, "[SPIVA Global Scorecard](#)," S&P Dow Jones Indices, Mid-Year 2024.

⁸ Malinowski, Agatha, "[Time, Trust and Trading](#)," S&P Dow Jones Indices, July 2024.

Exhibit 7: Active Fixed Income Managers Faced Dueling Headwinds and Tailwinds

Return Factor		Index 1	(-) Index 2	2024 (%)
(1) Term	Overall	iBoxx \$ Overall 10-15Y	iBoxx \$ Overall 1-3Y	-4.50
	Short Term IG	iBoxx \$ Corporates 1-3Y	iBoxx \$ Treasuries 1-3Y	1.32
	Long Term IG	iBoxx \$ Corporates 15Y+	iBoxx \$ Treasuries 15Y+	3.73
(2) Credit	Short Term HY	iBoxx USD High Yield Developed Markets 1-3Y	iBoxx \$ Corporates 1-3Y	3.84
	Long Term HY	iBoxx USD High Yield Developed Markets 10Y+	iBoxx \$ Corporates 10Y+	8.50
(3) Illiquidity	IG	iBoxx \$ Corporates	iBoxx \$ Liquid Investment Grade	1.55
	HY	iBoxx USD High Yield Developed Markets	iBoxx \$ Liquid High Yield	0.29

Source: S&P Dow Jones Indices LLC. Data as of Dec. 31, 2024. IG stands for investment grade. HY stands for high yield. Past performance is no guarantee of future results. Charts are provided for illustrative purposes.

2024 was similar to 2023 in a lot of respects: double-digit gains for the S&P 500, mega-cap dominance and relatively high sector dispersion. However, there were some notable differences, including the mid-year rotation toward smaller stocks that subsequently reversed, a rise in U.S. Treasury yields and associated disinversion of the yield curve, all amid the backdrop of a Presidential election and the uncertainty associated with it. As a result, active equity manager underperformance rates were relatively consistent with the prior year. Despite this, it was an overall better year for fixed income managers, particularly those situated within the investment grade space.

A Unique Scorecard for the Active versus Passive Debate

Since its first publication in 2002, the SPIVA Scorecard has served as the de facto scorekeeper of the long-standing active versus passive debate. Beyond the SPIVA Scorecard's widely cited headline numbers is a rich data set that addresses issues—often far more fascinating though far less discussed—about measurement techniques, universe composition and fund survivorship. These data sets are rooted in the following fundamental principles of the SPIVA Scorecard, with which regular readers will be familiar.

- **Survivorship Bias Correction:** Many funds might be liquidated or merged during a period of study. However, for someone making an investment decision at the beginning of the period, these funds are part of the opportunity set. Unlike other commonly available comparison reports, SPIVA Scorecards account for the entire opportunity set—not just the survivors—thereby eliminating survivorship bias.
- **Apples-to-Apples Comparison:** Fund returns are often compared to popular benchmarks such as the S&P 500, regardless of size or style classification. SPIVA Scorecards avoid this pitfall by measuring a fund's returns against the returns of a benchmark appropriate for that particular investment category.
- **Asset-Weighted Returns:** Average returns for a fund group are often calculated using only equal weighting, which results in the returns of a USD 10 billion fund affecting the average in the same manner as the returns of a USD 10 million fund. A more accurate representation of how market participants fared in a particular period is found by calculating weighted average returns where each fund's return is weighted by net assets. SPIVA Scorecards show both equal- and asset-weighted averages.
- **Style Consistency:** SPIVA Scorecards measure style consistency for each style category across different time horizons. Style consistency is an important metric because style drift (the tendency of funds to diverge from their initial investment categorization) can have an impact on asset allocation decisions.
- **Data Cleaning:** SPIVA Scorecards avoid double-counting multiple share classes in all count-based calculations, using only the share class with greater assets. Since this is meant to be a scorecard for active managers, it excludes index funds, leveraged and inverse funds, and other index-linked products.

Historical View

To provide context for the relative performance of active funds, we compile annual league tables across the U.S. and select international equity categories. The tables show how active funds performed against their benchmarks in each calendar year. Owing to the 2022 change in fixed income categories and benchmarks and mid-year 2024 change in benchmarks for the Global Equity and International Equity categories, equivalent year-over-year comparisons for fixed income along with global and international equity funds would not provide “apples-to-apples” comparisons.⁹

Exhibit 8: Percentage of U.S. Equity and International Funds Underperforming Benchmarks Each Year

Fund Category	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Domestic Equity Funds (%)																							
All Domestic Funds	58	48	51	42	68	49	65	41	48	85	65	43	87	74	61	63	69	70	57	80	50	75	79
All Large-Cap Funds	68	75	69	49	68	45	56	48	66	82	63	55	87	65	66	63	65	71	60	85	51	60	65
All Mid-Cap Funds	74	52	65	74	45	46	76	56	73	69	80	37	66	57	89	44	46	32	51	62	63	50	62
All Small-Cap Funds	68	35	84	61	63	46	83	31	54	86	66	68	72	72	86	48	69	39	46	71	57	48	30
All Multi-Cap Funds	54	49	49	37	69	46	70	39	60	84	65	47	82	70	75	57	67	69	56	80	51	72	78
Large-Cap Growth Funds	83	48	44	38	94	27	91	37	51	96	46	41	96	48	90	33	60	33	38	99	74	10	92
Large-Cap Core Funds	67	85	83	56	81	44	52	51	77	83	67	58	80	74	75	69	76	70	66	79	54	73	76
Large-Cap Value Funds	35	86	87	54	80	46	25	46	71	54	85	65	78	62	78	47	46	97	33	39	59	91	39
Mid-Cap Growth Funds	86	36	64	80	28	42	91	54	84	77	87	35	55	80	95	18	15	9	17	83	91	24	63
Mid-Cap Core Funds	70	55	57	66	32	61	60	71	87	66	79	43	59	68	91	62	62	41	80	45	54	12	67
Mid-Cap Value Funds	64	68	53	69	37	58	68	47	57	68	74	41	71	34	97	43	72	65	53	63	73	75	68
Small-Cap Growth Funds	97	27	95	78	51	41	95	31	62	94	63	55	64	88	96	15	62	14	14	87	80	55	23
Small-Cap Core Funds	67	35	80	58	56	56	82	33	59	86	69	78	67	78	90	59	88	41	62	61	40	52	33
Small-Cap Value Funds	30	48	72	45	71	39	72	25	42	82	62	79	94	45	89	74	83	80	44	51	41	37	43
Multi-Cap Growth Funds	62	34	51	18	73	30	88	42	46	95	52	39	87	66	85	46	66	45	47	93	56	42	78
Multi-Cap Core Funds	49	55	61	38	77	45	66	39	66	83	68	53	84	84	75	69	82	74	62	80	58	76	80
Multi-Cap Value Funds	61	57	79	72	84	58	48	36	68	67	73	48	67	56	71	50	75	92	50	51	58	91	38
Real Estate Funds	48	57	43	44	68	45	73	38	67	66	62	65	68	43	84	37	89	27	25	70	88	87	81
International Equity Funds (%)																							
International Small-Cap Funds	68	56	56	60	65	37	53	49	45	60	25	48	69	49	72	44	91	61	52	31	60	54	43
Emerging Markets Funds	63	65	79	65	78	70	65	71	65	53	46	55	71	66	64	65	62	36	52	65	76	63	71

Sources: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2024. See reports 1a and 6a for the indices used as benchmarks for each category. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

⁹ The interested reader may find the as-reported historical outperformance rates for fixed income categories in prior scorecards, available at spglobal.com/spiva.

Reports

Report 1a: Percentage of U.S. Equity Funds Underperforming Their Benchmarks (Based on Absolute Return)

Fund Category	Comparison Index	1-Year (%)	3-Year (%)	5-Year (%)	10-Year (%)	15-Year (%)	20-Year (%)
All Domestic Funds	S&P Composite 1500®	78.65	87.65	84.69	89.70	93.23	94.11
All Large-Cap Funds	S&P 500	65.24	84.96	76.26	84.34	89.50	91.99
All Mid-Cap Funds	S&P MidCap 400	62.00	74.64	80.00	77.32	87.50	90.93
All Small-Cap Funds	S&P SmallCap 600	29.69	53.03	60.37	82.22	90.68	90.80
All Multi-Cap Funds	S&P Composite 1500	78.45	86.13	82.93	87.44	91.52	93.41
Large-Cap Growth Funds	S&P 500 Growth	92.03	57.02	80.18	84.84	95.91	96.90
Large-Cap Core Funds	S&P 500	75.89	82.30	80.37	96.62	97.07	93.27
Large-Cap Value Funds	S&P 500 Value	38.58	89.89	78.91	89.61	95.08	87.78
Mid-Cap Growth Funds	S&P MidCap 400 Growth	63.08	85.95	74.26	65.12	82.49	88.30
Mid-Cap Core Funds	S&P MidCap 400	66.67	65.88	81.48	88.80	92.81	96.75
Mid-Cap Value Funds	S&P MidCap 400 Value	68.00	78.57	80.36	92.75	92.16	94.19
Small-Cap Growth Funds	S&P SmallCap 600 Growth	23.12	68.14	66.17	77.34	87.34	91.46
Small-Cap Core Funds	S&P SmallCap 600	33.22	39.58	56.49	86.54	94.10	92.48
Small-Cap Value Funds	S&P SmallCap 600 Value	42.55	35.82	48.05	81.15	93.38	92.78
Multi-Cap Growth Funds	S&P Composite 1500 Growth	78.08	75.28	83.25	90.00	91.24	92.50
Multi-Cap Core Funds	S&P Composite 1500	80.00	86.22	88.16	95.53	95.50	94.69
Multi-Cap Value Funds	S&P Composite 1500 Value	38.16	88.10	80.00	92.98	95.63	90.76
Real Estate Funds	S&P United States REIT	80.52	85.19	82.93	82.42	88.00	90.12

Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2024. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 1b: Percentage of U.S. Equity Funds Underperforming Their Benchmarks (Based on Risk-Adjusted Return)

Fund Category	Comparison Index	3-Year (%)	5-Year (%)	10-Year (%)	15-Year (%)	20-Year (%)
All Domestic Funds	S&P Composite 1500	88.96	90.04	93.36	97.99	97.26
All Large-Cap Funds	S&P 500	84.96	86.21	91.54	98.13	95.48
All Mid-Cap Funds	S&P MidCap 400	71.01	75.00	76.50	84.75	90.68
All Small-Cap Funds	S&P SmallCap 600	54.40	57.78	79.32	87.89	89.08
All Multi-Cap Funds	S&P Composite 1500	88.25	88.15	92.40	96.42	96.63
Large-Cap Growth Funds	S&P 500 Growth	64.26	83.33	92.78	99.18	100.00
Large-Cap Core Funds	S&P 500	76.11	79.45	94.77	98.40	96.33
Large-Cap Value Funds	S&P 500 Value	88.45	77.32	88.20	90.77	83.26
Mid-Cap Growth Funds	S&P MidCap 400 Growth	85.12	75.00	72.67	85.71	89.89
Mid-Cap Core Funds	S&P MidCap 400	58.82	74.07	87.20	86.27	94.31
Mid-Cap Value Funds	S&P MidCap 400 Value	62.86	60.71	76.81	79.41	83.72
Small-Cap Growth Funds	S&P SmallCap 600 Growth	68.14	63.68	81.28	90.72	93.97
Small-Cap Core Funds	S&P SmallCap 600	41.25	56.87	81.92	87.82	88.50
Small-Cap Value Funds	S&P SmallCap 600 Value	29.85	41.56	72.95	80.88	85.57
Multi-Cap Growth Funds	S&P Composite 1500 Growth	78.09	86.91	93.00	97.24	96.88
Multi-Cap Core Funds	S&P Composite 1500	85.78	89.04	97.59	99.21	96.76
Multi-Cap Value Funds	S&P Composite 1500 Value	89.05	89.03	92.11	93.75	87.50
Real Estate Funds	S&P United States REIT	-	76.83	72.53	81.00	86.42

Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2024. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 2: Survivorship and Style Consistency of U.S. Equity Funds

Fund Category	Number of Funds at Start	Survivorship (%)	Style Consistency
1-Year			
All Domestic Funds	2187	96.89	93.78
All Large-Cap Funds	771	97.67	96.11
All Mid-Cap Funds	300	97.67	89.33
All Small-Cap Funds	522	96.55	95.40
All Multi-Cap Funds	594	95.79	91.58
Large-Cap Growth Funds	251	96.81	98.01
Large-Cap Core Funds	253	98.02	94.47
Large-Cap Value Funds	267	98.13	95.88
Mid-Cap Growth Funds	130	96.92	93.85
Mid-Cap Core Funds	120	98.33	85.83
Mid-Cap Value Funds	50	98.00	86.00
Small-Cap Growth Funds	186	96.24	93.55
Small-Cap Core Funds	289	96.89	97.92
Small-Cap Value Funds	47	95.74	87.23
Multi-Cap Growth Funds	146	93.84	85.62
Multi-Cap Core Funds	220	96.36	94.09
Multi-Cap Value Funds	228	96.49	92.98
Real Estate Funds	77	88.31	100.00
3-Year			
All Domestic Funds	2138	91.16	80.31
All Large-Cap Funds	738	91.87	84.69
All Mid-Cap Funds	276	92.39	71.74
All Small-Cap Funds	511	91.59	86.11
All Multi-Cap Funds	613	89.40	74.06
Large-Cap Growth Funds	235	91.91	91.06
Large-Cap Core Funds	226	91.59	80.97
Large-Cap Value Funds	277	92.06	82.31
Mid-Cap Growth Funds	121	92.56	84.30
Mid-Cap Core Funds	85	94.12	72.94
Mid-Cap Value Funds	70	90.00	48.57
Small-Cap Growth Funds	204	91.18	83.33
Small-Cap Core Funds	240	91.67	96.25
Small-Cap Value Funds	67	92.54	58.21
Multi-Cap Growth Funds	178	87.64	60.67
Multi-Cap Core Funds	225	86.22	75.56
Multi-Cap Value Funds	210	94.29	83.81
Real Estate Funds	81	79.01	100.00

Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2024. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 2: Survivorship and Style Consistency of U.S. Equity Funds (cont.)

Fund Category	Number of Funds at Start	Survivorship (%)	Style Consistency
5-Year			
All Domestic Funds	2168	83.76	70.71
All Large-Cap Funds	754	86.87	73.74
All Mid-Cap Funds	300	84.00	61.67
All Small-Cap Funds	540	81.48	81.11
All Multi-Cap Funds	574	81.71	61.67
Large-Cap Growth Funds	222	89.19	85.59
Large-Cap Core Funds	219	88.13	70.32
Large-Cap Value Funds	313	84.35	67.73
Mid-Cap Growth Funds	136	85.29	69.85
Mid-Cap Core Funds	108	81.48	55.56
Mid-Cap Value Funds	56	85.71	53.57
Small-Cap Growth Funds	201	83.58	84.08
Small-Cap Core Funds	262	80.53	86.64
Small-Cap Value Funds	77	79.22	54.55
Multi-Cap Growth Funds	191	84.29	48.17
Multi-Cap Core Funds	228	81.58	64.04
Multi-Cap Value Funds	155	78.71	74.84
Real Estate Funds	82	73.17	100.00
10-Year			
All Domestic Funds	2514	63.92	56.25
All Large-Cap Funds	958	65.14	62.21
All Mid-Cap Funds	366	60.66	46.72
All Small-Cap Funds	585	63.42	68.55
All Multi-Cap Funds	605	64.46	40.66
Large-Cap Growth Funds	277	65.70	74.37
Large-Cap Core Funds	325	65.54	55.08
Large-Cap Value Funds	356	64.33	59.27
Mid-Cap Growth Funds	172	65.12	54.65
Mid-Cap Core Funds	125	51.20	42.40
Mid-Cap Value Funds	69	66.67	34.78
Small-Cap Growth Funds	203	65.02	82.76
Small-Cap Core Funds	260	61.15	70.77
Small-Cap Value Funds	122	65.57	40.16
Multi-Cap Growth Funds	200	67.00	37.00
Multi-Cap Core Funds	291	63.57	39.52
Multi-Cap Value Funds	114	62.28	50.00
Real Estate Funds	91	62.64	96.70

Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2024. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 2: Survivorship and Style Consistency of U.S. Equity Funds (cont.)

Fund Category	Number of Funds at Start	Survivorship (%)	Style Consistency
15-Year			
All Domestic Funds	2938	49.49	44.83
All Large-Cap Funds	1067	48.17	56.61
All Mid-Cap Funds	472	48.09	36.65
All Small-Cap Funds	644	51.86	52.95
All Multi-Cap Funds	755	50.20	26.36
Large-Cap Growth Funds	367	44.41	63.76
Large-Cap Core Funds	375	48.53	55.73
Large-Cap Value Funds	325	52.00	49.54
Mid-Cap Growth Funds	217	45.16	47.93
Mid-Cap Core Funds	153	47.71	32.68
Mid-Cap Value Funds	102	54.90	18.63
Small-Cap Growth Funds	237	48.95	70.46
Small-Cap Core Funds	271	53.14	51.29
Small-Cap Value Funds	136	54.41	25.74
Multi-Cap Growth Funds	217	49.31	27.65
Multi-Cap Core Funds	378	53.17	26.98
Multi-Cap Value Funds	160	44.38	23.13
Real Estate Funds	100	61.00	79.00
20-Year			
All Domestic Funds	2376	36.41	48.53
All Large-Cap Funds	774	32.95	59.30
All Mid-Cap Funds	397	37.03	41.81
All Small-Cap Funds	522	38.51	56.13
All Multi-Cap Funds	683	38.36	34.41
Large-Cap Growth Funds	226	26.11	68.58
Large-Cap Core Funds	327	30.89	57.19
Large-Cap Value Funds	221	42.99	52.94
Mid-Cap Growth Funds	188	33.51	53.19
Mid-Cap Core Funds	123	33.33	40.65
Mid-Cap Value Funds	86	50.00	18.60
Small-Cap Growth Funds	199	34.17	74.37
Small-Cap Core Funds	226	39.82	52.21
Small-Cap Value Funds	97	44.33	27.84
Multi-Cap Growth Funds	160	32.50	43.13
Multi-Cap Core Funds	339	40.71	32.15
Multi-Cap Value Funds	184	39.13	30.98
Real Estate Funds	81	43.21	80.25

Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2024. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 3: Average U.S. Equity Fund Performance (Equal-Weighted)

