

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

### Summary

- There is nothing novel about the index versus active debate. It has been a contentious subject for decades, and there are strong opinions on both sides. This is the tenth anniversary of the SPIVA Scorecard, and over the last decade it has served as the de facto scorekeeper of this debate.
- 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.
- There are no consistent or useful trends to be found in annual active versus index figures. The only consistent data point we have observed over a five-year horizon is that a majority of active equity and bond managers in most categories lag comparable benchmark indices.
- There is a common perception that the large-cap market is efficient and should be indexed while the small-cap market is inefficient and should be active. This principle has stood the test of time; indexing continues to be much more deeply entrenched in the U.S. large-cap market than the U.S. small-cap market. However, over the last decade, SPIVA has consistently shown that indexing works as well for U.S. small-caps as it does for U.S. large-caps.
- Bear markets should generally favor active managers. Instead of being 100% invested in a market that is turning south, active managers would have the opportunity to move to cash, or seek more defensive positions. Unfortunately, that opportunity does not often translate to reality. In the two true bear markets the SPIVA Scorecard has tracked over the last decade, most active equity managers failed to beat their benchmarks.
- The nine-style box is a ubiquitous part of the equity investing landscape. The assumption underlying this technique is that styles stay consistent. However, SPIVA Scorecards over the past decade have shown that over a three-year horizon, only half to three quarters of funds survive and remain in their original style box. Such style creeps do not bode well for style box-driven asset allocation.

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## A DECADE OF SCOREKEEPING

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 it was first published ten 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.

Ten years ago, we created SPIVA as a skunk works project, responding to all the noise in the market about relative merits of active versus passive investing. Outside the rarefied world of academia, much of the active versus passive debate was based on numbers that we felt were not robust. The SPIVA Scorecard was an attempt to bring to the corporate world some of the averaging schemes, appropriate benchmark comparisons and techniques for measuring survivorship that had been long embraced by finance professors. Over the years, and much to our surprise, the SPIVA Scorecard became widely used and cited by the industry. The SPIVA Scorecard is now published for the Australian, Canadian and Indian markets. In the U.S., it has spawned a companion, the Persistence Scorecard, which keeps indices out of the equation and tracks the probability of active managers repeating top-quartile performance.

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<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.

## LEAGUE TABLES OVER TEN YEARS

Some of the most widely cited headline numbers in the SPIVA Scorecard are found in the 12-month league tables. In prior reports, we have indicated that the one-year numbers are not consistent from year to year, and can favor either active funds or benchmarks without telling us much about the relative merits of either group. There are post-facto explanations about why either active funds or indices did better over the past year, and these explanations tend to revolve around whether the markets went up, down or sideways. But we haven't yet found a way to predict the nature of the markets in subsequent 12-month periods and translate that into a reasonable strategy for allocating between active and passive positions. The only consistent data point we have observed is shown again in Report 1 (see page 7): over a five-year horizon, a majority of active equity managers in most categories lag benchmarks.

<b>Exhibit 1: Annual League Tables</b>						
<b>Fund Category</b>	<b>Benchmark Index</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
All Domestic Funds	S&P Composite 1500	59.0	47.7	51.4	44.0	67.8
All Large-Cap Funds	S&P 500	61.0	64.6	61.6	44.5	69.1
All Mid-Cap Funds	S&P MidCap 400 <sup>®</sup>	70.3	56.4	61.8	76.0	46.7
All Small-Cap Funds	S&P SmallCap 600 <sup>®</sup>	73.6	38.8	85.0	60.5	63.6
Large-Cap Growth Funds	S&P 500 Growth	71.8	44.7	39.5	31.6	76.1
Large-Cap Core Funds	S&P 500	63.0	66.0	66.9	44.6	71.3
Large-Cap Value Funds	S&P 500 Value	39.4	78.5	83.2	58.8	87.7
Mid-Cap Growth Funds	S&P MidCap 400 Growth	86.9	31.7	59.6	78.5	34.8
Mid-Cap Core Funds	S&P MidCap 400	64.6	50.0	51.8	72.4	35.9
Mid-Cap Value Funds	S&P MidCap 400 Value	74.3	81.9	63.6	71.8	38.4
Small-Cap Growth Funds	S&P SmallCap 600 Growth	94.2	35.3	93.6	72.2	52.1
Small-Cap Core Funds	S&P SmallCap 600	75.2	33.3	82.9	61.4	62.8
Small-Cap Value Funds	S&PSmallCap 600 Value	37.5	49.3	77.5	46.0	76.7

Source: Standard & Poor's for 2002-2006; S&P Indices, CRSP for 2007-2011. Tables are provided for illustrative purposes. Past performance is not a guarantee of future results.

