

SPIVA[®] Institutional Scorecard: How Much Do Fees Affect the Active versus Passive Debate?

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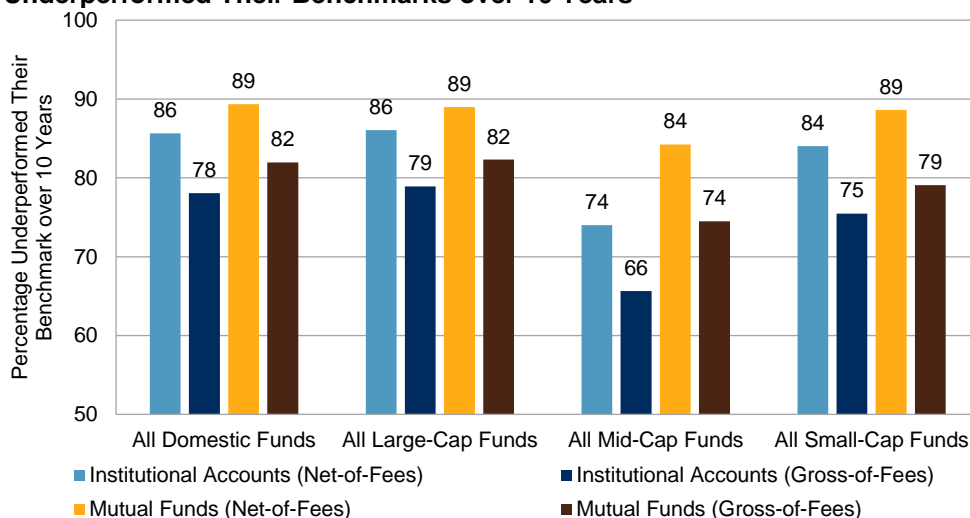
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SUMMARY

The SPIVA Institutional Scorecard extends the [S&P Indices Versus Active \(SPIVA\) U.S. Scorecard](#) to consider institutional accounts in addition to the mutual funds. We also examine the impact of fees on both account types.

Overall, underperformance among institutional equity accounts was not meaningfully different from that reported for mutual funds. For example, **79% of large-cap institutional accounts and 82% of large-cap mutual fund managers underperformed the S&P 500[®] on a gross-of-fees basis over the past 10 years.** Net-of-fees, underperformance by both fund types increased by approximately 7% (see Exhibit 1).

Exhibit 1: Similar Percentages of Institutional Accounts and Mutual Funds Underperformed Their Benchmarks over 10 Years



Source: S&P Dow Jones Indices LLC, eVestment Alliance, CRSP. Data as of Dec. 31, 2019. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

Gross-of fees, institutional accounts had a better chance of outperforming their benchmarks than their mutual fund counterparts in 16 of the 17 domestic equity fund categories tracked. Nonetheless, **the majority of institutional accounts across all equity fund categories underperformed over the past 10 years, ranging from a high of 87% of multi-cap core funds to a low of 59% of mid-cap growth funds (see Exhibit 2).**

Among mutual funds, active international equity managers showed greater differences between the gross- and net-of-fees relative performance figures than their domestic fund peers (see Exhibit 3). No such notable difference between categories was observed among institutional equity accounts (see Exhibit 2).

Institutional fixed income funds typically performed better than their benchmarks, gross-of-fees, compared with their mutual fund counterparts (see Exhibits 4 and 5).

For fixed income funds, fees had the greatest impact on performance in the emerging markets debt space. While 37% of institutional emerging markets hard currency funds failed to outperform the benchmark over the past 10 years gross-of-fees, 68% did so net-of-fees. On the mutual fund side, however, the impact of fees was even higher. Emerging markets debt funds suffered a change of 43 percentage points, from 57% underperforming the benchmark gross-of-fees to a full 100% of funds once fees were taken into account.

Focusing on just 2019, outperformance statistics of institutional accounts varied by market-cap segments, perhaps due to spreads in the benchmark returns (see Report 1). **While 63% of large-cap funds fell short of the S&P 500's 31.5% return, only 29% and 31% of the mid-cap and small-cap funds underperformed the [S&P MidCap 400](#)[®] (26.2%) and [S&P SmallCap 600](#)[®] (22.8%), respectively**, perhaps reflecting fund managers' proclivity for hidden style drift.¹

Mid-cap growth funds offered the best relative performance among equity categories in 2019; an impressive 85% outclassed the [S&P MidCap 400 Growth](#)'s 26.3% gain.

The majority of institutional international equity fund managers underperformed in all four categories tracked over the past 10 years, although 64% of emerging markets funds did surpass the [S&P/IFCI Composite](#) in 2019 (see Report 6).

Performance by institutional fixed income managers relative to their benchmarks over the past decade was mixed, as the majority of funds beat their benchmarks in 9 out of 17 categories. However, they had a relatively strong 2019, with the majority of funds outperforming in 13 of 17 categories (see Report 11).

Emerging markets local currency funds were the best category for outperformance, with 88% topping the benchmark in 2019. However, their impressive 2019 performance did not make up for an otherwise miserable decade, over which just 16% of funds outperformed, the worst of any fixed income category. Municipal funds had the worst showing of 2019, with 72% of managers failing to match the [S&P National AMT-Free Municipal Bond Index](#).

¹ For more information on style drift, see Lazzara, Craig, "[Performance Trickery, part 3](#)," *Indexology*[®] Blog, April 2020.

ABOUT THE SPIVA INSTITUTIONAL SCORECARD

Fees play a major role in the active versus passive debate. After subtracting fees, returns from active management tend to be less than those from passive management, as the latter costs less.² Within active management, fees can vary meaningfully depending on the type of investor.³ Retail investors typically pay higher advisory and management fees than institutional investors.⁴ Institutional investors have the option to negotiate fees directly with asset managers based on the size of the mandate and how many strategies may already exist with one manager. Retail investors lack such bargaining power.

Since 2002, S&P Dow Jones Indices has been publishing the SPIVA U.S. Scorecard. The scorecard measures the performance of actively managed equity funds investing in domestic and international equity, as well as fixed income funds, against their respective benchmarks. The University of Chicago's Center for Research in Security Prices (CRSP) Survivor-Bias-Free US Mutual Fund Database serves as the underlying data source for the scorecard. As the CRSP database consists of publicly traded open-ended mutual funds, the fee structure primarily reflects retail products rather than institutional accounts.

This report attempts to answer three questions that are pertinent to the active versus passive debate.

1. When measured on a net- and gross-of-fees basis, do institutional asset managers outperform their respective benchmarks?
2. Similarly, do mutual funds outperform their respective benchmarks when measured on a net- and gross-of-fees basis?
3. For particular asset classes and sub-asset classes, do institutional managers fare better than their retail fund counterparts when measured on a gross-of-fees basis?

To answer these questions, **we report the relative performance of U.S. equity and fixed income asset managers** for institutional accounts⁵ using composite returns from eVestment Alliance,⁶ a provider of investment data and analytics for the institutional asset management industry. It should be noted that, unlike publicly traded mutual fund performance data, the data from eVestment rely on self-reporting by managers. Self-reporting introduces an obvious bias, since managers with poor results may opt not to report. **The failure of most institutional managers to outperform passive benchmarks is therefore all the more striking.**

Since more funds report gross returns than net returns, there may be times when net-of-fees returns are higher than gross-of-fees returns. This is because of differences in the fund universes used for performance comparisons on a gross- and net-of-fees basis. Relative performance for retail funds on a

² Sharpe, William F., "[The Arithmetic of Active Management](#)," *Financial Analysts Journal*, January/February 1991, Volume 47 Issue 1. "Properly measured, the average actively managed dollar must underperform the average passively managed dollar, net of costs."

³ For example, research by the Investment Company Institute in "[Mutual Funds and Institutional Accounts: A Comparison](#)," (2006) showed that the average mutual fund advisory fee for large-cap domestic equity funds is around 70 bps, whereas the same category for a separate institutional account averages 53 bps. Similarly, the average mutual fund advisory fee for a domestic fixed income fund ranges around 48 bps, while that for a separate institutional account is 30 bps.

⁴ Fee differentials between mutual funds and separate accounts may stem from a number of factors. It is beyond the scope of our paper to cover those factors. For a more detailed write up on the key differences between the two structures, please refer to the Investment Company Institute's "[Mutual Funds and Institutional Accounts: A Comparison](#)," (2006).

⁵ Institutional accounts include institutional separately managed accounts and commingled trusts.

⁶ Composite returns can be measured as the equal-weighted or asset-weighted averages of the returns of all individual constituent portfolios, depending on the manager's discretion.

gross-of-fees basis is computed by adding back the annual expense ratio to the net-of-fees returns. Appendix A contains detailed mapping of various investment strategies to their groups.

In addition, **we compare the relative performance of open-ended mutual funds, using net- and gross-of-fees returns, against similar peer groupings composed of institutional accounts.** We report the figures for domestic equity, international equity, and fixed income categories.

This report provides the institutional community with the ability to judge managers' true skills without the possible distortions that fees may create on performance comparisons. Including mutual funds—on both a net- and gross-of-fees performance basis—with institutional accounts also allows readers to see whether fees make a meaningful difference in a particular asset class for a certain type of market participant.