Index/Fund Category	1-Year (%)	3-Year (%)	5-Year (%)	10-Year (%)	15-Year (%)	20-Year (%)
S&P Composite 1500	23.95	8.54	14.13	12.79	13.72	10.32
All Domestic Funds	17.24	4.42	10.42	9.47	10.68	8.04
S&P 500	25.02	8.94	14.53	13.10	13.88	10.35
All Large-Cap Funds	21.32	6.38	11.72	10.38	11.16	8.48
S&P MidCap 400	13.93	4.87	10.34	9.68	11.92	9.69
All Mid-Cap Funds	13.16	2.05	9.06	8.62	10.43	8.17
S&P SmallCap 600	8.70	1.91	8.36	8.96	11.66	8.99
All Small-Cap Funds	11.74	1.38	8.18	7.82	9.98	7.41
S&P Composite 1500	23.95	8.54	14.13	12.79	13.72	10.32
All Multi-Cap Funds	18.52	5.30	10.94	9.77	10.53	7.79
Large-Cap						
S&P 500 Growth	36.07	7.70	17.09	15.29	15.54	11.87
Large-Cap Growth Funds	29.16	6.56	14.85	13.28	12.97	9.88
S&P 500	25.02	8.94	14.53	13.10	13.88	10.35
Large-Cap Core Funds	21.13	6.57	12.03	10.26	11.10	8.66
S&P 500 Value	12.29	9.16	10.49	10.01	11.60	8.36
Large-Cap Value Funds	14.39	5.87	9.02	8.20	9.58	7.14
Mid-Cap						
S&P MidCap 400 Growth	15.94	3.35	10.01	9.86	12.10	9.95
Mid-Cap Growth Funds	14.84	-0.88	9.09	9.54	10.91	8.68
S&P MidCap 400	13.93	4.87	10.34	9.68	11.92	9.69
Mid-Cap Core Funds	12.35	3.61	8.78	7.99	10.16	7.85
S&P MidCap 400 Value	11.71	6.26	10.21	9.13	11.50	9.23
Mid-Cap Value Funds	10.79	5.10	8.99	7.51	9.80	7.67

Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2024. Returns shown are annualized for periods greater than one year. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 3: Average U.S. Equity Fund Performance (Equal-Weighted) (cont.)

Index/Fund Category	1-Year (%)	3-Year (%)	5-Year (%)	10-Year (%)	15-Year (%)	20-Year (%)
Small-Cap						
S&P SmallCap 600 Growth	9.63	0.44	8.24	9.55	12.18	9.51
Small-Cap Growth Funds	14.38	-1.39	7.70	8.84	10.72	7.81
S&P SmallCap 600	8.70	1.91	8.36	8.96	11.66	8.99
Small-Cap Core Funds	10.47	2.57	8.12	7.18	9.57	7.20
S&P SmallCap 600 Value	7.56	3.21	8.10	8.18	11.03	8.37
Small-Cap Value Funds	8.97	5.09	9.00	7.25	9.49	7.14
Multi-Cap						
S&P Composite 1500 Growth	34.15	7.28	16.48	14.83	15.28	11.60
Multi-Cap Growth Funds	26.39	4.10	12.47	11.81	11.81	9.04
S&P Composite 1500	23.95	8.54	14.13	12.79	13.72	10.32
Multi-Cap Core Funds	18.40	5.39	10.74	8.95	10.10	7.39
S&P Composite 1500 Value	12.15	8.85	10.44	9.91	11.60	8.58
Multi-Cap Value Funds	13.70	5.93	9.18	8.09	9.62	7.16
Real Estate						
S&P United States REIT	8.44	-2.28	4.30	5.55	9.24	6.89
Real Estate Funds	6.58	-4.27	3.16	4.61	7.58	5.09

Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2024. Returns shown are annualized for periods greater than one year. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 4: Average U.S. Equity Fund Performance (Asset-Weighted)

Index/Fund Category	1-Year (%)	3-Year (%)	5-Year (%)	10-Year (%)	15-Year (%)	20-Year (%)
S&P Composite 1500	23.95	8.54	14.13	12.79	13.72	10.32
All Domestic Funds	21.34	6.32	12.37	11.26	12.00	8.95
S&P 500	25.02	8.94	14.53	13.10	13.88	10.35
All Large-Cap Funds	24.24	7.41	13.22	11.89	12.35	9.09
S&P MidCap 400	13.93	4.87	10.34	9.68	11.92	9.69
All Mid-Cap Funds	12.12	1.55	8.92	9.04	10.65	8.37
S&P SmallCap 600	8.70	1.91	8.36	8.96	11.66	8.99
All Small-Cap Funds	11.22	1.36	8.29	8.65	10.63	8.30
S&P Composite 1500	23.95	8.54	14.13	12.79	13.72	10.32
All Multi-Cap Funds	19.11	6.38	12.20	11.16	12.09	9.05
Large-Cap						
S&P 500 Growth	36.07	7.70	17.09	15.29	15.54	11.87
Large-Cap Growth Funds	31.42	7.75	16.03	14.52	14.30	10.67
S&P 500	25.02	8.94	14.53	13.10	13.88	10.35
Large-Cap Core Funds	24.00	8.12	12.65	11.49	11.87	9.15
S&P 500 Value	12.29	9.16	10.49	10.01	11.60	8.36
Large-Cap Value Funds	15.27	6.55	10.05	9.30	10.98	8.36
Mid-Cap						
S&P MidCap 400 Growth	15.94	3.35	10.01	9.86	12.10	9.95
Mid-Cap Growth Funds	12.72	-1.50	8.61	9.94	11.60	9.12
S&P MidCap 400	13.93	4.87	10.34	9.68	11.92	9.69
Mid-Cap Core Funds	13.04	3.78	9.44	8.06	10.20	7.73
S&P MidCap 400 Value	11.71	6.26	10.21	9.13	11.50	9.23
Mid-Cap Value Funds	9.93	4.80	8.95	8.12	9.88	7.92
Small-Cap						
S&P SmallCap 600 Growth	9.63	0.44	8.24	9.55	12.18	9.51
Small-Cap Growth Funds	12.71	-0.68	7.59	9.47	11.81	8.85
S&P SmallCap 600	8.70	1.91	8.36	8.96	11.66	8.99
Small-Cap Core Funds	10.49	3.00	8.82	7.91	10.08	7.94
S&P SmallCap 600 Value	7.56	3.21	8.10	8.18	11.03	8.37
Small-Cap Value Funds	8.71	5.99	9.38	7.86	9.87	7.96

Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2024. Returns shown are annualized for periods greater than one year. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 4: Average U.S. Equity Fund Performance (Asset-Weighted) (cont.)

Index/Fund Category	1-Year (%)	3-Year (%)	5-Year (%)	10-Year (%)	15-Year (%)	20-Year (%)
Multi-Cap						
S&P Composite 1500 Growth	34.15	7.28	16.48	14.83	15.28	11.60
Multi-Cap Growth Funds	26.06	5.59	14.39	13.66	13.90	11.06
S&P Composite 1500	23.95	8.54	14.13	12.79	13.72	10.32
Multi-Cap Core Funds	18.37	6.31	11.42	9.79	11.24	8.15
S&P Composite 1500 Value	12.15	8.85	10.44	9.91	11.60	8.58
Multi-Cap Value Funds	14.07	6.93	9.65	8.22	10.37	7.90
Real Estate						
S&P United States REIT	8.44	-2.28	4.30	5.55	9.24	6.89
Real Estate Funds	5.96	-3.88	2.97	4.73	7.80	5.61

Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2024. Returns shown are annualized for periods greater than one year. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 5: Quartile Breakpoints of U.S. Equity Funds

Fund Category	Third Quartile (%)	Second Quartile (%)	First Quartile (%)
1-Year			
All Domestic Funds	10.98	15.54	23.24
All Large-Cap Funds	14.89	21.68	27.63
All Mid-Cap Funds	9.12	12.07	16.04
All Small-Cap Funds	8.48	11.30	14.56
All Multi-Cap Funds	12.83	17.29	23.38
Large-Cap Growth Funds	26.32	30.28	33.24
Large-Cap Core Funds	18.18	22.62	24.96
Large-Cap Value Funds	11.33	14.44	17.23
Mid-Cap Growth Funds	9.23	14.10	19.48
Mid-Cap Core Funds	9.79	11.88	14.88
Mid-Cap Value Funds	8.49	9.12	13.42
Small-Cap Growth Funds	10.42	13.71	18.41
Small-Cap Core Funds	7.67	10.38	13.20
Small-Cap Value Funds	5.40	8.64	11.67
Multi-Cap Growth Funds	19.31	25.25	33.84
Multi-Cap Core Funds	13.62	19.84	23.14
Multi-Cap Value Funds	10.94	13.52	16.75
Real Estate Funds	4.98	6.40	7.69
3-Year			
All Domestic Funds	2.09	5.01	7.43
All Large-Cap Funds	4.81	6.90	8.41
All Mid-Cap Funds	-0.28	2.58	5.12
All Small-Cap Funds	-0.60	1.96	4.11
All Multi-Cap Funds	3.28	5.87	7.76
Large-Cap Growth Funds	5.88	7.56	8.64
Large-Cap Core Funds	5.29	7.53	8.71
Large-Cap Value Funds	4.19	5.89	7.21
Mid-Cap Growth Funds	-3.02	-0.30	1.92
Mid-Cap Core Funds	1.37	3.93	5.35
Mid-Cap Value Funds	3.68	5.20	6.11
Small-Cap Growth Funds	-4.19	-0.62	1.21
Small-Cap Core Funds	1.13	2.91	4.62
Small-Cap Value Funds	2.90	4.59	6.61
Multi-Cap Growth Funds	1.07	4.22	7.63
Multi-Cap Core Funds	3.74	6.21	7.90
Multi-Cap Value Funds	4.31	6.25	7.76
Real Estate Funds	-5.36	-4.06	-3.17

Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2024. Returns shown are annualized for periods greater than one year. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 5: Quartile Breakpoints of U.S. Equity Funds (cont.)

