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SPIVA[®] U.S. Scorecard

SUMMARY

- The U.S. equity market ended 2017 on a strong positive note, with the [S&P 500[®]](#) posting 21.83% over the 12-month period as of Dec. 31, 2017. The [S&P MidCap 400[®]](#) and [S&P SmallCap 600[®]](#) followed, reporting gains of 16.24% and 13.23%, respectively.
- During the one-year period, the percentage of managers outperforming their respective benchmarks noticeably increased in categories like Mid-Cap Growth and Small-Cap Growth Funds, compared to results from six months prior. Over the one-year period, 63.08% of large-cap managers, 44.41% of mid-cap managers, and 47.70% of small-cap managers underperformed the S&P 500, the S&P MidCap 400, and the S&P SmallCap 600, respectively.
- While results over the short term were favorable, the majority of active equity funds underperformed over the longer-term investment horizons. Over the five-year period, 84.23% of large-cap managers, 85.06% of mid-cap managers, and 91.17% of small-cap managers lagged their respective benchmarks.
- Similarly, over the 15-year investment horizon, 92.33% of large-cap managers, 94.81% of mid-cap managers, and 95.73% of small-cap managers failed to outperform on a relative basis.
- Over the 12-month period ending Dec. 31, 2017, growth managers across all three market cap ranges fared better than their core and value counterparts. The results highlight the cyclicity of style box investing, as core managers outperformed 12 months prior with the exception of small caps, while value managers outperformed core and growth 18 months prior.

- Across nine U.S. style categories, large-cap value managers was the best performing category over the 10-year and 15-year horizons, with 29.56% and 14.29% of managers outperforming the benchmark, the [S&P 500 Value](#).
- The headline international equity and emerging market equity indices began a strong rally in November 2016 that continued through 2017. Over the one-year period ending Dec. 31, 2017, the [S&P/IFCI Composite](#) posted 37.89%; the S&P Developed Ex-U.S. Small Cap, [S&P International 700](#), and [S&P Global 1200](#) reported 32.37%, 26.64%, and 23.84%, respectively, over the same period.
- During the one-year period, with the exception of actively managed international small-cap equity funds, the majority of managers investing in global, international, and emerging market funds underperformed their respective benchmarks.
- Over the 3-, 5-, 10-, and 15-year investment horizons, managers across all international equity categories underperformed their benchmarks. Furthermore, the longer the time horizon, in general, the more funds underperformed.
- The U.S. Federal Reserve increased rates three times during 2017. However, the 10-Year U.S. Treasury yield has not moved significantly off of its year-end 2016 levels, resulting in a flatter yield curve. During the one-year period ending Dec. 31, 2017, the majority of active fixed income managers investing in long-term government and corporate credit bonds underperformed their benchmarks, marking a shift from six months prior when they vastly outperformed.
- In contrast, funds investing in short- and intermediate-term government and credit bonds outperformed their benchmarks.
- Across all time periods studied, high-yield managers struggled to outperform their benchmark. During the one-year period, over 80.95% of actively managed high-yield bonds failed to deliver higher returns than the benchmark's 7.50% return.
- The majority of municipal funds outperformed over the 12-month period, despite having mixed results over the three- and five-year investment horizons. However, over the 10- and 15-year periods, most muni funds underperformed their benchmarks. While these funds underperformed over the long term, it should be noted that municipal categories have some of the best survivorship statistics.
- Funds disappear at a meaningful rate. Over the 15-year period, 58% of domestic equity funds, 55% of international equity funds, and an average of 48% of all fixed income funds were merged or liquidated. This finding highlights the importance of addressing survivorship bias in mutual fund analysis.

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.

Equity Annual League Table

We have often written about the lack of consistency in results when viewing over a shorter horizon. The annual league table is evidence of that, and it shows the yearly match up of the active funds versus indices in the major U.S. equity and fixed income categories (see Exhibits 1 and 2).

| Exhibit 1: Equity Annual League Table | | | | | | | | | | | | | | | | | | |
|---------------------------------------|-------------------------|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| FUND CATEGORY | BENCHMARK INDEX | (% OF ACTIVE FUNDS OUTPERFORMED BY THEIR BENCHMARK) | | | | | | | | | | | | | | | | |
| | | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
| All Domestic Funds | S&P 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 |
| 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 |
| 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 |
| 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 |
| All Multi-Cap Funds | S&P 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |

Source: S&P Dow Jones Indices LLC. Data as of Dec. 29, 2017. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Fixed Income Annual League Table

| Exhibit 2: Fixed Income Annual League Table | | | | | | | | | | | | | | | | | | |
|---|--|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|-------|-------|
| FUND CATEGORY | BENCHMARK INDEX | (% OF ACTIVE FUNDS OUTPERFORMED BY THEIR BENCHMARK) | | | | | | | | | | | | | | | | |
| | | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| Investment-Grade Short Funds | Barclays US Government/Credit (1-3 Year) | 100.00 | 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 | 100.00 | 7.14 | 53.57 | 74.07 | 33.33 |
| 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 |

Source: S&P Dow Jones Indices LLC. Data as of Dec. 29, 2017. Past performance is no guarantee of future results. Table is 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 | 63.43 | 83.40 | 86.72 | 86.65 | 83.74 |
| All Large-Cap Funds | S&P 500 | 63.08 | 80.56 | 84.23 | 89.51 | 92.33 |
| All Mid-Cap Funds | S&P MidCap 400 | 44.41 | 86.34 | 85.06 | 96.48 | 94.81 |
| All Small-Cap Funds | S&P SmallCap 600 | 47.70 | 88.83 | 91.17 | 95.71 | 95.73 |
| All Multi-Cap Funds | S&P Composite 1500 | 56.46 | 83.64 | 84.91 | 90.70 | 87.67 |
| Large-Cap Growth Funds | S&P 500 Growth | 32.92 | 67.58 | 80.92 | 93.65 | 93.49 |
| Large-Cap Core Funds | S&P 500 | 68.98 | 88.45 | 90.99 | 94.95 | 94.67 |
| Large-Cap Value Funds | S&P 500 Value | 46.88 | 80.37 | 85.07 | 70.44 | 85.71 |
| Mid-Cap Growth Funds | S&P MidCap 400 Growth | 18.05 | 91.46 | 81.13 | 97.69 | 95.32 |
| Mid-Cap Core Funds | S&P MidCap 400 | 61.67 | 88.24 | 87.90 | 96.15 | 96.51 |
| Mid-Cap Value Funds | S&P MidCap 400 Value | 43.14 | 75.41 | 81.54 | 88.04 | 88.89 |
| Small-Cap Growth Funds | S&P SmallCap 600 Growth | 15.08 | 86.53 | 86.67 | 95.56 | 98.73 |
| Small-Cap Core Funds | S&P SmallCap 600 | 58.59 | 93.78 | 95.59 | 96.23 | 96.55 |
| Small-Cap Value Funds | S&P SmallCap 600 Value | 74.07 | 82.14 | 95.45 | 92.78 | 89.47 |
| Multi-Cap Growth Funds | S&P Composite 1500 Growth | 46.32 | 83.24 | 85.11 | 94.77 | 86.21 |
| Multi-Cap Core Funds | S&P Composite 1500 | 68.78 | 92.78 | 90.13 | 90.14 | 90.82 |
| Multi-Cap Value Funds | S&P Composite 1500 Value | 49.57 | 76.47 | 76.24 | 84.21 | 85.96 |
| Real Estate Funds | S&P United States REIT | 36.90 | 59.76 | 73.68 | 84.54 | 81.13 |

