



## S&P INDICES VERSUS ACTIVE FUNDS (SPIVA®) SCORECARD

### Summary

- The year 2012 marked the return of the double digit gains across all the domestic and global equity benchmark indices. The gains passive indices made did not, however, translate into active management, as most active managers in all categories except large-cap growth and real estate funds underperformed their respective benchmarks in 2012. Performance lagged behind the benchmark indices for 63.25% of large-cap funds, 80.45% of mid-cap funds and 66.5% of small cap funds.
- The performance figures are equally unfavorable for active funds when viewed over three- and five- year horizons. Managers across all domestic equity categories lagged behind the benchmarks over the three-year horizon. The five-year horizon yielded similar results, with large-cap value emerging as the only category that maintained performance parity relative to its benchmark.
- Among international equity categories, 66.26% of global funds, 56.27% of international funds and 57.62% of emerging markets funds were outperformed by benchmarks over the past three years. A large percentage of international small-cap funds, on the other hand, continue to outperform the benchmark regardless of the period being measured, indicating that active management opportunities are still present in this space.
- Actively managed fixed income funds fared better than their equity counterparts in 2012. Most fixed income funds outperformed their benchmark indices except for funds in the longer term government, longer term investment-grade and high-yield categories. The picture is less rosy, however, when viewed over the five-year period. Actively managed fixed income funds in nearly all the categories saw their performances lag behind the benchmark indices. 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 rather heavily optimized with occasionally high tracking errors.
- The annual league tables over the past 10 years demonstrate that short-term outcomes (such as one-year performance figures) of the index versus active debate are less consistent than longer-term outcomes.
- The turmoil of the past five years saw nearly 27% of domestic equity funds, 23% of international equity funds and 18% of fixed income funds merge or liquidate.

### Year-End 2012

#### Contributor:

**Aye Soe**

Director, Global Research & Design

[aye\\_soe@spdji.com](mailto:aye_soe@spdji.com)

*Want more? Sign up to receive complimentary updates on a broad range of index-related topics and events brought to you by S&P Dow Jones Indices.*

[www.spdji.com/spindices](http://www.spdji.com/spindices)

## 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 inception over 10 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—which are less frequently discussed but 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<sup>®</sup>, 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 TABLES OVER THE PAST 10 YEARS

**Exhibit 1: Annual League Tables**

Fund Category	Benchmark Index	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Average
All Domestic Funds	S&P Composite 1500	47.7	51.4	44.0	67.8	48.8	64.23	41.67	57.63	84.07	66.08	57.3
All Large-Cap Funds	S&P 500	64.6	61.6	44.5	69.1	44.8	54.34	50.75	61.83	81.28	63.25	59.6
All Mid-Cap Funds	S&P MidCap 400	56.4	61.8	76.0	46.7	46.4	74.74	57.60	78.19	67.36	80.45	64.6
All Small-Cap Funds	S&P SmallCap 600	38.8	85.0	60.5	63.6	45.0	83.77	32.22	63.02	85.78	66.50	62.4
Large-Cap Growth Fund	S&P 500 Growth	44.7	39.5	31.6	76.1	31.6	89.95	39.15	82.00	95.63	46.08	57.6
Large-Cap Core Funds	S&P 500	66.0	66.9	44.6	71.3	44.0	52.03	52.06	63.20	81.31	66.29	60.8
Large-Cap Value Funds	S&P 500 Value	78.5	83.2	58.8	87.7	46.3	22.17	46.24	34.67	54.26	85.06	59.7
Mid-Cap Growth Funds	S&P MidCap 400 Growth	31.7	59.6	78.5	34.8	39.3	88.95	59.60	82.14	75.39	87.22	63.7
Mid-Cap Core Funds	S&P MidCap 400	50.0	51.8	72.4	35.9	64.6	62.28	68.60	82.00	64.07	79.66	63.1
Mid-Cap Value Funds	S&P MidCap 400 Value	81.9	63.6	71.8	38.4	56.1	67.06	47.83	71.76	64.86	76.24	64.0
Small-Cap Growth Fund	S&P SmallCap 600 Growth	35.3	93.6	72.2	52.1	39.4	95.50	33.49	72.68	93.75	63.72	65.2
Small-Cap Core Funds	S&P SmallCap 600	33.3	82.9	61.4	62.8	51.9	82.46	34.45	60.21	86.10	68.44	62.4
Small-Cap Value Funds	S&P SmallCap 600 Value	49.3	77.5	46.0	76.7	39.8	72.55	26.27	51.81	83.00	61.83	58.5

