

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

MID-YEAR 2013

## SUMMARY

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- Domestic equity markets continue with the impressive double-digit rally over the past 12 months, with the S&P 500<sup>®</sup>, S&P MidCap 400<sup>®</sup> and S&P SmallCap 600<sup>®</sup> posting gains of 20.60%, 25.18% and 25.18%, respectively, as of June 30, 2013. However, the gains made by the domestic passive indices did not translate into active management. Most active managers in all the categories except small-cap growth underperformed their respective benchmarks for the trailing 12 months. According to the figures, 59.58% of large-cap funds, 68.88% of mid-cap funds and 64.27% of small-cap funds underperformed their respective benchmark indices.
- The performance figures are equally unfavorable for active funds when viewed over the three- and five- year horizons. Performance across all domestic equity categories lagged behind the benchmarks over the three- and five- year horizons.
- Among international equity categories, 62.59% of global funds, 65.86% of international funds and 74.53% of emerging markets funds were outperformed by benchmarks over the past five years. On the other hand, a large percentage of international small-cap funds continued to outperform the benchmark regardless of the time period, indicating that active management opportunities are still present in this space.
- 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 several categories posted better performance than the benchmarks over the past 12 months ending June 30. Most active fixed income managers in the longer-term government, longer-term investment grade, global income and a few municipal 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 and investment-grade funds, as well as the MBS funds.
- Except for investment-grade intermediate and global income funds, actively managed fixed income funds in nearly all the categories saw their performances lag the benchmark indices over the longer-term five-year period. 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.
- The continuing volatility in the equity and fixed income markets over the past five year resulted in nearly 27% of domestic equity funds, 24% of international equity funds and 19% of fixed income funds merge or liquidate.

RESEARCH

## 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.

## 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	54.28	78.90	72.14
All Large-Cap Funds	S&P 500	59.58	85.95	79.46
All Mid-Cap Funds	S&P MidCap 400	68.88	85.78	81.98
All Small-Cap Funds	S&P SmallCap 600	64.27	80.19	77.88
All Multi-Cap Funds	S&P Composite 1500	63.41	84.31	82.57
Large-Cap Growth Funds	S&P 500 Growth	62.65	92.11	87.21
Large-Cap Core Funds	S&P 500	53.72	86.87	83.47
Large-Cap Value Funds	S&P 500 Value	71.68	78.70	64.08
Mid-Cap Growth Funds	S&P MidCap 400 Growth	84.57	92.86	87.86
Mid-Cap Core Funds	S&P MidCap 400	66.96	83.63	82.88
Mid-Cap Value Funds	S&P MidCap 400 Value	58.82	71.08	67.68
Small-Cap Growth Funds	S&P SmallCap 600 Growth	49.54	76.67	77.95
Small-Cap Core Funds	S&P SmallCap 600	63.04	85.77	79.02
Small-Cap Value Funds	S&P SmallCap 600 Value	71.01	80.91	75.45
Multi-Cap Growth Funds	S&P Composite 1500 Growth	55.20	85.32	88.17
Multi-Cap Core Funds	S&P Composite 1500	64.72	85.14	84.24
Multi-Cap Value Funds	S&P Composite 1500 Value	55.88	83.12	72.26
Real Estate Funds	S&P U.S. Real Estate Investment Trust	56.83	95.07	80.56

Source: S&P Dow Jones Indices, CRSP. For periods ended June 30, 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	2874	92.94	75.78
All Large-Cap Funds	1101	93.01	79.65
All Mid-Cap Funds	392	94.13	72.7
All Small-Cap Funds	613	93.47	77.81
All Multi-Cap Funds	768	91.80	70.18
Large-Cap Growth Funds	332	92.47	81.02
Large-Cap Blend Funds	430	92.33	77.21
Large-Cap Value Funds	339	94.40	81.42
Mid-Cap Growth Funds	175	94.86	81.14
Mid-Cap Blend Funds	115	90.43	71.3
Mid-Cap Value Funds	102	97.06	59.8
Small-Cap Growth Funds	218	90.37	85.32
Small-Cap Blend Funds	257	93.77	77.82
Small-Cap Value Funds	138	97.83	65.94
Multi-Cap Growth Funds	221	93.67	71.04
Multi-Cap Core Funds	411	91.48	74.94
Multi-Cap Value Funds	136	89.71	54.41
Real Estate Funds	139	99.28	99.28