Source: S&P Dow Jones Indices LLC. Data as of Dec. 29, 2017. Returns shown are annualized. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

| Report 2: Survivorship and Style Consistency of U.S. Equity Funds | | | |
|--|------------------------------|-------------------------|------------------------------|
| FUND CATEGORY | NO. OF FUNDS AT START | SURVIVORSHIP (%) | STYLE CONSISTENCY (%) |
| 1-YEAR | | | |
| All Domestic Funds | 2243 | 95.85 | 95.76 |
| All Large-Cap Funds | 845 | 95.38 | 91.12 |
| All Mid-Cap Funds | 305 | 95.74 | 89.51 |
| All Small-Cap Funds | 546 | 96.89 | 95.97 |
| All Multi-Cap Funds | 547 | 95.61 | 87.39 |
| Large-Cap Growth Funds | 243 | 94.24 | 88.48 |
| Large-Cap Core Funds | 278 | 95.68 | 86.69 |
| Large-Cap Value Funds | 324 | 95.99 | 91.05 |
| Mid-Cap Growth Funds | 134 | 95.52 | 87.31 |
| Mid-Cap Core Funds | 120 | 96.67 | 85.00 |
| Mid-Cap Value Funds | 51 | 94.12 | 82.35 |
| Small-Cap Growth Funds | 180 | 95.56 | 93.33 |
| Small-Cap Core Funds | 258 | 98.06 | 94.96 |
| Small-Cap Value Funds | 108 | 96.30 | 77.78 |
| Multi-Cap Growth Funds | 191 | 94.24 | 81.68 |
| Multi-Cap Core Funds | 240 | 96.67 | 85.42 |
| Multi-Cap Value Funds | 116 | 95.69 | 79.31 |
| Real Estate Funds | 84 | 96.43 | 97.62 |
| 3-YEAR | | | |
| All Domestic Funds | 2335 | 85.78 | 85.14 |
| All Large-Cap Funds | 892 | 85.76 | 76.57 |
| All Mid-Cap Funds | 346 | 84.68 | 68.50 |
| All Small-Cap Funds | 549 | 87.25 | 85.61 |
| All Multi-Cap Funds | 548 | 85.04 | 66.61 |
| Large-Cap Growth Funds | 256 | 84.38 | 73.44 |
| Large-Cap Core Funds | 307 | 86.64 | 69.38 |
| Large-Cap Value Funds | 329 | 86.02 | 74.77 |
| Mid-Cap Growth Funds | 166 | 84.34 | 63.86 |
| Mid-Cap Core Funds | 119 | 82.35 | 52.10 |
| Mid-Cap Value Funds | 61 | 90.16 | 54.10 |
| Small-Cap Growth Funds | 194 | 85.57 | 78.35 |
| Small-Cap Core Funds | 243 | 89.30 | 79.01 |
| Small-Cap Value Funds | 112 | 85.71 | 57.14 |
| Multi-Cap Growth Funds | 180 | 86.67 | 62.78 |
| Multi-Cap Core Funds | 265 | 84.53 | 57.36 |
| Multi-Cap Value Funds | 103 | 83.50 | 60.19 |
| Real Estate Funds | 82 | 93.90 | 92.68 |

Source: S&P Dow Jones Indices LLC. Data as of Dec. 29, 2017. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

| Report 2: Survivorship and Style Consistency of U.S. Equity Funds (cont.) | | | |
|--|------------------------------|-------------------------|------------------------------|
| FUND CATEGORY | NO. OF FUNDS AT START | SURVIVORSHIP (%) | STYLE CONSISTENCY (%) |
| 5-YEAR | | | |
| All Domestic Funds | 2429 | 80.16 | 76.53 |
| All Large-Cap Funds | 936 | 78.95 | 65.81 |
| All Mid-Cap Funds | 350 | 79.14 | 62.00 |
| All Small-Cap Funds | 535 | 82.99 | 80.75 |
| All Multi-Cap Funds | 608 | 80.10 | 50.66 |
| Large-Cap Growth Funds | 284 | 75.70 | 62.68 |
| Large-Cap Core Funds | 360 | 79.44 | 52.50 |
| Large-Cap Value Funds | 292 | 81.51 | 68.84 |
| Mid-Cap Growth Funds | 161 | 77.02 | 58.39 |
| Mid-Cap Core Funds | 124 | 78.23 | 46.77 |
| Mid-Cap Value Funds | 65 | 86.15 | 47.69 |
| Small-Cap Growth Funds | 196 | 77.55 | 70.41 |
| Small-Cap Core Funds | 229 | 86.90 | 72.49 |
| Small-Cap Value Funds | 110 | 84.55 | 50.00 |
| Multi-Cap Growth Funds | 188 | 79.26 | 50.00 |
| Multi-Cap Core Funds | 318 | 81.13 | 39.62 |
| Multi-Cap Value Funds | 102 | 78.43 | 44.12 |
| Real Estate Funds | 76 | 90.79 | 92.11 |
| 10-YEAR | | | |
| All Domestic Funds | 2039 | 55.03 | 51.84 |
| All Large-Cap Funds | 611 | 55.48 | 42.39 |
| All Mid-Cap Funds | 369 | 54.47 | 32.52 |
| All Small-Cap Funds | 489 | 56.03 | 52.35 |
| All Multi-Cap Funds | 570 | 54.04 | 28.42 |
| Large-Cap Growth Funds | 190 | 49.47 | 35.79 |
| Large-Cap Core Funds | 218 | 55.96 | 32.11 |
| Large-Cap Value Funds | 203 | 60.59 | 46.31 |
| Mid-Cap Growth Funds | 173 | 45.09 | 24.86 |
| Mid-Cap Core Funds | 104 | 58.65 | 26.92 |
| Mid-Cap Value Funds | 92 | 67.39 | 20.65 |
| Small-Cap Growth Funds | 180 | 50.00 | 38.89 |
| Small-Cap Core Funds | 212 | 56.13 | 38.68 |
| Small-Cap Value Funds | 97 | 67.01 | 26.80 |
| Multi-Cap Growth Funds | 153 | 51.63 | 22.88 |
| Multi-Cap Core Funds | 284 | 55.99 | 15.14 |
| Multi-Cap Value Funds | 133 | 52.63 | 22.56 |
| Real Estate Funds | 97 | 68.04 | 40.21 |

Source: S&P Dow Jones Indices LLC. Data as of Dec. 29, 2017. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

| Report 2: Survivorship and Style Consistency of U.S. Equity Funds (cont.) | | | |
|--|------------------------------|-------------------------|------------------------------|
| FUND CATEGORY | NO. OF FUNDS AT START | SURVIVORSHIP (%) | STYLE CONSISTENCY (%) |
| 15-YEAR | | | |
| All Domestic Funds | 1970 | 41.47 | 38.93 |
| All Large-Cap Funds | 706 | 35.41 | 26.63 |
| All Mid-Cap Funds | 347 | 46.69 | 24.78 |
| All Small-Cap Funds | 398 | 48.74 | 42.96 |
| All Multi-Cap Funds | 519 | 40.66 | 19.27 |
| Large-Cap Growth Funds | 216 | 26.85 | 18.06 |
| Large-Cap Core Funds | 300 | 35.67 | 19.00 |
| Large-Cap Value Funds | 190 | 44.74 | 30.00 |
| Mid-Cap Growth Funds | 171 | 33.33 | 19.30 |
| Mid-Cap Core Funds | 86 | 53.49 | 15.12 |
| Mid-Cap Value Funds | 90 | 65.56 | 12.22 |
| Small-Cap Growth Funds | 158 | 39.24 | 27.85 |
| Small-Cap Core Funds | 145 | 50.34 | 31.72 |
| Small-Cap Value Funds | 95 | 62.11 | 20.00 |
| Multi-Cap Growth Funds | 145 | 31.72 | 13.10 |
| Multi-Cap Core Funds | 196 | 42.35 | 9.69 |
| Multi-Cap Value Funds | 178 | 46.07 | 10.67 |
| Real Estate Funds | 53 | 64.15 | 52.83 |