<b>Exhibit 1: Annual League Tables (continued)</b>							
<b>Fund Category</b>	<b>Benchmark Index</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>Average</b>
All Domestic Funds	S&P Composite 1500	48.8	64.2	41.7	57.6	84.1	56.6
All Large-Cap Funds	S&P 500	44.8	54.3	50.8	61.8	81.3	59.4
All Mid-Cap Funds	S&P MidCap 400	46.4	74.7	57.6	78.2	67.4	63.5
All Small-Cap Funds	S&P SmallCap 600	45.0	83.8	32.2	63.0	85.8	63.1
Large-Cap Growth Funds	S&P 500 Growth	31.6	90.0	39.2	82.0	95.6	60.2
Large-Cap Core Funds	S&P 500	44.0	52.0	52.1	63.2	81.3	60.4
Large-Cap Value Funds	S&P 500 Value	46.3	22.2	46.2	34.7	54.3	55.1
Mid-Cap Growth Funds	S&P MidCap 400 Growth	39.3	89.0	59.6	82.1	75.4	63.7
Mid-Cap Core Funds	S&P MidCap 400	64.6	62.3	68.6	82.0	64.1	61.6
Mid-Cap Value Funds	S&P MidCap 400 Value	56.1	67.1	47.8	71.8	64.9	63.8
Small-Cap Growth Funds	S&P SmallCap 600 Growth	39.4	95.5	33.5	72.7	93.8	68.2
Small-Cap Core Funds	S&P SmallCap 600	51.9	82.5	34.5	60.2	86.1	63.1
Small-Cap Value Funds	S&P SmallCap 600 Value	39.8	72.6	26.3	51.8	83.0	56.0

Source: Standard & Poor's for 2002-2006; S&P Indices, CRSP for 2007-2011. Tables are provided for illustrative purposes. Past performance is not a guarantee of future results.

<b>Exhibit 2: Five-Year League Tables (U.S. Equity Funds)</b>			
<b>Category</b>	<b>Comparison Index</b>	<b>12/06-12/11</b>	<b>12/01-12/06</b>
Large-Cap Growth Funds	S&P 500 Growth	80.20	57.18
Large-Cap Core Funds	S&P 500	67.93	75.43
Large-Cap Value Funds	S&P 500 Value	36.71	90.74
Mid-Cap Growth Funds	S&P MidCap 400 Growth	90.70	88.06
Mid-Cap Core Funds	S&P MidCap 400	86.87	75.00
Mid-Cap Value Funds	S&P MidCap 400 Value	75.58	75.53
Small-Cap Growth Funds	S&P SmallCap 600 Growth	85.64	91.98
Small-Cap Core Funds	S&P SmallCap 600	71.43	76.47
Small-Cap Value Funds	S&P SmallCap 600 Value	57.78	62.65

Source: Standard & Poor's for 12/01-12/06; S&P Indices, CRSP for 12/06-12/11. Tables are provided for illustrative purposes. Past performance is not a guarantee of future results.

## WHAT ABOUT BONDS?

While the active versus passive debate gets less play in the realm of bond market funds, we have seen similar results over five-year horizons in this asset class. In most bond fund categories, benchmark indices have outperformed a majority of active managers. To be fair, 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.

<b>Exhibit 3: Five-Year League Tables (Fixed Income Funds)</b>			
<b>Category</b>	<b>Comparison Index</b>	<b>12/06-12/11</b>	<b>12/01-12/06</b>
Government Intermediate Funds	Barclay's Intermediate Government Bond	93.62	89.8
Government Long Funds	Barclay's Long Government Bond	66.67	70.19
Government Short Funds	Barclay's 1-3 Year Government Bond	66.67	75.51
General Intermediate Funds	Barclay's Capital Intermediate Government/Credit	60.54	65.81
General Short Funds	Barclay's Capital 1-3 Year Government/Credit	94.37	69.51
High Yield Funds	Barclay's Capital High Yield	96.06	84.44
Mortgage-Backed Securities Funds	Barclay's Capital Mortgage-Backed Securities	75.00	85.71
Global Income Funds	Barclay's Capital Global Aggregate	72.41	63.33
Emerging Markets Debt Funds	Barclay's Capital Emerging Markets	66.67	47.37

Source: Standard & Poor's for 12/01-12/06; S&P Indices, CRSP for 12/06-12/11. Tables are provided for illustrative purposes. Past performance is not a guarantee of future results.

## SMALL-CAP MYTHS

There is a common perception that the large-cap market is efficient and should be indexed while the small-cap market is inefficient and should be active. This principle has stood the test of time; indexing continues to be much more deeply entrenched in the U.S. large-cap market than the U.S. small-cap market. However, over the last decade, SPIVA Scorecards have consistently shown that indexing works as well for U.S. small-caps as it does for U.S. large-caps. The extent of active funds' underperformance may vary with time, but it does exist, as the tables on the previous page show. As information and analytics have become more broadly available beyond large-caps over the last few decades, the frontier of inefficiency may have shifted further out into micro-caps. Of course, purists will argue that the "arithmetic of active management" has nothing to do with market efficiency.

## BEAR MARKET MYTHS

Bear markets should generally favor active managers. Instead of being 100% invested in a market that is turning south, active managers would have the opportunity to move to cash, or seek more defensive positions. Unfortunately, that opportunity does not often translate to reality. In the two true bear markets the SPIVA Scorecard has tracked over the last decade, most active equity managers failed to beat their benchmarks.