**Three Years**

Fund Category	No. of Funds at Start	Survivorship (%)	Style Consistency (%)
All Domestic Funds	2972	81.86	59.29
All Large-Cap Funds	1075	80	63.63
All Mid-Cap Funds	450	81.56	54.44
All Small-Cap Funds	631	84.94	65.45
All Multi-Cap Funds	816	82.11	51.47
Large-Cap Growth Funds	355	81.41	65.92
Large-Cap Blend Funds	396	78.54	61.62
Large-Cap Value Funds	324	80.25	63.58

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 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	196	76.02	62.24
Mid-Cap Blend Funds	171	84.8	50.29
Mid-Cap Value Funds	83	87.95	44.58
Small-Cap Growth Funds	240	82.92	72.08
Small-Cap Blend Funds	281	85.05	65.48
Small-Cap Value Funds	110	89.09	50.91
Multi-Cap Growth Funds	218	83.49	52.29
Multi-Cap Core Funds	444	81.76	56.53
Multi-Cap Value Funds	154	81.17	35.71
Real Estate Funds	142	92.25	92.25

**Five Years**

Fund Category	No. of Funds at Start	Survivorship (%)	Style Consistency (%)
All Domestic Funds	2272	72.62	47.01
All Large-Cap Funds	706	71.39	53.68
All Mid-Cap Funds	383	72.85	42.56
All Small-Cap Funds	529	73.35	50.09
All Multi-Cap Funds	654	73.24	39.91
Large-Cap Growth Funds	219	68.95	52.97
Large-Cap Blend Funds	242	71.07	51.24
Large-Cap Value Funds	245	73.88	56.73
Mid-Cap Growth Funds	173	65.9	46.82
Mid-Cap Blend Funds	111	78.38	44.14
Mid-Cap Value Funds	99	78.79	33.33
Small-Cap Growth Funds	195	69.23	53.85
Small-Cap Blend Funds	224	74.11	53.13
Small-Cap Value Funds	110	79.09	37.27
Multi-Cap Growth Funds	169	72.19	38.46
Multi-Cap Core Funds	330	74.85	45.76
Multi-Cap Value Funds	155	70.97	29.03
Real Estate Funds	108	86.11	86.11

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

Category	One Year (%)	Three Years (Annualized %)	Five Years (Annualized %)
S&P Composite 1500	21.13	18.60	7.27
All Domestic Funds	20.74	16.54	6.36
S&P 500	20.60	18.45	7.01
All Large-Cap Funds	19.4	16.33	5.68
S&P MidCap 400	25.19	19.45	8.92
All Mid-Cap Funds	22.16	16.99	6.87
S&P SmallCap 600	25.17	20.28	9.95
All Small-Cap Funds	23.62	17.85	8.19
S&P Composite 1500	21.13	18.60	7.27
All Multi-Cap Funds	19.42	15.39	5.44
<b>Large-Cap</b>			
S&P 500 Growth	16.78	18.88	7.57
Large-Cap Growth Funds	16.06	16.17	5.1
S&P 500	20.60	18.45	7.01
Large-Cap Core Funds	20.28	16.26	5.63
S&P 500 Value	25.06	18.11	6.48
Large-Cap Value Funds	21.55	16.40	6.12
<b>Mid-Cap</b>			
S&P MidCap 400 Growth	23.43	20.05	8.87
Mid-Cap Growth Funds	19.2	16.88	6.15
S&P MidCap 400	25.19	19.45	8.92
Mid-Cap Core Funds	23.8	17.00	6.85
S&P MidCap 400 Value	27.06	18.9	8.95
Mid-Cap Value Funds	25.88	17.03	8.09