Source: S&P Dow Jones Indices LLC. Data as of Dec. 29, 2017. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

| Report 3: Average U.S. Equity Fund Performance (Equal-Weighted) | | | | | | |
|--|-------------------|-------------------|-------------------|--------------------|--------------------|--|
| CATEGORY | 1-YEAR (%) | 3-YEAR (%) | 5-YEAR (%) | 10-YEAR (%) | 15-YEAR (%) | |
| S&P Composite 1500 | 21.13 | 11.41 | 15.74 | 8.69 | 10.18 | |
| All Domestic Funds | 19.20 | 9.04 | 13.34 | 7.05 | 9.14 | |
| S&P 500 | 21.83 | 11.41 | 15.79 | 8.50 | 9.92 | |
| All Large-Cap Funds | 20.69 | 9.38 | 13.66 | 6.83 | 8.38 | |
| S&P MidCap 400 | 16.24 | 11.14 | 15.01 | 9.97 | 12.00 | |
| All Mid-Cap Funds | 18.84 | 8.35 | 13.08 | 7.27 | 9.99 | |
| S&P SmallCap 600 | 13.23 | 12.00 | 15.99 | 10.43 | 12.27 | |
| All Small-Cap Funds | 15.28 | 8.85 | 12.90 | 7.61 | 10.03 | |
| S&P Composite 1500 | 21.13 | 11.41 | 15.74 | 8.69 | 10.18 | |
| All Multi-Cap Funds | 20.78 | 8.81 | 13.12 | 6.54 | 8.83 | |
| LARGE-CAP | | | | | | |
| S&P 500 Growth | 27.44 | 12.86 | 17.00 | 9.99 | 10.30 | |
| Large-Cap Growth Funds | 29.57 | 11.45 | 15.27 | 7.71 | 8.99 | |
| S&P 500 | 21.83 | 11.41 | 15.79 | 8.50 | 9.92 | |
| Large-Cap Core Funds | 20.03 | 9.28 | 13.71 | 6.77 | 8.09 | |
| S&P 500 Value | 15.36 | 9.47 | 14.24 | 6.80 | 9.38 | |
| Large-Cap Value Funds | 15.18 | 7.87 | 12.35 | 6.10 | 8.19 | |
| MID-CAP | | | | | | |
| S&P MidCap 400 Growth | 19.92 | 11.98 | 14.93 | 10.35 | 11.97 | |
| Mid-Cap Growth Funds | 24.76 | 8.94 | 13.30 | 7.00 | 9.84 | |
| S&P MidCap 400 | 16.24 | 11.14 | 15.01 | 9.97 | 12.00 | |
| Mid-Cap Core Funds | 15.12 | 7.80 | 12.59 | 7.35 | 9.80 | |
| S&P MidCap 400 Value | 12.32 | 9.88 | 14.83 | 9.46 | 11.90 | |
| Mid-Cap Value Funds | 12.37 | 7.97 | 13.25 | 7.76 | 10.46 | |
| SMALL-CAP | | | | | | |
| S&P SmallCap 600 Growth | 14.79 | 12.96 | 16.39 | 10.82 | 12.64 | |
| Small-Cap Growth Funds | 23.44 | 9.59 | 13.79 | 7.52 | 9.89 | |
| S&P SmallCap 600 | 13.23 | 12.00 | 15.99 | 10.43 | 12.27 | |
| Small-Cap Core Funds | 12.23 | 8.36 | 12.40 | 7.49 | 10.09 | |
| S&P SmallCap 600 Value | 11.51 | 10.97 | 15.52 | 9.99 | 11.85 | |
| Small-Cap Value Funds | 9.11 | 8.51 | 12.33 | 7.89 | 10.17 | |
| MULTI-CAP | | | | | | |
| S&P Composite 1500 Growth | 26.49 | 12.82 | 16.84 | 10.07 | 10.65 | |
| Multi-Cap Growth Funds | 27.18 | 10.09 | 14.38 | 7.09 | 9.54 | |
| S&P Composite 1500 | 21.13 | 11.41 | 15.74 | 8.69 | 10.18 | |
| Multi-Cap Core Funds | 18.60 | 8.12 | 12.39 | 6.27 | 8.42 | |
| S&P Composite 1500 Value | 14.99 | 9.54 | 14.32 | 7.13 | 9.80 | |
| Multi-Cap Value Funds | 14.68 | 8.06 | 12.71 | 6.17 | 8.44 | |
| REAL ESTATE | | | | | | |
| S&P United States REIT | 4.33 | 5.09 | 9.13 | 7.28 | 10.74 | |
| Real Estate Funds | 5.41 | 5.21 | 8.57 | 6.15 | 9.87 | |

Source: S&P Dow Jones Indices LLC. Data as of Dec. 29, 2017. Returns shown are annualized. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

| Report 4: Average U.S. Equity Fund Performance (Asset-Weighted) | | | | | | |
|--|-------------------|-------------------|-------------------|--------------------|--------------------|--|
| CATEGORY | 1-YEAR (%) | 3-YEAR (%) | 5-YEAR (%) | 10-YEAR (%) | 15-YEAR (%) | |
| S&P Composite 1500 | 21.13 | 11.41 | 15.74 | 8.69 | 10.18 | |
| All Domestic Funds | 21.93 | 10.35 | 14.47 | 7.54 | 9.56 | |
| S&P 500 | 21.83 | 11.41 | 15.79 | 8.50 | 9.92 | |
| All Large-Cap Funds | 22.77 | 10.85 | 14.89 | 7.43 | 8.93 | |
| S&P MidCap 400 | 16.24 | 11.14 | 15.01 | 9.97 | 12.00 | |
| All Mid-Cap Funds | 20.10 | 9.39 | 13.86 | 7.84 | 10.78 | |
| S&P SmallCap 600 | 13.23 | 12.00 | 15.99 | 10.43 | 12.27 | |
| All Small-Cap Funds | 17.12 | 9.53 | 13.25 | 8.17 | 10.66 | |
| S&P Composite 1500 | 21.13 | 11.41 | 15.74 | 8.69 | 10.18 | |
| All Multi-Cap Funds | 22.34 | 9.63 | 14.05 | 7.20 | 9.69 | |
| LARGE-CAP | | | | | | |
| S&P 500 Growth | 27.44 | 12.86 | 17.00 | 9.99 | 10.30 | |
| Large-Cap Growth Funds | 30.84 | 13.01 | 16.39 | 8.23 | 9.55 | |
| S&P 500 | 21.83 | 11.41 | 15.79 | 8.50 | 9.92 | |
| Large-Cap Core Funds | 21.36 | 10.65 | 14.89 | 7.16 | 8.45 | |
| S&P 500 Value | 15.36 | 9.47 | 14.24 | 6.80 | 9.38 | |
| Large-Cap Value Funds | 16.63 | 8.99 | 13.45 | 6.83 | 8.80 | |
| MID-CAP | | | | | | |
| S&P MidCap 400 Growth | 19.92 | 11.98 | 14.93 | 10.35 | 11.97 | |
| Mid-Cap Growth Funds | 25.36 | 10.06 | 14.19 | 7.71 | 10.91 | |
| S&P MidCap 400 | 16.24 | 11.14 | 15.01 | 9.97 | 12.00 | |
| Mid-Cap Core Funds | 16.60 | 8.63 | 13.44 | 7.97 | 10.73 | |
| S&P MidCap 400 Value | 12.32 | 9.88 | 14.83 | 9.46 | 11.90 | |
| Mid-Cap Value Funds | 13.01 | 8.86 | 13.50 | 7.77 | 10.69 | |
| SMALL-CAP | | | | | | |
| S&P SmallCap 600 Growth | 14.79 | 12.96 | 16.39 | 10.82 | 12.64 | |
| Small-Cap Growth Funds | 25.09 | 10.64 | 14.67 | 8.69 | 11.03 | |
| S&P SmallCap 600 | 13.23 | 12.00 | 15.99 | 10.43 | 12.27 | |
| Small-Cap Core Funds | 12.99 | 8.80 | 12.39 | 7.80 | 10.47 | |
| S&P SmallCap 600 Value | 11.51 | 10.97 | 15.52 | 9.99 | 11.85 | |
| Small-Cap Value Funds | 9.74 | 8.75 | 12.30 | 8.03 | 10.38 | |
| MULTI-CAP | | | | | | |
| S&P Composite 1500 Growth | 26.49 | 12.82 | 16.84 | 10.07 | 10.65 | |
| Multi-Cap Growth Funds | 29.42 | 11.54 | 16.12 | 8.46 | 10.93 | |
| S&P Composite 1500 | 21.13 | 11.41 | 15.74 | 8.69 | 10.18 | |
| Multi-Cap Core Funds | 19.36 | 8.53 | 12.78 | 6.84 | 9.18 | |
| S&P Composite 1500 Value | 14.99 | 9.54 | 14.32 | 7.13 | 9.80 | |
| Multi-Cap Value Funds | 14.99 | 8.00 | 12.67 | 5.94 | 8.35 | |
| REAL ESTATE | | | | | | |
| S&P United States REIT | 4.33 | 5.09 | 9.13 | 7.28 | 10.74 | |
| Real Estate Funds | 6.40 | 5.73 | 9.02 | 6.42 | 10.25 | |

