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# S&P Indices Versus Active Funds (SPIVA®) Europe Scorecard

## CONTRIBUTORS

Daniel Ung, CFA, CAIA, FRM  
Global Research & Design  
[daniel.ung@spdji.com](mailto:daniel.ung@spdji.com)

Rodney Fernandes  
Client Coverage  
[rodney.fernandes@spdji.com](mailto:rodney.fernandes@spdji.com)

Bryan Hahn  
Client Coverage  
[bryan.hahn@spdji.com](mailto:bryan.hahn@spdji.com)

## SUMMARY

S&P Dow Jones Indices has been the de facto scorekeeper of the ongoing active versus passive debate since the first publication of the SPIVA U.S. Scorecard in 2002. Over the years, we have built on more than a decade of experience publishing the report by expanding coverage into Canada, India, Japan, Australia, and, more recently, Latin America. While the report will not end the debate on active versus passive investing, we hope to make a meaningful contribution by examining market segments in which one strategy works better than the other.

The SPIVA Europe Scorecard measures the performance of actively managed European equity funds denominated in euro (EUR) and British pound sterling (GBP) against their respective benchmark indices over one-, three-, and five-year investment horizons.

## Euro-Denominated Equity Funds

Despite a slight improvement in the last quarter of the year, the European GDP growth rate for the other quarters of 2014 hovered at around 0.1%. Markets were somewhat disappointed that the European Central Bank did not take any concrete actions to stimulate economic growth, even though policymakers hinted that quantitative easing would commence in 2015. This uncertainty led to bouts of high volatility throughout the year and a generally lackluster performance in the equity markets. Normally, these conditions would be considered fertile ground for active managers, as they could utilize their stock-picking skills to benefit from perceived discrepancies in the market. However, our report indicates that the majority of the euro-denominated active funds invested in European equities lagged their respective benchmarks over the one-year period.

This pattern of underperformance was also seen in the longer term. When viewed over a five-year period, about 82% of eurozone equity funds and approximately 86% of European equity funds trailed their respective benchmarks.

Although they ended the year in positive territory, the performance of emerging market equities was mixed, and that segment did not keep pace with global equities, as measured by the S&P Global 1200. Barring a few exceptions, economic indicators in most major emerging economies disappointed, but the interest rate cut announced by the People's Bank of China in the fourth quarter slightly reversed the trend, and equities recovered some lost ground. Often, there is a belief that active portfolio management can be most effective in less-efficient markets, such as emerging market equities, because it provides managers the opportunity to exploit perceived mispricing. However, this view was once again challenged, as the majority of the funds underperformed across all three time horizons, irrespective of currency denominations.

In the U.S., the performance of equity markets remained strong, even against the backdrop of rising interest rates. However, 98% of actively managed funds invested in the U.S. failed to deliver higher returns than the S&P 500® over the past year.

On the whole, the findings suggest that actively managed funds, on average, underperform their respective benchmarks over the medium- to long-term periods.

Similar to the findings in previous reports, the size (e.g. the amount of assets under management) of the fund appears to matter. Results from Reports 3 and 4 highlight that asset-weighted returns across the three time horizons examined were generally higher. Funds also seem to disappear at a meaningful rate. Over the past five years, between 30% and 40% of euro-denominated funds invested in European, U.S., and international equities were either liquidated or merged.

### GBP-Denominated Funds

With respect to sterling-denominated categories, certain categories of actively managed funds invested in U.K. equities delivered good performance. Across all time periods, the majority of U.K. large- and mid-cap funds posted higher returns than their benchmarks. This is in stark contrast with U.K. small cap funds, which delivered lower returns than their corresponding benchmarks over the same time periods. This suggests that active management opportunities may be present in the U.K. large- and mid-cap space.

On the contrary, sterling-denominated funds invested in emerging market, U.S., and international equities underperformed their corresponding benchmarks. This is in agreement with the finding for euro-denominated funds invested in these markets.

Between 30% and 35% of U.S., and international sterling-denominated equity funds were either liquidated or merged over the past five years.