Source: S&P Dow Jones Indices, CRSP. For periods ended June 30, 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 (Annualized %)	Five Years (Annualized %)
<b>Small-Cap</b>			
S&P SmallCap 600 Growth	22.05	20.80	9.85
Small-Cap Growth Funds	22.05	18.23	7.68
S&P SmallCap 600	25.17	20.28	9.95
Small-Cap Core Funds	24.08	17.72	8.24
S&P SmallCap 600 Value	28.44	19.84	9.98
Small-Cap Value Funds	25.71	17.19	8.71
<b>Multi-Cap</b>			
S&P Composite 1500 Growth	17.45	19.07	7.77
Multi-Cap Growth Funds	16.78	15.49	4.99
S&P Composite 1500	21.13	18.60	7.27
Multi-Cap Core Funds	19.55	15.09	5.52
S&P Composite 1500 Value	25.35	18.23	6.80
Multi-Cap Value Funds	23.70	16.24	5.84
<b>Real Estate</b>			
S&P BMI U.S. REIT	9.27	18.3	7.58
Real Estate Funds	10.4	15.93	5.73

Source: S&P Dow Jones Indices, CRSP. For periods ended June 30, 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 (Annualized %)	Five Years (Annualized %)
S&P Composite 1500	21.13	18.60	7.27
All Domestic Funds	20.78	16.63	6.22
S&P 500	20.60	18.45	7.01
All Large-Cap Funds	20.26	16.64	5.99
S&P MidCap 400	25.19	19.45	8.92
All Mid-Cap Funds	23.18	17.46	7.10
S&P SmallCap 600	25.17	20.28	9.95
All Small-Cap Funds	23.65	18.03	8.31
S&P Composite 1500	21.13	18.60	7.27
All Multi-Cap Funds	19.81	15.59	5.51

Source: S&P Dow Jones Indices, CRSP. For periods ended June 30, 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 (Annualized %)	Five Years (Annualized %)
<b>Large-Cap</b>			
S&P 500 Growth	16.78	18.88	7.57
Large-Cap Growth Funds	17.57	16.57	5.11
S&P 500	20.6	18.45	7.01
Large-Cap Core Funds	21.56	16.57	5.57
S&P 500 Value	25.06	18.11	6.48
Large-Cap Value Funds	20.95	16.44	6.24
<b>Mid-Cap</b>			
S&P MidCap 400 Growth	23.43	20.05	8.87
Mid-Cap Growth Funds	20.24	17.18	6.39
S&P MidCap 400	25.19	19.45	8.92
Mid-Cap Core Funds	25.34	17.80	7.58
S&P MidCap 400 Value	27.06	18.90	8.95
Mid-Cap Value Funds	26.69	17.39	7.43
<b>Small-Cap</b>			
S&P SmallCap 600 Growth	22.05	20.80	9.85
Small-Cap Growth Funds	23.01	19.49	8.87
S&P SmallCap 600	25.17	20.28	9.95
Small-Cap Core Funds	23.84	17.46	7.78
S&P SmallCap 600 Value	28.44	19.84	9.98
Small-Cap Value Funds	24.54	16.92	8.57
<b>Multi-Cap</b>			
S&P Composite 1500 Growth	17.45	19.07	7.77
Multi-Cap Growth Funds	19.12	17.65	6.14
S&P Composite 1500	21.13	18.60	7.27
Multi-Cap Core Funds	19.07	14.85	5.6
S&P Composite 1500 Value	25.35	18.23	6.8
Multi-Cap Value Funds	24.65	15.62	5.71
<b>S&amp;P BMI U.S. REIT</b>			
S&P BMI U.S. REIT	9.27	18.30	7.58
Real Estate Funds	9.88	16.18	6.01

