

# S&P INDICES VERSUS ACTIVE FUNDS (SPIVA<sup>®</sup>) U.S. SCORECARD

YEAR-END 2013

## SUMMARY

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- 2013 was a stellar year for stocks as domestic equity markets posted double-digit returns. The S&P 500<sup>®</sup>, S&P MidCap 400<sup>®</sup> and S&P SmallCap 600<sup>®</sup> posted record-breaking 32.39%, 33.5% and 41.31% gains respectively. Despite the impressive double-digit gains, the results are mixed for active domestic equity managers. While mid-cap managers were an exception, most managers in the large- and small-cap categories underperformed their benchmark. According to the figures, 55.8% of large-cap managers and 68.09% of small-cap managers underperformed the benchmarks over the past 12 months ending Dec. 31, 2013.
- The picture is equally unfavorable when reviewing the performance over the longer-term three- and five-year investment horizons. The results show that the majority of the active managers across all the domestic equities categories failed to deliver returns higher than their respective benchmarks.
- Small-cap equities, as measured by the S&P SmallCap 600, had their best year since the index launch in 1994. Nevertheless, a significant percentage of small-cap active managers achieved returns that were lower than those of the benchmark. It is commonly believed that active management works best in inefficient markets such as small-cap or emerging markets—an argument that we find to be unconvincing. In fact, rolling five-year analysis of the performance figures over the past five years shows that the majority of small-cap active managers have been consistently underperforming the benchmark.
- Growth managers fared better than value managers in 2013. With the exception of small-cap, the majority of the active growth managers in large-, mid- and multi-cap categories posted better returns than the benchmarks.
- The results for international equities were mixed. Most managers in the international developed and international small-cap categories delivered higher returns than the respective benchmarks whereas 54.09% of global equity and 57.48% of emerging markets equity managers failed to outperform the benchmarks. Regardless of the measurement time horizon, international small-cap equity remains the only category that has shown persistent outperformance by active managers.
- 2013 was not kind to fixed income. The turmoil in the fixed income markets is reflected in the declines of benchmark indices in the rate-sensitive and credit-sensitive sectors. Amidst uncertain monetary policy, active fixed income managers in a few categories posted better performance than the benchmarks over the past 12 months ending December 31. Most active fixed income managers in the longer-term government, longer-term investment-grade and global income categories outperformed the corresponding benchmarks. At the same time, the one-year data also demonstrates the difficulty in predicting the interest rate path as highlighted by the underperformance of short-term

government, high-yield and MBS bond funds. To be fair, we note that bond benchmarks are not fully replicable. There are fewer index funds in these categories, and the index-based ETFs that are available are heavily optimized with occasionally high tracking errors.

- While the short-term results are mixed, longer-term five-year data favors actively managed fixed income funds. Except for long-term investment-grade, high yield, emerging markets and the New York municipal bond, the majority of actively managed fixed income funds in the remaining categories saw their performance surpass that of the benchmark indices.
- Funds disappear at a meaningful rate. Over the past five years, nearly 26% of domestic equity funds, 24% of global/international equity funds and 21% of fixed income funds have been merged or liquidated. The 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 a few strong believers on both sides, with the vast majority of investors falling somewhere in between. Since its first publication 11 years ago, the SPIVA Scorecard has served as the de facto scorekeeper of the active versus passive debate. Over the last 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 fundamental principles of the SPIVA Scorecard that regular readers will be familiar with, including:

- **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 investors 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.

## ANNUAL LEAGUE TABLE

We have often written about the lack of consistency in short-term active versus index results. The annual league table below, which shows the yearly match up of the active funds versus indices in the major U.S equity categories, is evidence of that.

| <b>Exhibit 1: Annual League Table</b> |                         |             |             |             |             |             |             |             |             |             |             |                |
|---------------------------------------|-------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| <b>Fund Category</b>                  | <b>Benchmark Index</b>  | <b>2004</b> | <b>2005</b> | <b>2006</b> | <b>2007</b> | <b>2008</b> | <b>2009</b> | <b>2010</b> | <b>2011</b> | <b>2012</b> | <b>2013</b> | <b>Average</b> |
| All Domestic Funds                    | S&P Composite 1500      | 51.4        | 44.0        | 67.8        | 48.8        | 64.23       | 41.67       | 57.63       | 84.07       | 66.08       | 46.05       | 57.2           |
| All Large-Cap Funds                   | S&P 500                 | 61.6        | 44.5        | 69.1        | 44.8        | 54.34       | 50.75       | 61.83       | 81.28       | 63.25       | 55.80       | 58.7           |
| All Mid-Cap Funds                     | S&P MidCap 400          | 61.8        | 76.0        | 46.7        | 46.4        | 74.74       | 57.60       | 78.19       | 67.36       | 80.45       | 38.97       | 62.8           |
| All Small-Cap Funds                   | S&P SmallCap 600        | 85.0        | 60.5        | 63.6        | 45.0        | 83.77       | 32.22       | 63.02       | 85.78       | 66.50       | 68.09       | 65.3           |
| Large-Cap Growth Funds                | S&P 500 Growth          | 39.5        | 31.6        | 76.1        | 31.6        | 89.95       | 39.15       | 82.00       | 95.63       | 46.08       | 42.63       | 57.4           |
| Large-Cap Core Funds                  | S&P 500                 | 66.9        | 44.6        | 71.3        | 44.0        | 52.03       | 52.06       | 63.20       | 81.31       | 66.29       | 57.74       | 59.9           |
| Large-Cap Value Funds                 | S&P 500 Value           | 83.2        | 58.8        | 87.7        | 46.3        | 22.17       | 46.24       | 34.67       | 54.26       | 85.06       | 66.56       | 58.5           |
| Mid-Cap Growth Funds                  | S&P MidCap 400 Growth   | 59.6        | 78.5        | 34.8        | 39.3        | 88.95       | 59.60       | 82.14       | 75.39       | 87.22       | 36.72       | 64.2           |
| Mid-Cap Core Funds                    | S&P MidCap 400          | 51.8        | 72.4        | 35.9        | 64.6        | 62.28       | 68.60       | 82.00       | 64.07       | 79.66       | 43.48       | 62.5           |
| Mid-Cap Value Funds                   | S&P MidCap 400 Value    | 63.6        | 71.8        | 38.4        | 56.1        | 67.06       | 47.83       | 71.76       | 64.86       | 76.24       | 45.33       | 60.3           |
| Small-Cap Growth Funds                | S&P SmallCap 600 Growth | 93.6        | 72.2        | 52.1        | 39.4        | 95.50       | 33.49       | 72.68       | 93.75       | 63.72       | 55.61       | 67.2           |
| Small-Cap Core Funds                  | S&P SmallCap 600        | 82.9        | 61.4        | 62.8        | 51.9        | 82.46       | 34.45       | 60.21       | 86.10       | 68.44       | 77.70       | 66.8           |
| Small-Cap Value Funds                 | S&P SmallCap 600 Value  | 77.5        | 46.0        | 76.7        | 39.8        | 72.55       | 26.27       | 51.81       | 83.00       | 61.83       | 78.99       | 61.4           |

Source: Standard & Poor's 2003-2006; S&P Dow Jones Indices, CRSP 2007-2013.