<b>Exhibit 4: Percentage of Active Funds Outperformed by Benchmarks in Bear Markets</b>		
	<b>2008</b>	<b>2000 to 2002</b>
All Large-Cap Funds	54.3	53.5
All Mid-Cap Funds	74.7	77.3
All Small-Cap Funds	83.8	71.6
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Large-Cap Growth Funds	90.0	49.4
Large-Cap Core Funds	52.0	53.4
Large-Cap Value Funds	22.2	36.5
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Mid-Cap Growth Funds	89.0	82.4
Mid-Cap Core Funds	62.3	70.2
Mid-Cap Value Funds	67.1	82.8
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Small-Cap Growth Funds	95.5	87.5
Small-Cap Core Funds	82.5	70.8
Small-Cap Value Funds	72.6	58.3

Source: SPIVA Scorecards dated April 20, 2009 at [www.spindices.com/spivaresearch](http://www.spindices.com/spivaresearch). Tables are provided for illustrative purposes. Past performance is not a guarantee of future results.

## WHITHER STYLE BOX INVESTING?

The nine-style box is a ubiquitous part of the equity investing landscape. Very often, one finds client portfolios or plan lineups that are allocated across style boxes, with manager searches being commissioned to fill those style box allocations. The assumption underlying this technique is that styles remain consistent. In other words, a small value fund picked for its performance in its peer group today remains a small value fund over the course of the investment horizon. However, SPIVA Scorecards over the past decade have shown that over a three-year horizon, only half to three quarters of funds survive and remain in their original style box. There is nothing wrong with creeping across style boxes in search of investment opportunities, and in fact there is a growing school of thought that advocates unconstrained style box investing, but such style creeps are incompatible with style box-driven asset allocation.

<b>Exhibit 5: Percentage of Funds That Survived and Maintained the Same Style over Three Years</b>				
	From 12/08 to 12/11	From 12/05 to 12/08	From 12/02 to 12/05	From 12/00 to 12/02
Large-Cap Growth Funds	70.33	66.84	61.09	72.26
Large-Cap Blend Funds	67.98	54.92	46.03	28.77
Large-Cap Value Funds	67.34	80.68	61.94	66.43
Mid-Cap Growth Funds	58.82	77.50	58.10	52.70
Mid-Cap Blend Funds	46.43	66.30	54.17	23.81
Mid-Cap Value Funds	41.01	71.01	48.45	46.55
Small-Cap Growth Funds	65.60	78.36	65.75	58.06
Small-Cap Blend Funds	62.73	74.74	48.44	14.36
Small-Cap Value Funds	53.73	78.95	70.76	51.92

Source: Standard & Poor's for 12/00 to 12/02 and 12/02 to 12/05; S&P Indices, CRSP for 12/05 to 12/08 and 12/08 to 12/11. Tables are provided for illustrative purposes. Past performance is not a guarantee of future results.

<b>Report 1: Percentage of U.S. Equity Funds Outperformed by Benchmarks</b>				
Fund Category	Comparison Index	One Year	Three Years	Five Years
All Domestic Equity Funds	S&P Composite 1500	84.07	56.53	61.88
All Large-Cap Funds	S&P 500	81.28	69.39	61.93
All Mid-Cap Funds	S&P MidCap 400	67.36	70.60	79.55
All Small-Cap Funds	S&P SmallCap 600	85.78	51.60	72.56
All Multi-Cap Funds	S&P Composite 1500	84.01	68.40	70.56
Large-Cap Growth Funds	S&P 500 Growth	95.63	70.03	80.20
Large-Cap Core Funds	S&P 500	81.31	79.78	67.93
Large-Cap Value Funds	S&P 500 Value	54.26	53.76	36.71
Mid-Cap Growth Funds	S&P MidCap 400 Growth	75.39	83.61	90.70
Mid-Cap Core Funds	S&P MidCap 400	64.07	77.86	86.87
Mid-Cap Value Funds	S&P MidCap 400 Value	64.86	63.31	75.58
Small-Cap Growth Funds	S&P SmallCap 600 Growth	93.75	63.20	85.64
Small-Cap Core Funds	S&P SmallCap 600	86.10	57.56	71.43
Small-Cap Value Funds	S&P SmallCap 600 Value	83.00	38.06	57.78
Multi-Cap Growth Funds	S&P Composite 1500 Growth	94.79	71.68	83.12
Multi-Cap Core Funds	S&P Composite 1500	84.23	74.32	70.25
Multi-Cap Value Funds	S&P Composite 1500 Value	64.66	56.25	61.38
Real Estate Funds	S&P BMI United States REIT	76.22	74.29	70.24

Source: S&P Indices, CRSP. For periods ending December 31, 2011. 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**

<b>Fund Category</b>	<b>No. of Funds at Start</b>	<b>Survivorship (%)</b>	<b>Style Consistency (%)</b>
All Domestic Funds	2950	94.07	79.86
All Large-Cap Funds	1111	93.16	84.07
All Mid-Cap Funds	432	94.91	71.06
All Small-Cap Funds	619	94.83	82.07
All Multi-Cap Funds	788	94.29	77.03
Large-Cap Growth Funds	366	95.63	84.15
Large-Cap Blend Funds	428	92.06	82.71
Large-Cap Value Funds	317	91.80	85.8
Mid-Cap Growth Funds	191	94.76	81.68
Mid-Cap Blend Funds	167	95.81	57.49
Mid-Cap Value Funds	74	93.24	74.32
Small-Cap Growth Funds	224	97.32	87.5
Small-Cap Blend Funds	295	93.22	78.64
Small-Cap Value Funds	100	94.00	80.00
Multi-Cap Growth Funds	211	95.73	75.83
Multi-Cap Core Funds	444	94.37	79.50
Multi-Cap Value Funds	133	91.73	70.68
Real Estate Funds	143	93.71	93.71