## A UNIQUE SCORECARD FOR THE ACTIVE VERSUS PASSIVE DEBATE

Since its first publication 12 years ago, the SPIVA Scorecard has served as the de facto scorekeeper of the active versus passive debate. Over the last decade, we have heard passionate arguments from believers in both camps when headline numbers have deviated from their beliefs.

Beyond the SPIVA Scorecard's widely cited headline numbers is a rich data set that addresses issues related to measurement techniques, universe composition and fund survivorship that are less frequently discussed, but are often more fascinating. These data sets are rooted in the fundamental principles of the SPIVA Scorecard that regular readers will be familiar with, including the following.

- **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.
- **Asset-weighted returns:** Average returns for a fund group are often calculated using only equal weighting, which means the returns of a EUR 10 billion fund affect the average in the same manner as the returns of a EUR 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.
- **Data cleaning:** SPIVA Scorecards avoid double counting multiple share classes in all count-based calculations by using only the share class with greater assets. Index, leveraged and inverse funds, along with other index-linked products, are excluded because this is meant to be a scorecard for active managers.

## REPORTS

Report 1: Percentage of European Equity Funds Outperformed by Benchmarks <sup>1</sup>				
Fund Category	Comparison Index	One-Year	Three-Year	Five-Year
<b>Data in EUR</b>				
Europe Equity	S&P Europe 350®	82.96	75.70	81.51
Eurozone Equity	S&P Eurozone BMI	84.59	88.91	85.80
France Equity	S&P France BMI	68.83	82.17	81.55
Germany Equity	S&P Germany BMI	74.19	74.44	72.28
Global Equity	S&P Global 1200	89.99	92.47	97.17
Emerging Markets Equity	S&P/IFCI	75.55	84.08	90.71
U.S. Equity	S&P 500	93.70	95.11	98.47
<b>Data in GBP</b>				
Europe Equity	S&P Europe 350	39.22	42.57	52.69
Europe Ex-U.K. Equity	S&P Europe Ex-U.K. BMI	71.07	60.16	59.70
U.K. Equity	S&P United Kingdom BMI	54.85	39.04	55.44
U.K. Large-/Mid-Cap Equity	S&P United Kingdom LargeMidCap	41.71	30.00	49.82
U.K. Small-Cap Equity	S&P United Kingdom SmallCap	72.31	80.00	72.00
Global Equity	S&P Global 1200	85.31	83.42	90.36
Emerging Markets Equity	S&P/IFCI	63.27	70.00	72.50
U.S. Equity	S&P 500	84.29	85.44	94.41

Source: S&P Dow Jones Indices LLC, Morningstar. Data for periods ending Dec. 31, 2014. Outperformance is based on equal-weighted fund counts. Index performance based on total return. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

<sup>1</sup> In order to be consistent with SPIVA reports in other regions, funds that have disappeared during the relevant reporting period are now considered to be underperforming the benchmark in the computation of the results in Report 1.

<b>Report 2: Survivorship Consistency of European Equity Funds</b>		
<b>Fund Category</b>	<b>No. of Funds at Start</b>	<b>Survivorship (%)</b>
<b>One-Year (EUR)</b>		
Europe Equity	1112	93.88
Eurozone Equity	554	93.68
France Equity	235	93.19
Germany Equity	93	95.70
Global Equity	1206	92.45
Emerging Markets Equity	345	93.62
U.S. Equity	391	92.58
<b>One-Year (GBP)</b>		
Europe Equity	109	88.99
Europe Ex-U.K. Equity	129	94.57
U.K. Equity	383	94.78
U.K. Large-/Mid-Cap Equity	218	94.95
U.K. Small-Cap Equity	67	98.51
Global Equity	431	94.90
Emerging Markets Equity	162	96.91
U.S. Equity	208	95.67
<b>Three-Year (EUR)</b>		
Europe Equity	1182	79.53
Eurozone Equity	627	75.92
France Equity	263	77.19
Germany Equity	90	85.56
Global Equity	1240	77.82
Emerging Markets Equity	304	84.21
U.S. Equity	386	77.98

Source: S&P Dow Jones Indices LLC, Morningstar. Data for periods ending Dec. 31, 2014. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