## REPORTS

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

| Fund Category             | Comparison Index                      | One Year (%) | Three Years (%) | Five Years (%) |
|---------------------------|---------------------------------------|--------------|-----------------|----------------|
| All Domestic Equity Funds | S&P Composite 1500                    | 46.05        | 77.53           | 60.93          |
| All Large-Cap Funds       | S&P 500                               | 55.80        | 79.95           | 72.72          |
| All Mid-Cap Funds         | S&P MidCap 400                        | 38.97        | 74.00           | 77.71          |
| All Small-Cap Funds       | S&P SmallCap 600                      | 68.09        | 87.32           | 66.77          |
| All Multi-Cap Funds       | S&P Composite 1500                    | 52.84        | 80.38           | 71.74          |
| Large-Cap Growth Funds    | S&P 500 Growth                        | 42.63        | 79.78           | 66.67          |
| Large-Cap Core Funds      | S&P 500                               | 57.74        | 80.56           | 79.39          |
| Large-Cap Value Funds     | S&P 500 Value                         | 66.56        | 76.75           | 70.26          |
| Mid-Cap Growth Funds      | S&P MidCap 400 Growth                 | 36.72        | 79.37           | 86.19          |
| Mid-Cap Core Funds        | S&P MidCap 400                        | 43.48        | 67.27           | 83.94          |
| Mid-Cap Value Funds       | S&P MidCap 400 Value                  | 45.33        | 73.97           | 67.14          |
| Small-Cap Growth Funds    | S&P SmallCap 600 Growth               | 55.61        | 86.10           | 69.60          |
| Small-Cap Core Funds      | S&P SmallCap 600                      | 77.70        | 91.10           | 74.73          |
| Small-Cap Value Funds     | S&P SmallCap 600 Value                | 78.99        | 88.00           | 60.74          |
| Multi-Cap Growth Funds    | S&P Composite 1500 Growth             | 38.14        | 86.54           | 68.56          |
| Multi-Cap Core Funds      | S&P Composite 1500                    | 62.74        | 84.51           | 77.15          |
| Multi-Cap Value Funds     | S&P Composite 1500 Value              | 49.21        | 70.68           | 67.98          |
| Real Estate Funds         | S&P U.S. Real Estate Investment Trust | 50.00        | 86.71           | 80.28          |

Source: S&P Dow Jones Indices, CRSP. For periods ended Dec. 31, 2013. Outperformance is based upon equal weighted fund counts. All index returns used are total returns. Charts are provided for illustrative purposes. Past performance is not a guarantee of future results.

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

| Fund Category          | No. of Funds at Start | Survivorship (%) | Style Consistency (%) |
|------------------------|-----------------------|------------------|-----------------------|
| All Domestic Funds     | 2810                  | 94.38            | 88.15                 |
| All Large-Cap Funds    | 1052                  | 94.77            | 89.83                 |
| All Mid-Cap Funds      | 390                   | 94.1             | 85.64                 |
| All Small-Cap Funds    | 611                   | 94.6             | 90.18                 |
| All Multi-Cap Funds    | 757                   | 93.79            | 85.47                 |
| Large-Cap Growth Funds | 319                   | 94.67            | 89.03                 |
| Large-Cap Blend Funds  | 407                   | 94.10            | 87.22                 |
| Large-Cap Value Funds  | 326                   | 95.71            | 93.87                 |
| Mid-Cap Growth Funds   | 177                   | 92.66            | 87.57                 |
| Mid-Cap Blend Funds    | 138                   | 94.93            | 84.06                 |
| Mid-Cap Value Funds    | 75                    | 96.00            | 84.00                 |
| Small-Cap Growth Funds | 223                   | 92.38            | 90.13                 |
| Small-Cap Blend Funds  | 269                   | 95.54            | 90.71                 |
| Small-Cap Value Funds  | 119                   | 96.64            | 89.08                 |
| Multi-Cap Growth Funds | 215                   | 93.95            | 86.51                 |
| Multi-Cap Core Funds   | 416                   | 94.23            | 86.3                  |
| Multi-Cap Value Funds  | 126                   | 92.06            | 80.95                 |
| Real Estate Funds      | 142                   | 98.59            | 98.59                 |

**Three Years**

| Fund Category          | No. of Funds at Start | Survivorship (%) | Style Consistency (%) |
|------------------------|-----------------------|------------------|-----------------------|
| All Domestic Funds     | 2929                  | 83.20            | 63.33                 |
| All Large-Cap Funds    | 1107                  | 82.29            | 66.76                 |
| All Mid-Cap Funds      | 427                   | 83.14            | 56.21                 |
| All Small-Cap Funds    | 615                   | 85.69            | 68.78                 |
| All Multi-Cap Funds    | 780                   | 82.56            | 58.08                 |
| Large-Cap Growth Funds | 366                   | 83.88            | 68.58                 |
| Large-Cap Blend Funds  | 427                   | 80.09            | 63.00                 |
| Large-Cap Value Funds  | 314                   | 83.44            | 69.75                 |

Source: S&P Dow Jones Indices, CRSP. For periods ended Dec. 31, 2013. Charts are provided for illustrative purposes. Past performance is not a guarantee of future results.