**Three Years**

<b>Fund Category</b>	<b>No. of Funds at Start</b>	<b>Survivorship (%)</b>	<b>Style Consistency (%)</b>
All Domestic Funds	3018	84.29	59.08
All Large-Cap Funds	1039	84.22	68.53
All Mid-Cap Funds	517	82.79	50.68
All Small-Cap Funds	655	85.19	61.98
All Multi-Cap Funds	807	84.63	49.94
Large-Cap Growth Funds	337	85.16	70.33
Large-Cap Blend Funds	356	83.15	67.98
Large-Cap Value Funds	346	84.39	67.34

Source: S&P Indices, CRSP. For periods ending December 31, 2011. 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	238	80.67	58.82
Mid-Cap Blend Funds	140	85.00	46.43
Mid-Cap Value Funds	139	84.17	41.01
Small-Cap Growth Funds	250	85.20	65.60
Small-Cap Blend Funds	271	84.50	62.73
Small-Cap Value Funds	134	86.57	53.73
Multi-Cap Growth Funds	226	84.51	43.81
Multi-Cap Core Funds	405	86.17	59.75
Multi-Cap Value Funds	176	81.25	35.23
Real Estate Funds	140	92.14	92.14

**Five Years**

Fund Category	No. of Funds at Start	Survivorship (%)	Style Consistency (%)
All Domestic Funds	2104	75.05	49.33
All Large-Cap Funds	641	73.17	58.03
All Mid-Cap Funds	357	75.07	43.42
All Small-Cap Funds	481	76.09	55.09
All Multi-Cap Funds	625	76.16	39.36
Large-Cap Growth Funds	197	67.51	57.36
Large-Cap Blend Funds	237	72.57	53.59
Large-Cap Value Funds	207	79.23	63.77
Mid-Cap Growth Funds	172	68.60	45.35
Mid-Cap Blend Funds	99	80.81	43.43
Mid-Cap Value Funds	86	81.40	39.53
Small-Cap Growth Funds	188	70.74	54.79
Small-Cap Blend Funds	203	80.79	57.64
Small-Cap Value Funds	90	76.67	50.00
Multi-Cap Growth Funds	154	77.27	35.71
Multi-Cap Core Funds	326	77.30	44.79
Multi-Cap Value Funds	145	72.41	31.03
Real Estate Funds	84	83.33	83.33

Source: S&P Indices, CRSP. For periods ending December 31, 2011. Charts are provided for illustrative purposes. Past performance is not a guarantee of future results.

<b>Report 3: Average U.S. Equity Fund Performance (Equal-Weighted)</b>			
<b>Category</b>	<b>One Year (%)</b>	<b>Three Years (Annualized %)</b>	<b>Five Years (Annualized %)</b>
S&P Composite 1500	1.76	14.64	0.11
All Domestic Funds	-2.56	15.23	0.14
S&P 500	2.12	14.10	-0.25
All Large-Cap Funds	-0.89	13.31	-0.35
S&P MidCap 400	-1.73	19.58	3.32
All Mid-Cap Funds	-4.23	17.98	1.53
S&P SmallCap 600	1.02	17.02	1.95
All Small-Cap Funds	-4.00	17.55	0.65
S&P Composite 1500	1.76	14.64	0.11
All Multi-Cap Funds	-3.01	14.10	-0.51
<b>Large-Cap</b>			
S&P 500 Growth	4.64	16.57	2.39
Large-Cap Growth Funds	-1.96	15.32	0.88
S&P 500	2.12	14.10	-0.25
Large-Cap Core Funds	-0.74	12.72	-0.67
S&P 500 Value	-0.48	11.55	-2.96
Large-Cap Value Funds	-0.07	11.91	-1.28
<b>Mid-Cap</b>			
S&P MidCap 400 Growth	-0.92	22.20	5.26
Mid-Cap Growth Funds	-4.44	19.39	2.23
S&P MidCap 400	-1.73	19.58	3.32
Mid-Cap Core Funds	-4.13	16.74	0.84
S&P MidCap 400 Value	-2.44	17.01	1.38
Mid-Cap Value Funds	-4.21	16.70	0.59