Fund Category	Third Quartile (%)	Second Quartile (%)	First Quartile (%)
5-Year			
All Domestic Funds	7.93	10.06	12.96
All Large-Cap Funds	9.24	12.06	14.77
All Mid-Cap Funds	7.50	9.01	10.21
All Small-Cap Funds	6.89	8.30	10.06
All Multi-Cap Funds	8.94	10.96	13.63
Large-Cap Growth Funds	13.93	15.51	16.76
Large-Cap Core Funds	11.15	12.58	14.35
Large-Cap Value Funds	7.71	9.06	10.43
Mid-Cap Growth Funds	7.62	8.80	10.31
Mid-Cap Core Funds	7.38	9.07	10.12
Mid-Cap Value Funds	7.56	8.77	9.85
Small-Cap Growth Funds	6.12	7.68	9.79
Small-Cap Core Funds	6.98	8.58	10.06
Small-Cap Value Funds	7.68	8.68	10.79
Multi-Cap Growth Funds	10.55	13.42	16.08
Multi-Cap Core Funds	9.14	11.57	13.34
Multi-Cap Value Funds	7.36	9.24	10.56
Real Estate Funds	2.62	3.34	4.19
10-Year			
All Domestic Funds	7.89	9.31	11.78
All Large-Cap Funds	8.68	10.87	12.99
All Mid-Cap Funds	7.68	9.03	10.28
All Small-Cap Funds	7.01	8.10	9.18
All Multi-Cap Funds	8.01	9.80	12.25
Large-Cap Growth Funds	13.20	14.45	15.25
Large-Cap Core Funds	9.92	11.40	12.13
Large-Cap Value Funds	7.52	8.52	9.36
Mid-Cap Growth Funds	9.18	9.93	10.98
Mid-Cap Core Funds	7.48	8.02	9.09
Mid-Cap Value Funds	6.92	7.95	8.66
Small-Cap Growth Funds	7.92	8.69	10.11
Small-Cap Core Funds	6.91	7.82	8.70
Small-Cap Value Funds	6.53	7.36	8.27
Multi-Cap Growth Funds	10.81	12.68	14.43
Multi-Cap Core Funds	7.93	9.24	11.22
Multi-Cap Value Funds	7.39	8.15	8.93
Real Estate Funds	4.35	4.98	5.71

Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2024. Returns shown are annualized for periods greater than one year. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 5: Quartile Breakpoints of U.S. Equity Funds (cont.)

Fund Category	Third Quartile (%)	Second Quartile (%)	First Quartile (%)
15-Year			
All Domestic Funds	9.84	11.05	12.59
All Large-Cap Funds	10.17	11.87	13.59
All Mid-Cap Funds	10.01	10.91	11.97
All Small-Cap Funds	9.52	10.48	11.39
All Multi-Cap Funds	9.47	11.17	13.12
Large-Cap Growth Funds	13.08	14.29	14.93
Large-Cap Core Funds	10.61	12.09	12.95
Large-Cap Value Funds	9.38	10.17	10.90
Mid-Cap Growth Funds	10.75	11.80	12.43
Mid-Cap Core Funds	9.94	10.42	11.18
Mid-Cap Value Funds	9.24	10.29	11.19
Small-Cap Growth Funds	10.11	11.17	12.19
Small-Cap Core Funds	9.16	10.18	11.29
Small-Cap Value Funds	9.45	10.15	10.76
Multi-Cap Growth Funds	11.35	13.44	15.08
Multi-Cap Core Funds	8.99	10.77	12.51
Multi-Cap Value Funds	8.95	10.18	10.96
Real Estate Funds	6.57	8.30	8.92
20-Year			
All Domestic Funds	7.36	8.48	9.64
All Large-Cap Funds	7.58	9.04	10.34
All Mid-Cap Funds	7.79	8.58	9.64
All Small-Cap Funds	7.36	8.15	8.96
All Multi-Cap Funds	6.93	8.14	9.74
Large-Cap Growth Funds	9.65	10.80	11.27
Large-Cap Core Funds	8.39	9.33	10.15
Large-Cap Value Funds	6.86	7.63	8.59
Mid-Cap Growth Funds	8.27	9.36	10.31
Mid-Cap Core Funds	7.33	8.52	8.85
Mid-Cap Value Funds	7.53	8.01	8.66
Small-Cap Growth Funds	8.24	8.89	9.46
Small-Cap Core Funds	7.27	7.91	8.56
Small-Cap Value Funds	7.09	7.61	8.05
Multi-Cap Growth Funds	8.87	10.44	11.29
Multi-Cap Core Funds	6.71	7.95	9.63
Multi-Cap Value Funds	6.80	7.59	8.53
Real Estate Funds	4.35	5.94	6.62

Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2024. Returns shown are annualized for periods greater than one year. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 6a: Percentage of International Equity Funds Underperforming Their Benchmarks (Based on Absolute Return)

Fund Category	Comparison Index	1-Year (%)	3-Year (%)	5-Year (%)	10-Year (%)	15-Year (%)	20-Year (%)
Global Funds	S&P World	83.94	90.64	88.28	90.00	92.50	n/a
International Funds	S&P World Ex-U.S.	69.02	78.09	81.50	85.29	88.25	n/a
International Small-Cap Funds	S&P Developed Ex-U.S. SmallCap	43.42	63.75	51.72	72.50	67.35	73.17
Emerging Markets Funds	S&P/IFCI Composite	71.50	77.23	75.24	87.39	88.24	95.38

Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2024. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 6b: Percentage of International Equity Funds Underperforming Their Benchmarks (Based on Risk-Adjusted Return)

Fund Category	Comparison Index	3-Year (%)	5-Year (%)	10-Year (%)	15-Year (%)	20-Year (%)
Global Funds	S&P World	90.21	93.72	92.31	97.50	n/a
International Funds	S&P World Ex-U.S.	79.60	86.75	87.01	89.21	n/a
International Small-Cap Funds	S&P Developed Ex-U.S. SmallCap	-	52.87	72.50	67.35	75.61
Emerging Markets Funds	S&P/IFCI Composite	-	76.70	88.66	90.44	96.92

Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2024. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 7: Survivorship of International Equity Funds

Fund Category	Number of Funds at Start	Survivorship (%)	Style Consistency (%)
1-Year			
Global Funds	249	92.77	87.55
International Funds	410	93.90	88.54
International Small-Cap Funds	76	98.68	93.42
Emerging Markets Funds	214	94.86	100.00
3-Year			
Global Funds	235	86.81	70.21
International Funds	397	86.90	66.50
International Small-Cap Funds	80	88.75	80.00
Emerging Markets Funds	202	85.15	100.00
5-Year			
Global Funds	239	77.82	57.32
International Funds	400	80.00	52.00
International Small-Cap Funds	87	77.01	70.11
Emerging Markets Funds	206	72.82	99.03
10-Year			
Global Funds	260	59.23	36.54
International Funds	408	63.73	39.46
International Small-Cap Funds	80	58.75	62.50
Emerging Markets Funds	238	53.78	92.86
15-Year			
Global Funds	160	42.50	21.88
International Funds	315	47.30	25.40
International Small-Cap Funds	49	61.22	46.94
Emerging Markets Funds	136	56.62	89.71
20-Year			
Global Funds	112	39.29	21.43
International Funds	270	35.93	28.52
International Small-Cap Funds	41	51.22	43.90
Emerging Markets Funds	65	52.31	92.31

Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2024. Returns shown are annualized for periods greater than one year. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 8: Average International Equity Fund Performance (Equal-Weighted)

Index/Fund Category	1-Year (%)	3-Year (%)	5-Year (%)	10-Year (%)	15-Year (%)	20-Year (%)
S&P World	19.46	6.82	11.62	10.46	10.56	n/a
Global Funds	13.31	2.66	8.23	7.73	7.96	6.61
S&P World Ex-U.S.	5.80	2.39	5.69	5.86	5.82	n/a
International Funds	4.54	-0.09	3.99	4.71	4.70	4.38
S&P Developed Ex-U.S. SmallCap	0.39	-3.45	2.42	5.25	6.33	6.04
International Small-Cap Funds	1.77	-4.02	2.70	4.87	6.08	5.82
S&P/IFCI Composite	7.86	-0.82	2.88	4.57	3.94	6.94
Emerging Markets Funds	5.83	-3.03	1.57	3.03	2.58	5.15

Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2024. Returns shown are annualized for periods greater than one year. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 9: Average International Equity Fund Performance (Asset-Weighted)

Index/Fund Category	1-Year (%)	3-Year (%)	5-Year (%)	10-Year (%)	15-Year (%)	20-Year (%)
S&P World	19.46	6.82	11.62	10.46	10.56	n/a
Global Funds	15.41	3.62	9.08	8.56	8.93	7.59
S&P World Ex-U.S.	5.80	2.39	5.69	5.86	5.82	n/a
International Funds	4.89	-0.32	4.39	5.03	5.50	5.26
S&P Developed Ex-U.S. SmallCap	0.39	-3.45	2.42	5.25	6.33	6.04
International Small-Cap Funds	3.36	-3.34	3.77	5.80	6.80	6.34
S&P/IFCI Composite	7.86	-0.82	2.88	4.57	3.94	6.94
Emerging Markets Funds	6.17	-2.93	1.89	3.99	3.70	6.05

Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2024. Returns shown are annualized for periods greater than one year. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 10: Quartile Breakpoints of International Equity Funds