We also address the notion that benchmarks are not directly investable and do not incur costs, thereby making any performance comparison of active funds against their benchmarks not “apples-to-apples.” **By comparing retail mutual funds and institutional accounts on a gross-of-fees basis against their respective benchmarks, we eliminate any possibility that fees are the sole contributor to a given manager's underperformance.**

In Section I, we highlight the relative performance of retail funds and institutional accounts against their respective benchmarks for the equity and fixed income categories. Section II replicates the headline SPIVA U.S. Scorecard using only institutional accounts, detailing related metrics such as survivorship, asset-weighted versus equal-weighted performance figures, and quartile breakpoints.

SECTION I: PERCENTAGE OF MUTUAL FUNDS AND INSTITUTIONAL ACCOUNTS UNDERPERFORMING THEIR BENCHMARKS

Equity – Institutional Accounts

Institutional account data relies on self-reporting by active managers and, typically, fewer institutional managers report net-of-fees returns compared with gross-of-fees returns. Although the underlying universes of institutional accounts differ on a net- and gross-of-fees basis, **overall findings suggest that both U.S. and international equities pose meaningful challenges for active managers to overcome.** Exhibit 2 shows that the majority of domestically focused institutional equity managers lagged in each category.

Exhibit 2: Equity – Percentage of Institutional Managers Underperforming over 10 Years

CATEGORY	BENCHMARK	INSTITUTIONAL ACCOUNTS (%) NET-OF-FEES	INSTITUTIONAL ACCOUNTS (%) GROSS-OF-FEES	NO. OF FUNDS AT START NET-OF-FEES	NO. OF FUNDS AT START GROSS-OF-FEES
All Domestic Funds	S&P Composite 1500 [®]	85.67	78.07	2484	3274
All Large-Cap Funds	S&P 500	86.04	78.91	1046	1427
All Mid-Cap Funds	S&P MidCap 400	73.99	65.63	296	387
All Small-Cap Funds	S&P SmallCap 600	84.04	75.48	821	1048
All Multi-Cap Funds	S&P Composite 1500	86.60	80.58	321	412
Large-Cap Growth Funds	S&P 500 Growth	87.50	76.37	384	474
Large-Cap Core Funds	S&P 500	92.73	80.56	275	432
Large-Cap Value Funds	S&P 500 Value	82.43	69.10	387	521
Mid-Cap Growth Funds	S&P MidCap 400 Growth	70.08	59.38	127	160
Mid-Cap Core Funds	S&P MidCap 400	79.31	65.88	58	85
Mid-Cap Value Funds	S&P MidCap 400 Value	79.28	65.49	111	142
Small-Cap Growth Funds	S&P SmallCap 600 Growth	80.13	70.83	312	384
Small-Cap Core Funds	S&P SmallCap 600	85.80	76.56	176	256
Small-Cap Value Funds	S&P SmallCap 600 Value	89.79	75.49	333	408
Multi-Cap Growth Funds	S&P Composite 1500 Growth	85.32	74.81	109	135
Multi-Cap Core Funds	S&P Composite 1500	90.00	86.99	80	123
Multi-Cap Value Funds	S&P Composite 1500 Value	80.30	70.13	132	154
Emerging Markets Funds	S&P/IFCI Composite	69.75	52.79	119	233
Global Funds	S&P Global 1200	76.77	69.51	99	246
International Funds	S&P International 700	64.13	59.52	92	210
International Small-Cap Funds	S&P Developed Ex-U.S. SmallCap	60.00	52.17	30	69

Source: S&P Dow Jones Indices LLC, eVestment Alliance. Data as of Dec. 31, 2019. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Equity – Mutual Funds

Mutual fund analysis is based on CRSP data, and the same fund universe is used for net-of-fees and gross-of-fees comparisons. Exhibit 3 shows that **the majority of active U.S. equity mutual funds underperformed their benchmarks over the 10-year period, even before accounting for fees.** This underperformance included those areas that are sometimes argued to be more suited to active management, such as emerging markets and international small caps. In other words, Exhibit 3 highlights how challenging it can be to outperform benchmarks, especially over longer horizons.

Exhibit 3: Equity – Percentage of Mutual Funds Underperforming over 10 Years

CATEGORY	BENCHMARK	MUTUAL FUNDS (%) NET-OF-FEES	MUTUAL FUNDS (%) GROSS-OF-FEES	NO. OF FUNDS AT START NET-OF-FEES	NO. OF FUNDS AT START GROSS-OF-FEES
All Domestic Funds	S&P Composite 1500	89.33	81.94	2680	2680
All Large-Cap Funds	S&P 500	88.99	82.30	972	972
All Mid-Cap Funds	S&P MidCap 400	84.22	74.48	431	431
All Small-Cap Funds	S&P SmallCap 600	88.61	79.08	588	588
All Multi-Cap Funds	S&P Composite 1500	89.02	82.08	692	692
Large-Cap Growth Funds	S&P 500 Growth	89.46	78.92	332	332
Large-Cap Core Funds	S&P 500	97.38	88.95	344	344
Large-Cap Value Funds	S&P 500 Value	91.89	81.08	296	296
Mid-Cap Growth Funds	S&P MidCap 400 Growth	78.28	66.16	198	198
Mid-Cap Core Funds	S&P MidCap 400	92.09	79.86	139	139
Mid-Cap Value Funds	S&P MidCap 400 Value	88.30	75.53	94	94
Small-Cap Growth Funds	S&P SmallCap 600 Growth	82.35	69.23	221	221
Small-Cap Core Funds	S&P SmallCap 600	96.72	88.11	244	244
Small-Cap Value Funds	S&P SmallCap 600 Value	96.77	84.68	124	124
Multi-Cap Growth Funds	S&P Composite 1500 Growth	87.80	79.51	205	205
Multi-Cap Core Funds	S&P Composite 1500	93.12	87.11	349	349
Multi-Cap Value Funds	S&P Composite 1500 Value	96.38	86.23	138	138
Emerging Markets Funds	S&P/IFCI Composite	77.05	59.84	122	122
Global Funds	S&P Global 1200	82.61	70.29	138	138
International Funds	S&P International 700	77.78	55.20	279	279
International Small-Cap Funds	S&P Developed Ex-U.S. SmallCap	62.79	41.86	43	43

Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2019. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Fixed Income – Mutual Funds

For fixed income, we present the performance of retail funds separate from institutional accounts, due to classification nuances. Our source for mutual fund data, the CRSP Survivor-Bias-Free US Mutual Funds Database, adopted style and objective codes from the Lipper objective codes after 1998. Lipper objective codes classify funds by sector, maturity, and credit quality. Our source for institutional SMA data, the eVestment Universe, groups fixed income strategies mostly by sector.

While it is reasonably straightforward to map sector funds between CRSP and eVestment, a degree of judgment is required in mapping them for composites and composites with various maturity slices. In some sectors, such as government and investment grade, it is challenging to make a direct comparison between the performance of mutual funds and institutional accounts, due to maturity slices.

Exhibit 4: Fixed Income – Percentage of Mutual Fund Managers Underperforming over 10 Years

CATEGORY	BENCHMARK	MUTUAL FUND (%) NET-OF-FEES	MUTUAL FUND (%) GROSS-OF-FEES	NO. OF FUNDS AT START NET-OF-FEES	NO. OF FUNDS AT START GROSS-OF-FEES
Government Long Funds	Bloomberg Barclays Long Government Bond Index	98.73	96.20	79	79
Government Intermediate Funds	Bloomberg Barclays Intermediate Government Bond Index	80.00	54.29	35	35
Government Short Funds	Bloomberg Barclays 1-3 Year Government Bond Index	69.70	27.27	33	33
Investment-Grade Long Funds	Bloomberg Barclays Long Government/Credit Bond Index	97.58	95.16	124	124
Investment-Grade Intermediate Funds	Bloomberg Barclays Intermediate Government/Credit Bond Index	53.39	38.98	236	236
Investment-Grade Short Funds	Bloomberg Barclays 1-3 Year US Government/Credit Bond Index	45.16	22.58	62	62
High-Yield Funds	Bloomberg Barclays U.S. Corporate High Yield Bond Index	97.13	73.56	174	174
Mortgage-Backed Securities Funds	Bloomberg Barclays U.S. MBS Index	78.57	39.29	56	56
Global Income Funds	Bloomberg Barclays Global Aggregate Bond Index	55.81	38.37	86	86
Emerging Markets Debt Funds	Bloomberg Barclays Emerging Markets USD Aggregate Index	100.00	57.14	21	21
General Municipal Debt Funds	S&P National AMT-Free Municipal Bond Index	52.44	36.59	82	82
California Municipal Debt Funds	S&P California AMT-Free Municipal Bond Index	44.44	19.44	36	36
New York Municipal Debt Funds	S&P New York AMT-Free Municipal Bond Index	54.84	29.03	31	31
Loan Participation Funds	S&P/LSTA U.S. Leveraged Loan 100 Index	78.95	21.05	19	19

Source: S&P Dow Jones Indices LLC, CRSP. Data as of Dec. 31, 2019. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Fixed Income – Institutional Accounts

We report only gross-of-fees returns for institutional fixed income funds in the global corporate investment-grade category since only five funds posted a complete history of net returns and assets under management over the past 10 years.