Source: S&P Indices, CRSP. For periods ending December 31, 2011. 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 3: Average U.S. Equity Fund Performance (Equal-Weighted, continued)</b>			
<b>Category</b>	<b>One Year (%)</b>	<b>Three Years (Annualized %)</b>	<b>Five Years (Annualized %)</b>
<b>Small-Cap</b>			
S&P SmallCap 600 Growth	3.64	19.41	3.81
Small-Cap Growth Funds	-3.84	18.49	1.09
S&P SmallCap 600	1.02	17.02	1.95
Small-Cap Core Funds	-3.61	17.15	0.34
S&P SmallCap 600 Value	-1.39	14.75	0.12
Small-Cap Value Funds	-5.80	16.16	0.09
<b>Multi-Cap</b>			
S&P Composite 1500 Growth	4.19	17.13	2.68
Multi-Cap Growth Funds	-3.84	15.57	0.73
S&P Composite 1500	1.76	14.64	0.11
Multi-Cap Core Funds	-2.62	13.80	-0.40
S&P Composite 1500 Value	-0.69	12.09	-2.50
Multi-Cap Value Funds	-3.05	12.81	-2.26
<b>Real Estate</b>			
S&P BMI U.S. REIT	8.48	21.47	-1.64
Real Estate Funds	0.43	18.50	-3.61

Source: S&P Indices, CRSP. For periods ending December 31, 2011. 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 4: Average U.S. Equity Fund Performance (Asset-Weighted)</b>			
<b>Category</b>	<b>One Year (%)</b>	<b>Three Years (Annualized %)</b>	<b>Five Years (Annualized %)</b>
S&P Composite 1500	1.76	14.64	0.11
All Domestic Funds	-1.86	14.75	0.12
S&P 500	2.12	14.10	-0.25
All Large-Cap Funds	-0.53	13.35	-0.50
S&P MidCap 400	-1.73	19.58	3.32
All Mid-Cap Funds	-3.73	18.07	1.63
S&P SmallCap 600	1.02	17.02	1.95
All Small-Cap Funds	-2.90	17.90	1.54
S&P Composite 1500	1.76	14.64	0.11
All Multi-Cap Funds	-3.64	14.49	-0.14
<b>Large-Cap</b>			
S&P 500 Growth	4.64	16.57	2.39
Large-Cap Growth Funds	-1.77	15.42	0.42
S&P 500	2.12	14.10	-0.25
Large-Cap Core Funds	-1.42	12.39	-1.27
S&P 500 Value	-0.48	11.55	-2.96
Large-Cap Value Funds	0.97	12.46	-0.76
<b>Mid-Cap</b>			
S&P MidCap 400 Growth	-0.92	22.20	5.26
Mid-Cap Growth Funds	-3.82	19.41	2.91
S&P MidCap 400	-1.73	19.58	3.32
Mid-Cap Core Funds	-3.90	17.66	1.33
S&P MidCap 400 Value	-2.44	17.01	1.38
Mid-Cap Value Funds	-3.48	16.40	0.35

Source: S&P Indices, CRSP. For periods ending December 31, 2011. 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>Small-Cap</b>			
S&P SmallCap 600 Growth	3.64	19.41	3.81
Small-Cap Growth Funds	-2.20	19.88	2.40
S&P SmallCap 600	1.02	17.02	1.95
Small-Cap Core Funds	-2.94	17.14	1.20
S&P SmallCap 600 Value	-1.39	14.75	0.12
Small-Cap Value Funds	-4.65	16.33	0.60
<b>Multi-Cap</b>			
S&P Composite 1500 Growth	4.19	17.13	2.68
Multi-Cap Growth Funds	-2.51	16.72	1.33
S&P Composite 1500	1.76	14.64	0.11
Multi-Cap Core Funds	-2.96	14.68	0.03
S&P Composite 1500 Value	-0.69	12.09	-2.50
Multi-Cap Value Funds	-5.74	11.23	-2.96
<b>Real Estate</b>			
S&P BMI U.S. REIT	8.48	21.47	-1.64
Real Estate Funds	1.41	19.18	-2.94

Source: S&P Indices, CRSP. For periods ending December 31, 2011. 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**

<b>One Year</b>			
<b>Fund Category</b>	<b>Third Quartile</b>	<b>Second Quartile</b>	<b>First Quartile</b>
Large-Cap Growth Funds	-4.31	-1.54	0.37
Large-Cap Core Funds	-3.72	-0.71	1.52
Large-Cap Value Funds	-2.87	-0.55	3.29
Mid-Cap Growth Funds	-7.88	-5.07	-0.77
Mid-Cap Core Funds	-6.29	-3.62	0.12
Mid-Cap Value Funds	-6.79	-3.86	-0.59
Small-Cap Growth Funds	-6.31	-3.20	-0.43
Small-Cap Core Funds	-5.78	-2.77	-0.44
Small-Cap Value Funds	-7.53	-4.12	-2.27
Multi-Cap Growth Funds	-6.56	-3.18	-0.27
Multi-Cap Core Funds	-5.03	-2.39	-0.01
Multi-Cap Value Funds	-6.00	-2.11	1.16
Real Estate Funds	-6.51	5.10	8.46
<b>Three Years</b>			
<b>Fund Category</b>	<b>Third Quartile</b>	<b>Second Quartile</b>	<b>First Quartile</b>
Large-Cap Growth Funds	13.49	15.43	17.21
Large-Cap Core Funds	11.21	12.64	14.08
Large-Cap Value Funds	10.06	12	13.66
Mid-Cap Growth Funds	17.82	19.81	21.74
Mid-Cap Core Funds	14.31	16.75	19.69
Mid-Cap Value Funds	15.09	16.58	18.62
Small-Cap Growth Funds	16.48	18.84	21.42
Small-Cap Core Funds	15.04	17.03	19.31
Small-Cap Value Funds	14.52	16.41	19.04
Multi-Cap Growth Funds	13.29	15.74	18.07
Multi-Cap Core Funds	11.78	13.07	15.22
Multi-Cap Value Funds	10.79	12.28	14.86
Real Estate Funds	13.92	19.23	21.82
<b>Five Years</b>			
<b>Fund Category</b>	<b>Third Quartile</b>	<b>Second Quartile</b>	<b>First Quartile</b>
Large-Cap Growth Funds	-0.04	0.96	2.68
Large-Cap Core Funds	-1.51	-0.49	0.85
Large-Cap Value Funds	-2.62	-0.96	0.80
Mid-Cap Growth Funds	0.23	2.37	4.49
Mid-Cap Core Funds	-0.51	1.06	2.56
Mid-Cap Value Funds	-1.18	-0.02	1.85
Small-Cap Growth Funds	-0.23	1.62	3.32
Small-Cap Core Funds	-1.14	0.75	2.49
Small-Cap Value Funds	-0.95	0.40	1.90
Multi-Cap Growth Funds	-1.27	0.29	2.43
Multi-Cap Core Funds	-1.80	-0.46	0.99
Multi-Cap Value Funds	-3.45	-2.32	-0.30
Real Estate Funds	-5.82	-2.61	-1.19