Source: S&P Dow Jones Indices LLC. Data as of Dec. 29, 2017. 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 | | | |
|--|-----------------------|------------------------|-----------------------|
| FUND CATEGORY | THIRD QUARTILE | SECOND QUARTILE | FIRST QUARTILE |
| 1-YEAR | | | |
| All Domestic Funds | 13.83 | 18.77 | 24.67 |
| All Large-Cap Funds | 16.20 | 20.19 | 26.11 |
| All Mid-Cap Funds | 13.56 | 18.63 | 24.74 |
| All Small-Cap Funds | 9.77 | 13.77 | 20.57 |
| All Multi-Cap Funds | 15.81 | 20.40 | 25.25 |
| Large-Cap Growth Funds | 26.83 | 29.74 | 33.37 |
| Large-Cap Core Funds | 18.24 | 20.62 | 22.22 |
| Large-Cap Value Funds | 13.39 | 15.86 | 17.78 |
| Mid-Cap Growth Funds | 22.13 | 24.86 | 27.45 |
| Mid-Cap Core Funds | 12.91 | 15.24 | 18.54 |
| Mid-Cap Value Funds | 10.46 | 12.63 | 14.52 |
| Small-Cap Growth Funds | 19.18 | 23.98 | 27.46 |
| Small-Cap Core Funds | 9.67 | 12.20 | 14.90 |
| Small-Cap Value Funds | 5.80 | 8.68 | 11.84 |
| Multi-Cap Growth Funds | 23.80 | 27.44 | 31.24 |
| Multi-Cap Core Funds | 15.62 | 18.87 | 22.03 |
| Multi-Cap Value Funds | 11.73 | 15.13 | 17.56 |
| Real Estate Funds | 3.72 | 5.84 | 7.30 |
| 3-YEAR | | | |
| All Domestic Funds | 7.70 | 9.39 | 11.00 |
| All Large-Cap Funds | 8.23 | 9.79 | 11.14 |
| All Mid-Cap Funds | 7.26 | 8.63 | 10.29 |
| All Small-Cap Funds | 7.56 | 9.31 | 11.02 |
| All Multi-Cap Funds | 7.49 | 9.16 | 10.80 |
| Large-Cap Growth Funds | 10.64 | 12.06 | 13.76 |
| Large-Cap Core Funds | 8.61 | 10.06 | 10.75 |
| Large-Cap Value Funds | 7.19 | 8.69 | 9.41 |
| Mid-Cap Growth Funds | 7.54 | 9.35 | 10.92 |
| Mid-Cap Core Funds | 6.60 | 8.15 | 9.33 |
| Mid-Cap Value Funds | 7.92 | 8.52 | 9.94 |
| Small-Cap Growth Funds | 7.93 | 10.09 | 11.88 |
| Small-Cap Core Funds | 7.28 | 8.87 | 10.28 |
| Small-Cap Value Funds | 7.44 | 9.13 | 10.39 |
| Multi-Cap Growth Funds | 8.99 | 10.77 | 12.53 |
| Multi-Cap Core Funds | 7.04 | 8.79 | 10.14 |
| Multi-Cap Value Funds | 7.50 | 8.16 | 9.75 |
| Real Estate Funds | 4.16 | 5.04 | 5.99 |

Source: S&P Dow Jones Indices LLC. Data as of Dec. 29, 2017. 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 QUARTILE | SECOND QUARTILE | FIRST QUARTILE |
| 5-YEAR | | | |
| All Domestic Funds | 12.23 | 13.79 | 15.17 |
| All Large-Cap Funds | 12.71 | 14.25 | 15.48 |
| All Mid-Cap Funds | 12.18 | 13.47 | 14.68 |
| All Small-Cap Funds | 11.85 | 13.45 | 14.75 |
| All Multi-Cap Funds | 11.57 | 13.46 | 15.19 |
| Large-Cap Growth Funds | 14.85 | 15.80 | 16.99 |
| Large-Cap Core Funds | 12.82 | 14.36 | 15.15 |
| Large-Cap Value Funds | 12.05 | 12.87 | 13.96 |
| Mid-Cap Growth Funds | 12.57 | 13.60 | 14.92 |
| Mid-Cap Core Funds | 11.40 | 13.07 | 14.48 |
| Mid-Cap Value Funds | 12.16 | 13.71 | 14.45 |
| Small-Cap Growth Funds | 12.78 | 14.46 | 15.68 |
| Small-Cap Core Funds | 11.81 | 13.15 | 14.29 |
| Small-Cap Value Funds | 11.45 | 12.90 | 14.08 |
| Multi-Cap Growth Funds | 13.02 | 14.60 | 16.51 |
| Multi-Cap Core Funds | 10.83 | 12.82 | 14.68 |
| Multi-Cap Value Funds | 12.02 | 13.39 | 14.51 |
| Real Estate Funds | 8.08 | 8.58 | 9.39 |
| 10-YEAR | | | |
| All Domestic Funds | 6.26 | 7.51 | 8.64 |
| All Large-Cap Funds | 6.29 | 7.34 | 8.18 |
| All Mid-Cap Funds | 6.71 | 7.66 | 8.86 |
| All Small-Cap Funds | 7.17 | 8.25 | 9.32 |
| All Multi-Cap Funds | 5.54 | 6.88 | 8.18 |
| Large-Cap Growth Funds | 7.12 | 8.32 | 9.10 |
| Large-Cap Core Funds | 6.29 | 7.19 | 7.91 |
| Large-Cap Value Funds | 5.87 | 6.79 | 7.78 |
| Mid-Cap Growth Funds | 6.61 | 7.56 | 8.60 |
| Mid-Cap Core Funds | 7.01 | 7.73 | 8.84 |
| Mid-Cap Value Funds | 6.38 | 7.71 | 9.02 |
| Small-Cap Growth Funds | 7.21 | 8.31 | 9.35 |
| Small-Cap Core Funds | 7.17 | 8.26 | 9.37 |
| Small-Cap Value Funds | 7.12 | 8.21 | 9.20 |
| Multi-Cap Growth Funds | 5.94 | 7.68 | 8.86 |
| Multi-Cap Core Funds | 5.38 | 6.79 | 8.03 |
| Multi-Cap Value Funds | 5.37 | 6.43 | 7.40 |
| Real Estate Funds | 3.67 | 5.75 | 7.10 |