Exhibit 5: Fixed Income – Percentage of Institutional Managers Underperforming over 10 Years

CATEGORY	BENCHMARK	INSTITUTIONAL ACCOUNTS (%) NET-OF-FEES	INSTITUTIONAL ACCOUNTS (%) GROSS-OF-FEES	NO. OF FUNDS AT START NET-OF-FEES	NO. OF FUNDS AT START GROSS-OF-FEES
U.S. Agg. / (Gov't + Credit) Funds	Bloomberg Barclays U.S. Aggregate Index	64.90	61.47	359	937
Core Funds	Bloomberg Barclays U.S. Aggregate Index	75.87	68.03	344	757
Core Plus Funds	Bloomberg Barclays U.S. Aggregate Index	32.35	33.70	102	184
Cash Funds	Bloomberg Barclays U.S. Short Treasury Index	56.00	40.12	75	162
Government Funds	Bloomberg Barclays U.S. Government Index	75.00	75.82	40	91
Inflation-Linked Funds	Bloomberg Barclays U.S. Treasury Inflation Notes Index	84.62	66.13	26	62
Investment-Grade Corp Funds	Bloomberg Barclays U.S. Corporate Index	62.86	40.00	35	85
High-Yield Corp Funds	Bloomberg Barclays U.S. Corporate High Yield Bond Index	89.83	58.90	59	146
Agency MBS Funds	Bloomberg Barclays U.S. MBS Index	44.44	41.54	27	65
Municipal Funds	S&P National AMT-Free Municipal Bond Index	76.47	75.44	85	228
Emerging Markets Hard Currency Funds	Bloomberg Barclays Emerging Markets USD Aggregate Index	68.18	36.92	22	65
Emerging Markets Blended Currency Funds	50% Barclays EM USD Agg + 50% Barclays EM Local Gov	41.67	45.45	12	33
Emerging Markets Local Currency Funds	Bloomberg Barclays Emerging Markets Local Currency Government Index	100.00	84.09	12	44
Global Government Funds	Bloomberg Barclays Global Treasury Index	46.67	55.36	15	56
Global Aggregate Funds	Bloomberg Barclays Global Aggregate Bond Index	51.22	36.56	41	93
Global Corporate Investment Grade Funds	Bloomberg Barclays Global Aggregate Corporate Index	-	9.09	5	11
Global Corporate High-Yield Funds	Bloomberg Barclays Global High Yield Index	68.75	44.44	16	27

Source: S&P Dow Jones Indices LLC, eVestment Alliance. Data as of Dec. 31, 2019. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

SECTION II: INSTITUTIONAL ACCOUNTS – SPIVA U.S. SCORECARD (GROSS-OF-FEES)

Report 1: Percentage of U.S. Equity Funds Underperforming Benchmarks

FUND CATEGORY	BENCHMARK	1-YEAR (%)	3-YEAR (%)	5-YEAR (%)	10-YEAR (%)
All Domestic Funds	S&P Composite 1500	65.18	69.19	77.21	78.07
All Large-Cap Funds	S&P 500	62.85	65.60	72.71	78.91
All Mid-Cap Funds	S&P MidCap 400	28.68	42.63	55.94	65.63
All Small-Cap Funds	S&P SmallCap 600	30.75	51.78	68.15	75.48
All Multi-Cap Funds	S&P Composite 1500	62.76	66.84	78.07	80.58
Large-Cap Growth Funds	S&P 500 Growth	27.76	49.13	64.06	76.37
Large-Cap Core Funds	S&P 500	65.42	67.31	73.10	80.56
Large-Cap Value Funds	S&P 500 Value	87.38	61.56	67.70	69.10
Mid-Cap Growth Funds	S&P MidCap 400 Growth	14.68	22.83	43.45	59.38
Mid-Cap Core Funds	S&P MidCap 400	31.37	37.10	62.69	65.88
Mid-Cap Value Funds	S&P MidCap 400 Value	40.18	43.90	57.14	65.49
Small-Cap Growth Funds	S&P SmallCap 600 Growth	15.79	27.36	60.73	70.83
Small-Cap Core Funds	S&P SmallCap 600	33.63	48.96	65.46	76.56
Small-Cap Value Funds	S&P SmallCap 600 Value	51.60	58.93	71.18	75.49
Multi-Cap Growth Funds	S&P Composite 1500 Growth	36.89	54.87	71.64	74.81
Multi-Cap Core Funds	S&P Composite 1500	66.02	67.83	82.20	86.99
Multi-Cap Value Funds	S&P Composite 1500 Value	79.26	67.12	73.62	70.13

Source: S&P Dow Jones Indices LLC, eVestment Alliance. Data as of Dec. 31, 2019. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 2: Survivorship of U.S. Equity Funds

FUND CATEGORY	NO. OF FUNDS AT START	SURVIVORSHIP (%)
1-YEAR		
All Domestic Funds	2536	96.49
All Large-Cap Funds	1058	96.69
All Mid-Cap Funds	272	94.85
All Small-Cap Funds	865	96.53
All Multi-Cap Funds	341	97.07
Large-Cap Growth Funds	317	96.21
Large-Cap Core Funds	321	96.88
Large-Cap Value Funds	420	96.90
Mid-Cap Growth Funds	109	94.50
Mid-Cap Core Funds	51	94.12
Mid-Cap Value Funds	112	95.54
Small-Cap Growth Funds	266	98.12
Small-Cap Core Funds	223	95.07
Small-Cap Value Funds	376	96.28
Multi-Cap Growth Funds	103	99.03
Multi-Cap Core Funds	103	96.12
Multi-Cap Value Funds	135	96.30

Source: S&P Dow Jones Indices LLC, eVestment Alliance. Data as of Dec. 31, 2019. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 2: Survivorship of U.S. Equity Funds (cont.)		
FUND CATEGORY	NO. OF FUNDS AT START	SURVIVORSHIP (%)
3-YEAR		
All Domestic Funds	2775	85.62
All Large-Cap Funds	1160	85.95
All Mid-Cap Funds	312	82.37
All Small-Cap Funds	929	86.22
All Multi-Cap Funds	374	85.83
Large-Cap Growth Funds	346	86.42
Large-Cap Core Funds	364	81.32
Large-Cap Value Funds	450	89.33
Mid-Cap Growth Funds	127	81.10
Mid-Cap Core Funds	62	77.42
Mid-Cap Value Funds	123	86.18
Small-Cap Growth Funds	296	85.14
Small-Cap Core Funds	241	82.99
Small-Cap Value Funds	392	89.03
Multi-Cap Growth Funds	113	86.73
Multi-Cap Core Funds	115	82.61
Multi-Cap Value Funds	146	87.67
5-YEAR		
All Domestic Funds	3010	74.52
All Large-Cap Funds	1264	74.92
All Mid-Cap Funds	345	71.88
All Small-Cap Funds	986	75.56
All Multi-Cap Funds	415	73.01
Large-Cap Growth Funds	384	74.48
Large-Cap Core Funds	394	70.05
Large-Cap Value Funds	486	79.22
Mid-Cap Growth Funds	145	67.59
Mid-Cap Core Funds	67	68.66
Mid-Cap Value Funds	133	78.20
Small-Cap Growth Funds	331	70.69
Small-Cap Core Funds	249	73.49
Small-Cap Value Funds	406	80.79
Multi-Cap Growth Funds	134	73.13
Multi-Cap Core Funds	118	72.03
Multi-Cap Value Funds	163	73.62

Source: S&P Dow Jones Indices LLC, eVestment Alliance. Data as of Dec. 31, 2019. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

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

FUND CATEGORY	NO. OF FUNDS AT START	SURVIVORSHIP (%)
10-YEAR		
All Domestic Funds	3274	56.60
All Large-Cap Funds	1427	54.94
All Mid-Cap Funds	387	52.45
All Small-Cap Funds	1048	58.59
All Multi-Cap Funds	412	61.17
Large-Cap Growth Funds	474	53.38
Large-Cap Core Funds	432	47.69
Large-Cap Value Funds	521	62.38
Mid-Cap Growth Funds	160	50.00
Mid-Cap Core Funds	85	40.00
Mid-Cap Value Funds	142	62.68
Small-Cap Growth Funds	384	51.82
Small-Cap Core Funds	256	53.91
Small-Cap Value Funds	408	67.89
Multi-Cap Growth Funds	135	62.96
Multi-Cap Core Funds	123	52.85
Multi-Cap Value Funds	154	66.23

Source: S&P Dow Jones Indices LLC, eVestment Alliance. Data as of Dec. 31, 2019. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

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

CATEGORY	1-YEAR (ANNUALIZED, %)	3-YEAR (ANNUALIZED, %)	5-YEAR (ANNUALIZED, %)	10-YEAR (ANNUALIZED, %)
S&P Composite 1500	30.90	14.65	11.46	13.52
All Domestic Funds	28.66	12.66	9.89	12.75
S&P 500	31.49	15.27	11.70	13.56
All Large-Cap Funds	29.92	14.63	10.81	12.90
S&P MidCap 400	26.20	9.26	9.03	12.72
All Mid-Cap Funds	30.53	12.65	9.56	12.66
S&P SmallCap 600	22.78	8.36	9.56	13.35
All Small-Cap Funds	26.61	10.12	8.99	12.75
S&P Composite 1500	30.90	14.65	11.46	13.52
All Multi-Cap Funds	28.63	13.21	9.74	12.41
LARGE-CAP				
S&P 500 Growth	31.13	18.66	13.52	14.78
Large-Cap Growth Funds	33.67	19.19	13.19	14.17
S&P 500	31.49	15.27	11.70	13.56
Large-Cap Core Funds	29.54	14.60	10.89	12.89
S&P 500 Value	31.93	11.49	9.52	12.16
Large-Cap Value Funds	27.29	11.16	8.90	11.91

Source: S&P Dow Jones Indices LLC, eVestment Alliance. Data as of Dec. 31, 2019. 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.)