**Report 2: Survivorship and Style Consistency of U.S. Equity Funds (continued)****Three Years (continued)**

| Fund Category          | No. of Funds at Start | Survivorship (%) | Style Consistency (%) |
|------------------------|-----------------------|------------------|-----------------------|
| Mid-Cap Growth Funds   | 189                   | 81.48            | 65.61                 |
| Mid-Cap Blend Funds    | 165                   | 83.03            | 50.91                 |
| Mid-Cap Value Funds    | 73                    | 87.67            | 43.84                 |
| Small-Cap Growth Funds | 223                   | 84.30            | 76.68                 |
| Small-Cap Blend Funds  | 292                   | 84.93            | 65.41                 |
| Small-Cap Value Funds  | 100                   | 91.00            | 61.00                 |
| Multi-Cap Growth Funds | 208                   | 83.17            | 59.13                 |
| Multi-Cap Core Funds   | 439                   | 82.92            | 61.96                 |
| Multi-Cap Value Funds  | 133                   | 80.45            | 43.61                 |
| Real Estate Funds      | 143                   | 92.31            | 92.31                 |

**Five Years**

| Fund Category          | No. of Funds at Start | Survivorship (%) | Style Consistency (%) |
|------------------------|-----------------------|------------------|-----------------------|
| All Domestic Funds     | 3033                  | 74.12            | 50.51                 |
| All Large-Cap Funds    | 1041                  | 73.97            | 56.87                 |
| All Mid-Cap Funds      | 516                   | 72.67            | 43.60                 |
| All Small-Cap Funds    | 662                   | 75.68            | 55.29                 |
| All Multi-Cap Funds    | 814                   | 73.96            | 42.87                 |
| Large-Cap Growth Funds | 339                   | 74.93            | 59.29                 |
| Large-Cap Blend Funds  | 359                   | 72.42            | 55.15                 |
| Large-Cap Value Funds  | 343                   | 74.64            | 56.27                 |
| Mid-Cap Growth Funds   | 239                   | 68.20            | 49.37                 |
| Mid-Cap Blend Funds    | 137                   | 75.18            | 45.26                 |
| Mid-Cap Value Funds    | 140                   | 77.86            | 32.14                 |
| Small-Cap Growth Funds | 250                   | 73.20            | 61.20                 |
| Small-Cap Blend Funds  | 277                   | 74.01            | 55.23                 |
| Small-Cap Value Funds  | 135                   | 83.70            | 44.44                 |
| Multi-Cap Growth Funds | 229                   | 71.62            | 38.86                 |
| Multi-Cap Core Funds   | 407                   | 75.43            | 51.84                 |
| Multi-Cap Value Funds  | 178                   | 73.60            | 27.53                 |
| Real Estate Funds      | 142                   | 89.44            | 89.44                 |

Source: S&P Dow Jones Indices, CRSP. For periods ended Dec. 31, 2013. Charts are provided for illustrative purposes. Past performance is not a guarantee of future results.

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

| Category               | One Year (%) | Three Years<br>(Annualized %) | Five Years<br>(Annualized %) |
|------------------------|--------------|-------------------------------|------------------------------|
| S&P Composite 1500     | 32.8         | 16.22                         | 18.38                        |
| All Domestic Funds     | 33.3         | 14.21                         | 18.55                        |
| S&P 500                | 32.41        | 16.18                         | 17.93                        |
| All Large-Cap Funds    | 31.37        | 14.29                         | 17                           |
| S&P MidCap 400         | 33.5         | 15.65                         | 21.9                         |
| All Mid-Cap Funds      | 35.17        | 14.04                         | 20.6                         |
| S&P SmallCap 600       | 41.32        | 18.42                         | 21.37                        |
| All Small-Cap Funds    | 38.57        | 15.12                         | 20.87                        |
| S&P Composite 1500     | 32.8         | 16.22                         | 18.38                        |
| All Multi-Cap Funds    | 30.84        | 13.31                         | 17.42                        |
| <b>Large-Cap</b>       |              |                               |                              |
| S&P 500 Growth         | 32.77        | 16.77                         | 19.24                        |
| Large-Cap Growth Funds | 34.03        | 14.87                         | 18.85                        |
| S&P 500                | 32.41        | 16.18                         | 17.93                        |
| Large-Cap Core Funds   | 31.15        | 14.2                          | 16.53                        |
| S&P 500 Value          | 31.99        | 15.63                         | 16.61                        |
| Large-Cap Value Funds  | 29.47        | 13.89                         | 15.68                        |
| <b>Mid-Cap</b>         |              |                               |                              |
| S&P MidCap 400 Growth  | 32.77        | 15.54                         | 23.22                        |
| Mid-Cap Growth Funds   | 35.67        | 13.8                          | 21.35                        |
| S&P MidCap 400         | 33.5         | 15.65                         | 21.9                         |
| Mid-Cap Core Funds     | 34.58        | 13.98                         | 19.72                        |
| S&P MidCap 400 Value   | 34.26        | 15.81                         | 20.59                        |
| Mid-Cap Value Funds    | 35.03        | 14.48                         | 20.19                        |

Source: S&P Dow Jones Indices, CRSP. For periods ended Dec. 31, 2013. All index returns used are total returns. Funds are equal-weighted, but indices are not. Charts are provided for illustrative purposes. Past performance is not a guarantee of future results.

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

| Category                  | One Year (%) | Three Years<br>(Annualized %) | Five Years<br>(Annualized %) |
|---------------------------|--------------|-------------------------------|------------------------------|
| <b>Small-Cap</b>          |              |                               |                              |
| S&P SmallCap 600 Growth   | 42.69        | 19.21                         | 22.72                        |
| Small-Cap Growth Funds    | 42.55        | 15.75                         | 21.84                        |
| S&P SmallCap 600          | 41.32        | 18.42                         | 21.37                        |
| Small-Cap Core Funds      | 36.62        | 14.93                         | 20.39                        |
| S&P SmallCap 600 Value    | 39.99        | 17.73                         | 20.12                        |
| Small-Cap Value Funds     | 36.00        | 14.26                         | 19.93                        |
| <b>Multi-Cap</b>          |              |                               |                              |
| S&P Composite 1500 Growth | 33.1         | 16.77                         | 19.68                        |
| Multi-Cap Growth Funds    | 34.06        | 13.78                         | 18.91                        |
| S&P Composite 1500        | 32.8         | 16.22                         | 18.38                        |
| Multi-Cap Core Funds      | 28.85        | 12.84                         | 16.82                        |
| S&P Composite 1500 Value  | 32.46        | 15.71                         | 17.05                        |
| Multi-Cap Value Funds     | 31.68        | 13.87                         | 16.95                        |
| <b>Real Estate</b>        |              |                               |                              |
| S&P BMI U.S. REIT         | 2.42         | 9.44                          | 16.71                        |
| Real Estate Funds         | 2.85         | 8.08                          | 15.91                        |

Source: S&P Dow Jones Indices, CRSP. For periods ended Dec. 31, 2013. All index returns used are total returns. Funds are equal-weighted, but indices are not. Charts are provided for illustrative purposes. Past performance is not a guarantee of future results.