Source: Standard &amp; Poor's 2003-2006; S&amp;P Indices, CRSP 2007-2012

## 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	66.08	74.35	68.56
All Large-Cap Funds	S&P 500	63.25	86.49	75.37
All Mid-Cap Funds	S&P MidCap 400	80.45	90.22	90.03
All Small-Cap Funds	S&P SmallCap 600	66.5	83.05	82.76
All Multi-Cap Funds	S&P Composite 1500	68.15	83.79	79.16
Large-Cap Growth Funds	S&P 500 Growth	46.08	90	89.67
Large-Cap Core Funds	S&P 500	66.29	89.82	78.10
Large-Cap Value Funds	S&P 500 Value	85.06	80.78	49.78
Mid-Cap Growth Funds	S&P MidCap 400 Growth	87.22	94.2	96.00
Mid-Cap Core Funds	S&P MidCap 400	79.66	90.97	89.81
Mid-Cap Value Funds	S&P MidCap 400 Value	76.24	78.57	74.49
Small-Cap Growth Funds	S&P SmallCap 600 Growth	63.72	87.65	92.23
Small-Cap Core Funds	S&P SmallCap 600	68.44	84.73	79.65
Small-Cap Value Funds	S&P SmallCap 600 Value	61.83	77.6	68.93
Multi-Cap Growth Funds	S&P Composite 1500 Growth	52.21	81.78	91.46
Multi-Cap Core Funds	S&P Composite 1500	72.68	85.98	78.67
Multi-Cap Value Funds	S&P Composite 1500 Value	73.76	85.62	62.18
Real Estate Funds	S&P BMI United States REIT	47.1	85.71	77.88

Source: S&P Dow Jones Indices, CRSP. For periods ended Dec. 31, 2012. 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	2898	93.75	76.57
All Large-Cap Funds	1102	93.19	79.67
All Mid-Cap Funds	399	93.48	72.43
All Small-Cap Funds	609	95.24	78.65
All Multi-Cap Funds	788	93.53	72.72
Large-Cap Growth Funds	332	91.57	81.02
Large-Cap Blend Funds	442	92.53	77.60
Large-Cap Value Funds	328	95.73	81.10
Mid-Cap Growth Funds	180	93.33	80.56
Mid-Cap Blend Funds	118	91.53	73.73
Mid-Cap Value Funds	101	96.04	56.44
Small-Cap Growth Funds	215	93.95	88.84
Small-Cap Blend Funds	263	94.3	76.81
Small-Cap Value Funds	131	99.24	65.65
Multi-Cap Growth Funds	226	93.81	70.35
Multi-Cap Core Funds	421	93.59	78.38
Multi-Cap Value Funds	141	92.91	59.57
Real Estate Funds	138	99.28	99.28

**Three Years**

Fund Category	No. of Funds at Start	Survivorship (%)	Style Consistency (%)
All Domestic Funds	2971	83.31	59.04
All Large-Cap Funds	1066	81.80	64.73
All Mid-Cap Funds	460	81.96	51.74
All Small-Cap Funds	643	86.16	64.85
All Multi-Cap Funds	802	83.79	51.00
Large-Cap Growth Funds	350	83.43	67.14
Large-Cap Blend Funds	383	79.90	63.97
Large-Cap Value Funds	333	82.28	63.06

Source: S&P Dow Jones Indices, CRSP. For periods ended Dec. 31, 2012. 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	207	79.23	61.35
Mid-Cap Blend Funds	155	83.23	47.10
Mid-Cap Value Funds	98	85.71	38.78
Small-Cap Growth Funds	243	84.36	71.6
Small-Cap Blend Funds	275	86.18	64.73
Small-Cap Value Funds	125	89.60	52.00
Multi-Cap Growth Funds	214	81.31	48.60
Multi-Cap Core Funds	435	85.52	57.93
Multi-Cap Value Funds	153	82.35	34.64
Real Estate Funds	140	92.14	92.14

