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# SPIVA® U.S. Scorecard

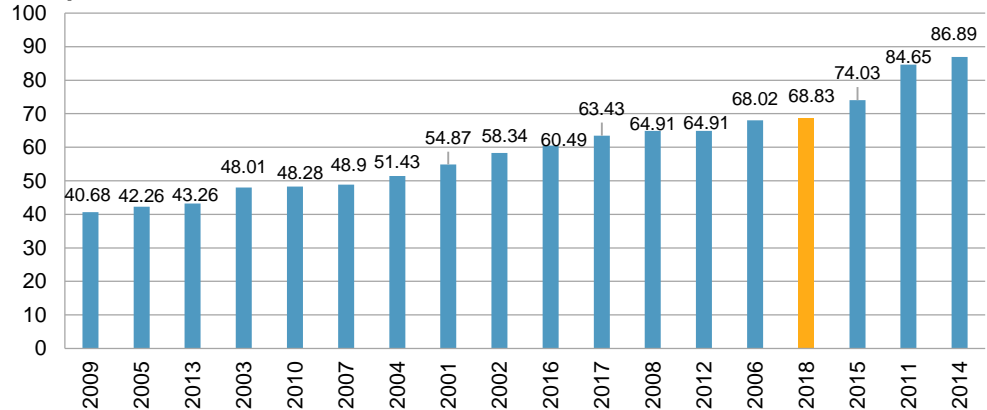
## SUMMARY

2018 was a rollercoaster ride for financial markets: after trade tensions weighed on investors' sentiment in Q1, strong corporate earnings and a rosy U.S. economic outlook initially drove a recovery, before uncertainty over global economic growth and future Fed policy wiped off YTD gains for many equity benchmarks in Q4.

The [S&P 500®](#) (-4.38%) finished 2018 with its first calendar-year loss in a decade, while the [S&P MidCap 400®](#) (-11.08%) and the [S&P SmallCap 600®](#) (-8.48%) also fell.

Amid the market volatility, **2018 was the fourth-worst year for U.S. equity managers since 2001**; 68.83% of domestic equity funds lagged the [S&P Composite 1500®](#) during the one-year period ending Dec. 31, 2018.

### Exhibit 1: Percentage of Domestic Equity Funds Underperforming the S&P Composite 1500



Source: S&P Dow Jones Indices LLC. Data as of Dec. 31, 2018. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

**For the ninth consecutive year, the majority (64.49%) of large-cap funds underperformed the S&P 500.** The figures highlight that heightened market volatility does not necessarily result in better relative performance for active investing.

**Similarly, small-cap equity managers found it more challenging to navigate 2018's market environment compared with 2017's range-bound market movements;** 68.45% of all small-cap funds lagged the S&P SmallCap 600 over the one-year horizon. Underperformance was

particularly noticeable in the small-cap value (83.33%) and small-cap core (87.55%) categories.

Growth style investing dominated through the third quarter of 2018, before succumbing to the market turbulence observed after September. However, **most domestic large- and small-cap growth managers lagged their respective benchmarks in 2018**. In fact, compared with results from 12 months prior, we saw 27.35 and 46.37 percentage point increases in the proportion of funds lagging the [S&P 500 Growth](#) and [S&P SmallCap 600 Growth](#), respectively.

**U.S. large-cap value offered a bright spot for active management in 2018**; roughly 54% of the managers in the category beat the [S&P 500 Value](#).

**For the second consecutive year, most domestic mid-cap funds outperformed the S&P MidCap 400**. The impressive performance of mid-cap growth funds helped; 84.80% of managers beat the [S&P MidCap 400 Growth](#), which in turn outperformed the S&P MidCap 400 in 2018.

Over the long-term investment horizon, such as 10 or 15 years, 80% or more of active managers across all categories underperformed their respective benchmarks.

**It was a challenging year for global equities as all but 2 of the [S&P Global BMI](#)'s 48 country constituents declined (in USD terms)**. International and emerging market funds generally struggled to navigate the headwinds; 76.84% of international funds lagged the [S&P 700](#), while the majority of emerging market managers failed to beat the S&P/IFCI Composite.

**International small-cap funds had difficulty outperforming the benchmark in 2018**; 65.52% of the category's funds lagged the 18.41% plunge of the [S&P Developed Ex-U.S. SmallCap](#).

**Uncertainty over future Federal Reserve policy offered headwinds for fixed income managers at the shorter end of the curve**. The vast majority of government short funds, and all of their intermediate counterparts, lagged in 2018. Similar results were recorded by the investment-grade short and intermediate categories.

In contrast, the long-end of the curve fared much better; **a thumping 83.02% of government long funds and 90.91% of investment-grade long funds outperformed over the one-year horizon**. But in signs that recent out-performance is no guarantee of future results, over 90% of both categories lagged over the three-year period.

Elsewhere, the majority of high-yield managers, municipal bond funds, leveraged loan funds, and MBS funds underperformed their benchmarks in 2018.

While there were some differences in relative performance figures compared with prior reports, **the longer-term 15-year figures show that most active fixed income managers underperformed their benchmarks**.

The disappearance of funds remains meaningful; 57% of domestic equity funds, 49% of international equity funds, and 52% of all fixed income funds were merged or liquidated over the 15-year horizon. This highlights the need to correct for survivorship bias.

## A UNIQUE SCORECARD FOR THE ACTIVE VERSUS PASSIVE DEBATE

There is nothing novel about the index versus active debate. It has been a contentious subject for decades, and there are few strong believers on both sides, with the vast majority of market participants falling somewhere in between. Since its first publication 16 years ago, the SPIVA Scorecard has served as the de facto scorekeeper of the active versus passive debate. For more than a decade, we have heard passionate arguments from believers in both camps when headline numbers have deviated from their beliefs.

Beyond the SPIVA Scorecard's widely cited headline numbers is a rich data set that addresses issues related to measurement techniques, universe composition, and fund survivorship that are far less frequently discussed, but are often far more fascinating. 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. An accurate representation of how market participants fared in a particular period can be ascertained 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, index funds, leveraged and inverse funds, and other index-linked products are excluded.

## HISTORICAL VIEW

To provide context for the relative performance of active funds, we compile annual league tables (see Exhibits 2a, 2b, and 2c) across the U.S. equity, international equity, and fixed income categories. The tables show how active funds performed against their benchmarks in each calendar year since 2001.

We also provide the three-year relative performance of managers across major domestic and international equity categories (see Exhibits 3, 4, and 5). The figures are calculated on a rolling semi-annual basis.

**Exhibit 2a: Annual League Table (U.S. Equity Funds)**

| FUND CATEGORY          | COMPARISON INDEX          | 2001  | 2002  | 2003  | 2004  | 2005  | 2006  | 2007  | 2008  | 2009  | 2010  | 2011  | 2012  | 2013  | 2014  | 2015  | 2016  | 2017  | 2018  |
|------------------------|---------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| All Domestic Funds     | S&P Composite 1500        | 54.87 | 58.34 | 48.01 | 51.43 | 42.26 | 68.02 | 48.90 | 64.91 | 40.68 | 48.28 | 84.65 | 64.91 | 43.26 | 86.89 | 74.03 | 60.49 | 63.43 | 68.83 |
| All Large-Cap Funds    | S&P 500                   | 65.16 | 67.73 | 75.44 | 68.79 | 48.81 | 68.38 | 44.63 | 55.95 | 48.40 | 65.88 | 82.24 | 62.66 | 54.56 | 86.73 | 65.39 | 66.00 | 63.08 | 64.49 |
| All Mid-Cap Funds      | S&P MidCap 400            | 67.64 | 74.43 | 51.70 | 64.56 | 73.63 | 44.77 | 45.77 | 75.73 | 55.69 | 73.29 | 68.59 | 79.85 | 37.11 | 66.05 | 57.18 | 89.37 | 44.41 | 45.64 |
| All Small-Cap Funds    | S&P SmallCap 600          | 53.97 | 67.54 | 34.63 | 83.84 | 60.95 | 62.53 | 45.98 | 83.30 | 30.69 | 53.95 | 85.81 | 66.28 | 67.77 | 71.96 | 71.79 | 85.54 | 47.70 | 68.45 |
| All Multi-Cap Funds    | S&P Composite 1500        | 54.73 | 54.02 | 49.21 | 49.38 | 37.14 | 68.77 | 45.97 | 70.14 | 39.30 | 60.39 | 83.88 | 65.22 | 46.84 | 81.62 | 70.10 | 74.88 | 56.46 | 66.79 |
| Large-Cap Growth Funds | S&P 500 Growth            | 94.80 | 83.13 | 48.36 | 44.08 | 37.96 | 93.93 | 27.14 | 90.67 | 36.81 | 50.98 | 95.90 | 45.62 | 41.08 | 95.61 | 47.55 | 89.79 | 32.92 | 60.27 |
| Large-Cap Core Funds   | S&P 500                   | 77.03 | 66.55 | 85.29 | 82.91 | 56.16 | 81.09 | 43.50 | 52.26 | 50.55 | 76.61 | 83.21 | 66.59 | 57.65 | 80.38 | 73.75 | 74.56 | 68.98 | 75.85 |
| Large-Cap Value Funds  | S&P 500 Value             | 30.77 | 34.63 | 85.98 | 86.47 | 54.11 | 80.28 | 45.79 | 24.45 | 45.71 | 70.55 | 54.28 | 85.05 | 64.86 | 77.78 | 61.52 | 77.99 | 46.88 | 46.27 |
| Mid-Cap Growth Funds   | S&P MidCap 400 Growth     | 87.96 | 86.24 | 35.75 | 64.16 | 79.67 | 27.96 | 41.97 | 90.95 | 54.01 | 84.11 | 76.53 | 86.81 | 34.48 | 55.37 | 79.68 | 94.58 | 18.05 | 15.20 |
| Mid-Cap Core Funds     | S&P MidCap 400            | 80.00 | 70.42 | 54.74 | 57.27 | 66.34 | 32.04 | 60.78 | 60.18 | 70.75 | 86.54 | 65.66 | 78.57 | 42.96 | 58.65 | 68.18 | 90.65 | 61.67 | 62.18 |
| Mid-Cap Value Funds    | S&P MidCap 400 Value      | 47.42 | 63.64 | 68.42 | 53.09 | 69.14 | 36.90 | 57.83 | 68.00 | 47.33 | 57.14 | 67.61 | 73.47 | 40.85 | 71.43 | 34.38 | 96.77 | 43.14 | 72.22 |
| Small-Cap Growth Funds | S&P SmallCap 600 Growth   | 76.64 | 97.14 | 26.88 | 94.71 | 78.06 | 50.75 | 40.80 | 94.84 | 31.34 | 62.25 | 94.12 | 62.91 | 55.25 | 63.98 | 87.50 | 95.96 | 15.08 | 61.45 |
| Small-Cap Core Funds   | S&P SmallCap 600          | 57.78 | 67.27 | 34.88 | 79.47 | 58.33 | 56.34 | 55.51 | 82.07 | 33.22 | 58.63 | 86.01 | 68.68 | 77.74 | 66.92 | 77.46 | 89.47 | 58.59 | 87.55 |
| Small-Cap Value Funds  | S&P SmallCap 600 Value    | 39.07 | 29.93 | 48.08 | 71.76 | 45.24 | 71.26 | 39.36 | 72.07 | 25.17 | 41.98 | 81.82 | 61.54 | 78.81 | 94.07 | 45.04 | 88.89 | 74.07 | 83.33 |
| Multi-Cap Growth Funds | S&P Composite 1500 Growth | 75.86 | 61.46 | 34.21 | 51.45 | 17.73 | 73.24 | 29.82 | 88.27 | 41.96 | 45.74 | 94.76 | 51.60 | 38.76 | 87.37 | 65.50 | 85.32 | 46.32 | 65.90 |
| Multi-Cap Core Funds   | S&P Composite 1500        | 61.46 | 49.07 | 55.24 | 60.57 | 38.11 | 77.39 | 45.18 | 65.81 | 39.22 | 66.06 | 82.95 | 68.25 | 53.25 | 84.13 | 83.93 | 74.48 | 68.78 | 81.74 |
| Multi-Cap Value Funds  | S&P Composite 1500 Value  | 30.65 | 61.32 | 57.07 | 79.23 | 72.02 | 83.95 | 58.11 | 48.45 | 35.83 | 68.21 | 66.67 | 72.59 | 47.86 | 67.27 | 55.56 | 71.20 | 49.57 | 74.77 |
| Real Estate Funds      | S&P United States REIT    | 90.63 | 47.69 | 57.35 | 43.06 | 43.59 | 68.35 | 45.35 | 72.88 | 38.32 | 66.67 | 66.35 | 62.00 | 64.77 | 67.78 | 43.01 | 84.04 | 36.90 | 88.89 |