CATEGORY	1-YEAR (ANNUALIZED, %)	3-YEAR (ANNUALIZED, %)	5-YEAR (ANNUALIZED, %)	10-YEAR (ANNUALIZED, %)
MID-CAP				
S&P MidCap 400 Growth	26.29	10.74	9.72	13.16
Mid-Cap Growth Funds	33.91	17.18	11.30	13.66
S&P MidCap 400	26.20	9.26	9.03	12.72
Mid-Cap Core Funds	29.36	12.13	9.63	11.86
S&P MidCap 400 Value	26.08	7.66	8.07	12.16
Mid-Cap Value Funds	27.83	8.67	7.85	12.08
SMALL-CAP				
S&P SmallCap 600 Growth	21.13	10.08	10.87	14.20
Small-Cap Growth Funds	29.67	15.53	11.01	13.96
S&P SmallCap 600	22.78	8.36	9.56	13.35
Small-Cap Core Funds	26.11	9.46	8.91	12.78
S&P SmallCap 600 Value	24.54	6.65	8.26	12.52
Small-Cap Value Funds	24.75	6.57	7.56	11.80
MULTI-CAP				
S&P Composite 1500 Growth	30.56	17.88	13.21	14.69
Multi-Cap Growth Funds	31.83	18.45	12.40	14.05
S&P Composite 1500	30.90	14.65	11.46	13.52
Multi-Cap Core Funds	29.20	13.03	9.56	12.27
S&P Composite 1500 Value	31.31	11.06	9.38	12.19
Multi-Cap Value Funds	25.85	9.62	7.93	11.33

Source: S&P Dow Jones Indices LLC, eVestment Alliance. Data as of Dec. 31, 2019. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

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

CATEGORY	1-YEAR (ANNUALIZED, %)	3-YEAR (ANNUALIZED, %)	5-YEAR (ANNUALIZED, %)	10-YEAR (ANNUALIZED, %)
S&P Composite 1500	30.90	14.65	11.46	13.52
All Domestic Funds	29.90	14.00	10.53	12.78
S&P 500	31.49	15.27	11.70	13.56
All Large-Cap Funds	30.09	15.11	11.06	12.86
S&P MidCap 400	26.20	9.26	9.03	12.72
All Mid-Cap Funds	32.06	12.64	9.52	12.85
S&P SmallCap 600	22.78	8.36	9.56	13.35
All Small-Cap Funds	27.98	10.71	9.37	12.82
S&P Composite 1500	30.90	14.65	11.46	13.52
All Multi-Cap Funds	29.98	13.87	10.06	12.30

Source: S&P Dow Jones Indices LLC, eVestment Alliance. Data as of Dec. 31, 2019. 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.)				
CATEGORY	1-YEAR (ANNUALIZED, %)	3-YEAR (ANNUALIZED, %)	5-YEAR (ANNUALIZED, %)	10-YEAR (ANNUALIZED, %)
LARGE-CAP				
S&P 500 Growth	31.13	18.66	13.52	14.78
Large-Cap Growth Funds	33.43	20.77	14.03	14.58
S&P 500	31.49	15.27	11.70	13.56
Large-Cap Core Funds	30.25	14.77	10.83	12.59
S&P 500 Value	31.93	11.49	9.52	12.16
Large-Cap Value Funds	27.30	11.22	9.14	11.87
MID-CAP				
S&P MidCap 400 Growth	26.29	10.74	9.72	13.16
Mid-Cap Growth Funds	35.62	18.01	11.76	13.74
S&P MidCap 400	26.20	9.26	9.03	12.72
Mid-Cap Core Funds	31.95	13.96	10.77	13.85
S&P MidCap 400 Value	26.08	7.66	8.07	12.16
Mid-Cap Value Funds	29.20	8.79	7.48	11.93
SMALL-CAP				
S&P SmallCap 600 Growth	21.13	10.08	10.87	14.20
Small-Cap Growth Funds	32.07	16.97	11.57	14.31
S&P SmallCap 600	22.78	8.36	9.56	13.35
Small-Cap Core Funds	27.33	9.63	9.46	13.10
S&P SmallCap 600 Value	24.54	6.65	8.26	12.52
Small-Cap Value Funds	25.08	6.62	7.57	11.44
MULTI-CAP				
S&P Composite 1500 Growth	30.56	17.88	13.21	14.69
Multi-Cap Growth Funds	31.71	17.24	11.58	13.39
S&P Composite 1500	30.90	14.65	11.46	13.52
Multi-Cap Core Funds	30.27	13.23	9.88	11.96
S&P Composite 1500 Value	31.31	11.06	9.38	12.19
Multi-Cap Value Funds	27.57	10.73	8.57	11.43

Source: S&P Dow Jones Indices LLC, eVestment Alliance. Data as of Dec. 31, 2019. 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	24.76	28.82	33.00
All Large-Cap Funds	26.36	30.04	33.64
All Mid-Cap Funds	27.26	31.00	34.90
All Small-Cap Funds	22.60	26.44	30.80
All Multi-Cap Funds	25.15	29.11	33.10
Large-Cap Growth Funds	31.33	33.94	36.90
Large-Cap Core Funds	27.29	30.17	32.54
Large-Cap Value Funds	24.58	27.12	29.72
Mid-Cap Growth Funds	31.18	34.78	39.37
Mid-Cap Core Funds	27.24	29.12	33.73
Mid-Cap Value Funds	24.99	28.46	31.29
Small-Cap Growth Funds	25.02	29.61	35.89
Small-Cap Core Funds	22.61	26.52	29.97
Small-Cap Value Funds	21.59	24.72	28.17
Multi-Cap Growth Funds	28.29	32.47	35.94
Multi-Cap Core Funds	26.70	29.10	32.90
Multi-Cap Value Funds	22.79	26.81	30.71
3-YEAR			
All Domestic Funds	8.94	12.65	16.55
All Large-Cap Funds	11.45	14.35	17.77
All Mid-Cap Funds	9.03	12.54	16.88
All Small-Cap Funds	5.95	9.21	13.77
All Multi-Cap Funds	9.86	13.25	16.57
Large-Cap Growth Funds	17.42	19.35	21.95
Large-Cap Core Funds	13.31	14.84	16.27
Large-Cap Value Funds	9.44	11.13	12.93
Mid-Cap Growth Funds	15.54	17.37	20.59
Mid-Cap Core Funds	10.20	11.95	15.16
Mid-Cap Value Funds	7.29	8.72	10.70
Small-Cap Growth Funds	12.14	15.68	19.39
Small-Cap Core Funds	7.27	9.60	11.63
Small-Cap Value Funds	4.40	6.30	8.42
Multi-Cap Growth Funds	14.74	18.40	21.58
Multi-Cap Core Funds	11.03	13.63	15.55
Multi-Cap Value Funds	7.97	9.95	12.42

Source: S&P Dow Jones Indices LLC, eVestment Alliance. Data as of Dec. 31, 2019. 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	8.12	10.20	12.03
All Large-Cap Funds	9.12	10.93	12.62
All Mid-Cap Funds	8.12	10.01	11.81
All Small-Cap Funds	7.17	8.94	11.07
All Multi-Cap Funds	7.85	10.08	12.02
Large-Cap Growth Funds	12.14	13.49	14.82
Large-Cap Core Funds	10.38	11.30	12.18
Large-Cap Value Funds	7.99	9.10	10.39
Mid-Cap Growth Funds	10.21	11.85	13.48
Mid-Cap Core Funds	8.24	10.41	11.64
Mid-Cap Value Funds	6.84	8.42	9.58
Small-Cap Growth Funds	9.49	11.33	12.88
Small-Cap Core Funds	7.80	9.33	10.73
Small-Cap Value Funds	6.30	7.67	8.87
Multi-Cap Growth Funds	10.60	12.60	14.53
Multi-Cap Core Funds	7.70	10.24	11.68
Multi-Cap Value Funds	6.78	8.81	9.84
10-YEAR			
All Domestic Funds	11.94	13.09	14.36
All Large-Cap Funds	12.05	13.22	14.36
All Mid-Cap Funds	12.22	13.38	14.45
All Small-Cap Funds	11.88	12.94	14.33
All Multi-Cap Funds	11.27	12.80	14.13
Large-Cap Growth Funds	13.53	14.63	15.40
Large-Cap Core Funds	12.80	13.40	14.01
Large-Cap Value Funds	11.42	12.24	12.97
Mid-Cap Growth Funds	13.45	14.28	15.15
Mid-Cap Core Funds	12.86	13.47	14.72
Mid-Cap Value Funds	11.64	12.24	13.36
Small-Cap Growth Funds	13.25	14.41	15.63
Small-Cap Core Funds	12.28	12.92	14.33
Small-Cap Value Funds	11.23	12.17	13.02
Multi-Cap Growth Funds	12.61	14.29	15.61
Multi-Cap Core Funds	11.01	12.57	13.70
Multi-Cap Value Funds	10.44	12.02	13.24