**Five Years**

Fund Category	No. of Funds at Start	Survivorship (%)	Style Consistency (%)
All Domestic Funds	2252	73.31	46.85
All Large-Cap Funds	682	72.29	54.55
All Mid-Cap Funds	381	73.49	41.73
All Small-Cap Funds	522	74.52	50.19
All Multi-Cap Funds	667	73.31	39.28
Large-Cap Growth Funds	213	71.36	55.40
Large-Cap Blend Funds	242	70.66	51.24
Large-Cap Value Funds	227	74.89	57.27
Mid-Cap Growth Funds	175	66.86	46.29
Mid-Cap Blend Funds	108	77.78	43.52
Mid-Cap Value Funds	98	80.61	31.63
Small-Cap Growth Funds	193	72.02	56.48
Small-Cap Blend Funds	226	75.66	51.77
Small-Cap Value Funds	103	76.7	34.95
Multi-Cap Growth Funds	164	72.56	35.37
Multi-Cap Core Funds	347	75.22	45.24
Multi-Cap Value Funds	156	69.87	30.13
Real Estate Funds	113	82.30	82.30

Source: S&P Dow Jones Indices, CRSP. For periods ended Dec. 31, 2012. 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	16.17	11.22	2.07
All Domestic Funds	14.66	9.84	1.59
S&P 500	15.98	10.86	1.66
All Large-Cap Funds	14.67	8.95	0.86
S&P MidCap 400	17.89	13.63	5.16
All Mid-Cap Funds	14.53	10.87	2.37
S&P SmallCap 600	16.33	14.07	5.14
All Small-Cap Funds	14.58	11.56	2.97
S&P Composite 1500	16.17	11.22	2.07
All Multi-Cap Funds	14.60	8.92	0.85
<b>Large-Cap</b>			
S&P 500 Growth	14.60	11.32	3.39
Large-Cap Growth Funds	15.35	9.14	0.96
S&P 500	15.98	10.86	1.66
Large-Cap Core Funds	14.44	8.66	0.71
S&P 500 Value	17.70	10.47	-0.14
Large-Cap Value Funds	14.16	9.00	0.79
<b>Mid-Cap</b>			
S&P MidCap 400 Growth	17.26	14.90	5.95
Mid-Cap Growth Funds	13.60	11.07	1.71
S&P MidCap 400	17.89	13.63	5.16
Mid-Cap Core Funds	14.77	10.69	2.58
S&P MidCap 400 Value	18.58	12.41	4.35
Mid-Cap Value Funds	15.88	10.54	3.17

Source: S&P Dow Jones Indices, CRSP. For periods ended Dec. 31, 2012. 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	14.57	14.98	5.51
Small-Cap Growth Funds	12.86	11.31	1.83
S&P SmallCap 600	16.33	14.07	5.14
Small-Cap Core Funds	15.26	11.73	3.33
S&P SmallCap 600 Value	18.21	13.29	4.72
Small-Cap Value Funds	16.42	11.35	4.02
<b>Multi-Cap</b>			
S&P Composite 1500 Growth	14.8	11.76	3.69
Multi-Cap Growth Funds	14.07	8.97	0.59
S&P Composite 1500	16.17	11.22	2.07
Multi-Cap Core Funds	14.53	8.87	1.08
S&P Composite 1500 Value	17.79	10.73	0.40
Multi-Cap Value Funds	15.7	8.99	0.49
<b>Real Estate</b>			
S&P BMI U.S. REIT	17.98	18.03	5.45
Real Estate Funds	22.26	15.01	3.47

Source: S&P Dow Jones Indices, CRSP. For periods ended Dec. 31, 2012. 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	16.17	11.22	2.07
All Domestic Funds	15.69	9.75	1.58
S&P 500	15.98	10.86	1.66
All Large-Cap Funds	15.57	9.31	1.05
S&P MidCap 400	17.89	13.63	5.16
All Mid-Cap Funds	15.69	11.11	2.72
S&P SmallCap 600	16.33	14.07	5.14
All Small-Cap Funds	14.81	11.96	3.68
S&P Composite 1500	16.17	11.22	2.07
All Multi-Cap Funds	16.24	9.09	1.20

Source: S&P Dow Jones Indices, CRSP. For periods ended Dec. 31, 2012. All index returns used are total returns. Charts are provided for illustrative purposes. Past performance is not a guarantee of future results.