Source: S&P Dow Jones Indices LLC. Data as of Dec. 31, 2018. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

**Exhibit 2b: Annual League Table (International Equity Funds)**

| FUND CATEGORY                 | COMPARISON INDEX               | 2001  | 2002  | 2003  | 2004  | 2005  | 2006  | 2007  | 2008  | 2009  | 2010  | 2011  | 2012  | 2013  | 2014  | 2015  | 2016  | 2017  | 2018  |
|-------------------------------|--------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Global Funds                  | S&P Global 1200                | 65.25 | 57.63 | 58.49 | 59.00 | 49.46 | 75.26 | 54.21 | 61.60 | 52.32 | 43.79 | 71.82 | 61.76 | 47.49 | 76.50 | 58.18 | 79.71 | 50.21 | 70.61 |
| International Funds           | S&P 700                        | 60.32 | 61.30 | 81.31 | 72.95 | 70.65 | 74.73 | 68.15 | 64.33 | 71.47 | 40.17 | 69.45 | 44.35 | 43.16 | 68.18 | 25.55 | 84.94 | 53.95 | 76.84 |
| International Small Cap Funds | S&P Developed Ex-U.S. SmallCap | 69.70 | 67.57 | 56.41 | 55.56 | 60.00 | 64.58 | 36.54 | 53.13 | 49.23 | 45.28 | 60.00 | 24.59 | 47.89 | 69.01 | 48.91 | 71.84 | 44.05 | 65.52 |
| Emerging Markets Funds        | S&P/IFCI Composite             | 84.38 | 62.79 | 65.33 | 78.79 | 65.15 | 77.61 | 69.86 | 65.26 | 71.22 | 64.86 | 52.56 | 45.60 | 54.95 | 70.72 | 66.04 | 63.90 | 64.89 | 78.10 |

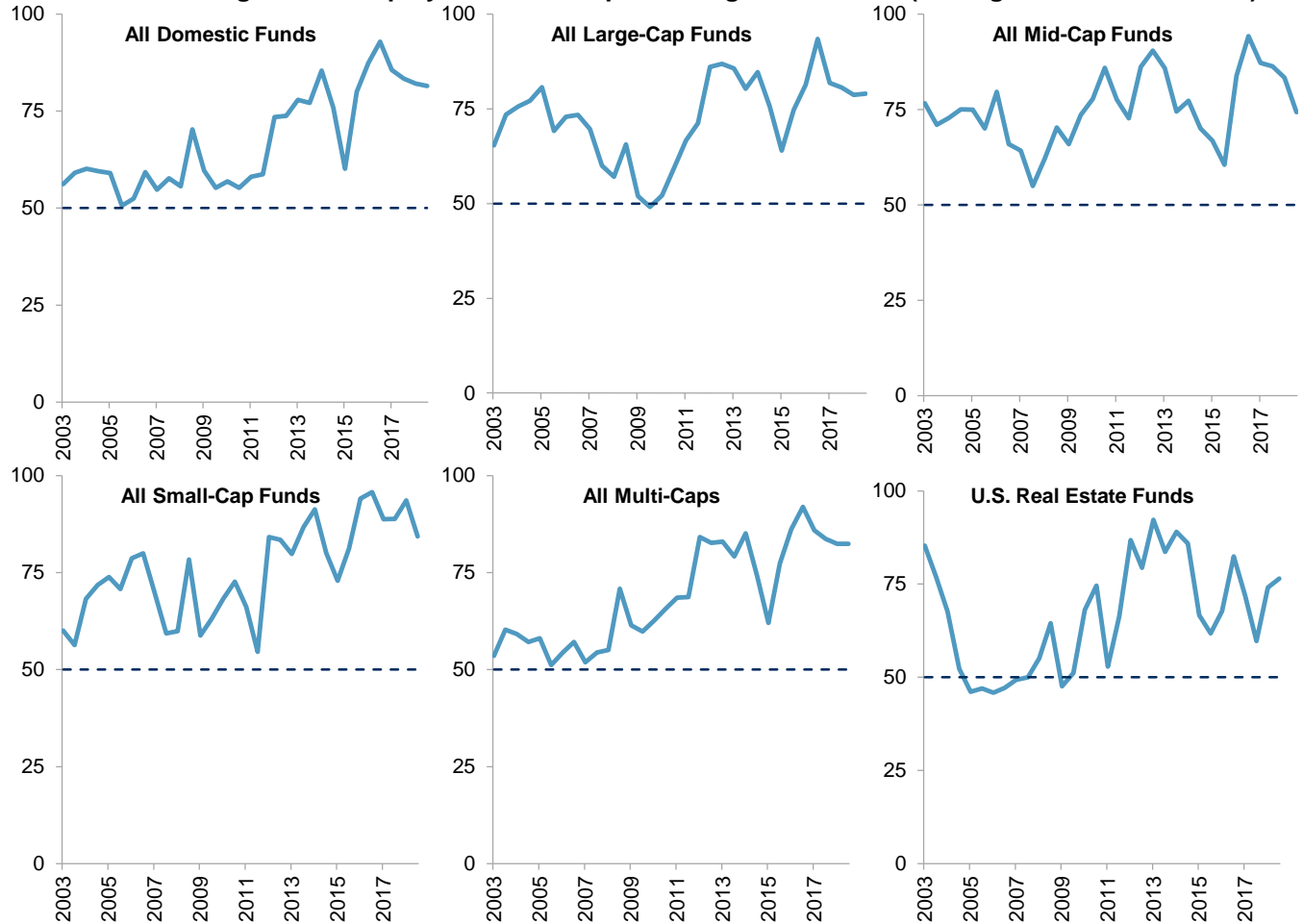
Source: S&P Dow Jones Indices LLC. Data as of Dec. 31, 2018. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

**Exhibit 2c: Annual League Table (Fixed Income Funds)**

| FUND CATEGORY                       | COMPARISON INDEX                           | 2001  | 2002  | 2003  | 2004  | 2005  | 2006  | 2007  | 2008  | 2009  | 2010  | 2011  | 2012  | 2013  | 2014  | 2015  | 2016  | 2017  | 2018  |
|-------------------------------------|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Government Long Funds               | Barclays US Government Long                | 28.95 | 98.44 | 85.45 | 98.25 | 96.49 | 20.00 | 89.36 | 95.74 | 8.33  | 95.29 | 96.55 | 71.43 | 10.94 | 96.83 | 20.34 | 87.93 | 96.43 | 16.98 |
| Government Intermediate Funds       | Barclays US Government Intermediate        | 91.40 | 66.67 | 77.03 | 62.86 | 65.08 | 57.63 | 92.59 | 90.00 | 9.09  | 73.81 | 60.53 | 33.33 | 76.67 | 44.44 | 88.89 | 74.07 | 57.89 | 100.0 |
| Government Short Funds              | Barclays US Government (1-3 Year)          | 94.74 | 72.00 | 82.98 | 62.22 | 65.91 | 71.43 | 90.70 | 86.05 | 23.81 | 59.52 | 60.98 | 42.50 | 95.12 | 60.00 | 89.74 | 63.16 | 47.83 | 86.96 |
| Investment-Grade Long Funds         | Barclays US Government/Credit Long         | 38.27 | 99.36 | 68.18 | 95.95 | 99.26 | 9.24  | 84.26 | 95.24 | 7.38  | 78.01 | 99.27 | 62.02 | 7.32  | 98.02 | 12.15 | 75.00 | 96.74 | 9.09  |
| Investment-Grade Intermediate Funds | Barclays US Government/Credit Intermediate | 87.14 | 85.58 | 55.35 | 36.24 | 37.73 | 49.07 | 93.02 | 89.87 | 14.09 | 31.43 | 49.65 | 20.70 | 63.54 | 33.07 | 93.25 | 19.75 | 31.37 | 90.82 |
| Investment-Grade Short Funds        | Barclays US Government/Credit (1-3 Year)   | 100.0 | 87.27 | 67.21 | 37.50 | 53.42 | 46.91 | 96.34 | 98.84 | 16.67 | 25.00 | 56.58 | 11.11 | 52.56 | 50.00 | 70.87 | 26.61 | 22.22 | 92.55 |
| High Yield Funds                    | Barclays US Corporate High Yield           | 74.32 | 41.50 | 83.21 | 80.14 | 54.61 | 83.92 | 44.22 | 39.19 | 90.69 | 75.25 | 80.00 | 72.86 | 68.35 | 74.09 | 34.75 | 94.17 | 80.95 | 75.60 |
| Mortgage-Backed Securities Funds    | Barclays US Aggregate Securitized - MBS    | 84.21 | 64.29 | 83.33 | 95.00 | 67.24 | 92.86 | 87.50 | 94.34 | 36.51 | 25.00 | 53.13 | 24.62 | 71.21 | 75.81 | 72.88 | 60.00 | 67.92 | 84.62 |
| Global Income Funds                 | Barclays Global Aggregate                  | 61.54 | 64.41 | 35.85 | 41.18 | 55.56 | 69.23 | 69.35 | 77.03 | 30.00 | 39.64 | 77.68 | 18.49 | 48.92 | 37.78 | 61.54 | 33.08 | 64.86 | 60.95 |
| Emerging Markets Debt Funds         | Barclays Emerging Markets                  | 9.09  | 60.00 | 21.74 | 28.57 | 50.00 | 30.00 | 42.86 | 65.38 | 48.28 | 34.48 | 91.43 | 50.85 | 74.00 | 77.78 | 89.33 | 39.19 | 22.58 | 92.98 |
| General Municipal Debt Funds        | S&P National AMT-Free Municipal Bond       | 78.99 | 67.24 | 47.75 | 79.63 | 79.25 | 73.12 | 84.09 | 81.48 | 25.00 | 57.32 | 77.22 | 20.78 | 68.67 | 31.33 | 59.30 | 71.91 | 42.86 | 85.33 |
| California Municipal Debt Funds     | S&P California AMT-Free Municipal Bond     | 75.51 | 57.78 | 15.22 | 85.11 | 75.56 | 72.09 | 95.24 | 94.87 | 10.53 | 77.78 | 75.00 | 6.06  | 91.43 | 13.89 | 38.89 | 61.11 | 25.71 | 93.94 |
| New York Municipal Debt Funds       | S&P New York AMT-Free Municipal Bond       | 89.13 | 73.81 | 79.49 | 76.92 | 76.92 | 76.32 | 91.18 | 88.24 | 27.27 | 58.06 | 75.00 | 17.24 | 100.0 | 7.14  | 53.57 | 74.07 | 33.33 | 76.00 |
| Loan Participation Funds            | S&P/LSTA U.S. Leveraged Loan 100           | -     | -     | -     | -     | -     | -     | -     | -     | -     | 55.00 | 14.81 | 77.50 | 36.84 | 56.86 | 13.46 | 81.82 | 52.08 | 56.86 |