Fund Category	Third Quartile (%)	Second Quartile (%)	First Quartile (%)
1-Year			
Global Funds	8.98	13.37	17.09
International Funds	2.45	4.49	6.68
International Small-Cap Funds	-2.33	1.45	4.49
Emerging Markets Funds	3.42	6.46	8.66
3-Year			
Global Funds	1.22	3.34	5.46
International Funds	-1.71	0.31	2.40
International Small-Cap Funds	-7.38	-3.91	-0.86
Emerging Markets Funds	-5.52	-2.75	-0.45
5-Year			
Global Funds	7.00	8.87	10.42
International Funds	3.13	4.22	5.53
International Small-Cap Funds	1.08	3.13	4.26
Emerging Markets Funds	-0.20	1.68	3.75
10-Year			
Global Funds	6.43	8.23	9.89
International Funds	4.08	4.74	5.73
International Small-Cap Funds	4.37	5.12	6.29
Emerging Markets Funds	2.34	3.26	4.32
15-Year			
Global Funds	7.29	8.82	10.04
International Funds	4.36	5.12	5.81
International Small-Cap Funds	5.69	6.43	7.47
Emerging Markets Funds	2.06	2.72	3.38
20-Year			
Global Funds	5.83	7.32	8.44
International Funds	4.02	4.79	5.60
International Small-Cap Funds	5.37	6.08	6.68
Emerging Markets Funds	4.76	5.27	6.30

Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2024. Returns shown are annualized for periods greater than one year. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 11a: Percentage of Fixed Income Funds Underperforming Their Benchmarks (Based on Absolute Return)

Fund Category	Comparison Index	1-Year (%)	3-Year (%)	5-Year (%)	10-Year (%)	15-Year (%)	20-Year (%)
General Government Funds	iBoxx \$ Domestic Sovereign & Sub-Sovereigns	72.50	86.11	88.89	98.31	77.91	-
Government Intermediate Funds	iBoxx \$ Domestic Sovereigns & Sub-Sovereigns 1-10Y	94.74	95.00	95.45	94.12	90.91	-
Government Short & Short-Intermediate Funds	iBoxx \$ Domestic Sovereigns & Sub-Sovereigns 1-5Y	41.38	60.71	70.59	90.24	96.36	-
General Investment-Grade Funds	iBoxx \$ Liquid Investment Grade	30.38	34.44	57.89	81.63	90.08	95.04
Investment-Grade Intermediate Funds	Bloomberg U.S. Aggregate	24.20	53.38	42.36	61.33	59.57	78.79
Investment-Grade Short & Intermediate Funds	iBoxx \$ Overall 1-5Y	11.83	20.99	28.93	51.97	73.38	-
General Bond Funds	iBoxx \$ Overall	23.08	33.33	29.41	54.39	68.66	-
High Yield Funds	iBoxx \$ Liquid High Yield	65.88	69.88	54.22	79.39	76.29	79.86
Mortgage-Backed Securities Funds	Bloomberg U.S. Aggregate Securitized - MBS	36.36	42.11	51.92	76.27	79.69	92.86
Inflation-Linked Funds	iBoxx TIPS Inflation-Linked	51.92	40.82	56.25	86.21	96.55	95.83
Global Income Funds	Bloomberg Global Aggregate	31.37	47.42	51.92	61.60	64.65	79.25
Emerging Market Debt Funds	Bloomberg Emerging Markets \$ Aggregate	41.07	40.00	59.68	85.25	100.00	88.24
General Municipal Debt Funds	S&P National AMT-Free Municipal Bond	13.33	83.53	70.93	66.67	59.14	-
California Municipal Debt Funds	S&P California AMT-Free Municipal Bond	8.57	72.73	58.33	56.10	51.16	-
New York Municipal Debt Funds	S&P New York AMT-Free Municipal Bond	15.38	88.89	82.14	78.13	72.97	-
Loan Participation Funds	Markit iBoxx \$ Leveraged Loans	88.73	93.44	98.39	94.44	100.00	-

Source: S&P Dow Jones Indices LLC, CRSP, Bloomberg LLC. Data as of Dec. 31, 2024. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 11b: Percentage of Fixed Income Funds Underperforming Their Benchmarks (Based on Risk-Adjusted Return)

Fund Category	Comparison Index	3-Year (%)	5-Year (%)	10-Year (%)	15-Year (%)	20-Year (%)
General Government Funds	iBoxx \$ Domestic Sovereign & Sub-Sovereigns	-	88.89	96.61	95.35	-
Government Intermediate Funds	iBoxx \$ Domestic Sovereigns & Sub-Sovereigns 1-10Y	95.00	95.45	94.12	95.45	-
Government Short & Short-Intermediate Funds	iBoxx \$ Domestic Sovereigns & Sub-Sovereigns 1-5Y	60.71	58.82	87.80	89.09	-
General Investment-Grade Funds	iBoxx \$ Liquid Investment Grade	-	-	63.27	64.12	76.60
Investment-Grade Intermediate Funds	Bloomberg U.S. Aggregate	-	-	70.00	71.28	87.27
Investment-Grade Short & Intermediate Funds	iBoxx \$ Overall 1-5Y	22.22	37.74	55.92	74.82	-
General Bond Funds	iBoxx \$ Overall	-	-	54.39	65.67	-
High Yield Funds	iBoxx \$ Liquid High Yield	60.84	55.42	70.18	68.04	-
Mortgage-Backed Securities Funds	Bloomberg U.S. Securitized - MBS	-	-	72.88	76.56	87.50
Inflation-Linked Funds	iBoxx TIPS Inflation-Linked	-	58.33	75.86	93.10	100.00
Global Income Funds	Bloomberg Global Aggregate	-	-	64.00	68.69	77.36
Emerging Market Debt Funds	Bloomberg Emerging Markets \$ Aggregate	-	67.74	91.80	100.00	100.00
General Municipal Debt Funds	S&P National AMT-Free Municipal Bond	-	81.40	87.78	84.95	-
California Municipal Debt Funds	S&P California AMT-Free Municipal Bond	-	72.22	92.68	95.35	-
New York Municipal Debt Funds	S&P New York AMT-Free Municipal Bond	-	100.00	93.75	100.00	-
Loan Participation Funds	Markit iBoxx \$ Leveraged Loans	93.44	79.03	90.74	100.00	-

Source: S&P Dow Jones Indices LLC, CRSP, Bloomberg LLC. Data as of Dec. 31, 2024. Results not shown for periods in which the benchmark return was negative. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 12: Survivorship and Style Consistency of Fixed Income Funds

Fund Category	Number of Funds at Start	Survivorship (%)	Style Consistency (%)
1-Year			
General Government Funds	40	95.00	97.50
Government Intermediate Funds	19	100.00	100.00
Government Short & Short-Intermediate Funds	29	100.00	93.10
General Investment-Grade Funds	79	92.41	98.73
Investment-Grade Intermediate Funds	157	98.09	100.00
Investment-Grade Short & Intermediate Funds	169	95.27	99.41
General Bond Funds	39	94.87	87.18
High Yield Funds	170	96.47	98.82
Mortgage-Backed Securities Funds	66	98.48	100.00
Inflation-Linked Funds	52	98.08	100.00
Global Income Funds	102	95.10	98.04
Emerging Market Debt Funds	56	94.64	100.00
General Municipal Debt Funds	90	96.67	97.78
California Municipal Debt Funds	35	100.00	100.00
New York Municipal Debt Funds	26	96.15	100.00
Loan Participation Funds	71	98.59	97.18
3-Year			
General Government Funds	36	83.33	97.22
Government Intermediate Funds	20	95.00	95.00
Government Short & Short-Intermediate Funds	28	92.86	92.86
General Investment-Grade Funds	90	78.89	93.33
Investment-Grade Intermediate Funds	148	89.19	99.32
Investment-Grade Short & Intermediate Funds	162	87.04	98.77
General Bond Funds	42	83.33	69.05
High Yield Funds	166	93.37	96.39
Mortgage-Backed Securities Funds	57	92.98	100.00
Inflation-Linked Funds	49	97.96	100.00
Global Income Funds	97	79.38	95.88
Emerging Market Debt Funds	65	76.92	100.00
General Municipal Debt Funds	85	91.76	100.00
California Municipal Debt Funds	33	100.00	100.00
New York Municipal Debt Funds	27	92.59	100.00
Loan Participation Funds	61	95.08	95.08

Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2024. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 12: Survivorship and Style Consistency of Fixed Income Funds (cont.)

Fund Category	Number of Funds at Start	Survivorship (%)	Style Consistency (%)
5-Year			
General Government Funds	36	75.00	97.22
Government Intermediate Funds	22	86.36	95.45
Government Short & Short-Intermediate Funds	34	82.35	82.35
General Investment-Grade Funds	95	70.53	90.53
Investment-Grade Intermediate Funds	144	85.42	96.53
Investment-Grade Short & Intermediate Funds	159	81.76	96.23
General Bond Funds	34	82.35	61.76
High Yield Funds	166	87.35	96.39
Mortgage-Backed Securities Funds	52	92.31	98.08
Inflation-Linked Funds	48	91.67	97.92
Global Income Funds	104	71.15	93.27
Emerging Market Debt Funds	62	72.58	100.00
General Municipal Debt Funds	86	84.88	96.51
California Municipal Debt Funds	36	91.67	97.22
New York Municipal Debt Funds	28	85.71	100.00
Loan Participation Funds	62	88.71	95.16
10-Year			
General Government Funds	59	59.32	79.66
Government Intermediate Funds	17	47.06	88.24
Government Short & Short-Intermediate Funds	41	65.85	87.80
General Investment-Grade Funds	98	66.33	77.55
Investment-Grade Intermediate Funds	150	66.67	89.33
Investment-Grade Short & Intermediate Funds	152	73.68	90.13
General Bond Funds	57	56.14	40.35
High Yield Funds	228	69.30	77.19
Mortgage-Backed Securities Funds	59	71.19	88.14
Inflation-Linked Funds	58	63.79	96.55
Global Income Funds	125	55.20	80.80
Emerging Market Debt Funds	61	52.46	91.80
General Municipal Debt Funds	90	68.89	90.00
California Municipal Debt Funds	41	73.17	95.12
New York Municipal Debt Funds	32	68.75	96.88
Loan Participation Funds	54	85.19	94.44

Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2024. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 12: Survivorship and Style Consistency of Fixed Income Funds (cont.)