<b>Report 4: Average U.S. Equity Fund Performance (Asset-Weighted, continued)</b>			
<b>Category</b>	<b>One Year (%)</b>	<b>Three Years (Annualized %)</b>	<b>Five Years (Annualized %)</b>
<b>Large-Cap</b>			
S&P 500 Growth	14.6	11.32	3.39
Large-Cap Growth Funds	16.7	9.53	0.66
S&P 500	15.98	10.86	1.66
Large-Cap Core Funds	15.62	8.64	0.47
S&P 500 Value	17.70	10.47	-0.14
Large-Cap Value Funds	14.64	9.31	1.14
<b>Mid-Cap</b>			
S&P MidCap 400 Growth	17.26	14.9	5.95
Mid-Cap Growth Funds	14.49	11.33	2.12
S&P MidCap 400	17.89	13.63	5.16
Mid-Cap Core Funds	16.12	11.07	3.09
S&P MidCap 400 Value	18.58	12.41	4.35
Mid-Cap Value Funds	17.34	10.56	2.87
<b>Small-Cap</b>			
S&P SmallCap 600 Growth	14.57	14.98	5.51
Small-Cap Growth Funds	14.95	12.78	3.32
S&P SmallCap 600	16.33	14.07	5.14
Small-Cap Core Funds	14.75	11.72	3.71
S&P SmallCap 600 Value	18.21	13.29	4.72
Small-Cap Value Funds	15.36	11.14	4.13
<b>Multi-Cap</b>			
S&P Composite 1500 Growth	14.8	11.76	3.69
Multi-Cap Growth Funds	16.41	10.67	1.86
S&P Composite 1500	16.17	11.22	2.07
Multi-Cap Core Funds	15.28	8.95	1.46
S&P Composite 1500 Value	17.79	10.73	0.40
Multi-Cap Value Funds	18.02	8.23	0.31
<b>Real Estate</b>			
S&P BMI U.S. REIT	17.98	18.03	5.45
Real Estate Funds	21.77	15.25	3.74

Source: S&P Dow Jones Indices, CRSP. For periods ended Dec. 31, 2012. 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	13.69	15.73	17.78
Large-Cap Core Funds	12.36	14.85	16.74
Large-Cap Value Funds	12.72	14.77	16.87
Mid-Cap Growth Funds	11.38	13.96	16.22
Mid-Cap Core Funds	11.55	15.17	17.52
Mid-Cap Value Funds	14.01	16.39	18.57
Small-Cap Growth Funds	10.98	13.20	16.26
Small-Cap Core Funds	12.18	14.76	17.12
Small-Cap Value Funds	13.45	16.91	19.18
Multi-Cap Growth Funds	11.49	14.90	17.82
Multi-Cap Core Funds	12.39	14.46	16.48
Multi-Cap Value Funds	12.99	15.73	18.41
Real Estate Funds	16.64	18.37	28.31

**Three Years**

Fund Category	Third Quartile	Second Quartile	First Quartile
Large-Cap Growth Funds	7.79	9.12	10.44
Large-Cap Core Funds	7.41	9.10	10.26
Large-Cap Value Funds	7.96	9.34	10.43
Mid-Cap Growth Funds	9.14	11.28	12.91
Mid-Cap Core Funds	9.80	11.21	12.31
Mid-Cap Value Funds	9.53	11.18	12.30
Small-Cap Growth Funds	10.31	12.25	14.04
Small-Cap Core Funds	10.18	11.85	13.60
Small-Cap Value Funds	10.10	11.83	13.25
Multi-Cap Growth Funds	7.78	9.91	11.39
Multi-Cap Core Funds	7.21	8.47	10.11
Multi-Cap Value Funds	7.51	8.74	10.10
Real Estate Funds	12.20	15.62	17.56

**Five Years**

Fund Category	Third Quartile	Second Quartile	First Quartile
Large-Cap Growth Funds	-0.35	1.51	2.65
Large-Cap Core Funds	-0.19	0.89	1.96
Large-Cap Value Funds	-0.55	1.06	1.85
Mid-Cap Growth Funds	-0.23	1.80	3.42
Mid-Cap Core Funds	1.42	2.68	4.07
Mid-Cap Value Funds	0.95	3.20	4.87
Small-Cap Growth Funds	0.51	2.49	4.08
Small-Cap Core Funds	2.07	3.65	5.21
Small-Cap Value Funds	2.85	4.14	5.71
Multi-Cap Growth Funds	-0.98	1.08	2.40
Multi-Cap Core Funds	-0.33	0.99	2.34
Multi-Cap Value Funds	-1.20	0.49	2.32
Real Estate Funds	0.94	3.44	5.53

Source: S&P Dow Jones Indices, CRSP. For periods ended Dec. 31, 2012. 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	63.84	66.26	61.60
International Funds	S&P 700	44.25	56.27	73.73
International Small-Cap Funds	S&P Developed Ex-U.S. SmallCap	14.75	9.80	21.05
Emerging Markets Funds	S&P/IFCI Composite	46.23	57.62	75.51