Source: S&P Indices, CRSP. For periods ending December 31, 2011. 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	69.39	55.92	62.86
International Funds	S&P 700	69.32	70.15	77.98
International Small-Cap Funds	S&P World Ex-U.S. SmallCap	38.18	27.59	26.09
Emerging Markets Funds	S&P/IFCI Composite	53.70	74.82	82.89

Source: S&P Indices, CRSP. For periods ending December 31, 2011. 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	196	90.31	89.29
International Funds	352	93.75	93.18
International Small-Cap Funds	55	98.18	96.36
Emerging Markets Funds	162	96.30	96.30
Three Years			
Fund Category	No. of Funds at Start	Survivorship (%)	Style Consistency (%)
Global Funds	152	79.61	77.63
International Funds	335	85.97	85.37
International Small-Cap Funds	58	93.10	82.76
Emerging Markets Funds	139	90.65	90.65
Five Years			
Fund Category	No. of Funds at Start	Survivorship (%)	Style Consistency (%)
Global Funds	105	74.29	71.43
International Funds	277	77.62	76.17
International Small-Cap Funds	46	86.96	73.91
Emerging Markets Funds	76	85.53	85.53

Source: S&P Indices, CRSP. For periods ending December 31, 2011. 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	-5.07	11.86	-1.57
Global Funds	-7.50	12.24	-1.27
S&P 700	-11.74	9.62	-2.82
International Funds	-13.10	8.63	-4.05
S&P World Ex-U.S. SmallCap	-16.67	11.88	-5.63
International Small-Cap Funds	-15.52	15.98	-2.15
S&P/IFCI Composite	-19.05	20.91	2.78
Emerging Markets Funds	-20.35	18.66	0.22

Source: S&P Indices, CRSP. For periods ending December 31, 2011. 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	-5.07	11.86	-1.57
Global Funds	-6.13	11.34	-0.49
S&P 700	-11.74	9.62	-2.82
International Funds	-13.24	9.23	-3.31
S&P World Ex-U.S. SmallCap	-16.67	11.88	-5.63
International Small-Cap Funds	-14.79	14.73	-0.95
S&P/IFCI Composite	-19.05	20.91	2.78
Emerging Markets Funds	-18.00	19.42	1.66

Source: S&P Indices, CRSP. For periods ending December 31, 2011. All index returns used are total returns. Charts are provided for illustrative purposes. Past performance is not a guarantee of future results.



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

<b>One Year</b>			
<b>Fund Category</b>	<b>Third Quartile</b>	<b>Second Quartile</b>	<b>First Quartile</b>
Global Funds	-11.55	-7.90	-3.39
International Funds	-15.36	-13.42	-10.80
International Small-Cap Funds	-18.30	-15.23	-13.77
Emerging Markets Funds	-23.35	-19.44	-17.58

<b>Three Years</b>			
<b>Fund Category</b>	<b>Third Quartile</b>	<b>Second Quartile</b>	<b>First Quartile</b>
Global Funds	9.72	12.61	13.97
International Funds	6.06	8.45	10.66
International Small-Cap Funds	12.44	15.27	19.35
Emerging Markets Funds	16.46	18.39	21.32

<b>Five Years</b>			
<b>Fund Category</b>	<b>Third Quartile</b>	<b>Second Quartile</b>	<b>First Quartile</b>
Global Funds	-3.83	-1.53	0.54
International Funds	-5.61	-4.25	-2.72
International Small-Cap Funds	-4.22	-2.70	-0.58
Emerging Markets Funds	-0.90	0.40	1.58