Source: S&P Dow Jones Indices, CRSP. For periods ended June 30, 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	14.30	16.38	18.29
Large-Cap Core Funds	18.33	20.60	22.69
Large-Cap Value Funds	19.64	22.97	25.47
Mid-Cap Growth Funds	16.59	19.51	21.96
Mid-Cap Core Funds	19.50	23.48	26.67
Mid-Cap Value Funds	24.15	26.70	28.88
Small-Cap Growth Funds	19.38	22.82	25.32
Small-Cap Core Funds	21.81	24.15	27.26
Small-Cap Value Funds	22.48	25.46	29.36
Multi-Cap Growth Funds	14.38	17.31	20.27
Multi-Cap Core Funds	14.88	19.15	24.31
Multi-Cap Value Funds	22.27	25.31	27.34
Real Estate Funds	7.08	8.52	13.02

**Three Years**

Fund Category	Third Quartile	Second Quartile	First Quartile
Large-Cap Growth Funds	14.99	16.53	17.76
Large-Cap Core Funds	14.95	16.70	17.98
Large-Cap Value Funds	15.94	17.22	18.19
Mid-Cap Growth Funds	15.33	17.19	18.52
Mid-Cap Core Funds	16.14	17.60	19.09
Mid-Cap Value Funds	16.05	18.14	19.13
Small-Cap Growth Funds	17.12	18.86	21.08
Small-Cap Core Funds	16.12	18.13	19.70
Small-Cap Value Funds	15.78	17.91	19.36
Multi-Cap Growth Funds	14.42	16.67	18.43
Multi-Cap Core Funds	12.69	14.97	17.80
Multi-Cap Value Funds	14.20	16.42	17.87
Real Estate Funds	14.35	16.17	17.37

**Five Years**

Fund Category	Third Quartile	Second Quartile	First Quartile
Large-Cap Growth Funds	3.94	5.66	6.91
Large-Cap Core Funds	4.60	5.67	6.95
Large-Cap Value Funds	4.77	6.47	7.49
Mid-Cap Growth Funds	3.95	6.37	8.03
Mid-Cap Core Funds	5.71	7.01	8.30
Mid-Cap Value Funds	5.92	7.89	9.87
Small-Cap Growth Funds	6.16	8.16	10.47
Small-Cap Core Funds	6.73	8.23	10.33
Small-Cap Value Funds	7.70	8.61	10.89
Multi-Cap Growth Funds	3.54	5.37	6.90
Multi-Cap Core Funds	3.51	5.22	7.07
Multi-Cap Value Funds	4.43	6.23	7.43
Real Estate Funds	3.57	5.74	7.25

Source: S&P Dow Jones Indices, CRSP. For periods ended June 30, 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	60.78	70.72	62.59
International Funds	S&P 700	54.18	58.81	65.86
International Small-Cap Funds	S&P Developed Ex-U.S. SmallCap	13.43	11.11	18.03
Emerging Markets Funds	S&P/IFCI Composite	54.81	55.77	74.53

Source: S&P Dow Jones Indices, CRSP. For periods ended June 30, 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	255	93.33	91.37
International Funds	347	94.24	92.51
International Small-Cap Funds	67	97.01	92.54
Emerging Markets Funds	208	96.15	96.15

**Three Years**

Fund Category	No. of Funds at Start	Survivorship (%)	Style Consistency (%)
Global Funds	181	80.11	79.01
International Funds	352	82.39	81.25
International Small-Cap Funds	54	94.44	92.59
Emerging Markets Funds	156	89.10	89.10

**Five Years**

Fund Category	No. of Funds at Start	Survivorship (%)	Style Consistency (%)
Global Funds	147	71.43	69.39
International Funds	331	74.32	73.41
International Small-Cap Funds	61	88.52	77.05
Emerging Markets Funds	106	81.13	81.13