Source: S&P Dow Jones Indices LLC, eVestment Alliance. Data as of Dec. 31, 2019. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 6: Percentage of International Equity Funds Underperforming Benchmarks

FUND CATEGORY	COMPARISON INDEX	1-YEAR	3-YEAR	5-YEAR	10-YEAR
Emerging Markets Funds	S&P/IFCI Composite	35.92	53.90	55.30	52.79
Global Funds	S&P Global 1200	56.57	62.97	69.31	69.51
International Funds	S&P International 700	58.38	73.40	69.04	59.52
International Small-Cap Funds	S&P Developed Ex-U.S. SmallCap	48.28	50.56	46.75	52.17

Source: S&P Dow Jones Indices LLC, eVestment Alliance. Data as of Dec. 31, 2019. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 7: Survivorship of International Equity Funds

FUND CATEGORY	NO. OF FUNDS AT START	SURVIVORSHIP (%)
1-YEAR		
Emerging Markets Funds	412	96.84
Global Funds	297	95.62
International Funds	173	97.11
International Small-Cap Funds	87	91.95
3-YEAR		
Emerging Markets Funds	423	86.29
Global Funds	316	84.18
International Funds	188	86.70
International Small-Cap Funds	89	82.02
5-YEAR		
Emerging Markets Funds	396	80.81
Global Funds	303	75.91
International Funds	197	74.11
International Small-Cap Funds	77	71.43
10-YEAR		
Emerging Markets Funds	233	66.95
Global Funds	246	53.66
International Funds	210	56.67
International Small-Cap Funds	69	49.28

Source: S&P Dow Jones Indices LLC, eVestment Alliance. Data as of Dec. 31, 2019. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

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

CATEGORY	1-YEAR (ANNUALIZED, %)	3-YEAR (ANNUALIZED, %)	5-YEAR (ANNUALIZED, %)	10-YEAR (ANNUALIZED, %)
S&P/IFCI Composite	18.09	11.78	6.28	4.47
Emerging Markets Funds	20.67	12.13	6.34	5.21
S&P Global 1200	28.22	13.40	9.50	9.99
Global Funds	27.58	13.60	9.37	10.20
S&P International 700	23.47	10.71	6.48	5.94
International Funds	23.39	10.08	6.28	6.44
S&P Developed Ex-U.S. Small-Cap	24.66	10.42	8.16	8.34
International Small-Cap Funds	25.57	11.23	9.23	9.94

Source: S&P Dow Jones Indices LLC, eVestment Alliance. Data as of Dec. 31, 2019. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

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

CATEGORY	1-YEAR (ANNUALIZED, %)	3-YEAR (ANNUALIZED, %)	5-YEAR (ANNUALIZED, %)	10-YEAR (ANNUALIZED, %)
S&P/IFCI Composite	18.09	11.78	6.28	4.47
Emerging Markets Funds	21.76	12.47	6.54	4.94
S&P Global 1200	28.22	13.40	9.50	9.99
Global Funds	27.92	13.31	9.24	10.07
S&P International 700	23.47	10.71	6.48	5.94
International Funds	23.71	9.82	6.01	6.11
S&P Developed Ex-U.S. Small-Cap	24.66	10.42	8.16	8.34
International Small-Cap Funds	24.69	9.59	8.01	8.85

Source: S&P Dow Jones Indices LLC, eVestment Alliance. Data as of Dec. 31, 2019. 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			
Emerging Markets Funds	16.68	20.80	25.00
Global Funds	23.70	27.56	31.13
International Funds	19.99	22.39	26.47
International Small-Cap Funds	22.81	24.99	27.70
3-YEAR			
Emerging Markets Funds	10.02	12.08	14.35
Global Funds	11.31	12.93	16.41
International Funds	8.26	9.64	11.77
International Small-Cap Funds	9.72	11.06	12.82
5-YEAR			
Emerging Markets Funds	5.22	6.51	7.88
Global Funds	8.08	9.02	11.02
International Funds	5.41	6.15	7.35
International Small-Cap Funds	8.00	8.98	10.12
10-YEAR			
Emerging Markets Funds	4.10	5.17	6.36
Global Funds	9.22	10.18	11.10
International Funds	5.66	6.65	7.43
International Small-Cap Funds	8.97	9.99	11.24

Source: S&P Dow Jones Indices LLC, eVestment Alliance. Data as of Dec. 31, 2019. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 11: Percentage of Fixed Income Funds Underperforming Benchmarks					
FUND CATEGORY	COMPARISON INDEX	1-YEAR	3-YEAR	5-YEAR	10-YEAR
U.S. Agg. / (Gov't + Credit) Funds	Bloomberg Barclays U.S. Aggregate Index	56.73	55.06	53.67	61.47
Core Funds	Bloomberg Barclays U.S. Aggregate Index	64.51	63.14	60.95	68.03
Core Plus Funds	Bloomberg Barclays U.S. Aggregate Index	27.57	24.19	25.00	33.70
Cash Funds	Bloomberg Barclays U.S. Short Treasury Index	26.76	18.18	22.45	40.12
Government Funds	Bloomberg Barclays U.S. Government Index	69.01	67.57	58.97	75.82
Inflation-Linked Funds	Bloomberg Barclays U.S. Treasury Inflation Notes Index	48.89	46.94	51.85	66.13
Investment-Grade Corp Funds	Bloomberg Barclays U.S. Corporate Index	46.30	42.24	39.29	40.00
High-Yield Corp Funds	Bloomberg Barclays U.S. Corporate High Yield Bond Index	49.14	44.63	60.22	58.90
Agency MBS Funds	Bloomberg Barclays U.S. MBS Index	39.62	37.93	32.76	41.54
Municipal Funds	S&P National AMT-Free Municipal Bond Index	71.82	69.83	72.53	75.44
Emerging Markets Hard Currency Funds	Bloomberg Barclays Emerging Markets USD Aggregate Index	20.00	29.00	31.52	36.92
Emerging Markets Blended Currency Funds	50% Barclays EM USD Agg + 50% Barclays EM Local Gov	19.78	38.37	41.67	45.45
Emerging Markets Local Currency Funds	Bloomberg Barclays Emerging Markets Local Currency Government Index	12.33	40.26	48.75	84.09
Global Government Funds	Bloomberg Barclays Global Treasury Index	30.23	51.02	56.60	55.36
Global Aggregate Funds	Bloomberg Barclays Global Aggregate Bond Index	16.19	25.74	34.29	36.56
Global Corporate Investment-Grade Funds	Bloomberg Barclays Global Aggregate Corporate Index	13.89	23.08	20.00	9.09
Global Corporate High-Yield Funds	Bloomberg Barclays Global High Yield Index	13.56	30.65	44.64	44.44

Source: S&P Dow Jones Indices LLC, eVestment Alliance. Data as of Dec. 31, 2019. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 12: Survivorship of Fixed Income Funds		
FUND CATEGORY	NO. OF FUNDS AT START	SURVIVORSHIP (%)
1-YEAR		
U.S. Agg. / (Gov't + Credit) Funds	825	97.33
Core Funds	648	97.53
Core Plus Funds	185	96.22
Cash Funds	142	98.59
Government Funds	71	95.77
Inflation-Linked Funds	45	91.11
Investment-Grade Corp Funds	108	98.15
High-Yield Corp Funds	175	99.43
Agency MBS Funds	53	92.45
Municipal Funds	220	99.09
Emerging Markets Hard Currency Funds	100	97.00
Emerging Markets Blended Currency Funds	91	97.80
Emerging Markets Local Currency Funds	73	97.26
Global Government Funds	43	95.35
Global Aggregate Funds	105	98.10
Global Corporate Investment-Grade Funds	36	100.00
Global Corporate High-Yield Funds	59	100.00
3-YEAR		
U.S. Agg. / (Gov't + Credit) Funds	859	91.85
Core Funds	681	91.78
Core Plus Funds	186	91.40
Cash Funds	143	96.50
Government Funds	74	89.19
Inflation-Linked Funds	49	85.71
Investment-Grade Corp Funds	116	89.66
High-Yield Corp Funds	177	92.66
Agency MBS Funds	58	82.76
Municipal Funds	232	93.10
Emerging Markets Hard Currency Funds	100	92.00
Emerging Markets Blended Currency Funds	86	90.70
Emerging Markets Local Currency Funds	77	92.21
Global Government Funds	49	83.67
Global Aggregate Funds	101	93.07
Global Corporate Investment-Grade Funds	39	87.18
Global Corporate High-Yield Funds	62	88.71