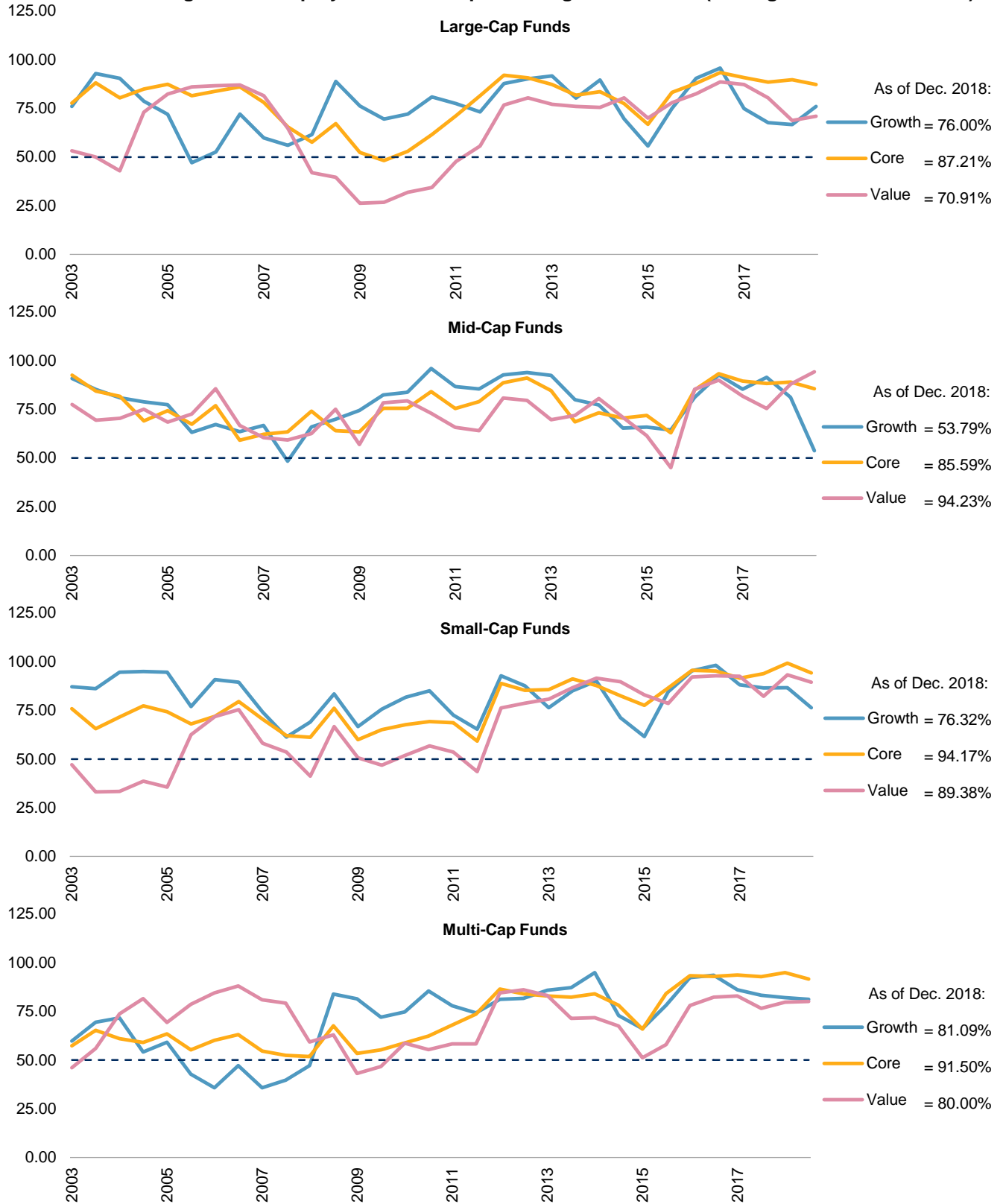
Source: S&P Dow Jones Indices LLC. Data as of Dec. 31, 2018. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

**Exhibit 3: Percentage of U.S. Equity Funds Underperforming Benchmarks (Rolling Three-Year Returns)**



Source: S&P Dow Jones Indices LLC. Data as of Dec. 31, 2018. Past performance is no guarantee of future results. Charts are provided for illustrative purposes.

**Exhibit 4: Percentage of U.S. Equity Funds Underperforming Benchmarks (Rolling Three-Year Returns)**



Source: S&P Dow Jones Indices LLC. Data as of Dec. 31, 2018. Past performance is no guarantee of future results. Charts are provided for illustrative purposes.

**Exhibit 5: Percentage of International Equity Funds Underperforming Benchmarks (Rolling Three-Year Returns)**



Source: S&P Dow Jones Indices LLC. Data as of Dec. 31, 2018. Past performance is no guarantee of future results. Charts are provided for illustrative purposes.



## REPORTS

### Report 1: Percentage of U.S. Equity Funds Outperformed by Benchmarks

| FUND CATEGORY          | COMPARISON INDEX          | 1-YEAR (%) | 3-YEAR (%) | 5-YEAR (%) | 10-YEAR (%) | 15-YEAR (%) |
|------------------------|---------------------------|------------|------------|------------|-------------|-------------|
| All Domestic Funds     | S&P Composite 1500        | 68.83      | 81.49      | 88.13      | 84.49       | 88.97       |
| All Large-Cap Funds    | S&P 500                   | 64.49      | 78.98      | 82.14      | 85.14       | 91.62       |
| All Mid-Cap Funds      | S&P MidCap 400            | 45.64      | 74.29      | 79.88      | 88.03       | 92.71       |
| All Small-Cap Funds    | S&P SmallCap 600          | 68.45      | 84.35      | 89.40      | 85.67       | 96.73       |
| All Multi-Cap Funds    | S&P Composite 1500        | 66.79      | 82.44      | 88.58      | 86.36       | 90.70       |
| Large-Cap Growth Funds | S&P 500 Growth            | 60.27      | 76.00      | 87.50      | 84.08       | 94.59       |
| Large-Cap Core Funds   | S&P 500                   | 75.85      | 87.21      | 92.35      | 93.27       | 92.09       |
| Large-Cap Value Funds  | S&P 500 Value             | 46.27      | 70.91      | 79.08      | 81.71       | 79.33       |
| Mid-Cap Growth Funds   | S&P MidCap 400 Growth     | 15.20      | 53.79      | 69.38      | 87.40       | 91.45       |
| Mid-Cap Core Funds     | S&P MidCap 400            | 62.18      | 85.59      | 89.26      | 90.23       | 95.05       |
| Mid-Cap Value Funds    | S&P MidCap 400 Value      | 72.22      | 94.23      | 93.55      | 87.77       | 92.11       |
| Small-Cap Growth Funds | S&P SmallCap 600 Growth   | 61.45      | 76.32      | 88.17      | 85.65       | 98.17       |
| Small-Cap Core Funds   | S&P SmallCap 600          | 87.55      | 94.17      | 95.13      | 92.97       | 97.44       |
| Small-Cap Value Funds  | S&P SmallCap 600 Value    | 83.33      | 89.38      | 94.39      | 87.41       | 93.51       |
| Multi-Cap Growth Funds | S&P Composite 1500 Growth | 65.90      | 81.09      | 88.33      | 87.39       | 90.55       |
| Multi-Cap Core Funds   | S&P Composite 1500        | 81.74      | 91.50      | 98.33      | 91.79       | 92.44       |
| Multi-Cap Value Funds  | S&P Composite 1500 Value  | 74.77      | 80.00      | 88.89      | 81.48       | 86.59       |
| Real Estate Funds      | S&P United States REIT    | 88.89      | 76.47      | 75.00      | 88.17       | 86.21       |

Source: S&P Dow Jones Indices LLC. Data as of Dec. 31, 2018. Returns shown are annualized. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

| <b>Report 2: Survivorship and Style Consistency of U.S. Equity Funds</b> |                              |                         |                              |
|--|------------------------------|-------------------------|------------------------------|
| <b>FUND CATEGORY</b>   | <b>NO. OF FUNDS AT START</b> | <b>SURVIVORSHIP (%)</b> | <b>STYLE CONSISTENCY (%)</b> |
| <b>1-YEAR</b>  |                              |                         |                              |
| All Domestic Funds   | 2191                         | 95.94                   | 96.30                        |
| All Large-Cap Funds  | 816                          | 96.08                   | 90.81                        |
| All Mid-Cap Funds  | 301                          | 96.01                   | 91.03                        |
| All Small-Cap Funds  | 548                          | 95.80                   | 94.53                        |
| All Multi-Cap Funds  | 526                          | 95.82                   | 85.17                        |
| Large-Cap Growth Funds   | 224                          | 96.43                   | 90.63                        |
| Large-Cap Core Funds   | 268                          | 95.15                   | 79.85                        |
| Large-Cap Value Funds  | 324                          | 96.60                   | 91.67                        |
| Mid-Cap Growth Funds   | 126                          | 96.83                   | 91.27                        |
| Mid-Cap Core Funds   | 120                          | 95.83                   | 81.67                        |
| Mid-Cap Value Funds  | 55                           | 94.55                   | 76.36                        |
| Small-Cap Growth Funds   | 181                          | 95.58                   | 91.16                        |
| Small-Cap Core Funds   | 277                          | 95.31                   | 89.17                        |
| Small-Cap Value Funds  | 90                           | 97.78                   | 90.00                        |
| Multi-Cap Growth Funds   | 174                          | 97.13                   | 78.74                        |
| Multi-Cap Core Funds   | 244                          | 95.08                   | 77.87                        |
| Multi-Cap Value Funds  | 108                          | 95.37                   | 84.26                        |
| Real Estate Funds  | 81                           | 91.36                   | 92.59                        |
| <b>3-YEAR</b>  |                              |                         |                              |
| All Domestic Funds   | 2321                         | 85.78                   | 85.44                        |
| All Large-Cap Funds  | 893                          | 85.33                   | 75.48                        |
| All Mid-Cap Funds  | 317                          | 85.17                   | 72.24                        |
| All Small-Cap Funds  | 548                          | 87.77                   | 85.77                        |
| All Multi-Cap Funds  | 563                          | 84.90                   | 65.90                        |
| Large-Cap Growth Funds   | 250                          | 84.80                   | 75.20                        |
| Large-Cap Core Funds   | 309                          | 84.47                   | 62.14                        |
| Large-Cap Value Funds  | 334                          | 86.53                   | 74.55                        |
| Mid-Cap Growth Funds   | 146                          | 86.99                   | 68.49                        |
| Mid-Cap Core Funds   | 119                          | 81.51                   | 57.14                        |
| Mid-Cap Value Funds  | 52                           | 88.46                   | 65.38                        |
| Small-Cap Growth Funds   | 192                          | 86.98                   | 77.60                        |
| Small-Cap Core Funds   | 243                          | 88.07                   | 79.01                        |
| Small-Cap Value Funds  | 113                          | 88.50                   | 61.06                        |
| Multi-Cap Growth Funds   | 201                          | 87.06                   | 57.21                        |
| Multi-Cap Core Funds   | 251                          | 84.46                   | 56.97                        |
| Multi-Cap Value Funds  | 111                          | 81.98                   | 54.95                        |
| Real Estate Funds  | 85                           | 84.71                   | 85.88                        |

Source: S&P Dow Jones Indices LLC. Data as of Dec. 31, 2018. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

| <b>Report 2: Survivorship and Style Consistency of U.S. Equity Funds (cont.)</b> |                              |                         |                              |
|--|------------------------------|-------------------------|------------------------------|
| <b>FUND CATEGORY</b>   | <b>NO. OF FUNDS AT START</b> | <b>SURVIVORSHIP (%)</b> | <b>STYLE CONSISTENCY (%)</b> |
| <b>5-YEAR</b>  |                              |                         |                              |
| All Domestic Funds   | 2382                         | 80.31                   | 77.37                        |
| All Large-Cap Funds  | 927                          | 79.40                   | 66.45                        |
| All Mid-Cap Funds  | 346                          | 77.46                   | 60.98                        |
| All Small-Cap Funds  | 525                          | 82.86                   | 80.38                        |
| All Multi-Cap Funds  | 584                          | 81.16                   | 51.37                        |
| Large-Cap Growth Funds   | 272                          | 76.84                   | 63.97                        |
| Large-Cap Core Funds   | 345                          | 79.42                   | 51.01                        |
| Large-Cap Value Funds  | 310                          | 81.61                   | 66.45                        |
| Mid-Cap Growth Funds   | 161                          | 75.78                   | 61.49                        |
| Mid-Cap Core Funds   | 123                          | 73.17                   | 39.84                        |
| Mid-Cap Value Funds  | 62                           | 90.32                   | 46.77                        |
| Small-Cap Growth Funds   | 189                          | 80.42                   | 73.02                        |
| Small-Cap Core Funds   | 229                          | 85.59                   | 70.31                        |
| Small-Cap Value Funds  | 107                          | 81.31                   | 49.53                        |
| Multi-Cap Growth Funds   | 180                          | 79.44                   | 49.44                        |
| Multi-Cap Core Funds   | 304                          | 83.55                   | 39.47                        |
| Multi-Cap Value Funds  | 100                          | 77.00                   | 44.00                        |
| Real Estate Funds  | 80                           | 86.25                   | 86.25                        |
| <b>10-YEAR</b>   |                              |                         |                              |
| All Domestic Funds   | 2897                         | 57.61                   | 53.81                        |
| All Large-Cap Funds  | 1010                         | 57.13                   | 44.55                        |
| All Mid-Cap Funds  | 521                          | 55.47                   | 36.66                        |
| All Small-Cap Funds  | 626                          | 60.70                   | 55.75                        |
| All Multi-Cap Funds  | 740                          | 57.16                   | 27.97                        |
| Large-Cap Growth Funds   | 333                          | 53.15                   | 40.24                        |
| Large-Cap Core Funds   | 345                          | 56.81                   | 32.75                        |
| Large-Cap Value Funds  | 332                          | 61.45                   | 45.78                        |
| Mid-Cap Growth Funds   | 247                          | 50.61                   | 32.39                        |
| Mid-Cap Core Funds   | 134                          | 52.99                   | 24.63                        |
| Mid-Cap Value Funds  | 140                          | 66.43                   | 22.86                        |
| Small-Cap Growth Funds   | 232                          | 56.90                   | 45.26                        |
| Small-Cap Core Funds   | 259                          | 61.78                   | 42.47                        |
| Small-Cap Value Funds  | 135                          | 65.19                   | 28.15                        |
| Multi-Cap Growth Funds   | 230                          | 52.61                   | 20.87                        |
| Multi-Cap Core Funds   | 346                          | 60.40                   | 17.92                        |
| Multi-Cap Value Funds  | 164                          | 56.71                   | 21.95                        |
| Real Estate Funds  | 93                           | 78.49                   | 62.37                        |