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

| Category            | One Year (%) | Three Years<br>(Annualized %) | Five Years<br>(Annualized %) |
|---------------------|--------------|-------------------------------|------------------------------|
| S&P Composite 1500  | 32.80        | 16.22                         | 18.38                        |
| All Domestic Funds  | 32.56        | 14.60                         | 18.30                        |
| S&P 500             | 32.41        | 16.18                         | 17.93                        |
| All Large-Cap Funds | 31.74        | 14.84                         | 17.26                        |
| S&P MidCap 400      | 33.50        | 15.65                         | 21.90                        |
| All Mid-Cap Funds   | 35.14        | 14.60                         | 20.81                        |
| S&P SmallCap 600    | 41.32        | 18.42                         | 21.37                        |
| All Small-Cap Funds | 37.72        | 15.36                         | 20.98                        |
| S&P Composite 1500  | 32.80        | 16.22                         | 18.38                        |
| All Multi-Cap Funds | 31.16        | 13.68                         | 18.01                        |

Source: S&P Dow Jones Indices, CRSP. For periods ended Dec. 31, 2013. All index returns used are total returns. Charts are provided for illustrative purposes. Past performance is not a guarantee of future results.



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

| Category                  | One Year (%) | Three Years<br>(Annualized %) | Five Years<br>(Annualized %) |
|---------------------------|--------------|-------------------------------|------------------------------|
| <b>Large-Cap</b>          |              |                               |                              |
| S&P 500 Growth            | 32.77        | 16.77                         | 19.24                        |
| Large-Cap Growth Funds    | 35.01        | 15.66                         | 19.35                        |
| S&P 500                   | 32.41        | 16.18                         | 17.93                        |
| Large-Cap Core Funds      | 32.47        | 14.72                         | 16.8                         |
| S&P 500 Value             | 31.99        | 15.63                         | 16.61                        |
| Large-Cap Value Funds     | 28.22        | 14.07                         | 15.89                        |
| <b>Mid-Cap</b>            |              |                               |                              |
| S&P MidCap 400 Growth     | 32.77        | 15.54                         | 23.22                        |
| Mid-Cap Growth Funds      | 35.05        | 14.14                         | 21.35                        |
| S&P MidCap 400            | 33.50        | 15.65                         | 21.9                         |
| Mid-Cap Core Funds        | 35.27        | 14.71                         | 20.67                        |
| S&P MidCap 400 Value      | 34.26        | 15.81                         | 20.59                        |
| Mid-Cap Value Funds       | 34.96        | 15.19                         | 20.08                        |
| <b>Small-Cap</b>          |              |                               |                              |
| S&P SmallCap 600 Growth   | 42.69        | 19.21                         | 22.72                        |
| Small-Cap Growth Funds    | 42.10        | 16.89                         | 22.99                        |
| S&P SmallCap 600          | 41.32        | 18.42                         | 21.37                        |
| Small-Cap Core Funds      | 35.35        | 14.66                         | 20.07                        |
| S&P SmallCap 600 Value    | 39.99        | 17.73                         | 20.12                        |
| Small-Cap Value Funds     | 35.12        | 14.12                         | 19.67                        |
| <b>Multi-Cap</b>          |              |                               |                              |
| S&P Composite 1500 Growth | 33.10        | 16.77                         | 19.68                        |
| Multi-Cap Growth Funds    | 36.43        | 15.68                         | 20.36                        |
| S&P Composite 1500        | 32.80        | 16.22                         | 18.38                        |
| Multi-Cap Core Funds      | 27.98        | 12.70                         | 17.35                        |
| S&P Composite 1500 Value  | 32.46        | 15.71                         | 17.05                        |
| Multi-Cap Value Funds     | 31.35        | 13.47                         | 16.36                        |
| <b>Real Estate</b>        |              |                               |                              |
| S&P BMI U.S. REIT         | 2.42         | 9.44                          | 16.71                        |
| Real Estate Funds         | 3.06         | 8.37                          | 16.27                        |

Source: S&P Dow Jones Indices, CRSP. For periods ended Dec. 31, 2013. All index returns used are total returns. Charts are provided for illustrative purposes. Past performance is not a guarantee of future results.

**Report 5: Quartile Breakpoints of U.S. Equity Funds****One Year**

| Fund Category          | Third Quartile | Second Quartile | First Quartile |
|------------------------|----------------|-----------------|----------------|
| Large-Cap Growth Funds | 30.40          | 34.03           | 36.85          |
| Large-Cap Core Funds   | 29.32          | 31.92           | 34.21          |
| Large-Cap Value Funds  | 28.12          | 30.86           | 33.28          |
| Mid-Cap Growth Funds   | 31.96          | 36.10           | 38.49          |
| Mid-Cap Core Funds     | 31.24          | 34.91           | 37.39          |
| Mid-Cap Value Funds    | 33.08          | 35.17           | 36.99          |
| Small-Cap Growth Funds | 37.55          | 42.25           | 46.85          |
| Small-Cap Core Funds   | 34.21          | 37.66           | 40.85          |
| Small-Cap Value Funds  | 32.95          | 36.24           | 39.66          |
| Multi-Cap Growth Funds | 31.59          | 35.08           | 37.53          |
| Multi-Cap Core Funds   | 22.91          | 30.70           | 35.11          |
| Multi-Cap Value Funds  | 30.24          | 33.17           | 36.31          |
| Real Estate Funds      | 1.31           | 2.47            | 3.91           |

**Three Years**

| Fund Category          | Third Quartile | Second Quartile | First Quartile |
|------------------------|----------------|-----------------|----------------|
| Large-Cap Growth Funds | 13.45          | 14.90           | 16.69          |
| Large-Cap Core Funds   | 13.01          | 14.73           | 16.07          |
| Large-Cap Value Funds  | 13.57          | 14.73           | 15.79          |
| Mid-Cap Growth Funds   | 11.95          | 13.69           | 15.54          |
| Mid-Cap Core Funds     | 12.91          | 14.86           | 16.45          |
| Mid-Cap Value Funds    | 13.21          | 14.41           | 16.39          |
| Small-Cap Growth Funds | 14.29          | 16.22           | 18.29          |
| Small-Cap Core Funds   | 13.64          | 15.58           | 17.22          |
| Small-Cap Value Funds  | 13.02          | 15.02           | 16.00          |
| Multi-Cap Growth Funds | 12.44          | 14.86           | 16.38          |
| Multi-Cap Core Funds   | 10.38          | 13.10           | 15.53          |
| Multi-Cap Value Funds  | 12.43          | 14.81           | 16.45          |
| Real Estate Funds      | 7.19           | 8.04            | 9.01           |

**Five Years**

| Fund Category          | Third Quartile | Second Quartile | First Quartile |
|------------------------|----------------|-----------------|----------------|
| Large-Cap Growth Funds | 17.56          | 18.96           | 20.51          |
| Large-Cap Core Funds   | 15.62          | 16.77           | 18.13          |
| Large-Cap Value Funds  | 14.84          | 16.22           | 17.29          |
| Mid-Cap Growth Funds   | 19.91          | 21.27           | 22.92          |
| Mid-Cap Core Funds     | 18.61          | 20.01           | 21.38          |
| Mid-Cap Value Funds    | 18.40          | 20.12           | 21.89          |
| Small-Cap Growth Funds | 20.61          | 22.14           | 24.10          |
| Small-Cap Core Funds   | 18.89          | 20.40           | 22.16          |
| Small-Cap Value Funds  | 18.09          | 19.94           | 21.84          |
| Multi-Cap Growth Funds | 17.44          | 19.19           | 21.48          |
| Multi-Cap Core Funds   | 14.53          | 16.33           | 18.99          |
| Multi-Cap Value Funds  | 15.40          | 16.88           | 18.29          |
| Real Estate Funds      | 14.28          | 15.61           | 16.66          |

Source: S&P Dow Jones Indices, CRSP. For periods ended Dec. 31, 2013. All index returns used are total returns. Charts are provided for illustrative purposes. Past performance is not a guarantee of future results.