Source: S&P Dow Jones Indices LLC. Data as of Dec. 29, 2017. 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 QUARTILE | SECOND QUARTILE | FIRST QUARTILE |
| 15-YEAR | | | |
| All Domestic Funds | 8.71 | 9.76 | 10.85 |
| All Large-Cap Funds | 8.26 | 9.16 | 9.75 |
| All Mid-Cap Funds | 9.32 | 10.40 | 11.33 |
| All Small-Cap Funds | 10.03 | 10.83 | 11.52 |
| All Multi-Cap Funds | 8.23 | 9.37 | 10.39 |
| Large-Cap Growth Funds | 8.82 | 9.59 | 10.29 |
| Large-Cap Core Funds | 8.20 | 9.16 | 9.63 |
| Large-Cap Value Funds | 8.10 | 8.94 | 9.60 |
| Mid-Cap Growth Funds | 9.49 | 10.69 | 11.39 |
| Mid-Cap Core Funds | 9.38 | 10.24 | 10.81 |
| Mid-Cap Value Funds | 9.15 | 10.38 | 11.34 |
| Small-Cap Growth Funds | 10.22 | 10.96 | 11.61 |
| Small-Cap Core Funds | 10.00 | 10.70 | 11.45 |
| Small-Cap Value Funds | 9.94 | 10.88 | 11.59 |
| Multi-Cap Growth Funds | 9.53 | 10.45 | 11.78 |
| Multi-Cap Core Funds | 8.00 | 8.90 | 10.00 |
| Multi-Cap Value Funds | 7.93 | 9.17 | 10.12 |
| Real Estate Funds | 8.97 | 9.99 | 10.93 |

Source: S&P Dow Jones Indices LLC. Data as of Dec. 29, 2017. 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 | 50.21 | 77.45 | 77.71 | 81.98 | 82.47 |
| International Funds | S&P International 700 | 53.95 | 69.40 | 70.93 | 81.68 | 91.63 |
| International Small-Cap Funds | S&P Developed Ex-U.S. Small Cap | 44.05 | 65.75 | 65.52 | 72.55 | 78.13 |
| Emerging Markets Funds | S&P/IFCI Composite | 64.89 | 78.92 | 77.78 | 85.14 | 94.83 |

Source: S&P Dow Jones Indices LLC. Data as of Dec. 29, 2017. Returns shown are annualized. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

| Report 7: Survivorship and Style Consistency of International Equity Funds | | | |
|---|------------------------------|-------------------------|------------------------------|
| FUND CATEGORY | NO. OF FUNDS AT START | SURVIVORSHIP (%) | STYLE CONSISTENCY (%) |
| 1-YEAR | | | |
| Global Funds | 237 | 93.67 | 91.14 |
| International Funds | 368 | 95.38 | 95.11 |
| International Small Cap Funds | 84 | 97.62 | 94.05 |
| Emerging Markets Funds | 226 | 91.59 | 91.15 |
| 3-YEAR | | | |
| Global Funds | 236 | 83.47 | 75.85 |
| International Funds | 368 | 88.04 | 85.33 |
| International Small Cap Funds | 73 | 89.04 | 86.30 |
| Emerging Markets Funds | 224 | 80.36 | 79.46 |
| 5-YEAR | | | |
| Global Funds | 175 | 73.14 | 58.86 |
| International Funds | 258 | 78.29 | 75.19 |
| International Small Cap Funds | 58 | 86.21 | 84.48 |
| Emerging Markets Funds | 171 | 80.12 | 78.95 |
| 10-YEAR | | | |
| Global Funds | 111 | 61.26 | 49.55 |
| International Funds | 262 | 61.45 | 58.40 |
| International Small Cap Funds | 51 | 76.47 | 64.71 |
| Emerging Markets Funds | 74 | 66.22 | 60.81 |
| 15-YEAR | | | |
| Global Funds | 97 | 43.30 | 31.96 |
| International Funds | 251 | 45.02 | 41.83 |
| International Small Cap Funds | 32 | 62.50 | 56.25 |
| Emerging Markets Funds | 58 | 58.62 | 55.17 |

Source: S&P Dow Jones Indices LLC. Data as of Dec. 29, 2017. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

| Report 8: Average International Equity Fund Performance (Equal-Weighted) | | | | | |
|---|-------------------|-------------------|-------------------|--------------------|--------------------|
| CATEGORY | 1-YEAR (%) | 3-YEAR (%) | 5-YEAR (%) | 10-YEAR (%) | 15-YEAR (%) |
| S&P Global 1200 | 23.84 | 10.16 | 12.14 | 5.67 | 9.52 |
| Global Funds | 24.02 | 8.57 | 10.34 | 4.15 | 8.24 |
| S&P International 700 | 26.64 | 8.50 | 7.93 | 2.64 | 9.21 |
| International Funds | 26.60 | 7.58 | 6.96 | 1.33 | 7.19 |
| S&P Developed Ex-U.S. Small Cap | 32.37 | 13.32 | 12.12 | 5.22 | 12.15 |
| International Small-Cap Funds | 32.68 | 11.54 | 10.39 | 4.43 | 11.24 |
| S&P/IFCI Composite | 37.89 | 10.21 | 5.65 | 2.50 | 13.41 |
| Emerging Markets Funds | 34.36 | 7.65 | 3.74 | 0.25 | 10.80 |

Source: S&P Dow Jones Indices LLC. Data as of Dec. 29, 2017. 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 | 23.84 | 10.16 | 12.14 | 5.67 | 9.52 |
| Global Funds | 23.46 | 9.05 | 11.10 | 5.11 | 9.35 |
| S&P International 700 | 26.64 | 8.50 | 7.93 | 2.64 | 9.21 |
| International Funds | 26.87 | 7.85 | 7.77 | 2.31 | 8.38 |
| S&P Developed Ex-U.S. Small Cap | 32.37 | 13.32 | 12.12 | 5.22 | 12.15 |
| International Small-Cap Funds | 34.27 | 11.99 | 10.78 | 5.23 | 11.98 |
| S&P/IFCI Composite | 37.89 | 10.21 | 5.65 | 2.50 | 13.41 |
| Emerging Markets Funds | 35.65 | 8.75 | 5.01 | 1.61 | 11.89 |

Source: S&P Dow Jones Indices LLC. Data as of Dec. 29, 2017. 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 |
|-------------------------------|----------------|-----------------|----------------|
| 1-YEAR | | | |
| Global Funds | 20.19 | 24.12 | 28.20 |
| International Funds | 23.39 | 26.51 | 29.65 |
| International Small-Cap Funds | 29.96 | 33.20 | 36.44 |
| Emerging Markets Funds | 28.75 | 35.04 | 40.77 |
| 3-YEAR | | | |
| Global Funds | 7.22 | 8.95 | 10.57 |
| International Funds | 6.54 | 7.90 | 9.03 |
| International Small-Cap Funds | 10.63 | 12.33 | 13.77 |
| Emerging Markets Funds | 6.67 | 8.48 | 10.38 |
| 5-YEAR | | | |
| Global Funds | 9.06 | 10.99 | 12.62 |
| International Funds | 6.37 | 7.49 | 8.40 |
| International Small-Cap Funds | 9.36 | 11.18 | 12.85 |
| Emerging Markets Funds | 2.87 | 4.01 | 5.82 |
| 10-YEAR | | | |
| Global Funds | 3.78 | 4.91 | 5.92 |
| International Funds | 0.91 | 1.91 | 2.93 |
| International Small-Cap Funds | 3.76 | 4.85 | 6.02 |
| Emerging Markets Funds | 0.22 | 1.12 | 2.43 |
| 15-YEAR | | | |
| Global Funds | 8.27 | 8.89 | 10.22 |
| International Funds | 6.79 | 7.96 | 8.92 |
| International Small-Cap Funds | 10.43 | 11.05 | 13.39 |
| Emerging Markets Funds | 10.19 | 11.44 | 12.49 |