Source: S&P Dow Jones Indices LLC, eVestment Alliance. Data as of Dec. 31, 2019. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 12: Survivorship of Fixed Income Funds (cont.)		
FUND CATEGORY	NO. OF FUNDS AT START	SURVIVORSHIP (%)
5-YEAR		
U.S. Agg. / (Gov't + Credit) Funds	898	85.08
Core Funds	717	84.66
Core Plus Funds	188	86.17
Cash Funds	147	90.48
Government Funds	78	80.77
Inflation-Linked Funds	54	74.07
Investment-Grade Corp Funds	112	86.61
High-Yield Corp Funds	181	83.98
Agency MBS Funds	58	79.31
Municipal Funds	233	88.41
Emerging Markets Hard Currency Funds	92	86.96
Emerging Markets Blended Currency Funds	72	87.50
Emerging Markets Local Currency Funds	80	81.25
Global Government Funds	53	69.81
Global Aggregate Funds	105	83.81
Global Corporate Investment-Grade Funds	35	85.71
Global Corporate High-Yield Funds	56	80.36
10-YEAR		
U.S. Agg. / (Gov't + Credit) Funds	937	69.90
Core Funds	757	69.48
Core Plus Funds	184	71.74
Cash Funds	162	69.75
Government Funds	91	63.74
Inflation-Linked Funds	62	54.84
Investment-Grade Corp Funds	85	81.18
High-Yield Corp Funds	146	74.66
Agency MBS Funds	65	66.15
Municipal Funds	228	75.00
Emerging Markets Hard Currency Funds	65	73.85
Emerging Markets Blended Currency Funds	33	87.88
Emerging Markets Local Currency Funds	44	72.73
Global Government Funds	56	53.57
Global Aggregate Funds	93	68.82
Global Corporate Investment-Grade Funds	11	100.00
Global Corporate High-Yield Funds	27	77.78

Source: S&P Dow Jones Indices LLC, eVestment Alliance. Data as of Dec. 31, 2019. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 13: Average Fixed Income Fund Performance (Equal-Weighted)				
CATEGORY	1-YEAR (ANNUALIZED, %)	3-YEAR (ANNUALIZED, %)	5-YEAR (ANNUALIZED, %)	10-YEAR (ANNUALIZED, %)
Bloomberg Barclays U.S. Aggregate Index	8.72	4.03	3.05	3.75
U.S. Agg. / (Gov't + Credit) Funds	8.26	4.05	3.22	4.04
Bloomberg Barclays U.S. Aggregate Index	8.72	4.03	3.05	3.75
Core Funds	7.86	3.88	3.07	3.81
Bloomberg Barclays U.S. Aggregate Index	8.72	4.03	3.05	3.75
Core Plus Funds	9.91	4.75	3.80	4.96
Bloomberg Barclays U.S. Short Treasury Index	2.46	1.71	1.16	0.67
Cash Funds	2.98	2.10	1.58	1.22
Bloomberg Barclays U.S. Government Index	6.83	3.31	2.36	3.03
Government Funds	6.66	3.37	2.47	3.01
Bloomberg Barclays U.S. Treasury Inflation Notes Index	8.43	3.32	2.62	3.36
Inflation-Linked Funds	8.38	3.44	2.73	3.39
Bloomberg Barclays U.S. Corporate Index	14.54	5.92	4.60	5.54
Investment-Grade Corp Funds	15.31	6.38	5.01	6.47
Bloomberg Barclays U.S. Corporate High Yield Bond Index	14.32	6.37	6.13	7.57
High-Yield Corp Funds	13.58	6.32	5.95	7.44
Bloomberg Barclays U.S. MBS Index	6.35	3.25	2.58	3.15
Agency MBS Funds	6.03	3.75	3.22	4.28
S&P National AMT-Free Municipal Bond Index	7.42	4.47	3.40	4.17
Municipal Funds	6.01	3.82	2.92	3.50
Bloomberg Barclays Emerging Markets USD Aggregate Index	13.11	6.07	5.84	6.62
Emerging Markets Hard Currency Funds	14.70	6.90	6.41	7.18
50% Barclays EM USD Agg + 50% Barclays EM Local Gov	11.30	6.32	4.34	5.05
Emerging Markets Blended Currency Funds	13.46	6.47	5.14	5.73
Bloomberg Barclays Emerging Markets Local Currency Government Index	9.47	6.51	2.77	3.41
Emerging Markets Local Currency Funds	13.36	6.80	2.99	3.00
Bloomberg Barclays Global Treasury Index	5.59	4.12	2.10	1.91
Global Government Funds	6.92	4.27	2.51	2.96
Bloomberg Barclays Global Aggregate Bond Index	6.84	4.27	2.31	2.48
Global Aggregate Funds	8.51	4.86	3.14	3.80
Bloomberg Barclays Global Aggregate Corporate Index	11.51	5.47	3.36	4.13
Global Corporate Investment-Grade Funds	13.14	6.01	4.66	5.81
Bloomberg Barclays Global High Yield Index	12.56	6.05	5.80	7.26
Global Corporate High-Yield Funds	14.58	6.66	6.18	7.68

Source: S&P Dow Jones Indices LLC, eVestment Alliance. Data as of Dec. 31, 2019. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 14: Average Fixed Income Fund Performance (Asset-Weighted)				
CATEGORY	1-YEAR (ANNUALIZED, %)	3-YEAR (ANNUALIZED, %)	5-YEAR (ANNUALIZED, %)	10-YEAR (ANNUALIZED, %)
Bloomberg Barclays U.S. Aggregate Index	8.72	4.03	3.05	3.75
U.S. Agg. / (Gov't + Credit) Funds	9.00	4.38	3.47	4.32
Bloomberg Barclays U.S. Aggregate Index	8.72	4.03	3.05	3.75
Core Funds	8.52	4.20	3.32	4.08
Bloomberg Barclays U.S. Aggregate Index	8.72	4.03	3.05	3.75
Core Plus Funds	10.06	4.78	3.79	4.70
Bloomberg Barclays U.S. Short Treasury Index	2.46	1.71	1.16	0.67
Cash Funds	2.58	1.96	1.40	0.90
Bloomberg Barclays U.S. Government Index	6.83	3.31	2.36	3.03
Government Funds	8.67	4.35	3.18	3.69
Bloomberg Barclays U.S. Treasury Inflation Notes Index	8.43	3.32	2.62	3.36
Inflation-Linked Funds	8.24	3.40	2.67	3.50
Bloomberg Barclays U.S. Corporate Index	14.54	5.92	4.60	5.54
Investment-Grade Corp Funds	17.63	7.07	5.42	6.75
Bloomberg Barclays U.S. Corporate High Yield Bond Index	14.32	6.37	6.13	7.57
High-Yield Corp Funds	14.32	6.45	6.01	7.53
Bloomberg Barclays U.S. MBS Index	6.35	3.25	2.58	3.15
Agency MBS Funds	6.57	3.65	3.00	3.97
S&P National AMT-Free Municipal Bond Index	7.42	4.47	3.40	4.17
Municipal Funds	6.59	4.10	3.09	3.72
Bloomberg Barclays Emerging Markets USD Aggregate Index	13.11	6.07	5.84	6.62
Emerging Markets Hard Currency Funds	14.94	6.86	6.57	7.25
50% Barclays EM USD Agg + 50% Barclays EM Local Gov	11.30	6.32	4.34	5.05
Emerging Markets Blended Currency Funds	13.29	6.51	5.11	5.42
Bloomberg Barclays Emerging Markets Local Currency Government Index	9.47	6.51	2.77	3.41
Emerging Markets Local Currency Funds	13.65	6.94	2.88	2.76
Bloomberg Barclays Global Treasury Index	5.59	4.12	2.10	1.91
Global Government Funds	5.22	3.64	2.15	3.30
Bloomberg Barclays Global Aggregate Bond Index	6.84	4.27	2.31	2.48
Global Aggregate Funds	7.89	4.74	3.07	3.85
Bloomberg Barclays Global Aggregate Corporate Index	11.51	5.47	3.36	4.13
Global Corporate Investment-Grade Funds	13.38	6.16	4.76	5.80
Bloomberg Barclays Global High Yield Index	12.56	6.05	5.80	7.26
Global Corporate High-Yield Funds	14.93	6.58	6.04	7.60