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

| Fund Category                 | Comparison Index               | One Year (%) | Three Years (%) | Five Years (%) |
|-------------------------------|--------------------------------|--------------|-----------------|----------------|
| Global Funds                  | S&P Global 1200                | 54.09        | 71.79           | 66.24          |
| International Funds           | S&P 700                        | 44.64        | 59.54           | 70.97          |
| International Small-Cap Funds | S&P Developed Ex-U.S. SmallCap | 48.61        | 43.64           | 45.00          |
| Emerging Markets Funds        | S&P/IFCI Composite             | 57.48        | 60.87           | 80.00          |

Source: S&P Dow Jones Indices, CRSP. For periods ended Dec. 31, 2013. Outperformance is based upon equal weighted fund counts. All index returns used are total returns. Charts are provided for illustrative purposes. Past performance is not a guarantee of future results.

**Report 7: Survivorship and Style Consistency of International Equity Funds****One Year**

| Fund Category                 | No. of Funds at Start | Survivorship (%) | Style Consistency (%) |
|-------------------------------|-----------------------|------------------|-----------------------|
| Global Funds                  | 257                   | 93               | 88.72                 |
| International Funds           | 345                   | 94.78            | 94.49                 |
| International Small-Cap Funds | 72                    | 94.44            | 93.06                 |
| Emerging Markets Funds        | 214                   | 94.86            | 94.39                 |

**Three Years**

| Fund Category                 | No. of Funds at Start | Survivorship (%) | Style Consistency (%) |
|-------------------------------|-----------------------|------------------|-----------------------|
| Global Funds                  | 195                   | 78.97            | 77.95                 |
| International Funds           | 351                   | 82.91            | 81.77                 |
| International Small-Cap Funds | 55                    | 96.36            | 92.73                 |
| Emerging Markets Funds        | 161                   | 88.2             | 87.58                 |

**Five Years**

| Fund Category                 | No. of Funds at Start | Survivorship (%) | Style Consistency (%) |
|-------------------------------|-----------------------|------------------|-----------------------|
| Global Funds                  | 157                   | 69.43            | 67.52                 |
| International Funds           | 341                   | 74.49            | 73.31                 |
| International Small-Cap Funds | 60                    | 88.33            | 78.33                 |
| Emerging Markets Funds        | 140                   | 82.14            | 81.43                 |

Source: S&P Dow Jones Indices, CRSP. For periods ended Dec. 31, 2013. Charts are provided for illustrative purposes. Past performance is not a guarantee of future results.

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

| Category                       | One Year (%) | Three Years<br>(Annualized %) | Five Years<br>(Annualized %) |
|--------------------------------|--------------|-------------------------------|------------------------------|
| S&P Global 1200                | 25.84        | 11.75                         | 15.52                        |
| Global Funds                   | 24.77        | 9.73                          | 15.14                        |
| S&P 700                        | 19.23        | 7.38                          | 13.06                        |
| International Funds            | 19.57        | 7.00                          | 12.55                        |
| S&P Developed Ex-U.S. SmallCap | 26.06        | 8.51                          | 17.72                        |
| International Small-Cap Funds  | 26.02        | 9.01                          | 18.96                        |
| S&P/IFCI Composite             | -0.57        | -1.46                         | 15.88                        |
| Emerging Markets Funds         | 0.06         | -1.68                         | 14.84                        |

Source: S&P Dow Jones Indices, CRSP. Dec. 31, 2013. All index returns used are total returns. Funds are equal-weighted, but indices are not. Charts are provided for illustrative purposes. Past performance is not a guarantee of future results.

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

| Category                       | One Year (%) | Three Years<br>(Annualized %) | Five Years<br>(Annualized %) |
|--------------------------------|--------------|-------------------------------|------------------------------|
| S&P Global 1200                | 25.84        | 11.75                         | 15.52                        |
| Global Funds                   | 24.39        | 10.73                         | 14.83                        |
| S&P 700                        | 19.23        | 7.38                          | 13.06                        |
| International Funds            | 20.96        | 7.77                          | 13.46                        |
| S&P Developed Ex-U.S. SmallCap | 26.06        | 8.51                          | 17.72                        |
| International Small-Cap Funds  | 25.92        | 9.44                          | 18.35                        |
| S&P/IFCI Composite             | -0.57        | -1.46                         | 15.88                        |
| Emerging Markets Funds         | 1.30         | -0.05                         | 15.66                        |

Source: S&P Dow Jones Indices, CRSP. For periods ended June 30, 2013. Charts are provided for illustrative purposes. Past performance is not a guarantee of future results.

**Report 10: Quartile Breakpoints of International Equity Funds****One Year**

| <b>Fund Category</b>          | <b>Third Quartile</b> | <b>Second Quartile</b> | <b>First Quartile</b> |
|-------------------------------|-----------------------|------------------------|-----------------------|
| Global Funds                  | 20.22                 | 25.78                  | 29.73                 |
| International Funds           | 16.46                 | 20.39                  | 22.91                 |
| International Small-Cap Funds | 22.46                 | 26.8                   | 30.12                 |
| Emerging Markets Funds        | -4.59                 | -1.14                  | 3.94                  |

**Three Years**

| <b>Fund Category</b>          | <b>Third Quartile</b> | <b>Second Quartile</b> | <b>First Quartile</b> |
|-------------------------------|-----------------------|------------------------|-----------------------|
| Global Funds                  | 9.02                  | 11.07                  | 12.56                 |
| International Funds           | 5.92                  | 7.35                   | 8.85                  |
| International Small-Cap Funds | 7.43                  | 9.64                   | 11.15                 |
| Emerging Markets Funds        | -3.59                 | -1.90                  | 0.46                  |

**Five Years**

| <b>Fund Category</b>          | <b>Third Quartile</b> | <b>Second Quartile</b> | <b>First Quartile</b> |
|-------------------------------|-----------------------|------------------------|-----------------------|
| Global Funds                  | 13.58                 | 15.37                  | 17.31                 |
| International Funds           | 11.26                 | 12.46                  | 13.93                 |
| International Small-Cap Funds | 16.08                 | 19.18                  | 20.69                 |
| Emerging Markets Funds        | 13.28                 | 14.34                  | 15.84                 |

Source: S&P Dow Jones Indices, CRSP. For periods ended Dec. 31, 2013. Charts are provided for illustrative purposes. Past performance is not a guarantee of future results.