Source: S&P Dow Jones Indices, CRSP. For periods ended Dec. 31, 2012. 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	224	93.75	93.75
International Funds	348	92.82	90.8
International Small-Cap Funds	61	98.36	95.08
Emerging Markets Funds	199	95.48	95.48

**Three Years**

Fund Category	No. of Funds at Start	Survivorship (%)	Style Consistency (%)
Global Funds	163	77.91	77.3
International Funds	343	83.67	81.92
International Small-Cap Funds	51	96.08	94.12
Emerging Markets Funds	151	88.74	88.74

**Five Years**

Fund Category	No. of Funds at Start	Survivorship (%)	Style Consistency (%)
Global Funds	125	73.6	72
International Funds	316	75	74.05
International Small-Cap Funds	57	87.72	77.19
Emerging Markets Funds	98	81.63	81.63

Source: S&P Dow Jones Indices, CRSP. For periods ended Dec. 31, 2012. 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	16.82	7.48	-0.42
Global Funds	14.46	6.42	-0.66
S&P 700	17.63	4.29	-2.39
International Funds	17.86	4.38	-3.23
S&P Developed Ex-U.S. SmallCap	15.39	4.66	-3.86
International Small-Cap Funds	21.68	8.34	-0.15
S&P/IFCI Composite	18.89	5.10	-0.56
Emerging Markets Funds	19.39	4.42	-2.46

Source: S&P Dow Jones Indices, CRSP. Dec. 31, 2012. 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	16.82	7.48	-0.42
Global Funds	16.28	6.74	0.23
S&P 700	17.63	4.29	-2.39
International Funds	19.26	4.76	-2.57
S&P Developed Ex-U.S. SmallCap	15.39	4.66	-3.86
International Small-Cap Funds	22.18	8.54	1.04
S&P/IFCI Composite	18.89	5.10	-0.56
Emerging Markets Funds	20.10	5.92	-0.83

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

One Year			
Fund Category	Third Quartile	Second Quartile	First Quartile
Global Funds	12.41	15.44	18.94
International Funds	15.8	18.17	20.18
International Small-Cap Funds	18.9	22.11	24.17
Emerging Markets Funds	16.39	19.56	21.82
Three Years			
Fund Category	Third Quartile	Second Quartile	First Quartile
Global Funds	5.39	6.96	8.68
International Funds	2.97	4.36	6.02
International Small-Cap Funds	6.46	8.64	10.08
Emerging Markets Funds	1.91	4.82	6.22

Source: S&P Dow Jones Indices, CRSP. For periods ended Dec. 31, 2012. 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	-2.33	-0.30	1.21
International Funds	-4.80	-3.36	-1.85
International Small-Cap Funds	-2.05	-0.50	1.30
Emerging Markets Funds	-3.91	-2.18	-0.38

**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	68.89	97.65	93.75
Government Intermediate Funds	Barclays Intermediate Government	30.77	58.54	50.00
Government Short Funds	Barclays 1-3 Year Government	39.53	47.73	58.70
Investment-Grade Long Funds	Barclays Long Government/Credit	60.74	97.81	94.95
Investment-Grade Intermediate Funds	Barclays Intermediate Government/Credit	21.25	36.63	40.18
Investment-Grade Short Funds	Barclays 1-3 Year Government/Credit	48.78	64.56	90.36
High Yield Funds	Barclays High Yield	74.07	93.56	95.00
Mortgage-Backed Securities Funds	Barclays Mortgage-Backed Securities	26.56	34.43	60.00
Global Income Funds	Barclays Global Aggregate	21.80	46.43	57.53
Emerging Markets Debt Funds	Barclays Emerging Markets	50.85	65.52	60.00
General Municipal Debt Funds	S&P National AMT-Free Municipal Bond	29.03	44.44	60.00
California Municipal Debt Funds	S&P California AMT-Free Municipal Bond	14.29	50.00	76.19
New York Municipal Debt Funds	S&P New York AMT-Free Municipal Bond	21.88	52.94	86.11