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

Category	One Year (%)	Three Years (Annualized %)	Five Years (Annualized %)
S&P Global 1200	18.62	14.09	3.31
Global Funds	17.09	12.19	2.96
S&P 700	16.53	9.74	-0.21
International Funds	16.31	9.59	-0.51
S&P Developed Ex-U.S. SmallCap	15.59	8.53	-0.97
International Small-Cap Funds	21.47	12.67	3.07
S&P/IFCI Composite	4.19	4.02	0.29
Emerging Markets Funds	5.34	3.77	-1.31

Source: S&P Dow Jones Indices, CRSP. June 30, 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 (Annualized %)	Five Years (Annualized %)
S&P Global 1200	18.62	14.09	3.31
Global Funds	18.59	12.94	4.01
S&P 700	16.53	9.74	-0.21
International Funds	17.46	10.09	0.28
S&P Developed Ex-U.S. SmallCap	15.59	8.53	-0.97
International Small-Cap Funds	21.12	13.22	4.16
S&P/IFCI Composite	4.19	4.02	0.29
Emerging Markets Funds	5.59	5.39	0.14

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**

Fund Category	Third Quartile	Second Quartile	First Quartile
Global Funds	14.02	17.54	20.55
International Funds	13.94	16.35	18.97
International Small-Cap Funds	18.64	21.31	25.17
Emerging Markets Funds	1.31	4.02	7.56

**Three Years**

Fund Category	Third Quartile	Second Quartile	First Quartile
Global Funds	11.04	13.13	14.84
International Funds	8.44	9.74	11.15
International Small-Cap Funds	10.41	13.56	14.8
Emerging Markets Funds	1.03	4.00	5.77

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 (continued)****Five Years**

Fund Category	Third Quartile	Second Quartile	First Quartile
Global Funds	1.62	3.57	5.08
International Funds	-1.79	-0.43	0.92
International Small-Cap Funds	1.22	3.10	4.39
Emerging Markets Funds	-3.27	-0.81	0.92

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 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	11.24	96.67	95.65
Government Intermediate Funds	Barclays Intermediate Government	80.00	70.00	60.00
Government Short Funds	Barclays 1-3 Year Government	86.67	56.82	55.56
Investment-Grade Long Funds	Barclays Long Government/Credit	4.51	88.24	90.00
Investment-Grade Intermediate Funds	Barclays Intermediate Government/Credit	43.45	38.43	40.00
Investment-Grade Short Funds	Barclays 1-3 Year Government/Credit	75.00	72.29	86.90
High Yield Funds	Barclays High Yield	65.16	83.50	93.62
Mortgage-Backed Securities Funds	Barclays Mortgage-Backed Securities	50.79	37.70	56.00
Global Income Funds	Barclays Global Aggregate	27.66	50.43	48.78
Emerging Markets Debt Funds	Barclays Emerging Markets	67.69	78.13	71.43
General Municipal Debt Funds	S&P National AMT-Free Municipal Bond	32.98	44.44	63.53
California Municipal Debt Funds	S&P California AMT-Free Municipal Bond	40.00	36.84	73.17
New York Municipal Debt Funds	S&P New York AMT-Free Municipal Bond	70.97	60.61	77.14

Source: S&P Dow Jones Indices, CRSP. For periods ended June 30, 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	96.63	95.51
Government Intermediate Funds	35	85.71	85.71
Government Short Funds	45	93.33	93.33
Investment-Grade Long Funds	133	96.24	87.97
Investment-Grade Intermediate Funds	290	93.45	93.45
Investment-Grade Short Funds	88	94.32	93.18
High Yield Funds	221	95.48	95.02
Mortgage-Backed Securities Funds	63	98.41	95.24
Global Income Funds	141	95.74	95.04
Emerging Markets Debt Funds	65	96.92	95.38
General Municipal Debt Funds	94	98.94	98.94
California Municipal Debt Funds	35	100.00	100.00
New York Municipal Debt Funds	31	96.77	96.77