Source: S&P Dow Jones Indices LLC. Data as of Dec. 29, 2017. 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 | 96.43 | 100.00 | 98.31 | 95.24 | 98.00 |
| Government Intermediate Funds | Barclays US Government Intermediate | 57.89 | 90.91 | 80.00 | 78.05 | 90.48 |
| Government Short Funds | Barclays US Government (1-3 Year) | 47.83 | 69.23 | 79.31 | 76.47 | 88.24 |
| Investment-Grade Long Funds | Barclays US Government/Credit Long | 96.74 | 94.68 | 95.45 | 95.40 | 97.73 |
| Investment-Grade Intermediate Funds | Barclays US Government/Credit Intermediate | 31.37 | 35.53 | 40.94 | 51.06 | 73.53 |
| Investment-Grade Short Funds | Barclays US Government/Credit (1-3 Year) | 22.22 | 41.67 | 43.33 | 57.81 | 68.89 |
| High Yield Funds | Barclays US Corporate High Yield | 80.95 | 90.87 | 93.81 | 98.37 | 98.23 |
| Mortgage-Backed Securities Funds | Barclays US Aggregate Securitized - MBS | 67.92 | 73.08 | 79.31 | 81.40 | 93.88 |
| Global Income Funds | Barclays Global Aggregate | 64.86 | 60.55 | 52.59 | 58.33 | 69.44 |
| Emerging Markets Debt Funds | Barclays Emerging Markets | 22.58 | 70.69 | 85.71 | 73.68 | 66.67 |
| General Municipal Debt Funds | S&P National AMT-Free Municipal Bond | 42.86 | 58.75 | 47.50 | 63.29 | 82.88 |
| California Municipal Debt Funds | S&P California AMT-Free Municipal Bond | 25.71 | 30.56 | 37.14 | 66.67 | 84.44 |
| New York Municipal Debt Funds | S&P New York AMT-Free Municipal Bond | 33.33 | 57.14 | 73.33 | 85.29 | 89.47 |
| Loan Participation Funds | S&P/LSTA U.S. Leveraged Loan 100 | 52.08 | 56.25 | 52.78 | 100.00 | - |

Source: S&P Dow Jones Indices LLC. Data as of Dec. 29, 2017. 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 (%) |
|-------------------------------------|-----------------------|------------------|-----------------------|
| 1-YEAR | | | |
| Government Long Funds | 57 | 94.74 | 94.74 |
| Government Intermediate Funds | 19 | 94.74 | 100.00 |
| Government Short Funds | 23 | 95.65 | 100.00 |
| Investment-Grade Long Funds | 95 | 93.68 | 94.74 |
| Investment-Grade Intermediate Funds | 204 | 97.55 | 96.08 |
| Investment-Grade Short Funds | 91 | 98.90 | 97.80 |
| High Yield Funds | 213 | 97.18 | 96.24 |
| Mortgage-Backed Securities Funds | 53 | 98.11 | 96.23 |
| Global Income Funds | 111 | 91.89 | 90.99 |
| Emerging Markets Debt Funds | 62 | 88.71 | 88.71 |
| General Municipal Debt Funds | 77 | 98.70 | 97.40 |
| California Municipal Debt Funds | 35 | 97.14 | 94.29 |
| New York Municipal Debt Funds | 27 | 96.30 | 96.30 |
| Loan Participation Funds | 48 | 93.75 | 93.75 |

Source: S&P Dow Jones Indices LLC. Data as of Dec. 29, 2017. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

| Report 12: Survivorship and Style Consistency of Fixed Income Funds (cont.) | | | |
|--|------------------------------|-------------------------|------------------------------|
| FUND CATEGORY | NO. OF FUNDS AT START | SURVIVORSHIP (%) | STYLE CONSISTENCY (%) |
| 3-YEAR | | | |
| Government Long Funds | 58 | 86.21 | 86.21 |
| Government Intermediate Funds | 22 | 77.27 | 81.82 |
| Government Short Funds | 26 | 84.62 | 84.62 |
| Investment-Grade Long Funds | 98 | 91.84 | 84.69 |
| Investment-Grade Intermediate Funds | 197 | 90.36 | 84.26 |
| Investment-Grade Short Funds | 86 | 90.70 | 86.05 |
| High Yield Funds | 212 | 90.09 | 88.21 |
| Mortgage-Backed Securities Funds | 53 | 98.11 | 88.68 |
| Global Income Funds | 110 | 81.82 | 80.00 |
| Emerging Markets Debt Funds | 58 | 81.03 | 79.31 |
| General Municipal Debt Funds | 80 | 93.75 | 87.50 |
| California Municipal Debt Funds | 36 | 94.44 | 91.67 |
| New York Municipal Debt Funds | 28 | 92.86 | 92.86 |
| Loan Participation Funds | 48 | 93.75 | 91.67 |
| 5-YEAR | | | |
| Government Long Funds | 60 | 85.00 | 80.00 |
| Government Intermediate Funds | 25 | 72.00 | 72.00 |
| Government Short Funds | 29 | 79.31 | 72.41 |
| Investment-Grade Long Funds | 113 | 88.50 | 68.14 |
| Investment-Grade Intermediate Funds | 255 | 83.53 | 55.69 |
| Investment-Grade Short Funds | 61 | 88.52 | 78.69 |
| High Yield Funds | 197 | 84.26 | 81.73 |
| Mortgage-Backed Securities Funds | 59 | 88.14 | 72.88 |
| Global Income Funds | 117 | 81.20 | 68.38 |
| Emerging Markets Debt Funds | 35 | 85.71 | 82.86 |
| General Municipal Debt Funds | 80 | 91.25 | 82.50 |
| California Municipal Debt Funds | 35 | 94.29 | 91.43 |
| New York Municipal Debt Funds | 30 | 86.67 | 86.67 |
| Loan Participation Funds | 36 | 97.22 | 97.22 |

Source: S&P Dow Jones Indices LLC. Data as of Dec. 29, 2017. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

| Report 12: Survivorship and Style Consistency of Fixed Income Funds (cont.) | | | |
|--|------------------------------|-------------------------|------------------------------|
| FUND CATEGORY | NO. OF FUNDS AT START | SURVIVORSHIP (%) | STYLE CONSISTENCY (%) |
| 10-YEAR | | | |
| Government Long Funds | 43 | 60.47 | 53.49 |
| Government Intermediate Funds | 41 | 56.10 | 41.46 |
| Government Short Funds | 34 | 55.88 | 47.06 |
| Investment-Grade Long Funds | 87 | 63.22 | 41.38 |
| Investment-Grade Intermediate Funds | 188 | 62.23 | 43.09 |
| Investment-Grade Short Funds | 65 | 63.08 | 55.38 |
| High Yield Funds | 124 | 69.35 | 66.13 |
| Mortgage-Backed Securities Funds | 43 | 81.40 | 72.09 |
| Global Income Funds | 49 | 69.39 | 53.06 |
| Emerging Markets Debt Funds | 19 | 89.47 | 68.42 |
| General Municipal Debt Funds | 79 | 70.89 | 65.82 |
| California Municipal Debt Funds | 39 | 76.92 | 76.92 |
| New York Municipal Debt Funds | 34 | 67.65 | 67.65 |
| Loan Participation Funds | 17 | 82.35 | 76.47 |
| 15-YEAR | | | |
| Government Long Funds | 51 | 47.06 | 37.25 |
| Government Intermediate Funds | 63 | 36.51 | 26.98 |
| Government Short Funds | 34 | 38.24 | 32.35 |
| Investment-Grade Long Funds | 132 | 41.67 | 20.45 |
| Investment-Grade Intermediate Funds | 170 | 44.71 | 32.35 |
| Investment-Grade Short Funds | 45 | 53.33 | 51.11 |
| High Yield Funds | 113 | 53.98 | 51.33 |
| Mortgage-Backed Securities Funds | 49 | 57.14 | 48.98 |
| Global Income Funds | 37 | 62.16 | 54.05 |
| Emerging Markets Debt Funds | 15 | 73.33 | 66.67 |
| General Municipal Debt Funds | 111 | 47.75 | 44.14 |
| California Municipal Debt Funds | 45 | 62.22 | 60.00 |
| New York Municipal Debt Funds | 38 | 60.53 | 57.89 |
| Loan Participation Funds | - | - | - |