<b>Report 2: Survivorship of European Equity Funds (cont.)</b>		
<b>Fund Category</b>	<b>No. of Funds at Start</b>	<b>Survivorship (%)</b>
<b>Three-Year (GBP)</b>		
Europe Equity	107	71.03
Europe Ex-U.K. Equity	135	80.74
U.K. Equity	432	77.55
U.K. Large-/Mid-Cap Equity	244	78.69
U.K. Small-Cap Equity	72	83.33
Global Equity	406	80.54
Emerging Markets Equity	119	86.55
U.S. Equity	189	78.84
<b>Five-Year (EUR)</b>		
Europe Equity	1321	64.80
Eurozone Equity	698	63.32
France Equity	276	68.48
Germany Equity	102	73.53
Global Equity	1327	64.20
Emerging Markets Equity	238	78.57
U.S. Equity	442	60.18
<b>Five-Year (GBP)</b>		
Europe Equity	98	60.20
Europe Ex-U.K. Equity	141	72.34
U.K. Equity	486	63.37
U.K. Large-/Mid-Cap Equity	291	59.79
U.K. Small-Cap Equity	77	72.73
Global Equity	395	69.87
Emerging Markets Equity	86	82.56
U.S. Equity	182	65.93

Source: S&P Dow Jones Indices LLC, Morningstar. Data for periods ending Dec. 31, 2014. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

<b>Report 3: Average European Equity Fund Performance (Equal Weighted)</b>			
<b>Category</b>	<b>One-Year (%)</b>	<b>Three-Year (Annualized %)</b>	<b>Five-Year (Annualized %)</b>
<b>Data in EUR</b>			
S&P Europe 350	7.87	15.48	9.63
Europe Equity	4.21	13.97	7.66
S&P Eurozone BMI	5.40	16.92	7.35
Eurozone Equity	2.44	14.03	5.46
S&P France BMI	4.39	16.34	7.71
France Equity	2.96	14.29	6.18
S&P Germany BMI	3.33	19.23	11.36
Germany Equity	1.63	16.59	10.27
S&P Global 1200	19.83	18.35	14.27
Global Equity	13.01	13.67	8.83
S&P/IFCI	12.59	7.83	6.24
Emerging Markets Equity	9.17	5.48	3.54
S&P 500	29.48	23.27	19.46
U.S. Equity	22.64	19.22	15.00

Source: S&P Dow Jones Indices LLC, Morningstar. Data for periods ending Dec. 31, 2014. Index performance based on total return. Funds are equal weighted, but indices are not. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

<b>Report 3: Average European Equity Fund Performance (Equal Weighted) (cont.)</b>			
<b>Category</b>	<b>One-Year (%)</b>	<b>Three-Year (Annualized %)</b>	<b>Five-Year (Annualized %)</b>
<b>Data in GBP</b>			
S&P Europe 350	-2.32	11.58	6.08
Europe Equity	-0.59	14.49	8.07
S&P Europe Ex-U.K. BMI	0.60	14.63	6.61
Europe Ex-U.K. Equity	-0.96	14.52	6.82
S&P United Kingdom BMI	0.92	11.24	8.93
U.K. Equity	0.51	14.69	10.90
S&P United Kingdom LargeMidCap	0.61	9.14	7.41
U.K. Large-/Mid-Cap Equity	1.24	13.45	9.73
S&P United Kingdom SmallCap	2.53	22.59	16.92
U.K. Small-Cap Equity	-1.83	17.92	14.37
S&P Global 1200	12.01	15.59	11.28
Global Equity	7.65	13.14	8.56
S&P/IFCI	5.03	5.22	3.40
Emerging Markets Equity	3.76	4.53	2.46
S&P 500	20.77	20.29	16.27
U.S Equity	16.69	18.56	14.14

Source: S&P Dow Jones Indices LLC, Morningstar. Data for periods ending Dec. 31, 2014. Index performance based on total return. Funds are equal weighted, but indices are not. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