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

| Fund Category                       | Comparison Index                        | One Year (%) | Three Years (%) | Five Years (%) |
|-------------------------------------|---|--------------|-----------------|----------------|
| Government Long Funds               | Barclays Long Government                | 10.11        | 96.67           | 46.91          |
| Government Intermediate Funds       | Barclays Intermediate Government        | 72.73        | 72.5            | 46.51          |
| Government Short Funds              | Barclays 1-3 Year Government            | 95.45        | 56.82           | 41.86          |
| Investment-Grade Long Funds         | Barclays Long Government/Credit         | 3.200        | 91.67           | 52.14          |
| Investment-Grade Intermediate Funds | Barclays Intermediate Government/Credit | 62.15        | 37.19           | 36.96          |
| Investment-Grade Short Funds        | Barclays 1-3 Year Government/Credit     | 50.00        | 23.46           | 28.92          |
| High-Yield Funds                    | Barclays High Yield                     | 68.18        | 87.08           | 91.33          |
| Mortgage-Backed Securities Funds    | Barclays Mortgage-Backed Securities     | 75.00        | 56.45           | 40.35          |
| Global Income Funds                 | Barclays Global Aggregate               | 48.57        | 48.67           | 46.00          |
| Emerging Markets Debt Funds         | Barclays Emerging Markets               | 78.08        | 94.29           | 64.29          |
| General Municipal Debt Funds        | S&P National AMT-Free Municipal Bond    | 61.76        | 44.57           | 40.00          |
| California Municipal Debt Funds     | S&P California AMT-Free Municipal Bond  | 83.78        | 60.53           | 32.50          |
| New York Municipal Debt Funds       | S&P New York AMT-Free Municipal Bond    | 87.50        | 79.41           | 58.82          |

Source: S&P Dow Jones Indices, CRSP. For periods ended Dec. 31, 2013. Outperformance is based upon equal weighted fund counts. All index returns used are total returns. Charts are provided for illustrative purposes. Past performance is not a guarantee of future results.

**Report 12: Survivorship and Style Consistency of Fixed Income Funds****One Year**

| Fund Category                       | No. of Funds at Start | Survivorship (%) | Style Consistency (%) |
|-------------------------------------|-----------------------|------------------|-----------------------|
| Government Long Funds               | 89                    | 97.75            | 95.51                 |
| Government Intermediate Funds       | 33                    | 93.94            | 90.91                 |
| Government Short Funds              | 44                    | 100.00           | 100.00                |
| Investment-Grade Long Funds         | 125                   | 97.60            | 88.00                 |
| Investment-Grade Intermediate Funds | 288                   | 95.14            | 94.44                 |
| Investment-Grade Short Funds        | 88                    | 96.59            | 95.45                 |
| High-Yield Funds                    | 220                   | 95.45            | 94.55                 |
| Mortgage-Backed Securities Funds    | 64                    | 96.88            | 95.31                 |
| Global Income Funds                 | 140                   | 95.00            | 94.29                 |
| Emerging Markets Debt Funds         | 73                    | 98.63            | 98.63                 |
| General Municipal Debt Funds        | 102                   | 97.06            | 97.06                 |
| California Municipal Debt Funds     | 37                    | 100.00           | 100.00                |
| New York Municipal Debt Funds       | 32                    | 96.88            | 96.88                 |

**Three Years**

| Fund Category                       | No. of Funds at Start | Survivorship (%) | Style Consistency (%) |
|-------------------------------------|-----------------------|------------------|-----------------------|
| Government Long Funds               | 90                    | 84.44            | 81.11                 |
| Government Intermediate Funds       | 40                    | 82.50            | 72.50                 |
| Government Short Funds              | 44                    | 86.36            | 81.82                 |
| Investment-Grade Long Funds         | 132                   | 88.64            | 72.73                 |
| Investment-Grade Intermediate Funds | 285                   | 85.96            | 83.16                 |
| Investment-Grade Short Funds        | 81                    | 87.65            | 86.42                 |
| High-Yield Funds                    | 209                   | 88.04            | 87.56                 |
| Mortgage-Backed Securities Funds    | 62                    | 95.16            | 91.94                 |
| Global Income Funds                 | 113                   | 87.61            | 85.84                 |
| Emerging Markets Debt Funds         | 35                    | 94.29            | 94.29                 |
| General Municipal Debt Funds        | 92                    | 89.13            | 89.13                 |
| California Municipal Debt Funds     | 38                    | 89.47            | 89.47                 |
| New York Municipal Debt Funds       | 34                    | 85.29            | 85.29                 |

Source: S&P Dow Jones Indices, CRSP. For periods ended Dec. 31, 2013. Charts are provided for illustrative purposes. Past performance is not a guarantee of future results.

**Report 12: Survivorship and Style Consistency of Fixed Income Funds (continued)**

| Five Year                           |                       |                  |                       |
|-------------------------------------|-----------------------|------------------|-----------------------|
| Fund Category                       | No. of Funds at Start | Survivorship (%) | Style Consistency (%) |
| Government Long Funds               | 81                    | 76.54            | 71.60                 |
| Government Intermediate Funds       | 43                    | 79.07            | 67.44                 |
| Government Short Funds              | 43                    | 86.05            | 83.72                 |
| Investment-Grade Long Funds         | 140                   | 82.14            | 62.86                 |
| Investment-Grade Intermediate Funds | 276                   | 74.28            | 71.38                 |
| Investment-Grade Short Funds        | 83                    | 78.31            | 77.11                 |
| High-Yield Funds                    | 196                   | 84.18            | 83.16                 |
| Mortgage-Backed Securities Funds    | 57                    | 96.49            | 92.98                 |
| Global Income Funds                 | 100                   | 79.00            | 77.00                 |
| Emerging Markets Debt Funds         | 28                    | 96.43            | 96.43                 |
| General Municipal Debt Funds        | 85                    | 83.53            | 83.53                 |
| California Municipal Debt Funds     | 40                    | 82.50            | 82.50                 |
| New York Municipal Debt Funds       | 34                    | 79.41            | 79.41                 |

Source: S&P Dow Jones Indices, CRSP. For periods ended Dec. 31, 2013. Charts are provided for illustrative purposes. Past performance is not a guarantee of future results.