Source: S&P Dow Jones Indices LLC. Data as of Dec. 31, 2018. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

| <b>Report 2: Survivorship and Style Consistency of U.S. Equity Funds (cont.)</b> |                              |                         |                              |
|--|------------------------------|-------------------------|------------------------------|
| <b>FUND CATEGORY</b>   | <b>NO. OF FUNDS AT START</b> | <b>SURVIVORSHIP (%)</b> | <b>STYLE CONSISTENCY (%)</b> |
| <b>15-YEAR</b>   |                              |                         |                              |
| All Domestic Funds   | 1923                         | 43.11                   | 40.35                        |
| All Large-Cap Funds  | 681                          | 37.59                   | 28.78                        |
| All Mid-Cap Funds  | 329                          | 47.11                   | 27.05                        |
| All Small-Cap Funds  | 397                          | 48.11                   | 43.32                        |
| All Multi-Cap Funds  | 516                          | 43.99                   | 20.93                        |
| Large-Cap Growth Funds   | 185                          | 28.11                   | 20.00                        |
| Large-Cap Core Funds   | 316                          | 37.03                   | 18.04                        |
| Large-Cap Value Funds  | 180                          | 48.33                   | 35.00                        |
| Mid-Cap Growth Funds   | 152                          | 36.84                   | 22.37                        |
| Mid-Cap Core Funds   | 101                          | 50.50                   | 14.85                        |
| Mid-Cap Value Funds  | 76                           | 63.16                   | 19.74                        |
| Small-Cap Growth Funds   | 164                          | 42.07                   | 29.27                        |
| Small-Cap Core Funds   | 156                          | 48.72                   | 30.77                        |
| Small-Cap Value Funds  | 77                           | 59.74                   | 23.38                        |
| Multi-Cap Growth Funds   | 127                          | 37.80                   | 16.54                        |
| Multi-Cap Core Funds   | 225                          | 43.56                   | 13.33                        |
| Multi-Cap Value Funds  | 164                          | 49.39                   | 15.24                        |
| Real Estate Funds  | 58                           | 60.34                   | 50.00                        |

Source: S&P Dow Jones Indices LLC. Data as of Dec. 31, 2018. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

| <b>Report 3: Average U.S. Equity Fund Performance (Equal-Weighted)</b> |                   |                   |                   |                    |                    |  |
|--|-------------------|-------------------|-------------------|--------------------|--------------------|--|
| <b>CATEGORY</b>  | <b>1-YEAR (%)</b> | <b>3-YEAR (%)</b> | <b>5-YEAR (%)</b> | <b>10-YEAR (%)</b> | <b>15-YEAR (%)</b> |  |
| S&P Composite 1500   | -4.96             | 9.17              | 8.25              | 13.20              | 7.93               |  |
| All Domestic Funds   | -8.26             | 6.67              | 5.14              | 11.53              | 6.50               |  |
| S&P 500  | -4.38             | 9.26              | 8.49              | 13.12              | 7.77               |  |
| All Large-Cap Funds  | -5.96             | 7.34              | 6.30              | 11.41              | 6.28               |  |
| S&P MidCap 400   | -11.08            | 7.66              | 6.03              | 13.68              | 8.90               |  |
| All Mid-Cap Funds  | -9.84             | 5.85              | 4.31              | 12.05              | 7.00               |  |
| S&P SmallCap 600   | -8.48             | 9.46              | 6.34              | 13.61              | 9.19               |  |
| All Small-Cap Funds  | -11.21            | 6.34              | 3.32              | 11.54              | 6.55               |  |
| S&P Composite 1500   | -4.96             | 9.17              | 8.25              | 13.20              | 7.93               |  |
| All Multi-Cap Funds  | -7.84             | 6.40              | 5.27              | 11.20              | 6.30               |  |
| <b>LARGE-CAP</b>   |                   |                   |                   |                    |                    |  |
| S&P 500 Growth   | -0.01             | 10.85             | 10.55             | 14.81              | 8.63               |  |
| Large-Cap Growth Funds   | -1.28             | 9.13              | 8.48              | 13.39              | 7.19               |  |
| S&P 500  | -4.38             | 9.26              | 8.49              | 13.12              | 7.77               |  |
| Large-Cap Core Funds   | -6.47             | 7.18              | 6.28              | 11.20              | 6.03               |  |
| S&P 500 Value  | -8.95             | 7.23              | 6.06              | 11.21              | 6.72               |  |
| Large-Cap Value Funds  | -8.76             | 6.17              | 4.68              | 9.93               | 5.83               |  |
| <b>MID-CAP</b>   |                   |                   |                   |                    |                    |  |
| S&P MidCap 400 Growth  | -10.34            | 7.26              | 6.25              | 14.42              | 9.18               |  |
| Mid-Cap Growth Funds   | -5.47             | 7.47              | 5.46              | 12.91              | 7.25               |  |
| S&P MidCap 400   | -11.08            | 7.66              | 6.03              | 13.68              | 8.90               |  |
| Mid-Cap Core Funds   | -11.76            | 4.99              | 3.52              | 11.28              | 6.70               |  |
| S&P MidCap 400 Value   | -11.88            | 7.79              | 5.56              | 12.82              | 8.49               |  |
| Mid-Cap Value Funds  | -15.24            | 4.08              | 3.09              | 11.31              | 6.90               |  |
| <b>SMALL-CAP</b>   |                   |                   |                   |                    |                    |  |
| S&P SmallCap 600 Growth  | -4.05             | 10.39             | 7.51              | 14.86              | 9.98               |  |
| Small-Cap Growth Funds   | -4.87             | 8.63              | 5.02              | 12.96              | 6.90               |  |
| S&P SmallCap 600   | -8.48             | 9.46              | 6.34              | 13.61              | 9.19               |  |
| Small-Cap Core Funds   | -13.65            | 5.19              | 2.60              | 10.87              | 6.40               |  |
| S&P SmallCap 600 Value   | -12.64            | 8.56              | 5.13              | 12.37              | 8.38               |  |
| Small-Cap Value Funds  | -16.37            | 4.90              | 1.91              | 10.38              | 6.32               |  |
| <b>MULTI-CAP</b>   |                   |                   |                   |                    |                    |  |
| S&P Composite 1500 Growth  | -0.82             | 10.62             | 10.17             | 14.83              | 8.77               |  |
| Multi-Cap Growth Funds   | -2.90             | 8.07              | 7.15              | 12.72              | 7.22               |  |
| S&P Composite 1500   | -4.96             | 9.17              | 8.25              | 13.20              | 7.93               |  |
| Multi-Cap Core Funds   | -9.00             | 5.86              | 4.58              | 10.66              | 5.90               |  |
| S&P Composite 1500 Value   | -9.29             | 7.32              | 5.98              | 11.38              | 7.14               |  |
| Multi-Cap Value Funds  | -12.86            | 5.00              | 3.71              | 9.97               | 5.55               |  |
| <b>REAL ESTATE</b>   |                   |                   |                   |                    |                    |  |
| S&P United States REIT   | -3.79             | 2.88              | 7.78              | 12.16              | 8.18               |  |
| Real Estate Funds  | -7.14             | 1.48              | 6.65              | 11.07              | 7.10               |  |

Source: S&P Dow Jones Indices LLC. Data as of Dec. 31, 2018. Returns shown are annualized. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

| <b>Report 4: Average U.S. Equity Fund Performance (Asset-Weighted)</b> |                   |                   |                   |                    |                    |  |
|--|-------------------|-------------------|-------------------|--------------------|--------------------|--|
| <b>CATEGORY</b>  | <b>1-YEAR (%)</b> | <b>3-YEAR (%)</b> | <b>5-YEAR (%)</b> | <b>10-YEAR (%)</b> | <b>15-YEAR (%)</b> |  |
| S&P Composite 1500   | -4.96             | 9.17              | 8.25              | 13.20              | 7.93               |  |
| All Domestic Funds   | -6.02             | 8.09              | 6.68              | 12.37              | 7.20               |  |
| S&P 500  | -4.38             | 9.26              | 8.49              | 13.12              | 7.77               |  |
| All Large-Cap Funds  | -4.85             | 8.68              | 7.48              | 12.30              | 6.89               |  |
| S&P MidCap 400   | -11.08            | 7.66              | 6.03              | 13.68              | 8.90               |  |
| All Mid-Cap Funds  | -7.36             | 7.23              | 5.58              | 12.81              | 7.90               |  |
| S&P SmallCap 600   | -8.48             | 9.46              | 6.34              | 13.61              | 9.19               |  |
| All Small-Cap Funds  | -10.29            | 7.09              | 3.95              | 12.04              | 7.34               |  |
| S&P Composite 1500   | -4.96             | 9.17              | 8.25              | 13.20              | 7.93               |  |
| All Multi-Cap Funds  | -7.20             | 7.06              | 6.05              | 12.03              | 7.14               |  |
| <b>LARGE-CAP</b>   |                   |                   |                   |                    |                    |  |
| S&P 500 Growth   | -0.01             | 10.85             | 10.55             | 14.81              | 8.63               |  |
| Large-Cap Growth Funds   | -1.19             | 10.10             | 9.36              | 14.23              | 7.73               |  |
| S&P 500  | -4.38             | 9.26              | 8.49              | 13.12              | 7.77               |  |
| Large-Cap Core Funds   | -5.51             | 8.61              | 7.40              | 11.93              | 6.44               |  |
| S&P 500 Value  | -8.95             | 7.23              | 6.06              | 11.21              | 6.72               |  |
| Large-Cap Value Funds  | -7.39             | 7.47              | 5.79              | 11.02              | 6.48               |  |
| <b>MID-CAP</b>   |                   |                   |                   |                    |                    |  |
| S&P MidCap 400 Growth  | -10.34            | 7.26              | 6.25              | 14.42              | 9.18               |  |
| Mid-Cap Growth Funds   | -2.78             | 8.91              | 6.89              | 13.68              | 8.46               |  |
| S&P MidCap 400   | -11.08            | 7.66              | 6.03              | 13.68              | 8.90               |  |
| Mid-Cap Core Funds   | -11.62            | 5.30              | 4.20              | 12.17              | 7.39               |  |
| S&P MidCap 400 Value   | -11.88            | 7.79              | 5.56              | 12.82              | 8.49               |  |
| Mid-Cap Value Funds  | -12.32            | 6.18              | 4.17              | 11.81              | 7.39               |  |
| <b>SMALL-CAP</b>   |                   |                   |                   |                    |                    |  |
| S&P SmallCap 600 Growth  | -4.05             | 10.39             | 7.51              | 14.86              | 9.98               |  |
| Small-Cap Growth Funds   | -4.79             | 9.28              | 5.83              | 14.03              | 8.04               |  |
| S&P SmallCap 600   | -8.48             | 9.46              | 6.34              | 13.61              | 9.19               |  |
| Small-Cap Core Funds   | -12.76            | 5.99              | 2.97              | 11.08              | 7.02               |  |
| S&P SmallCap 600 Value   | -12.64            | 8.56              | 5.13              | 12.37              | 8.38               |  |
| Small-Cap Value Funds  | -16.39            | 5.03              | 2.02              | 10.32              | 6.51               |  |
| <b>MULTI-CAP</b>   |                   |                   |                   |                    |                    |  |
| S&P Composite 1500 Growth  | -0.82             | 10.62             | 10.17             | 14.83              | 8.77               |  |
| Multi-Cap Growth Funds   | -3.51             | 8.90              | 8.29              | 14.05              | 8.57               |  |
| S&P Composite 1500   | -4.96             | 9.17              | 8.25              | 13.20              | 7.93               |  |
| Multi-Cap Core Funds   | -7.60             | 6.59              | 5.19              | 11.43              | 6.68               |  |
| S&P Composite 1500 Value   | -9.29             | 7.32              | 5.98              | 11.38              | 7.14               |  |
| Multi-Cap Value Funds  | -14.94            | 4.09              | 3.03              | 9.41               | 5.24               |  |
| <b>REAL ESTATE</b>   |                   |                   |                   |                    |                    |  |
| S&P United States REIT   | -3.79             | 2.88              | 7.78              | 12.16              | 8.18               |  |
| Real Estate Funds  | -6.00             | 2.09              | 7.19              | 11.31              | 7.52               |  |