<b>Report 4: Average Europe Equity Fund Performance (Asset Weighted)</b>			
<b>Category</b>	<b>One-Year (%)</b>	<b>Three-Year (Annualized %)</b>	<b>Five-Year (Annualized %)</b>
<b>Data in EUR</b>			
S&P Europe 350	7.87	15.48	9.63
Europe Equity	5.28	14.92	8.94
S&P Eurozone BMI	5.40	16.92	7.35
Eurozone Equity	2.54	14.87	5.79
S&P France BMI	4.39	16.34	7.71
France Equity	2.83	14.76	6.03
S&P Germany BMI	3.33	19.23	11.36
Germany Equity	2.20	19.31	11.09
S&P Global 1200	19.83	18.35	14.27
Global Equity	15.03	15.13	10.08
S&P/IFCI	12.59	7.83	6.24
Emerging Markets Equity	10.58	6.09	4.26
S&P 500	29.48	23.27	19.46
U.S. Equity	24.01	19.58	15.53

Source: S&P Dow Jones Indices LLC, Morningstar. Data for periods ending Dec. 31, 2014. Index performance based on total returns. Past performance is no guarantee of future results. Table is provided for illustrative purposes.



<b>Report 4: Average Europe Equity Fund Performance (Asset Weighted) (cont.)</b>			
<b>Category</b>	<b>One-Year (%)</b>	<b>Three-Year (Annualized %)</b>	<b>Five-Year (Annualized %)</b>
<b>Data in GBP</b>			
S&P Europe 350	-2.32	11.58	6.08
Europe Equity	0.63	15.09	8.93
S&P Europe Ex-U.K. BMI	0.60	14.63	6.61
Europe Ex-U.K. Equity	0.69	15.10	7.52
S&P United Kingdom BMI	0.92	11.24	8.93
U.K. Equity	0.56	14.57	10.53
S&P United Kingdom LargeMidCap	0.61	9.14	7.41
UK Large-/Mid-Cap Equity	1.53	14.18	10.16
S&P United Kingdom SmallCap	2.53	22.59	16.92
U.K. Small-Cap Equity	-1.16	19.27	15.90
S&P Global 1200	12.01	15.59	11.28
Global Equity	9.13	14.42	9.59
S&P/IFCI	5.03	5.22	3.40
Emerging Markets Equity	4.69	5.43	4.26
S&P 500	20.77	20.29	16.27
U.S. Equity	17.91	18.02	13.68

Source: S&P Dow Jones Indices LLC, Morningstar. Data for periods ending Dec. 31, 2014. Index performance based on total returns. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

<b>Report 5: Quartile Breakpoints of Europe Equity Funds</b>			
<b>Fund Category</b>	<b>Third Quartile</b>	<b>Second Quartile</b>	<b>First Quartile</b>
<b>One-Year (EUR)</b>			
Europe Equity	1.95	4.18	6.80
Eurozone Equity	0.66	2.48	4.40
France Equity	0.83	2.84	5.53
Germany Equity	-1.33	1.71	3.37
Global Equity	9.80	14.08	17.27
Emerging Markets Equity	6.53	9.74	12.74
U.S. Equity	20.53	23.91	26.62
<b>One-Year (GBP)</b>			
Europe Equity	-2.69	-0.50	2.03
Europe Ex-U.K. Equity	-2.80	-0.82	1.01
U.K. Equity	-1.49	0.84	2.90
U.K. Large-/Mid-Cap Equity	-0.22	1.02	3.03
U.K. Small-Cap Equity	-4.87	-1.84	2.69
Global Equity	5.49	8.04	10.53
Emerging Markets Equity	1.27	3.74	6.04
U.S. Equity	14.10	17.57	20.07
<b>Three-Year (EUR)</b>			
Europe Equity	11.67	13.86	16.26
Eurozone Equity	12.50	14.27	15.82
France Equity	12.62	14.25	15.97
Germany Equity	15.30	17.34	19.65
Global Equity	12.06	14.60	16.54
Emerging Markets Equity	3.91	5.41	7.15
U.S. Equity	17.64	19.36	21.04
<b>Three-Year (GBP)</b>			
Europe Equity	12.35	14.68	16.40
Europe Ex-U.K. Equity	13.36	14.62	16.55
U.K. Equity	11.69	14.70	18.01
U.K. Large-/Mid-Cap Equity	11.13	12.62	15.61
U.K. Small-Cap Equity	17.12	19.21	21.93
Global Equity	11.36	13.42	15.11
Emerging Markets Equity	2.21	4.19	6.55
U.S. Equity	16.94	18.02	19.89