Source: S&P Dow Jones Indices LLC. Data as of Dec. 29, 2017. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

| Report 13: Average Fixed Income Fund Performance (Equal-Weighted) | | | | | |
|--|-------------------|-------------------|-------------------|--------------------|--------------------|
| CATEGORY | 1-YEAR (%) | 3-YEAR (%) | 5-YEAR (%) | 10-YEAR (%) | 15-YEAR (%) |
| Barclays US Government Long | 8.53 | 2.85 | 3.49 | 6.49 | 6.24 |
| Government Long Funds | 2.22 | 0.97 | 0.91 | 2.92 | 2.95 |
| Barclays US Government Intermediate | 1.14 | 1.12 | 0.92 | 2.70 | 3.03 |
| Government Intermediate Funds | 0.91 | 0.54 | 0.38 | 2.04 | 2.28 |
| Barclays US Government (1-3 Year) | 0.45 | 0.63 | 0.58 | 1.53 | 2.08 |
| Government Short Funds | 0.55 | 0.37 | 0.15 | 1.10 | 1.52 |
| Barclays US Government/Credit Long | 10.71 | 4.52 | 4.43 | 7.26 | 6.77 |
| Investment-Grade Long Funds | 5.11 | 2.95 | 2.78 | 4.43 | 4.32 |
| Barclays US Government/Credit Intermediate | 2.14 | 1.76 | 1.50 | 3.32 | 3.57 |
| Investment-Grade Intermediate Funds | 2.94 | 1.83 | 1.52 | 3.18 | 3.23 |
| Barclays US Government/Credit (1-3 Year) | 0.84 | 0.93 | 0.84 | 1.85 | 2.36 |
| Investment-Grade Short Funds | 1.51 | 1.10 | 0.85 | 1.36 | 1.76 |
| Barclays US Corporate High Yield | 7.50 | 6.35 | 5.78 | 8.03 | 8.98 |
| High Yield Funds | 6.11 | 4.81 | 4.36 | 5.66 | 6.80 |
| Barclays US Aggregate Securitized - MBS | 2.47 | 1.88 | 2.04 | 3.84 | 4.05 |
| Mortgage-Backed Securities Funds | 2.08 | 1.45 | 1.49 | 3.21 | 3.23 |
| Barclays Global Aggregate | 7.39 | 2.02 | 0.79 | 3.09 | 4.22 |
| Global Income Funds | 6.64 | 1.88 | 0.77 | 3.19 | 4.24 |
| Barclays Emerging Markets | 8.17 | 6.38 | 3.87 | 7.01 | 8.98 |
| Emerging Markets Debt Funds | 10.00 | 5.49 | 2.10 | 4.80 | 7.55 |
| S&P National AMT-Free Municipal Bond | 5.09 | 2.89 | 2.79 | 4.22 | 4.26 |
| General Municipal Debt Funds | 5.04 | 2.59 | 2.60 | 3.84 | 3.67 |
| S&P California AMT-Free Municipal Bond | 5.15 | 2.88 | 3.33 | 4.64 | 4.57 |
| California Municipal Debt Funds | 5.62 | 2.97 | 3.26 | 4.27 | 3.99 |
| S&P New York AMT-Free Municipal Bond | 4.64 | 2.84 | 2.94 | 4.30 | 4.34 |
| New York Municipal Debt Funds | 4.31 | 2.54 | 2.38 | 3.73 | 3.62 |
| S&P/LSTA U.S. Leveraged Loan 100 | 3.31 | 3.66 | 3.39 | 4.65 | - |
| Loan Participation Funds | 3.16 | 3.42 | 3.16 | 3.63 | - |

Source: S&P Dow Jones Indices LLC. Data as of Dec. 29, 2017. Returns shown are annualized. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

| Report 14: Average Fixed Income Fund Performance (Asset-Weighted) | | | | | |
|--|-------------------|-------------------|-------------------|--------------------|--------------------|
| CATEGORY | 1-YEAR (%) | 3-YEAR (%) | 5-YEAR (%) | 10-YEAR (%) | 15-YEAR (%) |
| Barclays US Government Long | 8.53 | 2.85 | 3.49 | 6.49 | 6.24 |
| Government Long Funds | 2.65 | 1.34 | 1.26 | 3.39 | 3.49 |
| Barclays US Government Intermediate | 1.14 | 1.12 | 0.92 | 2.70 | 3.03 |
| Government Intermediate Funds | 1.17 | 0.85 | 0.72 | 2.64 | 2.78 |
| Barclays US Government (1-3 Year) | 0.45 | 0.63 | 0.58 | 1.53 | 2.08 |
| Government Short Funds | 0.51 | 0.69 | 0.55 | 1.59 | 2.02 |
| Barclays US Government/Credit Long | 10.71 | 4.52 | 4.43 | 7.26 | 6.77 |
| Investment-Grade Long Funds | 6.52 | 3.45 | 3.42 | 4.64 | 4.76 |
| Barclays US Government/Credit Intermediate | 2.14 | 1.76 | 1.50 | 3.32 | 3.57 |
| Investment-Grade Intermediate Funds | 3.66 | 2.46 | 2.09 | 4.06 | 4.04 |
| Barclays US Government/Credit (1-3 Year) | 0.84 | 0.93 | 0.84 | 1.85 | 2.36 |
| Investment-Grade Short Funds | 1.71 | 1.57 | 1.36 | 2.40 | 2.69 |
| Barclays US Corporate High Yield | 7.50 | 6.35 | 5.78 | 8.03 | 8.98 |
| High Yield Funds | 6.99 | 5.18 | 4.86 | 6.17 | 7.38 |
| Barclays US Aggregate Securitized - MBS | 2.47 | 1.88 | 2.04 | 3.84 | 4.05 |
| Mortgage-Backed Securities Funds | 2.18 | 1.69 | 1.86 | 3.84 | 3.85 |
| Barclays Global Aggregate | 7.39 | 2.02 | 0.79 | 3.09 | 4.22 |
| Global Income Funds | 5.06 | 1.54 | 1.01 | 3.83 | 5.20 |
| Barclays Emerging Markets | 8.17 | 6.38 | 3.87 | 7.01 | 8.98 |
| Emerging Markets Debt Funds | 9.70 | 7.29 | 3.52 | 6.23 | 8.69 |
| S&P National AMT-Free Municipal Bond | 5.09 | 2.89 | 2.79 | 4.22 | 4.26 |
| General Municipal Debt Funds | 5.63 | 3.07 | 3.15 | 4.31 | 4.21 |
| S&P California AMT-Free Municipal Bond | 5.15 | 2.88 | 3.33 | 4.64 | 4.57 |
| California Municipal Debt Funds | 6.03 | 3.35 | 3.71 | 4.65 | 4.45 |
| S&P New York AMT-Free Municipal Bond | 4.64 | 2.84 | 2.94 | 4.30 | 4.34 |
| New York Municipal Debt Funds | 4.21 | 2.89 | 2.57 | 3.82 | 3.98 |
| S&P/LSTA U.S. Leveraged Loan 100 | 3.31 | 3.66 | 3.39 | 4.65 | - |
| Loan Participation Funds | 3.38 | 3.87 | 3.39 | 3.70 | - |