**Three Years**

Fund Category	No. of Funds at Start	Survivorship (%)	Style Consistency (%)
Government Long Funds	90	78.89	76.67
Government Intermediate Funds	40	82.50	75.00
Government Short Funds	44	86.36	81.82
Investment-Grade Long Funds	136	88.24	75.74
Investment-Grade Intermediate Funds	281	81.14	80.43
Investment-Grade Short Funds	83	84.34	83.13
High Yield Funds	206	88.35	87.86
Mortgage-Backed Securities Funds	61	95.08	91.80
Global Income Funds	117	86.32	84.62
Emerging Markets Debt Funds	32	96.88	96.88
General Municipal Debt Funds	90	91.11	91.11
California Municipal Debt Funds	38	89.47	89.47
New York Municipal Debt Funds	33	84.85	84.85

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 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	46	80.43	78.26
Government Intermediate Funds	45	77.78	66.67
Government Short Funds	45	82.22	80.00
Investment-Grade Long Funds	100	79.00	64.00
Investment-Grade Intermediate Funds	225	76.00	72.89
Investment-Grade Short Funds	84	76.19	75.00
High Yield Funds	141	85.82	85.11
Mortgage-Backed Securities Funds	50	94.00	90.00
Global Income Funds	82	81.71	79.27
Emerging Markets Debt Funds	28	96.43	92.86
General Municipal Debt Funds	85	84.71	84.71
California Municipal Debt Funds	41	80.49	80.49
New York Municipal Debt Funds	35	77.14	77.14

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

Category	One Year (%)	Three Years (Annualized %)	Five Years (Annualized %)
Barclays Long Government	-8.18	6.18	7.50
Government Long Funds	-2.84	2.83	4.45
Barclays Intermediate Government	-0.58	2.33	3.80
Government Intermediate Funds	-0.95	2.14	3.70
Barclays 1-3 Year Government	0.34	0.85	2.06
Government Short Funds	-0.45	0.96	2.08
Barclays Long Government/Credit	-4.70	7.00	8.50
Investment-Grade Long Funds	1.64	5.29	6.11
Barclays Intermediate Government/Credit	0.28	3.13	4.57
Investment-Grade Intermediate Funds	0.87	3.67	5.03
Barclays 1-3 Year Government/Credit	2.06	2.55	3.87
Investment-Grade Short Funds	1.84	2.38	2.91
Barclays High Yield	9.50	10.75	10.94
High Yield Funds	8.57	9.46	8.48

Source: S&P Dow Jones Indices, CRSP. For periods ended June 30, 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 (Annualized %)	Five Years (Annualized %)
Barclays Mortgage-Backed Securities	-1.10	2.52	4.84
Mortgage-Backed Securities Funds	-0.55	2.97	4.51
Barclays Global Aggregate	-2.17	3.56	3.68
Global Income Funds	1.24	4.57	4.74
Barclays Emerging Markets	3.09	7.99	8.82
Emerging Markets Debt Funds	2.36	6.23	6.91
S&P National AMT-Free Municipal Bond	-0.26	4.35	5.11
General Municipal Debt Funds	0.05	4.29	4.62
S&P California AMT-Free Municipal Bond	0.46	5.09	5.42
California Municipal Debt Funds	0.60	5.33	5.15
S&P New York AMT-Free Municipal Bond	-0.42	4.03	4.99
New York Municipal Debt Funds	-0.55	3.94	4.64