Source: S&P Dow Jones Indices LLC. Data as of Dec. 31, 2018. Returns shown are annualized. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

| <b>Report 5: Quartile Breakpoints of U.S. Equity Funds</b> |                           |                            |                           |
|--|---------------------------|----------------------------|---------------------------|
| <b>FUND CATEGORY</b>                                       | <b>THIRD QUARTILE (%)</b> | <b>SECOND QUARTILE (%)</b> | <b>FIRST QUARTILE (%)</b> |
| <b>1-YEAR</b>  |                           |                            |                           |
| All Domestic Funds   | -12.17                    | -7.68                      | -3.80                     |
| All Large-Cap Funds  | -8.90                     | -5.69                      | -2.11                     |
| All Mid-Cap Funds  | -13.84                    | -10.20                     | -4.94                     |
| All Small-Cap Funds  | -15.72                    | -11.77                     | -6.63                     |
| All Multi-Cap Funds  | -11.41                    | -7.25                      | -3.66                     |
| Large-Cap Growth Funds                                     | -3.00                     | -0.84                      | 1.71                      |
| Large-Cap Core Funds                                       | -7.89                     | -5.84                      | -4.33                     |
| Large-Cap Value Funds                                      | -10.33                    | -8.60                      | -5.97                     |
| Mid-Cap Growth Funds                                       | -7.38                     | -5.17                      | -2.55                     |
| Mid-Cap Core Funds   | -14.75                    | -11.89                     | -9.95                     |
| Mid-Cap Value Funds  | -18.22                    | -14.12                     | -11.65                    |
| Small-Cap Growth Funds                                     | -8.30                     | -4.87                      | -0.98                     |
| Small-Cap Core Funds                                       | -16.25                    | -13.07                     | -10.12                    |
| Small-Cap Value Funds                                      | -19.11                    | -15.82                     | -13.04                    |
| Multi-Cap Growth Funds                                     | -5.04                     | -2.64                      | 0.14                      |
| Multi-Cap Core Funds                                       | -11.80                    | -8.16                      | -5.79                     |
| Multi-Cap Value Funds                                      | -14.74                    | -11.74                     | -9.13                     |
| Real Estate Funds  | -7.49                     | -5.87                      | -4.53                     |
| <b>3-YEAR</b>  |                           |                            |                           |
| All Domestic Funds   | 5.12                      | 6.94                       | 8.88                      |
| All Large-Cap Funds  | 5.93                      | 7.66                       | 9.24                      |
| All Mid-Cap Funds  | 4.12                      | 6.21                       | 8.33                      |
| All Small-Cap Funds  | 4.48                      | 6.48                       | 8.67                      |
| All Multi-Cap Funds  | 4.82                      | 6.73                       | 8.73                      |
| Large-Cap Growth Funds                                     | 8.46                      | 9.84                       | 11.02                     |
| Large-Cap Core Funds                                       | 6.06                      | 7.70                       | 8.68                      |
| Large-Cap Value Funds                                      | 5.39                      | 6.51                       | 7.76                      |
| Mid-Cap Growth Funds                                       | 5.87                      | 7.37                       | 9.14                      |
| Mid-Cap Core Funds   | 2.90                      | 5.19                       | 6.93                      |
| Mid-Cap Value Funds  | 3.67                      | 4.83                       | 5.87                      |
| Small-Cap Growth Funds                                     | 6.70                      | 8.45                       | 10.54                     |
| Small-Cap Core Funds                                       | 4.06                      | 5.71                       | 7.35                      |
| Small-Cap Value Funds                                      | 3.51                      | 5.26                       | 7.29                      |
| Multi-Cap Growth Funds                                     | 6.44                      | 8.49                       | 10.31                     |
| Multi-Cap Core Funds                                       | 4.29                      | 6.15                       | 7.57                      |
| Multi-Cap Value Funds                                      | 4.35                      | 5.79                       | 7.26                      |
| Real Estate Funds  | 0.63                      | 1.87                       | 3.02                      |

Source: S&P Dow Jones Indices LLC. Data as of Dec. 31, 2018. Returns shown are annualized. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

| <b>Report 5: Quartile Breakpoints of U.S. Equity Funds (cont.)</b> |                           |                            |                           |
|--|---------------------------|----------------------------|---------------------------|
| <b>FUND CATEGORY</b>   | <b>THIRD QUANTILE (%)</b> | <b>SECOND QUANTILE (%)</b> | <b>FIRST QUANTILE (%)</b> |
| <b>5-YEAR</b>  |                           |                            |                           |
| All Domestic Funds   | 3.64                      | 5.34                       | 7.21                      |
| All Large-Cap Funds  | 4.92                      | 6.49                       | 8.22                      |
| All Mid-Cap Funds  | 3.20                      | 4.70                       | 6.20                      |
| All Small-Cap Funds  | 2.14                      | 3.72                       | 5.34                      |
| All Multi-Cap Funds  | 3.70                      | 5.34                       | 7.13                      |
| Large-Cap Growth Funds   | 7.74                      | 9.30                       | 10.07                     |
| Large-Cap Core Funds   | 5.41                      | 6.58                       | 7.77                      |
| Large-Cap Value Funds  | 4.14                      | 4.92                       | 6.11                      |
| Mid-Cap Growth Funds   | 4.86                      | 5.68                       | 7.04                      |
| Mid-Cap Core Funds   | 2.42                      | 3.86                       | 5.32                      |
| Mid-Cap Value Funds  | 2.68                      | 3.70                       | 4.16                      |
| Small-Cap Growth Funds   | 4.14                      | 5.62                       | 6.63                      |
| Small-Cap Core Funds   | 1.85                      | 3.29                       | 4.38                      |
| Small-Cap Value Funds  | 0.46                      | 2.57                       | 3.50                      |
| Multi-Cap Growth Funds   | 5.85                      | 7.64                       | 9.54                      |
| Multi-Cap Core Funds   | 3.10                      | 4.57                       | 6.23                      |
| Multi-Cap Value Funds  | 3.22                      | 4.91                       | 5.48                      |
| Real Estate Funds  | 6.02                      | 6.92                       | 7.94                      |
| <b>10-YEAR</b>   |                           |                            |                           |
| All Domestic Funds   | 10.49                     | 11.88                      | 13.33                     |
| All Large-Cap Funds  | 10.37                     | 11.68                      | 13.24                     |
| All Mid-Cap Funds  | 11.14                     | 12.58                      | 13.52                     |
| All Small-Cap Funds  | 10.92                     | 12.00                      | 13.54                     |
| All Multi-Cap Funds  | 9.70                      | 11.60                      | 13.16                     |
| Large-Cap Growth Funds   | 12.78                     | 13.90                      | 15.06                     |
| Large-Cap Core Funds   | 10.42                     | 11.65                      | 12.47                     |
| Large-Cap Value Funds  | 9.67                      | 10.53                      | 11.38                     |
| Mid-Cap Growth Funds   | 12.61                     | 13.29                      | 14.42                     |
| Mid-Cap Core Funds   | 10.83                     | 11.87                      | 12.96                     |
| Mid-Cap Value Funds  | 10.61                     | 11.57                      | 12.67                     |
| Small-Cap Growth Funds   | 12.60                     | 13.58                      | 14.94                     |
| Small-Cap Core Funds   | 10.58                     | 11.58                      | 12.64                     |
| Small-Cap Value Funds  | 10.32                     | 11.10                      | 11.95                     |
| Multi-Cap Growth Funds   | 12.13                     | 13.52                      | 14.70                     |
| Multi-Cap Core Funds   | 9.14                      | 10.99                      | 12.45                     |
| Multi-Cap Value Funds  | 9.46                      | 10.60                      | 11.75                     |
| Real Estate Funds  | 9.49                      | 11.11                      | 11.94                     |

Source: S&P Dow Jones Indices LLC. Data as of Dec. 31, 2018. Returns shown are annualized. 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 QUANTILE (%) | SECOND QUANTILE (%) | FIRST QUANTILE (%) |
|------------------------|--------------------|---------------------|--------------------|
| <b>15-YEAR</b>         |                    |                     |                    |
| All Domestic Funds     | 6.08               | 7.07                | 7.96               |
| All Large-Cap Funds    | 6.09               | 6.95                | 7.67               |
| All Mid-Cap Funds      | 6.07               | 7.39                | 8.41               |
| All Small-Cap Funds    | 6.52               | 7.39                | 8.12               |
| All Multi-Cap Funds    | 5.74               | 6.74                | 7.78               |
| Large-Cap Growth Funds | 6.82               | 7.54                | 8.27               |
| Large-Cap Core Funds   | 6.16               | 6.93                | 7.64               |
| Large-Cap Value Funds  | 5.80               | 6.48                | 7.33               |
| Mid-Cap Growth Funds   | 6.83               | 8.20                | 9.10               |
| Mid-Cap Core Funds     | 6.30               | 7.29                | 8.08               |
| Mid-Cap Value Funds    | 5.59               | 6.86                | 7.70               |
| Small-Cap Growth Funds | 7.04               | 7.93                | 8.48               |
| Small-Cap Core Funds   | 6.09               | 7.05                | 7.72               |
| Small-Cap Value Funds  | 6.41               | 7.09                | 7.78               |
| Multi-Cap Growth Funds | 7.04               | 7.81                | 8.70               |
| Multi-Cap Core Funds   | 5.73               | 6.59                | 7.54               |
| Multi-Cap Value Funds  | 5.32               | 6.31                | 7.35               |
| Real Estate Funds      | 6.23               | 7.22                | 8.15               |

Source: S&P Dow Jones Indices LLC. Data as of Dec. 31, 2018. Returns shown are annualized. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

**Report 6: Percentage of International Equity Funds Outperformed by Benchmarks**

| FUND CATEGORY                 | COMPARISON INDEX               | 1-YEAR (%) | 3-YEAR (%) | 5-YEAR (%) | 10-YEAR (%) | 15-YEAR (%) |
|-------------------------------|--------------------------------|------------|------------|------------|-------------|-------------|
| Global Funds                  | S&P Global 1200                | 70.61      | 84.26      | 84.92      | 81.20       | 83.16       |
| International Funds           | S&P 700                        | 76.84      | 89.19      | 81.78      | 81.07       | 89.83       |
| International Small-Cap Funds | S&P Developed Ex-U.S. SmallCap | 65.52      | 73.42      | 73.68      | 64.15       | 75.86       |
| Emerging Markets Funds        | S&P/IFCI Composite             | 78.10      | 89.27      | 92.67      | 87.72       | 96.15       |