Source: S&P Dow Jones Indices, CRSP. For periods ended Dec. 31, 2012. 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	90	94.44	94.44
Government Intermediate Funds	39	92.31	82.05
Government Short Funds	43	93.02	90.70
Investment-Grade Long Funds	135	96.30	89.63
Investment-Grade Intermediate Funds	287	94.77	93.03
Investment-Grade Short Funds	82	95.12	95.12
High Yield Funds	216	97.69	97.69
Mortgage-Backed Securities Funds	64	100.00	98.44
Global Income Funds	133	96.99	96.24
Emerging Markets Debt Funds	59	98.31	98.31
General Municipal Debt Funds	93	96.77	96.77
California Municipal Debt Funds	35	97.14	97.14
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	85	80.00	78.82
Government Intermediate Funds	41	87.80	78.05
Government Short Funds	44	86.36	81.82
Investment-Grade Long Funds	137	89.78	78.1
Investment-Grade Intermediate Funds	273	83.15	80.95
Investment-Grade Short Funds	79	86.08	84.81
High Yield Funds	202	90.59	90.59
Mortgage-Backed Securities Funds	61	95.08	93.44
Global Income Funds	112	88.39	85.71
Emerging Markets Debt Funds	29	96.55	96.55
General Municipal Debt Funds	90	87.78	87.78
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, 2012. 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	48	79.17	72.92
Government Intermediate Funds	46	84.78	67.39
Government Short Funds	46	80.43	78.26
Investment-Grade Long Funds	99	77.78	66.67
Investment-Grade Intermediate Funds	224	76.79	74.11
Investment-Grade Short Funds	83	78.31	78.31
High Yield Funds	140	87.14	86.43
Mortgage-Backed Securities Funds	50	94.00	92.00
Global Income Funds	73	86.30	80.82
Emerging Markets Debt Funds	25	96.00	92.00
General Municipal Debt Funds	85	83.53	83.53
California Municipal Debt Funds	42	78.57	78.57
New York Municipal Debt Funds	36	77.78	77.78

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

Category	One Year (%)	Three Years (Annualized %)	Five Years (Annualized %)
Barclays Long Government	3.78	13.62	9.58
Government Long Funds	3.72	6.15	5.62
Barclays Intermediate Government	1.72	4.24	4.51
Government Intermediate Funds	2.87	4.24	4.51
Barclays 1-3 Year Government	0.51	1.48	2.48
Government Short Funds	1.25	1.94	2.62
Barclays Long Government/Credit	8.77	13.65	10.16
Investment-Grade Long Funds	8.41	7.97	6.51
Barclays Intermediate Government/Credit	3.89	5.19	5.17
Investment-Grade Intermediate Funds	6.01	5.99	5.41
Barclays 1-3 Year Government/Credit	3.70	3.19	4.23
Investment-Grade Short Funds	3.80	3.20	2.98
Barclays High Yield	15.82	11.86	10.33
High Yield Funds	14.18	10.29	7.86

Source: S&P Dow Jones Indices, CRSP. For periods ended Dec. 31, 2012. 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	2.61	4.72	5.67
Mortgage-Backed Securities Funds	3.73	5.45	5.03
Barclays Global Aggregate	4.31	5.17	5.44
Global Income Funds	7.91	6.29	5.89
Barclays Emerging Markets	17.92	12.49	10.24
Emerging Markets Debt Funds	17.48	10.46	8.43
S&P National AMT-Free Municipal Bond	6.19	6.51	5.67
General Municipal Debt Funds	8.33	6.53	5.25
S&P California AMT-Free Municipal Bond	7.31	7.59	5.97
California Municipal Debt Funds	9.97	7.86	5.70
S&P New York AMT-Free Municipal Bond	6.11	6.23	5.69
New York Municipal Debt Funds	7.55	6.38	5.33

Source: S&P Dow Jones Indices, CRSP. For periods ended Dec. 31, 2012. 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.



<b>Report 14: Average Fixed Income Fund Performance (Asset-Weighted)</b>			
<b>Category</b>	<b>One Year (%)</b>	<b>Three Years (Annualized %)</b>	<b>Five Years (Annualized %)</b>
Barclays Long Government	3.78	13.62	9.58
Government Long Funds	4.09	6.49	5.92
Barclays Intermediate Government	1.72	4.24	4.51
Government Intermediate Funds	4.02	5.42	5.35
Barclays 1-3 Year Government	0.51	1.48	2.48
Government Short Funds	3.98	4.44	4.34
Barclays Long Government/Credit	8.77	13.65	10.16
Investment-Grade Long Funds	9.68	8.57	6.35
Barclays Intermediate Government/Credit	3.89	5.19	5.17
Investment-Grade Intermediate Funds	8.32	7.08	6.73
Barclays 1-3 Year Government/Credit	3.70	3.19	4.23
Investment-Grade Short Funds	4.57	3.75	3.40
Barclays High Yield	15.82	11.86	10.33
High Yield Funds	14.27	10.22	7.56
Barclays Mortgage-Backed Securities	2.61	4.72	5.67
Mortgage-Backed Securities Funds	4.47	6.08	6.03
Barclays Global Aggregate	4.31	5.17	5.44
Global Income Funds	10.91	6.90	6.74
Barclays Emerging Markets	17.92	12.49	10.24
Emerging Markets Debt Funds	17.49	10.56	8.39
S&P National Municipal Bond	6.19	6.51	5.67
General Municipal Debt Funds	9.03	7.05	5.52
S&P California Municipal Bond	7.31	7.59	5.97
California Municipal Debt Funds	10.28	7.97	5.71
S&P New York Municipal Bond	6.11	6.23	5.69
New York Municipal Debt Funds	8.32	6.85	5.27