Source: S&P Dow Jones Indices LLC, eVestment Alliance. Data as of Dec. 31, 2019. 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			
U.S. Agg. / (Gov't + Credit) Funds	5.89	8.25	9.71
Core Funds	5.34	7.40	9.32
Core Plus Funds	8.91	9.92	10.94
Cash Funds	2.46	2.89	3.33
Government Funds	4.27	5.67	7.07
Inflation-Linked Funds	7.43	8.46	8.97
Investment-Grade Corp Funds	11.14	15.01	16.45
High-Yield Corp Funds	12.60	14.41	15.74
Agency MBS Funds	5.66	6.58	6.86
Municipal Funds	4.28	6.22	7.57
Emerging Markets Hard Currency Funds	13.90	15.31	16.27
Emerging Markets Blended Currency Funds	12.16	14.54	15.97
Emerging Markets Local Currency Funds	12.63	13.90	14.69
Global Government Funds	5.53	7.12	8.49
Global Aggregate Funds	7.67	8.83	9.80
Global Corporate Investment-Grade Funds	12.59	13.27	14.19
Global Corporate High-Yield Funds	13.66	15.15	15.74
3-YEAR			
U.S. Agg. / (Gov't + Credit) Funds	3.18	4.03	4.62
Core Funds	2.99	3.67	4.42
Core Plus Funds	4.39	4.80	5.20
Cash Funds	1.88	2.03	2.22
Government Funds	2.34	2.84	3.57
Inflation-Linked Funds	3.13	3.40	3.83
Investment-Grade Corp Funds	5.04	6.22	6.99
High-Yield Corp Funds	5.97	6.52	6.90
Agency MBS Funds	3.26	3.49	4.19
Municipal Funds	2.70	3.94	4.70
Emerging Markets Hard Currency Funds	6.25	6.89	7.49
Emerging Markets Blended Currency Funds	5.90	6.89	7.63
Emerging Markets Local Currency Funds	6.28	7.08	7.66
Global Government Funds	3.58	4.51	4.79
Global Aggregate Funds	4.42	4.81	5.35
Global Corporate Investment-Grade Funds	5.78	6.00	6.33
Global Corporate High-Yield Funds	6.27	6.77	7.13

Source: S&P Dow Jones Indices LLC, eVestment Alliance. Data as of Dec. 31, 2019. 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			
U.S. Agg. / (Gov't + Credit) Funds	2.59	3.20	3.68
Core Funds	2.46	3.01	3.48
Core Plus Funds	3.47	3.88	4.25
Cash Funds	1.32	1.51	1.73
Government Funds	1.81	2.38	2.72
Inflation-Linked Funds	2.55	2.71	2.92
Investment-Grade Corp Funds	4.50	5.04	5.62
High-Yield Corp Funds	5.63	6.09	6.50
Agency MBS Funds	2.66	2.89	3.52
Municipal Funds	1.95	2.85	3.61
Emerging Markets Hard Currency Funds	5.96	6.42	6.93
Emerging Markets Blended Currency Funds	4.25	5.04	6.17
Emerging Markets Local Currency Funds	2.49	2.94	3.70
Global Government Funds	1.95	2.41	2.97
Global Aggregate Funds	2.47	3.07	3.85
Global Corporate Investment-Grade Funds	4.11	4.91	5.25
Global Corporate High-Yield Funds	5.68	6.08	6.61
10-YEAR			
U.S. Agg. / (Gov't + Credit) Funds	3.12	3.98	4.68
Core Funds	2.90	3.66	4.31
Core Plus Funds	4.60	4.93	5.44
Cash Funds	0.79	1.04	1.42
Government Funds	1.83	2.68	3.36
Inflation-Linked Funds	3.28	3.42	3.58
Investment-Grade Corp Funds	5.60	6.19	7.04
High-Yield Corp Funds	7.31	7.66	8.00
Agency MBS Funds	3.42	3.93	4.62
Municipal Funds	2.29	3.35	4.48
Emerging Markets Hard Currency Funds	6.77	7.17	7.54
Emerging Markets Blended Currency Funds	4.65	5.99	6.61
Emerging Markets Local Currency Funds	2.49	2.89	3.24
Global Government Funds	2.40	2.62	3.57
Global Aggregate Funds	2.96	3.67	4.59
Global Corporate Investment-Grade Funds	5.65	5.91	6.19
Global Corporate High-Yield Funds	7.25	7.53	8.20

Source: S&P Dow Jones Indices LLC, eVestment Alliance. Data as of Dec. 31, 2019. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

APPENDIX A: MAPPING

U.S. Equity

While covering the U.S. equity markets, the SPIVA U.S. Scorecard reports on the nine traditional style boxes, as well as multi-cap core, growth, and value funds. Style classifications are based on fundamental characteristics such as the P/E ratio, return on equity (ROE), and earnings growth expectation. Growth and value characteristics are assigned based on a subjective method, with a large weighting on the median of the three statistics as well as the preferred benchmark. Market capitalization is subjective and based on the distribution of holdings as well as the preferred benchmark.

Exhibit A1: U.S. Equity Category Mappings		
SPIVA INSTITUTIONAL CATEGORY	eVESTMENT CLASSIFICATION	
	MARKET CAPITALIZATION	STYLE EMPHASIS
Large-Cap Growth Equity	Mega Cap Large Cap Mid-Large Cap	Growth GARP
Large-Cap Core Equity	Mega Cap Large Cap Mid-Large Cap	Core
Large-Cap Value Equity	Mega Cap Large Cap Mid-Large Cap	Value Relative Value Deep Value
Mid-Cap Growth Equity	Mid Cap	Growth GARP
Mid-Cap Core Equity	Mid Cap	Core
Mid-Cap Value Equity	Mid Cap	Value Relative Value Deep Value
Small-Cap Growth Equity	Small-Mid Cap Small Cap	Growth GARP
Small-Cap Core Equity	Small-Mid Cap Small Cap	Core
Small-Cap Value Equity	Small-Mid Cap Small Cap	Value Relative Value Deep Value
Multi-Cap Growth Equity	All Cap	Growth GARP
Multi-Cap Core Equity	All Cap	Core
Multi-Cap Value Equity	All Cap	Value Relative Value Deep Value

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

International Equity

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

Exhibit A2: International Equity Category Mappings				
SPIVA INSTITUTIONAL CATEGORY	eVESTMENT CLASSIFICATION			
	eVESTMENT CATEGORY	REGION	MARKET CAPITALIZATION	STYLE EMPHASIS
Global Equity	Global Large Cap Value	Global	Mega Cap Large Cap Mid-Large Cap	Value Relative Value Deep Value
	Global Large Cap Growth	Global	Mega Cap Large Cap Mid-Large Cap	Growth GARP
	Global Large Cap Core	Global	Mega Cap Large Cap Mid-Large Cap	Core
International Equity	EAFE Large Cap Value	EAFA	Mega Cap Large Cap Mid-Large Cap	Value Relative Value Deep Value
	EAFE Large Cap Growth	EAFA	Mega Cap Large Cap Mid-Large Cap	Growth GARP
	EAFE Large Cap Core	EAFA	Mega Cap Large Cap Mid-Large Cap	Core
International Small-Cap Equity	EAFE Small Cap Value	EAFA	Small-Mid Cap Small Cap	Value Relative Value Deep Value
	EAFE Small Cap Growth	EAFA	Small-Mid Cap Small Cap	Growth GARP
	EAFE Small Cap Core	EAFA	Small-Mid Cap Small Cap	Core

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

Exhibit A2: International Equity Category Mappings (cont.)

SPIVA INSTITUTIONAL CATEGORY	eVESTMENT CLASSIFICATION			
	eVESTMENT CATEGORY	REGION	MARKET CAPITALIZATION	STYLE EMPHASIS
Emerging Markets Equity	Brazil Large Cap Value	Brazil	Mega Cap Large Cap Mid-Large Cap	Value Relative Value Deep Value
	Brazil All Cap Value	Brazil	All Cap	Value Relative Value Deep Value
	Brazil All Cap Growth	Brazil	All Cap	Growth GARP
	Brazil All Cap Core	Brazil	All Cap	Core
	Mexico All Cap Value	Mexico	All Cap	Value Relative Value Deep Value
	Mexico All Cap Growth	Mexico	All Cap	Growth GARP
	Latin America Small Cap Value	Latin America	Small-Mid Cap Small Cap	Value Relative Value Deep Value
	Latin America Mid Cap Value	Latin America	Mid Cap	Value Relative Value Deep Value
	Latin America Large Cap Growth	Latin America	Mega Cap Large Cap Mid-Large Cap	Growth GARP
	Latin America Large Cap Core	Latin America	Mega Cap Large Cap Mid-Large Cap	Core
	Latin America All Cap Value	Latin America	All Cap	Value Relative Value Deep Value
	Latin America All Cap Growth	Latin America	All Cap	Growth GARP
	Latin America All Cap Core	Latin America	All Cap	Core
	Global Emg Mkts Small Cap Value	Global Emg Mkts	Small-Mid Cap Small Cap	Value Relative Value Deep Value
	Global Emg Mkts Small Cap Growth	Global Emg Mkts	Small-Mid Cap Small Cap	Growth GARP
	Global Emg Mkts Small Cap Core	Global Emg Mkts	Small-Mid Cap Small Cap	Core
	Global Emg Mkts Mid Cap Value	Global Emg Mkts	Mid Cap	Value Relative Value Deep Value
	Global Emg Mkts Mid Cap Growth	Global Emg Mkts	Mid Cap	Growth GARP
	Global Emg Mkts Mid Cap Core	Global Emg Mkts	Mid Cap	Core
	Global Emg Mkts Large Cap Value	Global Emg Mkts	Mega Cap Large Cap Mid-Large Cap	Value Relative Value Deep Value
	Global Emg Mkts Large Cap Growth	Global Emg Mkts	Mega Cap Large Cap Mid-Large Cap	Growth GARP
	Global Emg Mkts Large Cap Core	Global Emg Mkts	Mega Cap Large Cap Mid-Large Cap	Core
	Global Emg Mkts All Cap Value	Global Emg Mkts	All Cap	Value Relative Value Deep Value
	Global Emg Mkts All Cap Growth	Global Emg Mkts	All Cap	Growth GARP
Global Emg Mkts All Cap Core	Global Emg Mkts	All Cap	Core	

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

Fixed Income

SPIVA reports include 10 domestic and 8 global fixed income classifications. Global fixed income funds are split into emerging and global markets.