Source: S&P Indices, CRSP. For periods ending December 31, 2011. 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	96.70	80.25	93.62
Government Intermediate Funds	Barclays Intermediate Government	57.50	39.53	66.67
Government Short Funds	Barclays 1-3 Year Government	61.36	34.88	66.67
Investment-Grade Long Funds	Barclays Long Government/Credit	99.25	67.14	96.77
Investment-Grade Intermediate Funds	Barclays Intermediate Government/Credit	52.11	29.78	60.54
Investment-Grade Short Funds	Barclays 1-3 Year Government/Credit	66.67	72.50	94.37
High Yield Funds	Barclays High Yield	84.36	96.97	96.06
Mortgage-Backed Securities Funds	Barclays Mortgage-Backed Securities	57.14	36.21	75.00
Global Income Funds	Barclays Global Aggregate	80.33	41.18	72.41
Emerging Markets Debt Funds	Barclays Emerging Markets	91.43	57.14	66.67
General Municipal Debt Funds	S&P National AMT-Free Municipal Bond	79.35	46.43	90.24
California Municipal Debt Funds	S&P California AMT-Free Municipal Bond	78.95	32.50	97.56
New York Municipal Debt Funds	S&P New York AMT-Free Municipal Bond	80.00	50.00	97.14

Source: S&P Indices, CRSP. For periods ending December 31, 2011. 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	91	91.21	90.11
Government Intermediate Funds	40	97.50	97.50
Government Short Funds	44	93.18	90.91
Investment-Grade Long Funds	134	94.78	91.79
Investment-Grade Intermediate Funds	284	95.07	94.37
Investment-Grade Short Funds	81	93.83	93.83
High Yield Funds	211	94.79	94.79
Mortgage-Backed Securities Funds	63	96.83	96.83
Global Income Funds	122	96.72	95.08
Emerging Markets Debt Funds	35	97.14	97.14
General Municipal Debt Funds	92	93.48	93.48
California Municipal Debt Funds	38	92.11	92.11
New York Municipal Debt Funds	35	91.43	91.43

**Three Years**

Fund Category	No. of Funds at Start	Survivorship (%)	Style Consistency (%)
Government Long Funds	81	81.48	79.01
Government Intermediate Funds	43	93.02	90.70
Government Short Funds	43	90.70	88.37
Investment-Grade Long Funds	140	90.00	82.14
Investment-Grade Intermediate Funds	272	83.46	81.62
Investment-Grade Short Funds	80	88.75	87.50
High Yield Funds	198	89.90	89.39
Mortgage-Backed Securities Funds	58	96.55	96.55
Global Income Funds	102	89.22	86.27
Emerging Markets Debt Funds	28	100.00	100.00
General Municipal Debt Funds	84	89.29	89.29
California Municipal Debt Funds	40	85.00	85.00
New York Municipal Debt Funds	34	85.29	85.29

Source: S&P Indices, CRSP. For periods ending December 31, 2011. 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	47	82.98	74.47
Government Intermediate Funds	45	91.11	82.22
Government Short Funds	45	86.67	84.44
Investment-Grade Long Funds	93	79.57	64.52
Investment-Grade Intermediate Funds	185	81.62	78.92
Investment-Grade Short Funds	71	81.69	81.69
High Yield Funds	127	88.98	87.40
Mortgage-Backed Securities Funds	48	93.75	93.75
Global Income Funds	58	91.38	84.48
Emerging Markets Debt Funds	18	100.00	94.44
General Municipal Debt Funds	82	85.37	85.37
California Municipal Debt Funds	41	82.93	82.93
New York Municipal Debt Funds	35	82.86	82.86

Source: S&P Indices, CRSP. For periods ending December 31, 2011. Charts are provided for illustrative purposes. Past performance is not a guarantee of future results.

<b>Report 13: Average Fixed Income Fund Performance (Equal-Weighted)</b>			
<b>Category</b>	<b>One Year (%)</b>	<b>Three Years (Annualized %)</b>	<b>Five Years (Annualized %)</b>
Barclays Long Government	29.14	7.47	10.79
Government Long Funds	8.89	6.00	6.43
Barclays Intermediate Government	6.07	3.53	5.85
Government Intermediate Funds	5.23	4.36	5.28
Barclays 1-3 Year Government	1.56	1.79	3.79
Government Short Funds	1.89	2.74	3.57
Barclays Long Government/Credit	22.49	11.21	9.72
Investment-Grade Long Funds	6.79	10.35	5.90
Barclays Intermediate Government/Credit	5.80	5.64	5.88
Investment-Grade Intermediate Funds	4.81	8.05	5.27
Barclays 1-3 Year Government/Credit	1.75	5.75	4.68
Investment-Grade Short Funds	1.53	5.27	3.09
Barclays High Yield	4.98	24.11	7.54
High Yield Funds	2.93	19.06	5.48
Barclays Mortgage-Backed Securities	6.23	5.83	6.54
Mortgage-Backed Securities Funds	5.97	6.73	5.43
Barclays Global Aggregate	5.64	6.04	6.47
Global Income Funds	3.11	8.01	5.69
Barclays Emerging Markets	6.97	17.45	7.75
Emerging Markets Debt Funds	0.57	15.56	6.09
S&P National AMT-Free Municipal Bond	11.23	8.49	5.06
General Municipal Debt Funds	9.26	9.04	3.88
S&P California AMT-Free Municipal Bond	12.37	8.60	5.15
California Municipal Debt Funds	11.56	9.96	3.92
S&P New York AMT-Free Municipal Bond	10.47	8.44	5.12
New York Municipal Debt Funds	9.59	9.20	4.18