Source: S&P Dow Jones Indices LLC. Data as of Dec. 31, 2018. Returns shown are annualized. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

| <b>Report 7: Survivorship and Style Consistency of International Equity Funds</b> |                              |                         |                              |
|---|------------------------------|-------------------------|------------------------------|
| <b>FUND CATEGORY</b>  | <b>NO. OF FUNDS AT START</b> | <b>SURVIVORSHIP (%)</b> | <b>STYLE CONSISTENCY (%)</b> |
| <b>1-YEAR</b>   |                              |                         |                              |
| Global Funds  | 228                          | 95.61                   | 93.42                        |
| International Funds   | 357                          | 96.36                   | 96.08                        |
| International Small-Cap Funds   | 87                           | 93.10                   | 91.95                        |
| Emerging Markets Funds  | 210                          | 97.14                   | 98.10                        |
| <b>3-YEAR</b>   |                              |                         |                              |
| Global Funds  | 235                          | 84.26                   | 77.02                        |
| International Funds   | 373                          | 87.67                   | 86.06                        |
| International Small-Cap Funds   | 79                           | 87.34                   | 83.54                        |
| Emerging Markets Funds  | 233                          | 83.69                   | 83.69                        |
| <b>5-YEAR</b>   |                              |                         |                              |
| Global Funds  | 179                          | 76.54                   | 60.89                        |
| International Funds   | 258                          | 78.68                   | 75.97                        |
| International Small-Cap Funds   | 57                           | 84.21                   | 84.21                        |
| Emerging Markets Funds  | 191                          | 78.01                   | 77.49                        |
| <b>10-YEAR</b>  |                              |                         |                              |
| Global Funds  | 133                          | 57.14                   | 42.11                        |
| International Funds   | 280                          | 60.36                   | 57.86                        |
| International Small-Cap Funds   | 53                           | 71.70                   | 62.26                        |
| Emerging Markets Funds  | 114                          | 72.81                   | 67.54                        |
| <b>15-YEAR</b>  |                              |                         |                              |
| Global Funds  | 95                           | 46.32                   | 29.47                        |
| International Funds   | 236                          | 46.61                   | 43.64                        |
| International Small-Cap Funds   | 29                           | 68.97                   | 62.07                        |
| Emerging Markets Funds  | 52                           | 67.31                   | 63.46                        |

Source: S&P Dow Jones Indices LLC. Data as of Dec. 31, 2018. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

| <b>Report 8: Average International Equity Fund Performance (Equal-Weighted)</b> |                   |                   |                   |                    |                    |
|---|-------------------|-------------------|-------------------|--------------------|--------------------|
| <b>CATEGORY</b>   | <b>1-YEAR (%)</b> | <b>3-YEAR (%)</b> | <b>5-YEAR (%)</b> | <b>10-YEAR (%)</b> | <b>15-YEAR (%)</b> |
| S&P Global 1200   | -8.17             | 7.39              | 5.29              | 10.29              | 6.85               |
| Global Funds  | -10.28            | 5.17              | 3.24              | 8.75               | 5.49               |
| S&P 700   | -13.21            | 4.82              | 1.29              | 7.01               | 5.74               |
| International Funds   | -15.80            | 2.12              | -0.17             | 5.64               | 3.96               |
| S&P Developed Ex-U.S. SmallCap  | -18.41            | 3.88              | 2.78              | 10.00              | 7.51               |
| International Small-Cap Funds   | -19.26            | 2.29              | 1.03              | 9.37               | 6.60               |
| S&P/IFCI Composite  | -14.22            | 9.43              | 2.57              | 9.03               | 8.92               |
| Emerging Markets Funds  | -17.02            | 6.30              | -0.06             | 6.77               | 6.28               |

Source: S&P Dow Jones Indices LLC. Data as of Dec. 31, 2018. Returns shown are annualized. 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 (%) | 3-YEAR (%) | 5-YEAR (%) | 10-YEAR (%) | 15-YEAR (%) |
|--------------------------------|------------|------------|------------|-------------|-------------|
| S&P Global 1200                | -8.17      | 7.39       | 5.29       | 10.29       | 6.85        |
| Global Funds                   | -10.15     | 5.59       | 3.81       | 9.27        | 6.50        |
| S&P 700                        | -13.21     | 4.82       | 1.29       | 7.01        | 5.74        |
| International Funds            | -16.00     | 2.86       | 0.21       | 6.66        | 5.03        |
| S&P Developed Ex-U.S. SmallCap | -18.41     | 3.88       | 2.78       | 10.00       | 7.51        |
| International Small-Cap Funds  | -18.08     | 3.08       | 1.80       | 9.59        | 7.42        |
| S&P/IFCI Composite             | -14.22     | 9.43       | 2.57       | 9.03        | 8.92        |
| Emerging Markets Funds         | -15.87     | 7.18       | 0.89       | 7.94        | 7.42        |

Source: S&P Dow Jones Indices LLC. Data as of Dec. 31, 2018. Returns shown are annualized. 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 (%) |
|-------------------------------|--------------------|---------------------|--------------------|
| <b>1-YEAR</b>                 |                    |                     |                    |
| Global Funds                  | -13.20             | -9.67               | -6.81              |
| International Funds           | -17.54             | -15.43              | -13.39             |
| International Small-Cap Funds | -22.71             | -19.78              | -16.52             |
| Emerging Markets Funds        | -19.19             | -17.14              | -14.58             |
| <b>3-YEAR</b>                 |                    |                     |                    |
| Global Funds                  | 4.03               | 5.55                | 6.85               |
| International Funds           | 0.93               | 2.29                | 3.73               |
| International Small-Cap Funds | 0.87               | 2.81                | 4.57               |
| Emerging Markets Funds        | 5.06               | 6.84                | 8.29               |
| <b>5-YEAR</b>                 |                    |                     |                    |
| Global Funds                  | 1.84               | 3.50                | 4.89               |
| International Funds           | -0.95              | 0.02                | 1.12               |
| International Small-Cap Funds | 0.29               | 1.64                | 3.21               |
| Emerging Markets Funds        | -0.51              | 0.51                | 1.45               |
| <b>10-YEAR</b>                |                    |                     |                    |
| Global Funds                  | 7.81               | 9.27                | 10.60              |
| International Funds           | 5.03               | 6.00                | 7.31               |
| International Small-Cap Funds | 8.00               | 9.89                | 11.63              |
| Emerging Markets Funds        | 6.75               | 7.61                | 8.46               |
| <b>15-YEAR</b>                |                    |                     |                    |
| Global Funds                  | 4.95               | 5.76                | 7.15               |
| International Funds           | 3.60               | 4.69                | 5.42               |
| International Small-Cap Funds | 5.79               | 6.27                | 8.14               |
| Emerging Markets Funds        | 5.97               | 6.83                | 7.72               |

Source: S&P Dow Jones Indices LLC. Data as of Dec. 31, 2018. Returns shown are annualized. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

**Report 11: Percentage of Fixed Income Funds Outperformed by Benchmarks**

| FUND CATEGORY                       | COMPARISON INDEX                           | 1-YEAR (%) | 3-YEAR (%) | 5-YEAR (%) | 10-YEAR (%) | 15-YEAR (%) |
|-------------------------------------|--|------------|------------|------------|-------------|-------------|
| Government Long Funds               | Barclays US Government Long                | 16.98      | 100.00     | 96.61      | 94.94       | 98.04       |
| Government Intermediate Funds       | Barclays US Government Intermediate        | 100.00     | 100.00     | 81.82      | 80.56       | 91.67       |
| Government Short Funds              | Barclays US Government (1-3 Year)          | 86.96      | 81.48      | 79.31      | 67.65       | 82.86       |
| Investment-Grade Long Funds         | Barclays US Government/Credit Long         | 9.09       | 93.48      | 98.91      | 80.31       | 98.41       |
| Investment-Grade Intermediate Funds | Barclays US Government/Credit Intermediate | 90.82      | 40.00      | 51.63      | 49.38       | 76.63       |
| Investment-Grade Short Funds        | Barclays US Government/Credit (1-3 Year)   | 92.55      | 45.45      | 54.84      | 43.75       | 70.21       |
| High Yield Funds                    | Barclays US Corporate High Yield           | 75.60      | 96.63      | 96.52      | 96.63       | 99.15       |
| Mortgage-Backed Securities Funds    | Barclays US Aggregate Securitized - MBS    | 84.62      | 74.07      | 84.48      | 64.81       | 95.83       |
| Global Income Funds                 | Barclays Global Aggregate                  | 60.95      | 59.09      | 57.66      | 47.22       | 62.86       |
| Emerging Markets Debt Funds         | Barclays Emerging Markets                  | 92.98      | 68.97      | 98.00      | 90.91       | 85.71       |
| General Municipal Debt Funds        | S&P National AMT-Free Municipal Bond       | 85.33      | 67.07      | 46.25      | 44.59       | 84.11       |
| California Municipal Debt Funds     | S&P California AMT-Free Municipal Bond     | 93.94      | 47.22      | 27.78      | 36.84       | 86.96       |
| New York Municipal Debt Funds       | S&P New York AMT-Free Municipal Bond       | 76.00      | 62.96      | 35.71      | 54.55       | 86.84       |
| Loan Participation Funds            | S&P/LSTA U.S. Leveraged Loan 100           | 56.86      | 72.92      | 51.06      | 80.95       | -           |

Source: S&P Dow Jones Indices LLC, Bloomberg. Data as of Dec. 31, 2018. Returns shown are annualized. 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                       | NO. OF FUNDS AT START | SURVIVORSHIP (%) | STYLE CONSISTENCY (%) |
|-------------------------------------|-----------------------|------------------|-----------------------|
| <b>1-YEAR</b>                       |                       |                  |                       |
| Government Long Funds               | 53                    | 94.34            | 94.34                 |
| Government Intermediate Funds       | 17                    | 100.00           | 94.12                 |
| Government Short Funds              | 23                    | 100.00           | 95.65                 |
| Investment-Grade Long Funds         | 91                    | 98.90            | 94.51                 |
| Investment-Grade Intermediate Funds | 199                   | 95.48            | 96.98                 |
| Investment-Grade Short Funds        | 94                    | 97.87            | 97.87                 |
| High-Yield Funds                    | 210                   | 93.81            | 93.81                 |
| Mortgage-Backed Securities Funds    | 52                    | 90.38            | 94.23                 |
| Global Income Funds                 | 105                   | 95.24            | 94.29                 |
| Emerging Markets Debt Funds         | 57                    | 89.47            | 89.47                 |
| General Municipal Debt Funds        | 75                    | 94.67            | 93.33                 |
| California Municipal Debt Funds     | 33                    | 100.00           | 100.00                |
| New York Municipal Debt Funds       | 25                    | 100.00           | 100.00                |
| Loan Participation Funds            | 51                    | 98.04            | 100.00                |

Source: S&P Dow Jones Indices LLC, Bloomberg. Data as of Dec. 31, 2018. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

| <b>Report 12: Survivorship and Style Consistency of Fixed Income Funds (cont.)</b> |                              |                         |                              |
|--|------------------------------|-------------------------|------------------------------|
| <b>FUND CATEGORY</b>   | <b>NO. OF FUNDS AT START</b> | <b>SURVIVORSHIP (%)</b> | <b>STYLE CONSISTENCY (%)</b> |
| <b>3-YEAR</b>  |                              |                         |                              |
| Government Long Funds  | 56                           | 85.71                   | 87.50                        |
| Government Intermediate Funds  | 22                           | 77.27                   | 72.73                        |
| Government Short Funds   | 27                           | 88.89                   | 81.48                        |
| Investment-Grade Long Funds  | 97                           | 90.72                   | 80.41                        |
| Investment-Grade Intermediate Funds  | 193                          | 89.64                   | 88.08                        |
| Investment-Grade Short Funds   | 88                           | 93.18                   | 90.91                        |
| High-Yield Funds   | 210                          | 89.05                   | 89.05                        |
| Mortgage-Backed Securities Funds   | 54                           | 88.89                   | 88.89                        |
| Global Income Funds  | 112                          | 83.93                   | 80.36                        |
| Emerging Markets Debt Funds  | 58                           | 75.86                   | 75.86                        |
| General Municipal Debt Funds   | 82                           | 90.24                   | 85.37                        |
| California Municipal Debt Funds  | 36                           | 94.44                   | 91.67                        |
| New York Municipal Debt Funds  | 27                           | 96.30                   | 92.59                        |
| Loan Participation Funds   | 48                           | 93.75                   | 91.67                        |
| <b>5-YEAR</b>  |                              |                         |                              |
| Government Long Funds  | 59                           | 77.97                   | 77.97                        |
| Government Intermediate Funds  | 22                           | 72.73                   | 68.18                        |
| Government Short Funds   | 29                           | 75.86                   | 68.97                        |
| Investment-Grade Long Funds  | 97                           | 93.81                   | 79.38                        |
| Investment-Grade Intermediate Funds  | 218                          | 83.94                   | 70.64                        |
| Investment-Grade Short Funds   | 63                           | 85.71                   | 79.37                        |
| High-Yield Funds   | 203                          | 82.76                   | 81.28                        |
| Mortgage-Backed Securities Funds   | 58                           | 82.76                   | 72.41                        |
| Global Income Funds  | 113                          | 77.88                   | 70.80                        |
| Emerging Markets Debt Funds  | 50                           | 74.00                   | 70.00                        |
| General Municipal Debt Funds   | 80                           | 90.00                   | 80.00                        |
| California Municipal Debt Funds  | 36                           | 94.44                   | 91.67                        |
| New York Municipal Debt Funds  | 28                           | 92.86                   | 89.29                        |
| Loan Participation Funds   | 47                           | 95.74                   | 91.49                        |