Source: S&P Dow Jones Indices, CRSP. For periods ended Dec. 31, 2012. 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	2.10	3.34	5.33
Government Intermediate Funds	1.80	2.11	2.73
Government Short Funds	0.28	1.02	1.60
Investment-Grade Long Funds	5.87	7.89	10.94
Investment-Grade Intermediate Funds	4.69	6.39	8.09
Investment-Grade Short Funds	2.70	3.86	4.80
High Yield Funds	13.18	14.71	16.20
Mortgage-Backed Securities Funds	2.60	2.98	3.83
Global Income Funds	5.24	7.40	10.41
Emerging Markets Debt Funds	16.23	17.97	19.69
General Municipal Debt Funds	5.83	8.17	10.07
California Municipal Debt Funds	8.71	9.86	11.08
New York Municipal Debt Funds	6.38	7.22	8.59

**Three Years**

Fund Category	Third Quartile	Second Quartile	First Quartile
Government Long Funds	4.44	5.51	8.10
Government Intermediate Funds	3.13	4.10	5.16
Government Short Funds	1.16	1.63	2.43
Investment-Grade Long Funds	6.45	7.34	9.31
Investment-Grade Intermediate Funds	5.35	6.78	7.54
Investment-Grade Short Funds	2.37	2.97	3.77
High Yield Funds	10.11	10.75	11.29
Mortgage-Backed Securities Funds	4.52	5.32	5.98
Global Income Funds	4.46	5.90	8.18
Emerging Markets Debt Funds	9.96	12.03	12.73
General Municipal Debt Funds	5.84	6.79	7.67
California Municipal Debt Funds	7.31	7.73	8.46
New York Municipal Debt Funds	5.96	6.30	7.18

**Five Years**

Fund Category	Third Quartile	Second Quartile	First Quartile
Government Long Funds	4.47	5.40	6.64
Government Intermediate Funds	3.92	4.63	5.43
Government Short Funds	2.02	2.64	3.12
Investment-Grade Long Funds	5.18	6.58	7.80
Investment-Grade Intermediate Funds	5.35	6.11	7.06
Investment-Grade Short Funds	2.22	3.34	3.72
High Yield Funds	7.34	8.23	9.07
Mortgage-Backed Securities Funds	4.95	5.54	6.13
Global Income Funds	4.58	5.42	7.17
Emerging Markets Debt Funds	9.05	9.84	10.53
General Municipal Debt Funds	4.96	5.67	6.07
California Municipal Debt Funds	5.46	5.73	6.02
New York Municipal Debt Funds	5.14	5.45	5.63

Source: S&P Dow Jones Indices, CRSP. For periods ended Dec. 31, 2012. 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.

### U.S. Equity:

#### *S&P 500<sup>®</sup>*

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<sup>®</sup>*

This index consists of 400 mid-sized companies and covers approximately 7% of the U.S. equities market.

#### *S&P SmallCap 600<sup>®</sup>*

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

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

(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).

<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.