Source: S&P Dow Jones Indices LLC. Data as of Dec. 29, 2017. Returns shown are annualized. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

| Report 15: Quartile Breakpoints of Fixed Income Funds | | | |
|--|-----------------------|------------------------|-----------------------|
| FUND CATEGORY | THIRD QUARTILE | SECOND QUARTILE | FIRST QUARTILE |
| 1-YEAR | | | |
| Government Long Funds | 1.34 | 1.82 | 2.36 |
| Government Intermediate Funds | 0.80 | 0.97 | 1.27 |
| Government Short Funds | 0.16 | 0.55 | 0.81 |
| Investment-Grade Long Funds | 3.81 | 4.71 | 6.34 |
| Investment-Grade Intermediate Funds | 2.02 | 3.23 | 3.92 |
| Investment-Grade Short Funds | 0.93 | 1.33 | 1.94 |
| High Yield Funds | 5.70 | 6.60 | 7.26 |
| Mortgage-Backed Securities Funds | 1.34 | 1.90 | 2.85 |
| Global Income Funds | 3.76 | 6.81 | 9.20 |
| Emerging Markets Debt Funds | 8.67 | 10.36 | 12.24 |
| General Municipal Debt Funds | 4.65 | 5.43 | 6.02 |
| California Municipal Debt Funds | 5.28 | 5.63 | 6.44 |
| New York Municipal Debt Funds | 4.43 | 4.92 | 5.24 |
| Loan Participation Funds | 2.79 | 3.32 | 3.81 |
| 3-YEAR | | | |
| Government Long Funds | 0.84 | 1.17 | 1.45 |
| Government Intermediate Funds | 0.55 | 0.68 | 0.99 |
| Government Short Funds | 0.26 | 0.51 | 0.75 |
| Investment-Grade Long Funds | 2.29 | 3.03 | 3.71 |
| Investment-Grade Intermediate Funds | 1.70 | 2.09 | 2.52 |
| Investment-Grade Short Funds | 0.76 | 1.12 | 1.58 |
| High Yield Funds | 4.41 | 5.12 | 5.70 |
| Mortgage-Backed Securities Funds | 1.19 | 1.49 | 1.99 |
| Global Income Funds | 1.17 | 1.97 | 3.01 |
| Emerging Markets Debt Funds | 4.63 | 6.00 | 7.04 |
| General Municipal Debt Funds | 2.39 | 2.83 | 3.21 |
| California Municipal Debt Funds | 2.87 | 3.04 | 3.69 |
| New York Municipal Debt Funds | 2.66 | 2.82 | 3.09 |
| Loan Participation Funds | 3.24 | 3.51 | 4.23 |

Source: S&P Dow Jones Indices LLC. Data as of Dec. 29, 2017. Returns shown are annualized. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

| Report 15: Quartile Breakpoints of Fixed Income Funds (cont.) | | | |
|--|-----------------------|------------------------|-----------------------|
| FUND CATEGORY | THIRD QUARTILE | SECOND QUARTILE | FIRST QUARTILE |
| 5-YEAR | | | |
| Government Long Funds | 0.83 | 1.03 | 1.31 |
| Government Intermediate Funds | 0.44 | 0.56 | 0.98 |
| Government Short Funds | 0.14 | 0.44 | 0.59 |
| Investment-Grade Long Funds | 1.98 | 2.59 | 3.27 |
| Investment-Grade Intermediate Funds | 1.32 | 1.91 | 2.46 |
| Investment-Grade Short Funds | 0.70 | 0.96 | 1.33 |
| High Yield Funds | 4.12 | 4.83 | 5.30 |
| Mortgage-Backed Securities Funds | 1.19 | 1.62 | 2.01 |
| Global Income Funds | 0.16 | 1.11 | 2.31 |
| Emerging Markets Debt Funds | 1.84 | 2.97 | 3.68 |
| General Municipal Debt Funds | 2.46 | 2.93 | 3.34 |
| California Municipal Debt Funds | 3.16 | 3.50 | 3.74 |
| New York Municipal Debt Funds | 2.50 | 2.73 | 2.98 |
| Loan Participation Funds | 3.10 | 3.26 | 3.83 |
| 10-YEAR | | | |
| Government Long Funds | 2.67 | 3.19 | 3.68 |
| Government Intermediate Funds | 2.14 | 2.55 | 2.91 |
| Government Short Funds | 1.12 | 1.46 | 1.76 |
| Investment-Grade Long Funds | 3.47 | 4.25 | 5.27 |
| Investment-Grade Intermediate Funds | 3.44 | 4.02 | 4.50 |
| Investment-Grade Short Funds | 1.61 | 2.11 | 2.44 |
| High Yield Funds | 5.92 | 6.39 | 6.83 |
| Mortgage-Backed Securities Funds | 3.09 | 3.33 | 3.83 |
| Global Income Funds | 2.26 | 3.22 | 4.17 |
| Emerging Markets Debt Funds | 3.97 | 6.44 | 7.15 |
| General Municipal Debt Funds | 3.79 | 4.22 | 4.61 |
| California Municipal Debt Funds | 4.31 | 4.60 | 4.83 |
| New York Municipal Debt Funds | 3.88 | 4.12 | 4.25 |
| Loan Participation Funds | 3.28 | 3.70 | 3.96 |

Source: S&P Dow Jones Indices LLC. Data as of Dec. 29, 2017. Returns shown are annualized. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

| Report 15: Quartile Breakpoints of Fixed Income Funds (cont.) | | | |
|--|-----------------------|------------------------|-----------------------|
| FUND CATEGORY | THIRD QUARTILE | SECOND QUARTILE | FIRST QUARTILE |
| 15-YEAR | | | |
| Government Long Funds | 2.97 | 3.19 | 4.31 |
| Government Intermediate Funds | 2.24 | 2.55 | 3.04 |
| Government Short Funds | 1.64 | 1.87 | 2.08 |
| Investment-Grade Long Funds | 3.70 | 4.16 | 4.89 |
| Investment-Grade Intermediate Funds | 3.10 | 3.82 | 4.40 |
| Investment-Grade Short Funds | 1.94 | 2.43 | 2.83 |
| High Yield Funds | 6.92 | 7.38 | 7.73 |
| Mortgage-Backed Securities Funds | 3.19 | 3.51 | 3.96 |
| Global Income Funds | 3.73 | 4.33 | 5.38 |
| Emerging Markets Debt Funds | 8.41 | 8.94 | 9.30 |
| General Municipal Debt Funds | 3.70 | 4.08 | 4.37 |
| California Municipal Debt Funds | 4.19 | 4.35 | 4.53 |
| New York Municipal Debt Funds | 3.77 | 4.01 | 4.27 |
| Loan Participation Funds | - | - | - |

Source: S&P Dow Jones Indices LLC. Data as of Dec. 29, 2017. 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 1: 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 2: 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).

| Exhibit 3: Fixed Income Category Mappings | |
|--|--|
| SPIVA CATEGORY | LIPPER FUND CLASSIFICATION |
| 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 |
| Loan Participation Funds | Loan Participation 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 |

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

Indices¹

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.

¹ For more information on S&P Dow Jones Indices, please visit www.spindices.com.

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.

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 INDEX

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 WORLD EX-U.S. SMALL CAP

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

S&P/IFCI COMPOSITE INDEX

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 Income²

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.

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.

² Barclays Capital Fixed Income Indices were formerly the Lehman Brothers Indices.

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/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.

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.

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