Source: S&P Dow Jones Indices LLC, Bloomberg. Data as of Dec. 31, 2018. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

| <b>Report 12: Survivorship and Style Consistency of Fixed Income Funds (cont.)</b> |                              |                         |                              |
|--|------------------------------|-------------------------|------------------------------|
| <b>FUND CATEGORY</b>   | <b>NO. OF FUNDS AT START</b> | <b>SURVIVORSHIP (%)</b> | <b>STYLE CONSISTENCY (%)</b> |
| <b>10-YEAR</b>   |                              |                         |                              |
| Government Long Funds  | 79                           | 64.56                   | 50.63                        |
| Government Intermediate Funds  | 36                           | 55.56                   | 38.89                        |
| Government Short Funds   | 34                           | 58.82                   | 44.12                        |
| Investment-Grade Long Funds  | 131                          | 75.57                   | 47.33                        |
| Investment-Grade Intermediate Funds  | 245                          | 64.08                   | 42.04                        |
| Investment-Grade Short Funds   | 65                           | 63.08                   | 55.38                        |
| High-Yield Funds   | 180                          | 71.67                   | 68.33                        |
| Mortgage-Backed Securities Funds   | 54                           | 68.52                   | 62.96                        |
| Global Income Funds  | 73                           | 76.71                   | 64.38                        |
| Emerging Markets Debt Funds  | 22                           | 77.27                   | 68.18                        |
| General Municipal Debt Funds   | 74                           | 72.97                   | 68.92                        |
| California Municipal Debt Funds  | 38                           | 76.32                   | 76.32                        |
| New York Municipal Debt Funds  | 33                           | 69.70                   | 66.67                        |
| Loan Participation Funds   | 21                           | 85.71                   | 80.95                        |
| <b>15-YEAR</b>   |                              |                         |                              |
| Government Long Funds  | 51                           | 43.14                   | 33.33                        |
| Government Intermediate Funds  | 60                           | 35.00                   | 23.33                        |
| Government Short Funds   | 35                           | 42.86                   | 34.29                        |
| Investment-Grade Long Funds  | 126                          | 42.06                   | 20.63                        |
| Investment-Grade Intermediate Funds  | 184                          | 43.48                   | 32.61                        |
| Investment-Grade Short Funds   | 47                           | 53.19                   | 51.06                        |
| High-Yield Funds   | 117                          | 54.70                   | 51.28                        |
| Mortgage-Backed Securities Funds   | 48                           | 47.92                   | 43.75                        |
| Global Income Funds  | 36                           | 66.67                   | 58.33                        |
| Emerging Markets Debt Funds  | 14                           | 64.29                   | 64.29                        |
| General Municipal Debt Funds   | 107                          | 46.73                   | 42.99                        |
| California Municipal Debt Funds  | 46                           | 60.87                   | 58.70                        |
| New York Municipal Debt Funds  | 38                           | 60.53                   | 55.26                        |
| Loan Participation Funds   | 51                           | 43.14                   | 33.33                        |

Source: S&P Dow Jones Indices LLC, Bloomberg. Data as of Dec. 31, 2018. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

| <b>Report 13: Average Fixed Income Fund Performance (Equal-Weighted)</b> |                   |                   |                   |                    |                    |
|--|-------------------|-------------------|-------------------|--------------------|--------------------|
| <b>CATEGORY</b>  | <b>1-YEAR (%)</b> | <b>3-YEAR (%)</b> | <b>5-YEAR (%)</b> | <b>10-YEAR (%)</b> | <b>15-YEAR (%)</b> |
| Barclays US Government Long  | -1.79             | 2.63              | 5.90              | 4.15               | 5.93               |
| Government Long Funds  | -0.29             | 0.90              | 1.64              | 2.38               | 2.85               |
| Barclays US Government Intermediate                                      | 1.43              | 1.21              | 1.46              | 1.83               | 2.97               |
| Government Intermediate Funds  | 0.18              | 0.56              | 0.97              | 1.59               | 2.22               |
| Barclays US Government (1-3 Year)  | 1.58              | 0.96              | 0.82              | 1.03               | 2.05               |
| Government Short Funds   | 0.92              | 0.69              | 0.52              | 0.92               | 1.53               |
| Barclays US Government/Credit Long                                       | -4.68             | 4.03              | 5.37              | 5.88               | 6.02               |
| Investment-Grade Long Funds  | -2.56             | 2.53              | 2.52              | 4.95               | 3.73               |
| Barclays US Government/Credit Intermediate                               | 0.88              | 1.70              | 1.86              | 2.90               | 3.34               |
| Investment-Grade Intermediate Funds                                      | -0.73             | 1.67              | 1.74              | 3.62               | 2.91               |
| Barclays US Government/Credit (1-3 Year)                                 | 1.60              | 1.24              | 1.03              | 1.52               | 2.28               |
| Investment-Grade Short Funds   | 0.66              | 1.34              | 0.91              | 2.12               | 1.64               |
| Barclays US Corporate High Yield   | -2.08             | 7.23              | 3.83              | 11.12              | 7.00               |
| High Yield Funds   | -3.47             | 5.08              | 2.36              | 8.68               | 5.05               |
| Barclays US Aggregate Securitized - MBS                                  | 0.99              | 1.71              | 2.53              | 3.11               | 3.91               |
| Mortgage-Backed Securities Funds   | 0.15              | 1.26              | 1.94              | 3.12               | 3.11               |
| Barclays Global Aggregate  | -1.20             | 2.70              | 1.08              | 2.49               | 3.32               |
| Global Income Funds  | -2.31             | 2.55              | 0.92              | 3.13               | 3.18               |
| Barclays Emerging Markets  | -2.46             | 5.05              | 4.23              | 8.47               | 7.08               |
| Emerging Markets Debt Funds  | -6.76             | 4.34              | 2.02              | 6.15               | 5.20               |
| S&P National AMT-Free Municipal Bond                                     | 1.01              | 2.13              | 3.68              | 4.62               | 4.00               |
| General Municipal Debt Funds   | 0.27              | 1.79              | 3.57              | 4.90               | 3.40               |
| S&P California AMT-Free Municipal Bond                                   | 0.96              | 2.01              | 3.91              | 5.03               | 4.36               |
| California Municipal Debt Funds  | 0.13              | 1.85              | 4.11              | 5.63               | 3.72               |
| S&P New York AMT-Free Municipal Bond                                     | 0.67              | 1.88              | 3.57              | 4.64               | 4.00               |
| New York Municipal Debt Funds  | 0.62              | 1.81              | 3.72              | 4.84               | 3.39               |
| S&P/LSTA U.S. Leveraged Loan 100   | -0.59             | 4.43              | 2.26              | 8.11               | -                  |
| Loan Participation Funds   | -0.81             | 3.78              | 2.05              | 7.06               | -                  |

Source: S&P Dow Jones Indices LLC, Bloomberg. Data as of Dec. 31, 2018. Returns shown are annualized. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

| <b>Report 14: Average Fixed Income Fund Performance (Asset-Weighted)</b> |                   |                   |                   |                    |                    |
|--|-------------------|-------------------|-------------------|--------------------|--------------------|
| <b>CATEGORY</b>  | <b>1-YEAR (%)</b> | <b>3-YEAR (%)</b> | <b>5-YEAR (%)</b> | <b>10-YEAR (%)</b> | <b>15-YEAR (%)</b> |
| Barclays US Government Long  | -1.79             | 2.63              | 5.90              | 4.15               | 5.93               |
| Government Long Funds  | -0.20             | 1.13              | 2.01              | 2.84               | 3.36               |
| Barclays US Government Intermediate                                      | 1.43              | 1.21              | 1.46              | 1.83               | 2.97               |
| Government Intermediate Funds  | 0.53              | 0.91              | 1.29              | 2.28               | 2.83               |
| Barclays US Government (1-3 Year)  | 1.58              | 0.96              | 0.82              | 1.03               | 2.05               |
| Government Short Funds   | 1.12              | 0.93              | 0.85              | 1.28               | 2.01               |
| Barclays US Government/Credit Long                                       | -4.68             | 4.03              | 5.37              | 5.88               | 6.02               |
| Investment-Grade Long Funds  | -3.09             | 2.78              | 3.05              | 5.33               | 4.01               |
| Barclays US Government/Credit Intermediate                               | 0.88              | 1.70              | 1.86              | 2.90               | 3.34               |
| Investment-Grade Intermediate Funds                                      | -0.58             | 2.29              | 2.30              | 4.34               | 3.69               |
| Barclays US Government/Credit (1-3 Year)                                 | 1.60              | 1.24              | 1.03              | 1.52               | 2.28               |
| Investment-Grade Short Funds   | 0.72              | 1.68              | 1.37              | 2.93               | 2.52               |
| Barclays US Corporate High Yield   | -2.08             | 7.23              | 3.83              | 11.12              | 7.00               |
| High Yield Funds   | -3.52             | 5.43              | 2.77              | 9.27               | 5.51               |
| Barclays US Aggregate Securitized - MBS                                  | 0.99              | 1.71              | 2.53              | 3.11               | 3.91               |
| Mortgage-Backed Securities Funds   | 0.61              | 1.52              | 2.33              | 3.40               | 3.75               |
| Barclays Global Aggregate  | -1.20             | 2.70              | 1.08              | 2.49               | 3.32               |
| Global Income Funds  | -0.24             | 2.84              | 1.11              | 3.82               | 4.21               |
| Barclays Emerging Markets  | -2.46             | 5.05              | 4.23              | 8.47               | 7.08               |
| Emerging Markets Debt Funds  | -7.26             | 5.08              | 3.34              | 7.47               | 6.26               |
| S&P National AMT-Free Municipal Bond                                     | 1.01              | 2.13              | 3.68              | 4.62               | 4.00               |
| General Municipal Debt Funds   | 0.58              | 2.22              | 4.12              | 5.56               | 3.90               |
| S&P California AMT-Free Municipal Bond                                   | 0.96              | 2.01              | 3.91              | 5.03               | 4.36               |
| California Municipal Debt Funds  | 0.41              | 2.25              | 4.55              | 5.94               | 4.17               |
| S&P New York AMT-Free Municipal Bond                                     | 0.67              | 1.88              | 3.57              | 4.64               | 4.00               |
| New York Municipal Debt Funds  | 2.13              | 2.75              | 4.39              | 5.84               | 3.79               |
| S&P/LSTA U.S. Leveraged Loan 100   | -0.59             | 4.43              | 2.26              | 8.11               | -                  |
| Loan Participation Funds   | -0.68             | 4.31              | 2.29              | 7.08               | -                  |

Source: S&P Dow Jones Indices LLC, Bloomberg. Data as of Dec. 31, 2018. Returns shown are annualized. Past performance is no guarantee of future results. Table is provided for illustrative purposes.