Source: S&P Dow Jones Indices LLC, Morningstar. Data for periods ending Dec. 31, 2014. Index performance based on total returns. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

<b>Report 5: Quartile Breakpoints of Europe Equity Funds (cont.)</b>			
<b>Fund Category</b>	<b>Third Quartile</b>	<b>Second Quartile</b>	<b>First Quartile</b>
<b>Five-Year (EUR)</b>			
Europe Equity	5.80	7.72	10.00
Eurozone Equity	3.74	5.19	7.12
France Equity	4.46	5.69	8.14
Germany Equity	8.66	10.35	12.25
Global Equity	7.34	9.56	11.60
Emerging Markets Equity	2.05	3.33	4.63
U.S. Equity	13.72	15.39	16.99
<b>Five-Year (GBP)</b>			
Europe Equity	6.87	8.14	10.26
Europe Ex-U.K. Equity	5.55	6.95	8.29
U.K. Equity	8.61	10.77	13.49
U.K. Large-/Mid-Cap Equity	8.07	9.36	11.37
U.K. Small-Cap Equity	13.46	15.88	18.63
Global Equity	7.36	8.82	10.43
Emerging Markets Equity	0.28	1.83	4.01
U.S. Equity	13.09	14.14	15.18

Source: S&P Dow Jones Indices LLC, Morningstar. Data for periods ending Dec. 31, 2014. Index performance based on total returns. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

## APPENDIX A

### SPIVA Styles and Morningstar Fund Classifications

Data from Morningstar Europe is obtained for all managed funds for which month-end data is available during the performance period. The data includes funds domiciled in European markets as well as major Asian markets where material numbers of European UCITS funds are available (chiefly Hong Kong, Singapore, Taiwan and South Africa). Offshore European equity funds are excluded. Funds are classified based on the Morningstar fund classification system, and the SPIVA Scorecard covers European and global equity categories.

### European Equity Funds Denominated in EUR and GBP

The SPIVA Europe Scorecard covers both regional and country-specific funds that are denominated in both EUR and GBP, and they have been mapped to the relevant Morningstar fund categories as we here indicate. The Morningstar classification system produces narrow, style-based classifications for funds, particularly in relation to European and international equities. S&P Dow Jones Indices has consolidated the style-based categories in order to generate a larger sample size and develop a broad-market comparison to market-based benchmarks. A narrow, style-based comparison would yield a limited sample size, given that value and growth style segments are not consistently discernible over the past five years.

Morningstar categories have been mapped to SPIVA peer groups in the following manner.

<b>Euro-Denominated European Funds</b>	
<b>Morningstar Category</b>	<b>SPIVA Category</b>
Europe Open-Ended Europe Flex-Cap Equity	S&P Europe 350
Europe Open-Ended Europe Large-Cap Blend Equity	
Europe Open-Ended Europe Large-Cap Growth Equity	
Europe Open-Ended Europe Large-Cap Value Equity	
Europe Open-Ended Mid-Cap Equity	
Europe Open-Ended Small-Cap Equity	
Europe Open-Ended Eurozone Flex-Cap Equity	S&P Eurozone BMI (EUR) Gross Total Return
Europe Open-Ended Eurozone Large-Cap Equity	
Europe Open-Ended Eurozone Mid-Cap Equity	
Europe Open-Ended Eurozone Small-Cap Equity	
Europe Open-Ended France Large-Cap Equity	S&P France BMI (EUR) Gross Total Return
Europe Open-Ended France Small-/Mid-Cap Equity	
Europe Open-Ended Germany Large-Cap Equity	S&P Germany BMI (EUR) Gross Total Return
Europe Open-Ended Germany Small-/Mid-Cap Equity	