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

| Category                                | One Year (%) | Three Years (Annualized %) | Five Years (Annualized %) |
|---|--------------|----------------------------|---------------------------|
| Barclays Long Government                | -12.47       | 5.47                       | 2.43                      |
| Government Long Funds                   | -4.85        | 2.33                       | 3.31                      |
| Barclays Intermediate Government        | -1.23        | 2.14                       | 2.20                      |
| Government Intermediate Funds           | -2.1         | 1.98                       | 2.76                      |
| Barclays 1-3 Year Government            | 0.37         | 0.81                       | 1.25                      |
| Government Short Funds                  | -0.74        | 0.81                       | 1.74                      |
| Barclays Long Government/Credit         | -8.83        | 6.70                       | 6.40                      |
| Investment-Grade Long Funds             | -0.92        | 4.85                       | 7.73                      |
| Barclays Intermediate Government/Credit | -0.86        | 2.90                       | 3.96                      |
| Investment-Grade Intermediate Funds     | -0.96        | 3.31                       | 5.81                      |
| Barclays 1-3 Year Government/Credit     | 0.63         | 1.15                       | 2.01                      |
| Investment-Grade Short Funds            | 1.11         | 2.17                       | 4.13                      |
| Barclays High Yield                     | 7.46         | 9.32                       | 18.93                     |
| High-Yield Funds                        | 6.89         | 8.02                       | 15.69                     |

Source: S&P Dow Jones Indices, CRSP. For periods ended Dec. 31, 2013. All index returns used are total returns. Funds are equal-weighted, but indices are not. Charts are provided for illustrative purposes. Past performance is not a guarantee of future results.



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

| Category                               | One Year (%) | Three Years<br>(Annualized %) | Five Years<br>(Annualized %) |
|--|--------------|-------------------------------|------------------------------|
| Barclays Mortgage-Backed Securities    | -1.41        | 2.43                          | 3.70                         |
| Mortgage-Backed Securities Funds       | -1.70        | 2.63                          | 4.40                         |
| Barclays Global Aggregate              | -2.60        | 2.39                          | 3.91                         |
| Global Income Funds                    | -2.02        | 3.11                          | 6.11                         |
| Barclays Emerging Markets              | -4.14        | 6.54                          | 12.87                        |
| Emerging Markets Debt Funds            | -6.25        | 3.57                          | 11.26                        |
| S&P National AMT-Free Municipal Bond   | -3.28        | 4.64                          | 5.57                         |
| General Municipal Debt Funds           | -3.52        | 4.58                          | 6.26                         |
| S&P California AMT-Free Municipal Bond | -1.87        | 5.87                          | 6.15                         |
| California Municipal Debt Funds        | -3.20        | 5.94                          | 7.22                         |
| S&P New York AMT-Free Municipal Bond   | -2.40        | 4.65                          | 5.72                         |
| New York Municipal Debt Funds          | -4.50        | 4.10                          | 6.04                         |

Source: S&P Dow Jones Indices, CRSP. For periods ended Dec. 31, 2013. All index returns used are total returns. Funds are equal-weighted, but indices are not. Charts are provided for illustrative purposes. Past performance is not a guarantee of future results.

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

| Category                                | One Year (%) | Three Years<br>(Annualized %) | Five Years<br>(Annualized %) |
|---|--------------|-------------------------------|------------------------------|
| Barclays Long Government                | -12.47       | 5.47                          | 2.43                         |
| Government Long Funds                   | -4.61        | 2.77                          | 3.88                         |
| Barclays Intermediate Government        | -1.23        | 2.14                          | 2.20                         |
| Government Intermediate Funds           | -1.81        | 2.80                          | 3.99                         |
| Barclays 1-3 Year Government            | 0.37         | 0.81                          | 1.25                         |
| Government Short Funds                  | -3.30        | 1.86                          | 3.55                         |
| Barclays Long Government/Credit         | -8.83        | 6.70                          | 6.40                         |
| Investment-Grade Long Funds             | -0.42        | 5.32                          | 8.47                         |
| Barclays Intermediate Government/Credit | -0.86        | 2.90                          | 3.96                         |
| Investment-Grade Intermediate Funds     | -1.45        | 3.80                          | 6.71                         |
| Barclays 1-3 Year Government/Credit     | 0.63         | 1.15                          | 2.01                         |
| Investment-Grade Short Funds            | 0.89         | 2.46                          | 4.80                         |
| Barclays High Yield                     | 7.46         | 9.32                          | 18.93                        |
| High-Yield Funds                        | 6.73         | 7.89                          | 15.89                        |
| Barclays Mortgage-Backed Securities     | -1.41        | 2.43                          | 3.70                         |
| Mortgage-Backed Securities Funds        | -1.23        | 3.32                          | 4.85                         |
| Barclays Global Aggregate               | -2.60        | 2.39                          | 3.91                         |
| Global Income Funds                     | -0.03        | 3.83                          | 6.81                         |
| Barclays Emerging Markets               | -4.14        | 6.54                          | 12.87                        |
| Emerging Markets Debt Funds             | -6.84        | 3.61                          | 11.14                        |
| S&P National Municipal Bond             | -3.28        | 4.64                          | 5.57                         |
| General Municipal Debt Funds            | -3.59        | 5.18                          | 6.95                         |
| S&P California Municipal Bond           | -1.87        | 5.87                          | 6.15                         |
| California Municipal Debt Funds         | -3.44        | 5.94                          | 7.37                         |
| S&P New York Municipal Bond             | -2.40        | 4.65                          | 5.72                         |
| New York Municipal Debt Funds           | -5.79        | 3.98                          | 7.29                         |

Source: S&P Dow Jones Indices, CRSP. For periods ended Dec. 31, 2013. All index returns used are total returns. Charts are provided for illustrative purposes. Past performance is not a guarantee of future results.