| <b>Report 15: Quartile Breakpoints of Fixed Income Funds</b> |                       |                        |                       |
|--|-----------------------|------------------------|-----------------------|
| <b>FUND CATEGORY</b>   | <b>THIRD QUARTILE</b> | <b>SECOND QUARTILE</b> | <b>FIRST QUARTILE</b> |
| <b>1-YEAR</b>  |                       |                        |                       |
| Government Long Funds  | -0.13                 | 0.25                   | 0.59                  |
| Government Intermediate Funds                                | 0.17                  | 0.32                   | 0.68                  |
| Government Short Funds                                       | 0.80                  | 0.98                   | 1.21                  |
| Investment-Grade Long Funds                                  | -3.35                 | -2.09                  | -0.99                 |
| Investment-Grade Intermediate Funds                          | -1.11                 | -0.62                  | 0.11                  |
| Investment-Grade Short Funds                                 | 0.62                  | 0.95                   | 1.14                  |
| High-Yield Funds   | -3.88                 | -3.21                  | -1.98                 |
| Mortgage-Backed Securities Funds                             | 0.08                  | 0.42                   | 0.77                  |
| Global Income Funds  | -4.17                 | -1.75                  | -0.18                 |
| Emerging Markets Debt Funds                                  | -7.51                 | -6.29                  | -4.91                 |
| General Municipal Debt Funds                                 | 0.11                  | 0.37                   | 0.71                  |
| California Municipal Debt Funds                              | 0.02                  | 0.26                   | 0.46                  |
| New York Municipal Debt Funds                                | -0.09                 | 0.15                   | 0.53                  |
| Loan Participation Funds                                     | -1.19                 | -0.65                  | -0.33                 |
| <b>3-YEAR</b>  |                       |                        |                       |
| Government Long Funds  | 0.92                  | 1.17                   | 1.29                  |
| Government Intermediate Funds                                | 0.60                  | 0.73                   | 1.02                  |
| Government Short Funds                                       | 0.54                  | 0.80                   | 0.93                  |
| Investment-Grade Long Funds                                  | 2.06                  | 2.69                   | 3.24                  |
| Investment-Grade Intermediate Funds                          | 1.55                  | 1.93                   | 2.32                  |
| Investment-Grade Short Funds                                 | 1.06                  | 1.35                   | 1.75                  |
| High-Yield Funds   | 4.54                  | 5.32                   | 6.13                  |
| Mortgage-Backed Securities Funds                             | 1.03                  | 1.33                   | 1.85                  |
| Global Income Funds  | 1.86                  | 2.68                   | 3.76                  |
| Emerging Markets Debt Funds                                  | 3.78                  | 4.71                   | 5.85                  |
| General Municipal Debt Funds                                 | 1.65                  | 1.93                   | 2.36                  |
| California Municipal Debt Funds                              | 1.67                  | 2.03                   | 2.44                  |
| New York Municipal Debt Funds                                | 1.64                  | 1.83                   | 2.02                  |
| Loan Participation Funds                                     | 3.14                  | 3.94                   | 4.48                  |

Source: S&P Dow Jones Indices LLC, Bloomberg. Data as of Dec. 31, 2018. Returns shown are annualized. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

| <b>Report 15: Quartile Breakpoints of Fixed Income Funds (cont.)</b> |                       |                        |                       |
|--|-----------------------|------------------------|-----------------------|
| <b>FUND CATEGORY</b>   | <b>THIRD QUARTILE</b> | <b>SECOND QUARTILE</b> | <b>FIRST QUARTILE</b> |
| <b>5-YEAR</b>  |                       |                        |                       |
| Government Long Funds  | 1.37                  | 1.65                   | 2.01                  |
| Government Intermediate Funds  | 0.82                  | 1.00                   | 1.51                  |
| Government Short Funds   | 0.40                  | 0.66                   | 0.83                  |
| Investment-Grade Long Funds  | 2.14                  | 2.64                   | 3.00                  |
| Investment-Grade Intermediate Funds                                  | 1.41                  | 1.97                   | 2.41                  |
| Investment-Grade Short Funds   | 0.75                  | 1.05                   | 1.26                  |
| High-Yield Funds   | 2.27                  | 2.81                   | 3.24                  |
| Mortgage-Backed Securities Funds                                     | 1.74                  | 2.08                   | 2.45                  |
| Global Income Funds  | 0.57                  | 1.18                   | 2.00                  |
| Emerging Markets Debt Funds  | 1.12                  | 2.76                   | 3.20                  |
| General Municipal Debt Funds   | 3.17                  | 3.82                   | 4.34                  |
| California Municipal Debt Funds                                      | 3.94                  | 4.25                   | 4.78                  |
| New York Municipal Debt Funds  | 3.47                  | 3.81                   | 4.13                  |
| Loan Participation Funds   | 1.99                  | 2.27                   | 2.60                  |
| <b>10-YEAR</b>   |                       |                        |                       |
| Government Long Funds  | 2.11                  | 2.39                   | 3.49                  |
| Government Intermediate Funds  | 1.19                  | 1.66                   | 2.21                  |
| Government Short Funds   | 0.79                  | 1.16                   | 1.48                  |
| Investment-Grade Long Funds  | 3.89                  | 4.71                   | 6.09                  |
| Investment-Grade Intermediate Funds                                  | 3.05                  | 4.16                   | 4.87                  |
| Investment-Grade Short Funds   | 2.00                  | 2.55                   | 2.90                  |
| High-Yield Funds   | 8.59                  | 9.19                   | 9.87                  |
| Mortgage-Backed Securities Funds                                     | 2.67                  | 3.14                   | 3.67                  |
| Global Income Funds  | 1.85                  | 3.22                   | 4.57                  |
| Emerging Markets Debt Funds  | 3.54                  | 7.18                   | 7.69                  |
| General Municipal Debt Funds   | 4.63                  | 5.17                   | 5.85                  |
| California Municipal Debt Funds                                      | 5.16                  | 5.73                   | 6.21                  |
| New York Municipal Debt Funds  | 4.44                  | 4.95                   | 5.66                  |
| Loan Participation Funds   | 6.62                  | 6.77                   | 7.91                  |

Source: S&P Dow Jones Indices LLC, Bloomberg. Data as of Dec. 31, 2018. Returns shown are annualized. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

| <b>Report 15: Quartile Breakpoints of Fixed Income Funds (cont.)</b> |                       |                        |                       |
|--|-----------------------|------------------------|-----------------------|
| <b>FUND CATEGORY</b>   | <b>THIRD QUARTILE</b> | <b>SECOND QUARTILE</b> | <b>FIRST QUARTILE</b> |
| <b>15-YEAR</b>   |                       |                        |                       |
| Government Long Funds  | 2.86                  | 3.11                   | 4.12                  |
| Government Intermediate Funds  | 2.26                  | 2.57                   | 2.96                  |
| Government Short Funds   | 1.68                  | 1.92                   | 2.12                  |
| Investment-Grade Long Funds  | 3.26                  | 3.76                   | 4.40                  |
| Investment-Grade Intermediate Funds                                  | 2.89                  | 3.39                   | 3.94                  |
| Investment-Grade Short Funds   | 1.82                  | 2.33                   | 2.58                  |
| High-Yield Funds   | 5.31                  | 5.59                   | 5.96                  |
| Mortgage-Backed Securities Funds                                     | 3.04                  | 3.36                   | 3.72                  |
| Global Income Funds  | 2.70                  | 3.53                   | 4.30                  |
| Emerging Markets Debt Funds  | 6.28                  | 6.75                   | 6.97                  |
| General Municipal Debt Funds   | 3.50                  | 3.81                   | 4.05                  |
| California Municipal Debt Funds                                      | 3.89                  | 4.10                   | 4.24                  |
| New York Municipal Debt Funds  | 3.53                  | 3.72                   | 3.93                  |
| Loan Participation Funds   | -                     | -                      | -                     |

Source: S&P Dow Jones Indices LLC, Bloomberg. Data as of Dec. 31, 2018. Returns shown are annualized. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

## APPENDIX A

### SPIVA Styles and Lipper Fund Classifications

The CRSP Survivor-Bias-Free US Mutual Fund Database is the only complete database of both active and liquidated or merged mutual funds. It was created in 1995 and contains fund data from December 1961. Current and historical data from August 1998 has been supplied by Lipper and Thomson Reuters. The fund classifications are based upon the Lipper fund classification system. The SPIVA Scorecard covers domestic equity, global equity, and global fixed income categories.

#### 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 uses 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, confirming secondary characteristics (price-to-sales and price-to-operating cash flow). Fund statistics are compared to their relevant S&P Dow Jones Indices capitalization-level index to determine the growth, core, or value style.

In some cases, S&P Dow Jones Indices combines closely related Lipper fund classifications in one SPIVA category. Exhibit 2 maps the SPIVA U.S. Equity fund categories to Lipper classifications.

**Exhibit A1: U.S. Equity Category Mappings**

| SPIVA CATEGORY         | LIPPER FUND CLASSIFICATION |
|------------------------|----------------------------|
| Large-Cap Growth Funds | Large-Cap Growth Funds     |
| Large-Cap Core Funds   | Large-Cap Core Funds       |
| Large-Cap Value Funds  | Large-Cap Value Funds      |
|                        | Equity Income Funds        |
| Mid-Cap Growth Funds   | Mid-Cap Growth Funds       |
| Mid-Cap Core Funds     | Mid-Cap Core Funds         |
| Mid-Cap Value Funds    | Mid-Cap Value Funds        |
| Small-Cap Growth Funds | Small-Cap Growth Funds     |
| Small-Cap Core Funds   | Small-Cap Core Funds       |
| Small-Cap Value Funds  | Small-Cap Value Funds      |
| Multi-Cap Growth Funds | Multi-Cap Growth Funds     |
| Multi-Cap Core Funds   | Multi-Cap Core Funds       |
| Multi-Cap Value Funds  | Multi-Cap Value Funds      |
| Real Estate Funds      | Real Estate 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 Funds) of interest to global asset allocators. These categories also include multiple Lipper capitalization and style classifications.

**Exhibit A2: Global Equity Category Mappings**

| SPIVA CATEGORY                | LIPPER FUND 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 nine domestic, two global, and three municipal fixed income categories. The Lipper domestic fixed income classifications are based on maturity and credit quality. For maturity, long is 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 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).

| <b>Exhibit A3: Fixed Income Category Mappings</b> |  |
|---|--|
| <b>SPIVA CATEGORY</b>                             | <b>LIPPER FUND CLASSIFICATION</b>              |
| Government Long Funds                             | General U.S. Government Funds                  |
|   | General U.S. Treasury Funds                    |
| Government Intermediate Funds                     | Intermediate U.S. Government                   |
|   | Short-Intermediate U.S. Government             |
| Government Short Funds                            | Short U.S. Government Funds                    |
|   | Short U.S. Treasury                            |
| Investment-Grade Long Funds                       | Corporate Debt Funds A-Rated                   |
|   | Corporate Debt Funds BBB-Rated                 |
| Investment-Grade Intermediate Funds               | Intermediate Investment-Grade Debt Funds       |
|   | Short-Intermediate Investment-Grade Debt Funds |
| Investment-Grade Short Funds                      | Short Investment-Grade Debt Funds              |
| High-Yield Funds                                  | High Current Yield Funds                       |
| Mortgage-Backed Securities Funds                  | U.S. Mortgage Funds                            |
|   | GNMA Funds                                     |
| Global Income Funds                               | Global Income Funds                            |
|   | International Income Funds                     |
| Emerging Market Debt Funds                        | Emerging Market Debt Funds                     |
| General Municipal Debt Funds                      | General 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 Outperformed by 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 funds 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 Fund Performance**

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

### **Asset-Weighted Fund 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. Asset-weighted returns are a better indicator of fund category performance because they more accurately reflect the returns of the total money invested in that particular style category.

### **Quartiles Breakpoints**

The  $p^{\text{th}}$  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 75<sup>th</sup> percentile, the value separating the elements of a population into the lower 75% and the upper 25%. The second quartile is the 50<sup>th</sup> percentile and the third quartile is the 25<sup>th</sup> percentile. For fund category quartiles in a particular time horizon, the data used is the return of the largest share class of the fund net of fees, excluding loads.

### **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<sup>1</sup>

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 measure the performance of large-, mid-, and small-cap stocks, respectively. This index represents 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.

<sup>1</sup> For more information on S&P Dow Jones Indices, please visit [www.spindices.com](http://www.spindices.com).



## 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 GLOBAL 1200

Capturing approximately 70% 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 700

This index measures 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. 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 measures the returns of stocks that are legally and practically available to foreign market participants.

## Fixed Income<sup>2</sup>

### BARCLAYS CAPITAL LONG GOVERNMENT BOND INDEX

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

### BARCLAYS CAPITAL INTERMEDIATE GOVERNMENT BOND INDEX

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

<sup>2</sup> Barclays Capital Fixed Income Indices were formerly the Lehman Brothers Indices.

**BARCLAYS CAPITAL 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.

**BARCLAYS CAPITAL 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.

**BARCLAYS CAPITAL 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.

**BARCLAYS CAPITAL 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.

**BARCLAYS CAPITAL HIGH YIELD BOND INDEX**

This index includes all fixed income securities with a maximum quality rating of Ba1/BB+ (including defaulted issues), a minimum amount outstanding of USD 100 million, and at least one year to maturity.

**BARCLAYS CAPITAL BROTHERS 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).

**BARCLAYS CAPITAL 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.

**BARCLAYS CAPITAL EMERGING MARKETS 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 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 NEW YORK AMT-FREE MUNICIPAL BOND INDEX

This index is designed to measure the performance of the investment-grade New York 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.

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