Fund Category	Number of Funds at Start	Survivorship (%)	Style Consistency (%)
15-Year			
General Government Funds	86	54.65	62.79
Government Intermediate Funds	22	40.91	77.27
Government Short & Short-Intermediate Funds	55	45.45	74.55
General Investment-Grade Funds	131	58.78	58.02
Investment-Grade Intermediate Funds	188	52.13	65.96
Investment-Grade Short & Intermediate Funds	139	51.08	74.10
General Bond Funds	67	46.27	38.81
High Yield Funds	194	62.89	85.05
Mortgage-Backed Securities Funds	64	54.69	87.50
Inflation-Linked Funds	29	44.83	82.76
Global Income Funds	99	50.51	68.69
Emerging Market Debt Funds	26	61.54	57.69
General Municipal Debt Funds	93	56.99	81.72
California Municipal Debt Funds	43	67.44	90.70
New York Municipal Debt Funds	37	56.76	91.89
Loan Participation Funds	20	90.00	95.00
20-Year			
General Investment-Grade Funds	141	33.33	60.99
Investment-Grade Intermediate Funds	165	36.97	72.73
High Yield Funds	144	46.53	83.33
Mortgage-Backed Securities Funds	56	42.86	83.93
Inflation-Linked Funds	24	45.83	91.67
Global Income Funds	53	37.74	69.81
Emerging Market Debt Funds	17	64.71	88.24
General Municipal Debt Funds	115	41.74	88.70
California Municipal Debt Funds	52	53.85	92.31
New York Municipal Debt Funds	45	48.89	86.67

Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2024. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 13: Average Fixed Income Fund Performance (Equal-Weighted)

Index/Fund Category	1-Year (%)	3-Year (%)	5-Year (%)	10-Year (%)	15-Year (%)	20-Year (%)
iBoxx \$ Domestic Sovereign & Sub-Sovereigns	1.69	-1.07	0.12	1.46	2.10	-
General Government Funds	-0.85	-4.62	-1.93	0.04	1.56	-
iBoxx \$ Domestic Sovereigns & Sub-Sovereigns 1-10Y	2.93	0.07	0.76	1.52	1.91	-
Government Intermediate Funds	1.09	-2.09	-0.42	0.65	1.26	-
iBoxx \$ Domestic Sovereigns & Sub-Sovereigns 1-5Y	3.74	0.96	1.21	1.56	1.69	-
Government Short & Short-Intermediate Funds	3.75	0.82	0.96	1.05	1.21	-
iBoxx \$ Liquid Investment Grade	1.15	-3.14	-0.07	2.46	4.02	4.12
General Investment-Grade Funds	2.10	-0.98	1.02	2.25	3.11	3.13
Bloomberg U.S. Aggregate	1.25	-2.41	-0.33	1.35	2.37	3.01
Investment-Grade Intermediate Funds	1.68	-2.40	-0.19	1.32	2.44	2.66
iBoxx \$ Overall 1-5Y	3.93	0.99	1.35	1.71	1.88	-
Investment-Grade Short & Intermediate Funds	5.10	1.92	1.90	1.83	2.03	-
iBoxx \$ Overall	1.35	-2.55	-0.26	1.44	2.46	-
General Bond Funds	3.17	-0.95	0.51	1.88	2.86	-
iBoxx \$ Liquid High Yield	7.95	2.84	3.53	4.58	5.72	-
High Yield Funds	7.41	2.44	3.54	3.98	5.13	4.69
Bloomberg U.S. Aggregate Securitized - MBS	1.20	-2.13	-0.74	0.91	1.84	2.81
Mortgage-Backed Securities Funds	3.18	-1.57	-0.45	0.92	1.88	2.45
iBoxx TIPS Inflation-Linked	1.87	-2.57	1.78	2.21	2.89	3.33
Inflation-Linked Funds	0.77	-1.78	1.70	1.86	2.15	2.51
Bloomberg Global Aggregate	-1.69	-4.52	-1.96	0.15	0.98	1.86
Global Income Funds	0.79	-2.46	-0.82	0.87	1.75	2.31
Bloomberg Emerging Markets \$ Aggregate	6.58	-0.49	0.63	3.20	4.59	5.49
Emerging Market Debt Funds	6.55	0.02	0.37	2.19	2.42	3.59
S&P National AMT-Free Municipal Bond	1.32	-0.36	1.07	2.23	3.12	-
General Municipal Debt Funds	2.14	-1.13	0.67	1.88	2.79	-
S&P California AMT-Free Municipal Bond	1.42	-0.39	0.95	2.15	3.46	-
California Municipal Debt Funds	2.33	-1.09	0.59	1.93	3.30	-
S&P New York AMT-Free Municipal Bond	1.24	-0.24	1.05	2.13	3.06	-
New York Municipal Debt Funds	1.58	-1.12	0.61	1.86	2.79	-
Markit iBoxx \$ Leveraged Loans	9.11	6.77	5.53	4.78	4.97	-
Loan Participation Funds	8.06	5.45	4.22	3.78	4.12	-

Source: S&P Dow Jones Indices LLC, CRSP, Bloomberg LLC. Data as of Dec. 31, 2024. Returns shown are annualized for periods greater than one year. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 14: Average Fixed Income Fund Performance (Asset-Weighted)

Index/Fund Category	1-Year (%)	3-Year (%)	5-Year (%)	10-Year (%)	15-Year (%)	20-Year (%)
iBoxx \$ Domestic Sovereign & Sub-Sovereigns	1.69	-1.07	0.12	1.46	2.10	-
General Government Funds	-0.14	-3.87	-1.05	0.58	2.03	-
iBoxx \$ Domestic Sovereigns & Sub-Sovereigns 1-10Y	2.93	0.07	0.76	1.52	1.91	-
Government Intermediate Funds	0.84	-2.57	-0.47	0.63	1.90	-
iBoxx \$ Domestic Sovereigns & Sub-Sovereigns 1-5Y	3.74	0.96	1.21	1.56	1.69	-
Government Short & Short-Intermediate Funds	4.11	1.03	1.26	1.31	1.39	-
iBoxx \$ Liquid Investment Grade	1.15	-3.14	-0.07	2.46	4.02	4.12
General Investment-Grade Funds	0.77	-3.94	-0.52	1.83	2.98	3.20
Bloomberg U.S. Aggregate	1.25	-2.41	-0.33	1.35	2.37	3.01
Investment-Grade Intermediate Funds	2.06	-1.75	0.48	1.91	2.97	3.42
iBoxx \$ Overall 1-5Y	3.93	0.99	1.35	1.71	1.88	-
Investment-Grade Short & Intermediate Funds	4.93	1.74	1.81	1.98	2.19	-
iBoxx \$ Overall	1.35	-2.55	-0.26	1.44	2.46	-
General Bond Funds	2.87	0.43	1.31	2.09	2.82	-
iBoxx \$ Liquid High Yield	7.95	2.84	3.53	4.58	5.72	-
High Yield Funds	7.85	2.86	4.03	4.51	5.69	5.25
Bloomberg U.S. Aggregate Securitized – MBS	1.20	-2.13	-0.74	0.91	1.84	2.81
Mortgage-Backed Securities Funds	1.98	-1.54	-0.36	0.98	2.01	2.78
iBoxx TIPS Inflation-Linked	1.87	-2.57	1.78	2.21	2.89	3.33
Inflation-Linked Funds	1.73	-2.15	1.50	1.91	2.48	2.89
Bloomberg Global Aggregate	-1.69	-4.52	-1.96	0.15	0.98	1.86
Global Income Funds	-0.55	-3.65	-1.95	0.21	1.64	2.62
Bloomberg Emerging Markets \$ Aggregate	6.58	-0.49	0.63	3.20	4.59	5.49
Emerging Market Debt Funds	6.92	0.53	0.42	2.82	3.45	4.87
S&P National AMT-Free Municipal Bond	1.32	-0.36	1.07	2.23	3.12	-
General Municipal Debt Funds	2.49	-0.78	1.04	2.29	3.37	-
S&P California AMT-Free Municipal Bond	1.42	-0.39	0.95	2.15	3.46	-
California Municipal Debt Funds	2.37	-0.81	0.89	2.33	3.69	-
S&P New York AMT-Free Municipal Bond	1.24	-0.24	1.05	2.13	3.06	-
New York Municipal Debt Funds	1.85	-1.01	0.98	2.41	3.24	-
Markit iBoxx \$ Leveraged Loans	9.11	6.77	5.53	4.78	4.97	-
Loan Participation Funds	8.18	5.70	4.50	4.02	4.25	-

Source: S&P Dow Jones Indices LLC, CRSP, Bloomberg LLC. Data as of Dec. 31, 2024. Returns shown are annualized for periods greater than one year. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 15: Quartile Breakpoints of Fixed Income Funds

