

CONTRIBUTOR

Daniel Ung, CFA, CAIA, FRM
Director
Global Research & Design
daniel.ung@spglobal.com

SPIVA[®] Europe Scorecard

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 S&P Indices Versus Active Funds (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, Latin America, and South Africa. 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 might work better than the other.

The SPIVA Europe Scorecard measures the performance of actively managed European equity funds denominated in euro (EUR), British pound sterling (GBP), and other European local currencies against the performance of their respective benchmark indices over 1-, 3-, 5-, and 10-year investment horizons. Last year, the range of fund categories covered in the SPIVA Europe Scorecard was expanded to include domestic equity funds from Italy, the Netherlands, Poland, Spain, Switzerland, and the Nordic region, with specific data for Denmark and Sweden.

Equity Funds Denominated in Euros (EUR)

Global equity markets, as measured by the [S&P Global 1200](#), fell 1.74% over the past one-year period in euro terms, and European markets fared even worse, with the S&P Europe 350[®] decreasing 10.47% over the same period. The drab performance and heightened volatility in Europe were brought about by the uncertainty over the U.K. exiting the European Union as well as the adoption of a negative interest rate policy in Europe. Normally, these would be the ideal conditions in which active managers might be expected to outperform, as they could theoretically use their stock-picking skills to take advantage of the perceived discrepancies and manage the volatility in the market. However, our report indicates that euro-denominated active funds invested in pan-European equities underperformed their benchmarks across all time horizons analyzed. In terms of emerging market equities, performance was similarly lackluster, principally owing to unfavorable economic performance in China and other emerging countries.

There is a widely held belief that active portfolio management can be most effective in less efficient markets, such as emerging market equities, as these markets can provide managers the opportunity to exploit perceived mispricings. However, this view was not substantiated by our research, as active funds underperformed their benchmarks over all time horizons, with 96% of funds underperforming over the 10-year period.

In the U.S., the performance of equity markets was positive, albeit weaker than previous years. However, over 93% of U.S. active funds underperformed the [S&P 500®](#) over the one-year period. This poor performance continued over the longer term, as over 99% of active funds trailed the benchmark over the past 10 years.

The relationship between the size of funds (i.e., the amount of assets under management) and their success appears to be uncertain across different categories of funds. Results from Reports 3 and 4 highlight that asset-weighted returns were higher than equal-weighted returns in some, but not all, categories. Moreover, over the 10-year period, over 50% of euro-denominated active funds invested in pan-European equities were either liquidated or merged.

Funds Denominated in Pound Sterling (GBP)

With respect to GBP-denominated categories, actively managed funds invested in U.K. equities lagged their benchmarks in all market capitalization categories and across all time horizons studied. In addition, GBP-denominated funds invested in emerging, U.S., and international equities underperformed their corresponding benchmarks across all the time horizons studied.

Funds Denominated in Other European Local Currencies

Similar to the euro and pound sterling categories, all active funds denominated in other European local currencies underperformed their benchmarks over the 5- and 10-year periods, even if outperformance was achievable over a shorter time horizon.

Quartile Breakpoint Reports

Report 5 shows that while there was return dispersion over the one-year horizon, this dispersion dissipated over the longer term and fund returns generally reverted to their respective benchmarks.

A UNIQUE SCORECARD FOR THE ACTIVE VERSUS PASSIVE DEBATE

Since its first publication 14 years ago, the SPIVA Scorecard has served as the de facto scorekeeper of the active versus passive debate. For more than a 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 market participants 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 | | | | | |
|---|--------------------------------|-----------------|-------------------|------------------|-----------------|
| FUND CATEGORY | COMPARISON INDEX | ONE-YEAR | THREE-YEAR | FIVE-YEAR | TEN-YEAR |
| DATA IN EUROS (EUR) | | | | | |
| Europe Equity | S&P Europe 350 | 57.43 | 72.61 | 79.93 | 87.47 |
| Eurozone Equity | S&P Eurozone BMI | 67.50 | 86.27 | 85.93 | 91.28 |
| Nordic Equity | S&P Nordic BMI | 47.73 | 60.47 | 71.43 | 82.14 |
| Global Equity | S&P Global 1200 | 87.94 | 94.81 | 96.72 | 98.33 |
| Emerging Markets Equity | S&P/IFCI | 64.38 | 90.41 | 89.06 | 96.65 |
| U.S. Equity | S&P 500 | 93.53 | 95.81 | 99.11 | 99.15 |
| France Equity | S&P France BMI | 55.80 | 68.94 | 80.23 | 85.86 |
| Germany Equity | S&P Germany BMI | 60.44 | 76.40 | 77.01 | 81.25 |
| Italy Equity | S&P Italy BMI | 29.41 | 52.94 | 50.00 | 74.19 |
| Spain Equity | S&P Spain BMI | 42.35 | 74.36 | 67.74 | 81.15 |
| Netherlands Equity | S&P Netherlands BMI | 40.00 | 92.31 | 100.00 | 96.97 |
| DATA IN POUND STERLING (GBP) | | | | | |
| Europe Equity | S&P Europe 350 | 55.10 | 64.21 | 61.62 | 72.86 |
| Europe Ex-U.K. Equity | S&P Europe Ex-U.K. BMI | 67.97 | 75.21 | 65.60 | 75.76 |
| U.K. Equity | S&P United Kingdom BMI | 86.03 | 59.89 | 63.07 | 77.08 |
| U.K. Large-/Mid-Cap Equity | S&P United Kingdom LargeMidCap | 91.18 | 55.19 | 55.02 | 76.97 |
| U.K. Small-Cap Equity | S&P United Kingdom SmallCap | 59.70 | 66.67 | 85.71 | 82.43 |
| Global Equity | S&P Global 1200 | 87.18 | 88.68 | 91.67 | 94.72 |
| Emerging Markets Equity | S&P/IFCI | 50.94 | 76.74 | 75.96 | 85.19 |
| U.S. Equity | S&P 500 | 92.34 | 94.19 | 98.72 | 97.42 |
| DATA IN OTHER EUROPEAN LOCAL CURRENCIES | | | | | |
| Denmark Equity | S&P Denmark BMI | 20.59 | 67.74 | 82.35 | 94.74 |
| Poland Equity | S&P Poland BMI | 17.39 | 44.90 | 48.94 | 83.33 |
| Switzerland Equity | S&P Switzerland BMI | 32.95 | 51.41 | 86.49 | 74.13 |
| Sweden Equity | S&P Sweden BMI | 47.27 | 48.72 | 70.90 | 77.31 |