<b>GBP-Denominated European Funds</b>	
<b>Morningstar Category</b>	<b>SPIVA Category</b>
Europe Open-Ended Europe Flex-Cap Equity	S&P Europe 350 (GBP)(WM)
Europe Open-Ended Europe Large-Cap Blend Equity	
Europe Open-Ended Europe Large-Cap Growth Equity	
Europe Open-Ended Europe Large-Cap Value Equity	
Europe Open-Ended Europe Mid-Cap Equity	
Europe Open-Ended Europe Small-Cap Equity	
Europe Open-Ended Europe Ex-U.K. Large-Cap Equity	S&P Europe Ex-U.K. BMI (GBP) Gross Total Return
Europe Open-Ended Europe Ex-U.K. Small-/Mid-Cap Equity	
Europe Open-Ended U.K. Large-Cap Blend Equity	S&P United Kingdom LargeMidCap (GBP) Gross Total Return
Europe Open-Ended U.K. Large-Cap Growth Equity	
Europe Open-Ended U.K. Large-Cap Value Equity	
Europe Open-Ended U.K. Mid-Cap Equity	
Europe Open-Ended U.K. Small-Cap Equity	S&P United Kingdom SmallCap (GBP) Gross Total Return
Europe Open-Ended U.K. Large-Cap Blend Equity	S&P United Kingdom BMI (GBP) Gross Total Return
Europe Open-Ended U.K. Large-Cap Growth Equity	
Europe Open-Ended U.K. Large-Cap Value Equity	
Europe Open-Ended U.K. Mid-Cap Equity	
Europe Open-Ended U.K. Small-Cap Equity	
Europe Open-Ended U.K. Flex-Cap Equity	

## International Funds Denominated in EUR and GBP

For international equities, the SPIVA Europe Scorecard reports on three major categories (U.S., global, and global emerging markets) in both EUR and GBP. These categories also include multiple Morningstar classifications.

Euro-Denominated International Funds	
Morningstar Category	SPIVA Category
Europe Open-Ended Global Large-Cap Blend Equity	S&P Global 1200 Total Return (EUR)
Europe Open-Ended Global Large-Cap Growth Equity	
Europe Open-Ended Global Large-Cap Value Equity	
Europe Open-Ended Global Small-Cap Equity	
Europe Open-Ended U.S. Large-Cap Blend Equity	S&P 500 Total Return (EUR)
Europe Open-Ended U.S. Large-Cap Growth Equity	
Europe Open-Ended U.S. Large-Cap Value Equity	
Europe Open-Ended U.S. Mid-Cap Equity	
Europe Open-Ended U.S. Flex-Cap Equity	
Europe Open-Ended U.S. Small-Cap Equity	S&P/IFCI Total Return (EUR)
Europe Open-Ended Global Emerging Markets Equity	

GBP-Denominated International Funds	
Morningstar Category	SPIVA Category
Europe Open-Ended Global Large-Cap Blend Equity	S&P Global 1200 Total Return (GBP)
Europe Open-Ended Global Large-Cap Growth Equity	
Europe Open-Ended Global Large-Cap Value Equity	
Europe Open-Ended Global Small-Cap Equity	
Europe Open-Ended U.S. Large-Cap Blend Equity	S&P 500 Total Return (GBP)
Europe Open-Ended U.S. Large-Cap Growth Equity	
Europe Open-Ended U.S. Large-Cap Value Equity	
Europe Open-Ended U.S. Mid-Cap Equity	
Europe Open-Ended U.S. Small-Cap Equity	
Europe Open-Ended U.S. Flex-Cap Equity	S&P/IFCI (GBP)
Europe Open-Ended Global Emerging Markets Equity	

## APPENDIX B

### Glossary – Reports

#### Percentage of Funds Outperformed by the Index

We use funds with returns available for the entire period as the denominator. We determine the count of funds that have survived and beat the index, and then we report the index outperformance percentage.

#### Survivorship (%)

The survivorship measure represents the percentage of funds in existence at the beginning of the time period that are still active at the end 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 reflect the returns of the total money invested in that particular style category with more accuracy.

#### Quartile Breakpoints

The pth percentile for a set of data is the value that is greater than or equal to p% of the data but is less than or equal to (100-p)% of the data. In other words, it is a value that divides the data into two parts: the lower p% of the values and the upper (100-p)% of the values. The first quartile is the 75th percentile, which is the value separating the elements of a population into the lower 75% and the upper 25%. The second quartile is the 50th percentile, and the third quartile is the 25th percentile. For fund category quartiles in a particular time horizon, the data used is the return of the largest share class of the fund net of fees, excluding loads.