## Index Research & Design Contact Information

### Global Head

Frank Luo	frank_luo@spdji.com
-----------	---------------------

### New York

Joseph Guirguis	joseph_guirguis@spdji.com
Qing Li	qing_li@spdji.com
Berlinda Liu	berlinda_liu@spdji.com
Aye Soe	aye_soe@spdji.com
Peter Tsui	peter_tsui@spdji.com

### Beijing

Liyu Zeng	liyu_zeng@spdji.com
-----------	---------------------

### Hong Kong

Priscilla Luk	priscilla_luk@spdji.com
---------------	-------------------------

### London

Xiaowei Kang	xiaowei_kang@spdji.com
Daniel Ung	daniel_ung@spdji.com

## Disclaimer

Copyright © 2013 by S&P Dow Jones Indices LLC, a subsidiary of The McGraw-Hill Companies, Inc., and/or its affiliates. All rights reserved. Standard & Poor's, S&P and SPIVA are registered trademarks of Standard & Poor's Financial Services LLC ("S&P"), a subsidiary of The McGraw-Hill Companies, Inc. Dow Jones is a registered trademark of Dow Jones Trademark Holdings LLC ("Dow Jones"). Trademarks have been licensed to S&P Dow Jones Indices LLC. Redistribution, reproduction and/or photocopying in whole or in part are prohibited without written permission. This document does not constitute an offer of services in jurisdictions where S&P Dow Jones Indices LLC, Dow Jones, S&P or their respective affiliates (collectively "S&P Dow Jones Indices") do not have the necessary licenses. All information provided by S&P Dow Jones Indices is impersonal and not tailored to the needs of any person, entity or group of persons. S&P Dow Jones Indices receives compensation in connection with licensing its indices to third parties. Past performance of an index is not a guarantee of future results.

It is not possible to invest directly in an index. Exposure to an asset class represented by an index is available through investable instruments based on that index. S&P Dow Jones Indices does not sponsor, endorse, sell, promote or manage any investment fund or other investment vehicle that is offered by third parties and that seeks to provide an investment return based on the performance of any index. S&P Dow Jones Indices makes no assurance that investment products based on the index will accurately track index performance or provide positive investment returns. S&P Dow Jones Indices LLC is not an investment advisor, and S&P Dow Jones Indices makes no representation regarding the advisability of investing in any such investment fund or other investment vehicle. A decision to invest in any such investment fund or other investment vehicle should not be made in reliance on any of the statements set forth in this document. Prospective investors are advised to make an investment in any such fund or other vehicle only after carefully considering the risks associated with investing in such funds, as detailed in an offering memorandum or similar document that is prepared by or on behalf of the issuer of the investment fund or other vehicle. Inclusion of a security within an index is not a recommendation by S&P Dow Jones Indices to buy, sell, or hold such security, nor is it considered to be investment advice.

These materials have been prepared solely for informational purposes based upon information generally available to the public from sources believed to be reliable. No content contained in these materials (including index data, ratings, credit-related analyses and data, model, software or other application or output therefrom) or any part thereof (Content) may be modified, reverse-engineered, reproduced or distributed in any form by any means, or stored in a database or retrieval system, without the prior written permission of S&P Dow Jones Indices. The Content shall not be used for any unlawful or unauthorized purposes. S&P Dow Jones Indices and its third-party data providers and licensors (collectively "S&P Dow Jones Indices Parties") do not guarantee the accuracy, completeness, timeliness or availability of the Content. S&P Dow Jones Indices Parties are not responsible for any errors or omissions, regardless of the cause, for the results obtained from the use of the Content. THE CONTENT IS PROVIDED ON AN "AS IS" BASIS. S&P DOW JONES INDICES PARTIES DISCLAIM ANY AND ALL EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE, FREEDOM FROM BUGS, SOFTWARE ERRORS OR DEFECTS, THAT THE CONTENT'S FUNCTIONING WILL BE UNINTERRUPTED OR THAT THE CONTENT WILL OPERATE WITH ANY SOFTWARE OR HARDWARE CONFIGURATION. In no event shall S&P Dow Jones Indices Parties be liable to any party for any direct, indirect, incidental, exemplary, compensatory, punitive, special or consequential damages, costs, expenses, legal fees, or losses (including, without limitation, lost income or lost profits and opportunity costs) in connection with any use of the Content even if advised of the possibility of such damages.

S&P Dow Jones Indices keeps certain activities of its business units separate from each other in order to preserve the independence and objectivity of their respective activities. As a result, certain business units of S&P Dow Jones Indices may have information that is not available to other business units. S&P Dow Jones Indices has established policies and procedures to maintain the confidentiality of certain non-public information received in connection with each analytical process.

In addition, S&P Dow Jones Indices provides a wide range of services to, or relating to, many organizations, including issuers of securities, investment advisers, broker-dealers, investment banks, other financial institutions and financial intermediaries, and accordingly may receive fees or other economic benefits from those organizations, including organizations whose securities or services they may recommend, rate, include in model portfolios, evaluate or otherwise address.