Source: S&P Dow Jones Indices, CRSP. For periods ended June 30, 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 (Annualized %)	Five Years (Annualized %)
Barclays Long Government	-8.18	6.18	7.50
Government Long Funds	-2.47	3.33	4.68
Barclays Intermediate Government	-0.58	2.33	3.80
Government Intermediate Funds	-0.32	3.19	4.63
Barclays 1-3 Year Government	0.34	0.85	2.06
Government Short Funds	-1.77	2.24	3.04
Barclays Long Government/Credit	-4.70	7.00	8.50
Investment-Grade Long Funds	2.28	5.81	6.03
Barclays Intermediate Government/Credit	0.28	3.13	4.57
Investment-Grade Intermediate Funds	0.97	4.26	6.12
Barclays 1-3 Year Government/Credit	2.06	2.55	3.87
Investment-Grade Short Funds	1.68	2.61	3.36
Barclays High Yield	9.50	10.75	10.94
High Yield Funds	8.64	9.41	8.20
Barclays Mortgage-Backed Securities	-1.10	2.52	4.84
Mortgage-Backed Securities Funds	0.20	3.60	5.50
Barclays Global Aggregate	-2.17	3.56	3.68
Global Income Funds	3.66	5.32	5.73
Barclays Emerging Markets	3.09	7.99	8.82
Emerging Markets Debt Funds	1.71	6.29	6.61
S&P National Municipal Bond	-0.26	4.35	5.11
General Municipal Debt Funds	0.24	4.75	4.93
S&P California Municipal Bond	0.46	5.09	5.42
California Municipal Debt Funds	0.80	5.46	5.26
S&P New York Municipal Bond	-0.42	4.03	4.99
New York Municipal Debt Funds	-0.12	4.28	4.84

Source: S&P Dow Jones Indices, CRSP. For periods ended June 30, 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**

Fund Category	Third Quartile	Second Quartile	First Quartile
Government Long Funds	-4.37	-1.91	-1.15
Government Intermediate Funds	-1.84	-1.33	-0.63
Government Short Funds	-0.56	-0.20	0.15
Investment-Grade Long Funds	-0.38	1.27	2.83
Investment-Grade Intermediate Funds	-0.21	0.67	1.75
Investment-Grade Short Funds	0.69	1.18	2.34
High Yield Funds	7.34	8.58	10.11
Mortgage-Backed Securities Funds	-1.81	-1.09	-0.24
Global Income Funds	-2.16	0.96	3.97
Emerging Markets Debt Funds	0.58	1.89	3.85
General Municipal Debt Funds	-0.53	0.02	0.59
California Municipal Debt Funds	0.26	0.68	1.30
New York Municipal Debt Funds	-0.88	-0.72	-0.35

**Three Years**

Fund Category	Third Quartile	Second Quartile	First Quartile
Government Long Funds	1.94	2.66	4.24
Government Intermediate Funds	1.36	1.95	2.53
Government Short Funds	0.35	0.88	1.33
Investment-Grade Long Funds	3.79	4.64	6.36
Investment-Grade Intermediate Funds	3.19	4.10	4.89
Investment-Grade Short Funds	1.66	2.11	2.71
High Yield Funds	9.18	9.81	10.47
Mortgage-Backed Securities Funds	2.24	2.69	3.15
Global Income Funds	2.87	3.89	5.63
Emerging Markets Debt Funds	5.53	7.12	7.81
General Municipal Debt Funds	3.53	4.54	5.04
California Municipal Debt Funds	4.84	5.26	5.77
New York Municipal Debt Funds	3.57	3.91	4.37

**Five Years**

Fund Category	Third Quartile	Second Quartile	First Quartile
Government Long Funds	3.50	4.32	5.13
Government Intermediate Funds	3.26	3.82	4.27
Government Short Funds	1.54	2.16	2.60
Investment-Grade Long Funds	4.62	5.91	7.54
Investment-Grade Intermediate Funds	4.79	5.69	6.50
Investment-Grade Short Funds	2.38	3.06	3.65
High Yield Funds	7.99	8.84	9.72
Mortgage-Backed Securities Funds	4.13	4.72	5.46
Global Income Funds	3.40	4.25	5.64
Emerging Markets Debt Funds	6.52	8.15	8.98
General Municipal Debt Funds	4.30	4.94	5.45
California Municipal Debt Funds	4.84	5.15	5.56
New York Municipal Debt Funds	4.47	4.65	5.01

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.

## 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 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 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 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 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 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 Indices, please visit [www.indices.standardandpoors.com](http://www.indices.standardandpoors.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 Index**

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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