Fund Category	Third Quartile (%)	Second Quartile (%)	First Quartile (%)
1-Year			
General Government Funds	-0.15	0.90	1.76
Government Intermediate Funds	0.64	1.14	1.72
Government Short & Short-Intermediate Funds	3.10	3.97	4.39
General Investment-Grade Funds	1.23	2.40	3.01
Investment-Grade Intermediate Funds	1.31	1.73	2.30
Investment-Grade Short & Intermediate Funds	4.67	5.06	5.57
General Bond Funds	1.81	3.21	4.95
High Yield Funds	6.68	7.58	8.28
Mortgage-Backed Securities Funds	0.96	1.82	4.44
Inflation-Linked Funds	1.53	1.86	2.53
Global Income Funds	-2.10	2.43	4.07
Emerging Market Debt Funds	6.17	6.91	7.56
General Municipal Debt Funds	1.71	2.29	2.87
California Municipal Debt Funds	2.01	2.44	2.76
New York Municipal Debt Funds	1.71	1.90	2.11
Loan Participation Funds	7.56	8.20	8.80
3-Year			
General Government Funds	-4.96	-2.85	-1.90
Government Intermediate Funds	-2.83	-2.17	-1.38
Government Short & Short-Intermediate Funds	0.40	0.86	1.30
General Investment-Grade Funds	-3.01	-2.41	-2.03
Investment-Grade Intermediate Funds	-2.79	-2.38	-2.02
Investment-Grade Short & Intermediate Funds	1.52	1.87	2.51
General Bond Funds	-2.13	-0.72	1.37
High Yield Funds	1.92	2.46	3.04
Mortgage-Backed Securities Funds	-2.40	-1.91	-1.17
Inflation-Linked Funds	-2.90	-2.33	-1.23
Global Income Funds	-5.13	-2.00	-0.03
Emerging Market Debt Funds	-0.33	0.18	0.92
General Municipal Debt Funds	-1.19	-0.83	-0.49
California Municipal Debt Funds	-1.12	-0.81	-0.38
New York Municipal Debt Funds	-1.34	-0.86	-0.57
Loan Participation Funds	5.25	5.97	6.25

Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2024. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 15: Quartile Breakpoints of Fixed Income Funds (cont.)

Fund Category	Third Quartile (%)	Second Quartile (%)	First Quartile (%)
5-Year			
General Government Funds	-2.03	-0.89	-0.05
Government Intermediate Funds	-0.83	-0.21	0.06
Government Short & Short-Intermediate Funds	0.61	1.02	1.32
General Investment-Grade Funds	-0.47	0.23	0.51
Investment-Grade Intermediate Funds	-0.41	-0.05	0.28
Investment-Grade Short & Intermediate Funds	1.62	1.92	2.28
General Bond Funds	-0.05	0.95	2.15
High Yield Funds	2.94	3.59	4.25
Mortgage-Backed Securities Funds	-0.98	-0.70	-0.11
Inflation-Linked Funds	1.26	1.77	2.14
Global Income Funds	-2.53	-0.29	0.80
Emerging Market Debt Funds	0.15	0.80	1.22
General Municipal Debt Funds	0.66	0.90	1.16
California Municipal Debt Funds	0.52	0.91	1.28
New York Municipal Debt Funds	0.58	0.85	0.97
Loan Participation Funds	4.25	4.56	5.08
10-Year			
General Government Funds	0.17	0.55	0.88
Government Intermediate Funds	0.54	0.68	0.93
Government Short & Short-Intermediate Funds	0.87	1.08	1.30
General Investment-Grade Funds	1.39	2.04	2.47
Investment-Grade Intermediate Funds	1.19	1.41	1.64
Investment-Grade Short & Intermediate Funds	1.59	1.90	2.24
General Bond Funds	1.98	2.39	2.94
High Yield Funds	3.93	4.33	4.62
Mortgage-Backed Securities Funds	0.48	0.78	1.18
Inflation-Linked Funds	1.73	1.95	2.15
Global Income Funds	-0.09	1.07	1.97
Emerging Market Debt Funds	2.19	2.75	3.26
General Municipal Debt Funds	1.91	2.20	2.38
California Municipal Debt Funds	1.91	2.19	2.44
New York Municipal Debt Funds	1.94	2.06	2.17
Loan Participation Funds	3.64	4.03	4.30

Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2024. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 15: Quartile Breakpoints of Fixed Income Funds (cont.)

Fund Category	Third Quartile (%)	Second Quartile (%)	First Quartile (%)
15-Year			
General Government Funds	1.32	1.82	2.48
Government Intermediate Funds	1.22	1.42	1.59
Government Short & Short-Intermediate Funds	1.00	1.18	1.41
General Investment-Grade Funds	2.49	2.94	3.73
Investment-Grade Intermediate Funds	2.42	2.73	3.16
Investment-Grade Short & Intermediate Funds	1.71	1.92	2.36
General Bond Funds	2.33	2.93	4.27
High Yield Funds	5.23	5.57	5.83
Mortgage-Backed Securities Funds	1.50	1.72	2.05
Inflation-Linked Funds	2.11	2.38	2.49
Global Income Funds	0.90	1.70	2.73
Emerging Market Debt Funds	1.84	3.63	3.97
General Municipal Debt Funds	2.95	3.28	3.59
California Municipal Debt Funds	3.34	3.59	3.79
New York Municipal Debt Funds	2.85	3.03	3.35
Loan Participation Funds	3.90	4.31	4.58
20-Year			
General Investment-Grade Funds	2.88	3.34	3.87
Investment-Grade Intermediate Funds	2.83	3.06	3.42
High Yield Funds	4.98	5.30	5.58
Mortgage-Backed Securities Funds	2.30	2.43	2.77
Inflation-Linked Funds	2.58	2.80	3.06
Global Income Funds	1.52	2.44	3.16
Emerging Market Debt Funds	4.77	5.14	5.30
General Municipal Debt Funds	3.05	3.29	3.42
California Municipal Debt Funds	3.22	3.45	3.59
New York Municipal Debt Funds	3.02	3.19	3.28

Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2024. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Appendix A: Mapping

SPIVA Styles and Fund Classifications

The SPIVA Scorecard covers domestic equity, global equity and global fixed income categories. Fund returns are sourced from the CRSP Survivor-Bias-Free US Mutual Fund Database, a complete database of both active and liquidated or merged mutual funds and ETFs¹⁰ created in 1995 and containing fund data from December 1961. Fund classifications are based upon the Lipper fund classification system.

U.S. Equity

SPIVA covers major capitalization levels (large-, mid-, small- and multi-cap funds) and investment styles (growth, core and value). S&P Dow Jones Indices relies on the Lipper fund classifications, which determine a fund portfolio's capitalization and investment style assignments.

Lipper assigns a market capitalization to each fund based on the percentages of a fund's three-year weighted equity assets that fall into each of Lipper's three defined market capitalization slices. The market capitalization breakpoints are calculated using all common stocks, excluding all non-U.S. domiciled stocks and ADRs, trading on the NYSE, AMEX and NASDAQ. Funds are assigned to the capitalization level in which they have a 75% or higher weighting. Any fund that has less than 75% of its three-year weighted allocation in any of the three market capitalization ranges is classified as a multi-cap fund.

For investment style selection, the Lipper classification system uses three-year fundamental portfolio characteristics (price/earnings, price/book and three-year sales-per-share growth) and, if necessary, confirms secondary characteristics (price-to-sales and price-to-operating cash flow).

In some cases, S&P Dow Jones Indices combines closely related Lipper fund classifications in one SPIVA category. Exhibit A1 maps the SPIVA U.S. Equity fund categories to Lipper classifications.

¹⁰ The dataset encompasses retail mutual funds and all ETFs that are domiciled in the U.S.

Exhibit A1: U.S. Equity Category Mappings

SPIVA Category	Lipper Fund Classification
Large-Cap Growth Equity	Large-Cap Growth Funds
Large-Cap Core Equity	Large-Cap Core Funds
Large-Cap Value Equity	Large-Cap Value Funds
	Equity Income Funds
Mid-Cap Growth Equity	Mid-Cap Growth Funds
Mid-Cap Core Equity	Mid-Cap Core Funds
Mid-Cap Value Equity	Mid-Cap Value Funds
Small-Cap Growth Equity	Small-Cap Growth Funds
Small-Cap Core Equity	Small-Cap Core Funds
Small-Cap Value Equity	Small-Cap Value Funds
Multi-Cap Growth Equity	Multi-Cap Growth Funds
Multi-Cap Core Equity	Multi-Cap Core Funds
Multi-Cap Value Equity	Multi-Cap Value Funds

Source: S&P Dow Jones Indices LLC, Lipper. Table is provided for illustrative purposes.

International Equity

For international equity, SPIVA reports on four major categories (global, international, international small-cap and emerging market) of interest to global asset allocators. These categories also include multiple Lipper capitalization and style classifications.

Exhibit A2: International Equity Category Mappings

SPIVA Category	Lipper Funds Classification
Global Funds	Global Large-Cap Growth Funds
	Global Large-Cap Core Funds
	Global Large-Cap Value Funds
	Global Multi-Cap Growth Funds
	Global Multi-Cap Core Funds
	Global Multi-Cap Value Funds
International Funds	International Large-Cap Growth Funds
	International Large-Cap Core Funds
	International Large-Cap Value Funds
	International Multi-Cap Growth Funds
	International Multi-Cap Core Funds
	International Multi-Cap Value Funds
International Small-Cap Funds	International Small-/Mid-Cap Growth Funds
	International Small-/Mid-Cap Core Funds
	International Small-/Mid-Cap Value Funds
Emerging Market Funds	Emerging Markets Funds

Source: S&P Dow Jones Indices LLC, Lipper. Table is provided for illustrative purposes.