#### Survivorship Bias

Many funds might liquidate or merge during a period of study. This usually occurs due to continued poor performance by the fund. Therefore, if index returns were compared to fund returns using only surviving funds, the comparison would be biased in favor of the fund category. The SPIVA reports remove this bias in three ways. The first method to remove the bias is to use 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. The second is explicitly to show the survivorship rate in each category. The final way is to construct a 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

A benchmark index provides an investment vehicle against which fund performance can be measured.

### S&P 500

Widely regarded as the best single gauge of the U.S. equities market, this market capitalization weighted index includes a representative sample of the 500 leading companies in the leading industries of the U.S. economy and provides over 80% coverage of U.S. equities.

### S&P Global 1200

Capturing approximately 70% of the world's capital markets, the S&P Global 1200 is a composite of seven headline indices, many of which are accepted leaders in their regions. It includes the S&P 500 (U.S.), S&P Europe 350 (Europe), S&P/TOPIX 150 (Japan), S&P/TSX 60 (Canada), S&P/ASX All Australian 50 (Australia), S&P Asia 50 (Asia Ex-Japan), and S&P Latin America 40 (Latin America).

### S&P/IFCI

The S&P/IFCI 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.

### S&P Europe 350

Covering approximately 70% of the region's market capitalization, the S&P Europe 350 is an equity index drawn from 17 major European markets.

### S&P Europe Ex-U.K. BMI

The S&P Europe ex-U.K. BMI, a subset of the S&P Global BMI, is designed to represent the stock markets of Europe, excluding the U.K. The S&P Global BMI is a comprehensive, rules-based index designed to measure global stock market performance.

### S&P Eurozone BMI

The S&P Eurozone BMI, a subset of the S&P Global BMI, is designed to represent the stock markets of European countries that adopt the euro currency.

### S&P France BMI

The S&P France BMI, a subset of the S&P Global BMI, is an equity index that is designed to represent the French stock market. The S&P Global BMI is a comprehensive, rules-based index designed to measure global stock market performance.

### S&P Germany BMI

The S&P Germany BMI, a subset of the S&P Global BMI, is an equity index that is designed to represent the German stock market. The S&P Global BMI is a comprehensive, rules-based index designed to measure global stock market performance.

### S&P United Kingdom BMI

The S&P United Kingdom BMI, a subset of the S&P Global BMI, is an equity index that is designed to represent the U.K. stock market. The S&P Global BMI is a comprehensive, rules-based index designed to measure global stock market performance.

### S&P United Kingdom LargeMidCap

The S&P United Kingdom LargeMidCap, a subset of the S&P Global BMI, is an equity index that is designed to represent the large- and mid-cap companies of the U.K. stock market and covers approximately 85% of the float market-cap. The S&P Global BMI is a comprehensive, rules-based index designed to measure global stock market performance.

### S&P United Kingdom SmallCap

The S&P United Kingdom SmallCap, a subset of the S&P Global BMI, is an equity index that is designed to represent the small-cap companies of the U.K. stock market. The S&P Global BMI is a comprehensive, rules-based index designed to measure global stock market performance.



## INDEX RESEARCH &amp; DESIGN CONTACT INFORMATION

**Global Head**

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Keith Loggie	keith.loggie@spdji.com
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**New York**

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Vishal Arora	vishal.arora@spdji.com
Phillip Brzenk	phillip.brzenk@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
Hong Xie	hong.xie@spdji.com

**Beijing**

---

Liyu Zeng	liyu.zeng@spdji.com
-----------	---------------------

**Hong Kong**

---

Priscilla Luk	priscilla.luk@spdji.com
---------------	-------------------------

---

**Mumbai**

---

Utkarsh Agrawal	utkarsh.agrawal@spdji.com
-----------------	---------------------------

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**London**

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Sunjiv Mainie	sunjiv.mainie@spdji.com
Daniel Ung	daniel.ung@spdji.com

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