Source: S&P Indices, CRSP. For periods ending December 31, 2011. 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	29.14	7.47	10.79
Government Long Funds	9.28	6.78	6.71
Barclays Intermediate Government	6.07	3.53	5.85
Government Intermediate Funds	6.33	5.96	5.89
Barclays 1-3 Year Government	1.56	1.79	3.79
Government Short Funds	5.06	5.77	5.21
Barclays Long Government/Credit	22.49	11.21	9.72
Investment-Grade Long Funds	6.90	11.16	5.40
Barclays Intermediate Government/Credit	5.80	5.64	5.88
Investment-Grade Intermediate Funds	4.56	8.97	6.25
Barclays 1-3 Year Government/Credit	1.75	5.75	4.68
Investment-Grade Short Funds	1.76	6.16	3.33
Barclays High Yield	4.98	24.11	7.54
High Yield Funds	2.64	19.55	5.12
Barclays Mortgage-Backed Securities	6.23	5.83	6.54
Mortgage-Backed Securities Funds	6.75	7.04	6.35
Barclays Global Aggregate	5.64	6.04	6.47
Global Income Funds	0.81	7.77	6.30
Barclays Emerging Markets	6.97	17.45	7.75
Emerging Markets Debt Funds	1.36	15.62	6.20
S&P National Municipal Bond	11.23	8.49	5.06
General Municipal Debt Funds	10.51	9.94	3.95
S&P California Municipal Bond	12.37	8.60	5.15
California Municipal Debt Funds	11.55	10.21	3.86
S&P New York Municipal Bond	10.47	8.44	5.12
New York Municipal Debt Funds	10.02	11.65	3.73

Source: S&P Indices, CRSP. For periods ending December 31, 2011. 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**

<b>One Year</b>			
<b>Fund Category</b>	<b>Third Quartile</b>	<b>Second Quartile</b>	<b>First Quartile</b>
Government Long Funds	5.68	7.29	10.91
Government Intermediate Funds	3.42	4.93	7.01
Government Short Funds	0.84	1.43	1.85
Investment-Grade Long Funds	5.28	6.33	7.27
Investment-Grade Intermediate Funds	3.25	5.82	6.97
Investment-Grade Short Funds	0.82	1.39	1.90
High Yield Funds	1.92	3.40	4.64
Mortgage-Backed Securities Funds	5.01	5.98	7.13
Global Income Funds	0.65	3.47	4.91
Emerging Markets Debt Funds	-2.85	3.47	5.78
General Municipal Debt Funds	9.31	10.38	10.97
California Municipal Debt Funds	10.93	11.42	12.15
New York Municipal Debt Funds	8.90	9.59	10.21
<b>Three Years</b>			
<b>Fund Category</b>	<b>Third Quartile</b>	<b>Second Quartile</b>	<b>First Quartile</b>
Government Long Funds	4.10	5.19	7.41
Government Intermediate Funds	3.07	4.01	5.18
Government Short Funds	1.49	2.19	2.88
Investment-Grade Long Funds	7.98	10.05	11.98
Investment-Grade Intermediate Funds	6.58	8.34	10.19
Investment-Grade Short Funds	3.61	4.77	6.36
High Yield Funds	17.55	19.89	21.63
Mortgage-Backed Securities Funds	5.55	6.45	7.73
Global Income Funds	5.25	7.07	11.03
Emerging Markets Debt Funds	13.09	16.42	19.57
General Municipal Debt Funds	7.81	9.01	10.81
California Municipal Debt Funds	8.70	9.63	11.04
New York Municipal Debt Funds	7.87	8.63	10.15

Source: S&P Indices, CRSP. For periods ending December 31, 2011. Charts are provided for illustrative purposes. Past performance is not a guarantee of future results.

<b>Report 15: Quartile Breakpoints of Fixed Income Funds (continued)</b>			
<b>Five Years</b>			
<b>Fund Category</b>	<b>Third Quartile</b>	<b>Second Quartile</b>	<b>First Quartile</b>
Government Long Funds	5.56	6.05	7.68
Government Intermediate Funds	4.89	5.56	6.15
Government Short Funds	2.92	3.47	4.11
Investment-Grade Long Funds	5.14	6.00	6.69
Investment-Grade Intermediate Funds	5.03	5.81	6.68
Investment-Grade Short Funds	2.75	3.51	3.94
High Yield Funds	5.04	5.79	6.49
Mortgage-Backed Securities Funds	5.31	6.22	6.55
Global Income Funds	4.53	5.78	6.98
Emerging Markets Debt Funds	6.77	7.44	8.12
General Municipal Debt Funds	3.67	4.33	4.71
California Municipal Debt Funds	3.87	4.16	4.39
New York Municipal Debt Funds	3.62	4.35	4.72

Source: S&P Indices, CRSP. For periods ending December 31, 2011. 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 6: 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 7: 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 8: 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.

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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).

## 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.

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

*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).

*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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