Fixed Income

SPIVA reports on 11 domestic, 2 global and 3 municipal fixed income categories. The Lipper domestic fixed income classifications are based on maturity and credit quality. For maturity, long is over 10 years, intermediate is 5-10 years, short/intermediate is 1-5 years and short is 1-3.5 years. For credit quality, bonds are assigned to U.S. Treasury, U.S. government (includes government and agency issues), A or BBB rated (according to Lipper fund rating methodology), loan participations and high yield classifications. Lipper also includes U.S. mortgages and Government National Mortgage Association (GNMA) classifications.

In global fixed income, Lipper differentiates between global (including the U.S.) and international (excluding the U.S.) objectives. For municipal debt funds, we include the general classification (invests in the top four credit ratings) plus two state funds (California and New York).

Exhibit A3: Fixed Income Category Mappings

SPIVA Category	Lipper Funds Classification
General Government Funds	General U.S. Government Funds
Government Intermediate Funds	General U.S. Treasury Funds Intermediate U.S. Government Funds
Government Short & Short-Intermediate Funds	Short-Intermediate U.S. Government Funds Short U.S. Government Funds
General Investment-Grade Funds	Short U.S. Treasury Funds Corporate Debt Funds A Rated
Investment-Grade Intermediate Funds	Corporate Debt Funds BBB-Rated Intermediate Investment Grade Debt Funds
Investment-Grade Short & Intermediate Funds	Short-Intermediate Investment Grade Debt Funds Short Investment Grade Debt Funds
General Bond Funds	General Bond Funds
High Yield Funds	High Current Yield Funds
Mortgage-Backed Securities Funds	U.S. Mortgage Funds GNMA Funds
Inflation-Linked Funds	Inflation Protected Bond Funds
Global Income Funds	Global Income Funds International Income Funds
Emerging Market Debt Funds	Emerging Markets Debt Funds
General Municipal Debt Funds	General & Insured Municipal Debt Funds
California Municipal Debt Funds	California Municipal Debt Funds
New York Municipal Debt Funds	New York Municipal Debt Funds
Loan Participation Funds	Loan Participation Funds

Source: S&P Dow Jones Indices LLC, Lipper. Table is provided for illustrative purposes.

Appendix B: Glossary

Percentage of Funds Underperforming the Index

To correct for survivorship bias, we use the opportunity set available at the beginning of the period as the denominator. We determine the count of funds that have survived and beat the index. We then report the index outperformance percentage.

Survivorship (%)

This measure represents the percentage of products in existence at the beginning of the time period that is still active at the end of the time period.

Style Consistency (%)

This calculation shows the percentage of funds that had the same style classification at the end of the time period as at the beginning of the time period.

Equal-Weighted Performance

Equal-weighted returns for a particular style category are determined by calculating a simple average return of all active managers in that category in a particular month.

Asset-Weighted Performance

Asset-weighted returns for a particular style category are determined by calculating a weighted average return of all funds in that category in a particular month, with each fund's return weighted by its total net assets.

Quartile Breakpoints

The p^{th} percentile for a set of data is the value that is greater than or equal to $p\%$ of the data but is less than or equal to $(100-p)\%$ of the data. In other words, it is a value that divides the data into two parts: the lower $p\%$ of the values and the upper $(100-p)\%$ of the values. The first quartile is the 75th percentile, the value separating the elements of a population into the lower 75% and the upper 25%. The second quartile is the 50th percentile and the third quartile is the 25th percentile.

Survivorship Bias

Many funds might liquidate or merge during a period of study. This usually occurs due to continued poor performance by the fund. Therefore, if index returns were compared to fund returns using only surviving funds, the comparison would be biased in favor of the fund.

category. These reports remove this bias by (a) using the entire investment opportunity set, made up of all funds in that particular category at the outset of the period, as the denominator for outperformance calculations, (b) explicitly showing the survivorship rate in each category and (c) constructing peer average return series for each category based on all available funds at the outset of the period.

Fees

The fund returns used are net of fees, excluding loads.

Indices

A benchmark index provides an investment vehicle against which fund performance can be measured.

U.S. Equity

S&P 500

Widely regarded as the best single gauge of the U.S. equities market, this market-capitalization-weighted index includes a representative sample of 500 leading companies in the foremost industries of the U.S. economy and provides over 80% coverage of U.S. equities.

S&P Midcap 400

This index consists of 400 mid-sized companies and covers approximately 7% of the U.S. equities market.

S&P SmallCap 600

This index consists of 600 small-cap companies and covers approximately 3% of the U.S. equities market.

S&P Composite 1500

This is a broad, market-capitalization-weighted index of 1500 companies formed by combining the S&P 500, S&P MidCap 400 and S&P SmallCap 600. The index represents approximately 90% of U.S. equities.

S&P 500 Growth and Value Indices

These indices form an exhaustive, multi-factor style series covering the entire market capitalization of the S&P 500. Constituents, weighted according to market capitalization, are classified as growth, value or a mix of growth and value.

S&P MidCap 400 Growth and Value Indices

These indices form an exhaustive, multi-factor style series covering the entire market capitalization of the S&P MidCap 400.

S&P SmallCap 600 Growth and Value Indices

These indices form an exhaustive, multi-factor style series covering the entire market capitalization of the S&P SmallCap 600.

S&P Composite 1500 Growth and Value Indices

These indices form an exhaustive, multi-factor style series covering the entire market capitalization of the S&P Composite 1500.

S&P United States REIT

This index measures the investable universe of publicly traded real estate investment trusts.

International Equity

S&P World Index

The S&P World Index, a subset of the S&P Global BMI, is an equity index that tracks the performance of large- and mid-cap stocks from 24 developed markets, representing approximately the top 85% of market capitalization in each country.

S&P World Ex-U.S. Index

The S&P World Ex-U.S. Index is designed to measure the performance of large- and mid-cap securities in developed markets, excluding the U.S. and Korea.

S&P Developed Ex-U.S. SmallCap

This index represents the small-cap segment—the bottom 15%—of the world’s universe of institutionally investable securities, excluding the U.S.

S&P/IFCI Composite

This index is widely recognized as a comprehensive and reliable measure of the world’s emerging markets. It is designed to measure the returns of stocks that are legally and practically available to foreign investors.

Fixed Income

iBoxx \$ Liquid High Yield Index

This index consists of USD-denominated corporate high yield debt from developed markets with maturities greater than 1 year and less than 15 years.

iBoxx \$ Liquid Investment Grade Index

This index consists of USD-denominated corporate investment grade debt from developed markets with maturities greater than three years.

iBoxx TIPS Inflation Linked Index

This index measures the performance of the U.S. Treasury Inflation Protected Securities (TIPS) market across all maturities.

iBoxx \$ Domestic Sovereigns & Sub-Sovereigns Index

This index comprises USD-denominated sovereign and sub-sovereign bonds that have an investment grade rating and are SEC registered. Eligible bonds must have maturities greater than one year.

iBoxx \$ Domestic Sovereigns & Sub-Sovereigns 1-10Y Index

This index comprises USD-denominated sovereign and sub-sovereign bonds that have an investment grade rating and are SEC registered. Eligible bonds must have maturities greater than 1 year and less than 10 years.

iBoxx \$ Domestic Sovereigns & Sub-Sovereigns 1-5Y Index

This index comprises USD-denominated sovereign and sub-sovereign bonds that are SEC registered. Eligible bonds must have maturities greater than one year and less than five years.

iBoxx \$ Overall Index

This index is a broad set of USD-denominated bonds, comprising U.S. treasuries, sovereigns, sub-sovereigns, corporates and covered bonds with an investment grade rating. It includes bonds from developed markets and emerging markets. Eligible bonds must have maturities greater than one year.

iBoxx \$ Overall 1-5Y Index

This index is a broad set of USD-denominated bonds, comprising U.S. treasuries, sovereigns, sub-sovereigns, corporates and covered bonds with an investment grade rating. It includes

bonds from developed markets and emerging markets. Eligible bonds must have maturities greater than one year and less than five years.

Markit iBoxx \$ Leveraged Loans Index

This index represents the main sections of the USD leveraged loan market. It comprises rated, non-rated and defaulted loans. Eligible rated loans must have a non-investment grade rating. The minimum initial time to maturity for loans is one year and the minimum amount outstanding is USD 100 million.

Bloomberg U.S. Aggregate Bond Index

This is a broad-based index covering investment grade, USD-denominated bonds, including treasuries, government-related and corporate securities, mortgage-backed securities (MBS) and asset-backed securities (ABS).

Bloomberg Mortgage-Backed Securities Index

This index includes 15- and 30-year fixed-rate securities backed by mortgage pools of the Government National Mortgage Association (GNMA), Federal Home Loan Mortgage Corporation (FHLMC) and Federal National Mortgage Association (FNMA).

Bloomberg Global Aggregate Bond Index

This index covers the most liquid portion of the global investment grade, fixed-rate bond market, including government, credit and collateralized securities.

Bloomberg Emerging Markets \$ Aggregate Index

This index includes fixed- and floating-rate USD-denominated debt from emerging markets.

S&P National AMT-Free Municipal Bond Index

This index is a broad, comprehensive, market-value-weighted index designed to measure the performance of investment grade U.S. municipal bonds that are exempt from the Alternative Minimum Tax.

S&P California AMT-Free Municipal Bond Index

This index is designed to measure the performance of investment grade California municipal bonds that are exempt from the alternative minimum tax.

S&P New York AMT-Free Municipal Bond Index

This index is designed to measure the performance of investment grade New York bonds that are exempt from the alternative minimum tax.

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