**Report 15: Quartile Breakpoints of Fixed Income Funds****One Year**

| <b>Fund Category</b>                | <b>Third Quartile</b> | <b>Second Quartile</b> | <b>First Quartile</b> |
|-------------------------------------|-----------------------|------------------------|-----------------------|
| Government Long Funds               | -8.35                 | -3.37                  | -2.26                 |
| Government Intermediate Funds       | -2.88                 | -1.87                  | -1.10                 |
| Government Short Funds              | -0.69                 | -0.36                  | 0.05                  |
| Investment-Grade Long Funds         | -2.32                 | -1.15                  | 0.15                  |
| Investment-Grade Intermediate Funds | -1.95                 | -1.16                  | -0.07                 |
| Investment-Grade Short Funds        | 0.34                  | 0.64                   | 1.32                  |
| High-Yield Funds                    | 5.65                  | 6.82                   | 8.04                  |
| Mortgage-Backed Securities Funds    | -2.40                 | -1.92                  | -1.39                 |
| Global Income Funds                 | -4.29                 | -2.42                  | 0.20                  |
| Emerging Markets Debt Funds         | -9.80                 | -6.97                  | -4.54                 |
| General Municipal Debt Funds        | -4.36                 | -3.56                  | -2.80                 |
| California Municipal Debt Funds     | -3.85                 | -3.17                  | -2.35                 |
| New York Municipal Debt Funds       | -5.42                 | -4.32                  | -3.48                 |

**Three Years**

| <b>Fund Category</b>                | <b>Third Quartile</b> | <b>Second Quartile</b> | <b>First Quartile</b> |
|-------------------------------------|-----------------------|------------------------|-----------------------|
| Government Long Funds               | 1.69                  | 2.49                   | 3.24                  |
| Government Intermediate Funds       | 1.29                  | 2.01                   | 2.42                  |
| Government Short Funds              | 0.38                  | 0.83                   | 1.15                  |
| Investment-Grade Long Funds         | 3.42                  | 4.31                   | 5.65                  |
| Investment-Grade Intermediate Funds | 2.67                  | 3.71                   | 4.32                  |
| Investment-Grade Short Funds        | 1.59                  | 2.09                   | 2.52                  |
| High-Yield Funds                    | 7.70                  | 8.35                   | 8.86                  |
| Mortgage-Backed Securities Funds    | 2.07                  | 2.39                   | 2.80                  |
| Global Income Funds                 | 1.64                  | 2.83                   | 4.27                  |
| Emerging Markets Debt Funds         | 1.34                  | 4.74                   | 5.59                  |
| General Municipal Debt Funds        | 4.02                  | 4.91                   | 5.63                  |
| California Municipal Debt Funds     | 5.50                  | 5.84                   | 6.24                  |
| New York Municipal Debt Funds       | 3.73                  | 4.11                   | 4.64                  |

**Five Years**

| <b>Fund Category</b>                | <b>Third Quartile</b> | <b>Second Quartile</b> | <b>First Quartile</b> |
|-------------------------------------|-----------------------|------------------------|-----------------------|
| Government Long Funds               | 2.20                  | 2.94                   | 4.58                  |
| Government Intermediate Funds       | 1.93                  | 2.47                   | 3.12                  |
| Government Short Funds              | 0.99                  | 1.54                   | 2.08                  |
| Investment-Grade Long Funds         | 5.51                  | 7.33                   | 9.16                  |
| Investment-Grade Intermediate Funds | 4.82                  | 6.21                   | 7.36                  |
| Investment-Grade Short Funds        | 2.92                  | 3.93                   | 4.92                  |
| High-Yield Funds                    | 14.80                 | 16.27                  | 17.51                 |
| Mortgage-Backed Securities Funds    | 3.44                  | 3.92                   | 5.13                  |
| Global Income Funds                 | 3.66                  | 5.30                   | 8.14                  |
| Emerging Markets Debt Funds         | 9.29                  | 12.34                  | 13.94                 |
| General Municipal Debt Funds        | 5.46                  | 6.37                   | 7.53                  |
| California Municipal Debt Funds     | 6.47                  | 6.96                   | 7.92                  |
| New York Municipal Debt Funds       | 5.29                  | 5.84                   | 6.79                  |

Source: S&P Dow Jones Indices, CRSP. For periods ended Dec. 31, 2013. Charts are provided for illustrative purposes. Past performance is not a guarantee of future results.

## 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/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 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-US 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 capitalization-level index to determine the growth, core or value style.

In some cases, S&P Indices combines closely related Lipper fund classifications in one SPIVA category. Exhibit 6 maps the SPIVA U.S. Equity fund categories to Lipper classifications.

| <b>Exhibit 2: U.S. Equity Category Mappings</b> |  |
|---|--|
| <b>SPIVA Category</b>                           | <b>Lipper Fund Classification</b>            |
| Large-Cap Growth Funds                          | Large-Cap Growth Funds                       |
| Large-Cap Core Funds                            | Large-Cap Core Funds                         |
| Large-Cap Value Funds                           | Large-Cap Value Funds<br>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                            |

## International Equity

For International Equity, SPIVA reports on four major categories (Global, International, International Small-Cap and Emerging Markets funds) of interest to global asset allocators. These categories also include multiple Lipper capitalization/style classifications.

| <b>Exhibit 3: Global Equity Category Mappings</b> |  |
|---|--|
| <b>SPIVA Category</b>                             | <b>Lipper Fund Classification</b>  |
| Global Funds                                      | Global Large-Cap Growth Funds<br>Global Large-Cap Core Funds<br>Global Large-Cap Value Funds<br>Global Multi-Cap Growth Funds<br>Global Multi-Cap Core Funds<br>Global Multi-Cap Value Funds   |
| International Funds                               | International Large-Cap Growth Funds<br>International Large-Cap Core Funds<br>International Large-Cap Value Funds<br>International Multi-Cap Growth Funds<br>International Multi-Cap Core Funds<br>International Multi-Cap Value Funds |
| International Small-Cap Funds                     | International Small/Mid-Cap Growth Funds<br>International Small/Mid-Cap Core Funds<br>International Small/Mid-Cap Value Funds  |
| Emerging Markets Funds                            | Emerging Markets Funds   |

## Fixed Income

SPIVA reports on eight 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) 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 (invests in the top four credit ratings) classification plus two state funds (California and New York).

### Exhibit 4: Fixed Income Category Mappings

| SPIVA Category                      | Lipper Fund Classification   |
|-------------------------------------|--|
| Government Long Funds               | General U.S. Government Funds<br>General U.S. Treasury Funds                               |
| Government Intermediate Funds       | Intermediate U.S. Government<br>Short-Intermediate U.S. Government                         |
| Government Short Funds              | Short U.S. Government Funds<br>Short U.S. Treasury   |
| Investment-Grade Long Funds         | Corporate Debt Funds A Rated<br>Corporate Debt Funds BBB-Rated                             |
| Investment-Grade Intermediate Funds | Intermediate Investment-Grade Debt Funds<br>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<br>GNMA Funds  |
| Global Income Funds                 | Global Income Funds<br>International Income Funds  |
| Emerging Market Debt Funds          | Emerging Markets 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  |

## 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.

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

**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.

***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 (United States), 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-United States 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 investors.

**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 ten years.

***Barclays Capital Intermediate Government Bond Index***

This index consists of U.S. Treasury and U.S. Government agency bonds with maturities from one to ten 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 ten 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 one to ten 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 to 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 US\$ 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).

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

***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.

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