Exhibit A3: U.S. Fixed Income Category Mappings				
SPIVA INSTITUTIONAL CATEGORY	eVESTMENT ALLIANCE CLASSIFICATION			
	REGION	INVESTMENT FOCUS	STYLE EMPHASIS	CREDIT QUALITY/APPROACH
U.S. FUNDS				
U.S. Agg. / (Gov't + Credit) Funds	U.S.	Aggregate	Aggregate Gov/Credit	-
Core	U.S.	-	-	Core
Core Plus	U.S.	-	-	Core Plus
Cash Funds	U.S.	Cash Management	Cash Pure Cash Enhanced	-
Government Funds	U.S.	Government	-	-
Inflation-Linked Funds	U.S.	Inflation Linked	-	-
Investment-Grade Corp Funds	U.S.	Credit	Corporate	Investment Grade
High-Yield Corp Funds	U.S.	Credit	Corporate	High Yield
Agency MBS Funds	U.S.	Securitized/Collateralized	Agency Mortgage Backed Securities (MBS)	-
Municipal Funds	U.S.	Municipals	Tax Exempt Municipals	-
GLOBAL/EMERGING MARKETS FUNDS				
Emerging Markets Hard Currency Funds	Global	Emerging Markets Debts	Hard Currency	-
Emerging Markets Blended Currency Funds	Global	Emerging Markets Debts	Blended Currency	-
Emerging Markets Local Currency Funds	Global	Emerging Markets Debts	Local Currency	-
Global Cash Funds	Global	Cash Management	Cash Pure Cash Enhanced	-
Global Government Funds	Global	Government	-	-
Global Aggregate Funds	Global	Aggregate	Aggregate Gov/Credit	-
Global Corporate Investment-Grade Funds	Global	Credit	Corporate	Investment Grade
Global Corporate High-Yield Funds	Global	Credit	Corporate	High Yield

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

APPENDIX B: GLOSSARY

Percentage of Managers 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 products 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 are still active at the end 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 the weighted average return of all managers in that category in a particular month, with each product's return weighted by its total net assets. Compared with equal-weighted returns, asset-weighted returns are a better indicator of manager category performance because they more accurately reflect the returns of the total money invested in that particular style category.

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.

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 stocks and covers approximately 3% of the U.S. equities market.

S&P COMPOSITE 1500

This is a broad, market-capitalization-weighted index of 1500 stocks. This index is comprised of three size-based indices: the S&P 500, S&P MidCap 400, and S&P SmallCap 600, which are designed to measure the performance of large-, mid-, and small-cap stocks, respectively. This index represents approximately 90% of the market value 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.

International Equity

S&P GLOBAL 1200

Capturing approximately 70% of the market value of the world's capital markets, the [S&P Global 1200](#) is a composite of seven headline indices, many of which are accepted leaders in their regions. It includes the S&P 500 (U.S.), [S&P Europe 350](#) (Europe), [S&P/TOPIX 150](#) (Japan), [S&P/TSX 60](#) (Canada), [S&P/ASX All Australian 50](#) (Australia), [S&P Asia 50](#) (Asia Ex-Japan), and [S&P Latin America 40](#) (Latin America).

S&P INTERNATIONAL 700

This index is designed to measure the non-U.S. component of the global equity markets, covering all the regions included in the S&P Global 1200, excluding the U.S. (S&P 500).

S&P DEVELOPED EX-U.S. SMALL CAP

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

BLOOMBERG BARCLAYS LONG GOVERNMENT BOND INDEX

This index consists of U.S. Treasury and U.S. government agency bonds with maturities greater than 10 years.

BLOOMBERG BARCLAYS INTERMEDIATE GOVERNMENT BOND INDEX

This index consists of U.S. Treasury and U.S. government agency bonds with maturities from 1 to 10 years.

BLOOMBERG BARCLAYS 1-3 YEAR GOVERNMENT BOND INDEX

This index consists of U.S. Treasury and U.S. government agency bonds with maturities from one to three years.

BLOOMBERG BARCLAYS LONG GOVERNMENT/CREDIT BOND INDEX

This index covers corporate and non-corporate fixed income securities that are rated investment grade and have maturities greater than 10 years.

BLOOMBERG BARCLAYS INTERMEDIATE GOVERNMENT/CREDIT BOND INDEX

This index covers corporate and non-corporate fixed income securities that are rated investment grade with maturities from 1 to 10 years.

BLOOMBERG BARCLAYS 1-3 YEAR GOVERNMENT/CREDIT BOND INDEX

This index covers corporate and non-corporate fixed income securities that are rated investment grade and have one to three years until their final maturity.

BLOOMBERG BARCLAYS U.S. AGGREGATE INDEX

This index is a broad-based flagship benchmark that measures the investment grade, U.S. dollar-denominated, fixed-rate taxable bond market.

BLOOMBERG BARCLAYS U.S. SHORT TREASURY INDEX

This index tracks the market for treasury bills issued by the U.S. government. U.S. Treasury bills are issued in fixed maturity terms of 4, 13, 26, and 52 weeks.

BLOOMBERG BARCLAYS U.S. GOVERNMENT INDEX

This index is comprised of the U.S. Treasury and U.S. Agency Indices. The index includes U.S. dollar-denominated, fixed-rate, nominal U.S. Treasuries and U.S. agency debentures (securities issued by U.S. government owned or sponsored entities, and debt explicitly guaranteed by the U.S. government).

BLOOMBERG BARCLAYS U.S. TREASURY INFLATION NOTES INDEX

This index measures the performance of the U.S. Treasury Inflation Protected Securities (TIPS) market. Federal Reserve holdings of U.S. TIPS are not index eligible and are excluded from the face amount outstanding of each bond in the index.

BLOOMBERG BARCLAYS U.S. CORPORATE INDEX

This index measures the investment grade, fixed-rate, taxable corporate bond market. It includes U.S. dollar-denominated securities publicly issued by U.S. and non-U.S. industrial, utility, and financial issuers.

BLOOMBERG BARCLAYS U.S. CORPORATE HIGH YIELD BOND INDEX

This index measures the U.S. dollar-denominated, high yield, fixed-rate corporate bond market. Securities are classified as high yield if the middle rating of Moody's, Fitch, and S&P Global Ratings is Ba1/BB+/BB+ or below.

BLOOMBERG BARCLAYS U.S. MBS INDEX

This index tracks agency mortgage pass-through securities (no longer incorporates hybrid ARM) guaranteed by Ginnie Mae (GNMA), Mae (FNMA), and Freddie Mac (FHLMC). The index is constructed by grouping individual TBA- deliverable MBS pools into aggregates or generics based on program, coupon, and vintage.

S&P NATIONAL AMT-FREE MUNICIPAL BOND INDEX

This index is a broad, comprehensive, market-value-weighted index designed to measure the performance of the 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 the investment-grade California municipal bonds that are exempt from the alternative minimum tax.

S&P NATIONAL AMT-FREE MUNICIPAL BOND INDEX

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

S&P/LSTA U.S. LEVERAGED LOAN 100 INDEX

This index is designed to reflect the performance of the largest facilities in the floating-rate bank loan, or senior loan, market.

BLOOMBERG BARCLAYS EMERGING MARKETS USD AGGREGATE INDEX

This index is a flagship hard currency emerging markets debt benchmark that includes USD-denominated debt from sovereign, quasi-sovereign, and corporate emerging markets issuers.

BLOOMBERG BARCLAYS EMERGING MARKETS LOCAL CURRENCY GOVERNMENT INDEX

This index provides a broad measure of the performance of local currency emerging markets government debt.

BLOOMBERG BARCLAYS GLOBAL TREASURY INDEX

This index tracks fixed-rate, local currency government debt of investment-grade countries, including both developed and emerging markets.

BLOOMBERG BARCLAYS GLOBAL AGGREGATE BOND INDEX

This index is a flagship measure of global investment-grade debt from 24 local currency markets. This multi-currency benchmark includes treasury, government-related, corporate, and securitized fixed-rate bonds from both developed and emerging markets issuers.

BLOOMBERG BARCLAYS GLOBAL AGGREGATE CORPORATE INDEX

This index is a flagship measure of global investment-grade, fixed-rate corporate debt. This multi-currency benchmark includes bonds from developed and emerging markets issuers within the industrial, utility, and financial sectors.

BLOOMBERG BARCLAYS GLOBAL HIGH YIELD INDEX

This index is a multi-currency flagship measure of the global high-yield debt market. The index represents the union of the U.S. High Yield, the Pan-European High Yield, and Emerging Markets Hard Currency High Yield Indices.

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