Source: S&P Dow Jones Indices LLC, Morningstar. Data for periods ending June 30, 2016. 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.

| Report 2: Survivorship Consistency of European Equity Funds | | |
|--|------------------------------|-------------------------|
| FUND CATEGORY | NO. OF FUNDS AT START | SURVIVORSHIP (%) |
| ONE-YEAR (EUR) | | |
| Europe Equity | 1078 | 94.06 |
| Eurozone Equity | 599 | 93.16 |
| Nordic Equity | 47 | 93.62 |
| Global Equity | 1271 | 94.10 |
| Emerging Markets Equity | 359 | 90.81 |
| U.S. Equity | 407 | 93.61 |
| France Equity | 230 | 97.39 |
| Germany Equity | 98 | 94.90 |
| Italy Equity | 51 | 96.08 |
| Spain Equity | 85 | 92.94 |
| Netherlands Equity | 10 | 90.00 |
| ONE-YEAR (GBP) | | |
| Europe Equity | 109 | 95.41 |
| Europe Ex-U.K. Equity | 133 | 93.98 |
| U.K. Equity | 383 | 93.21 |
| U.K. Large-/Mid-Cap Equity | 218 | 93.12 |
| U.K. Small-Cap Equity | 68 | 91.18 |
| Global Equity | 490 | 92.45 |
| Emerging Markets Equity | 184 | 91.30 |
| U.S. Equity | 241 | 90.87 |
| ONE-YEAR (OTHER EUROPEAN LOCAL CURRENCIES) | | |
| Denmark Equity | 34 | 97.06 |
| Poland Equity | 64 | 98.44 |
| Switzerland Equity | 182 | 96.70 |
| Sweden Equity | 113 | 91.15 |
| THREE-YEAR (EUR) | | |
| Europe Equity | 1072 | 81.25 |
| Eurozone Equity | 613 | 81.89 |
| Nordic Equity | 46 | 80.43 |
| Global Equity | 1239 | 80.31 |
| Emerging Markets Equity | 341 | 78.01 |
| U.S. Equity | 379 | 81.79 |
| France Equity | 241 | 85.06 |
| Germany Equity | 96 | 86.46 |
| Italy Equity | 51 | 86.27 |
| Spain Equity | 80 | 83.75 |
| Netherlands Equity | 13 | 53.85 |

Source: S&P Dow Jones Indices LLC, Morningstar. Data for periods ending June 30, 2016. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

| Report 2: Survivorship Consistency of European Equity Funds (cont.) | | |
|--|------------------------------|-------------------------|
| FUND CATEGORY | NO. OF FUNDS AT START | SURVIVORSHIP (%) |
| THREE-YEAR (GBP) | | |
| Europe Equity | 102 | 79.41 |
| Europe Ex-U.K. Equity | 125 | 80.80 |
| U.K. Equity | 401 | 80.55 |
| U.K. Large-/Mid-Cap Equity | 228 | 79.82 |
| U.K. Small-Cap Equity | 68 | 83.82 |
| Global Equity | 424 | 81.60 |
| Emerging Markets Equity | 149 | 82.55 |
| U.S. Equity | 199 | 79.90 |
| THREE-YEAR (OTHER EUROPEAN LOCAL CURRENCIES) | | |
| Denmark Equity | 32 | 96.88 |
| Poland Equity | 67 | 94.03 |
| Switzerland Equity | 183 | 86.34 |
| Sweden Equity | 118 | 78.81 |
| FIVE-YEAR (EUR) | | |
| Europe Equity | 1181 | 67.06 |
| Eurozone Equity | 699 | 67.24 |
| Nordic Equity | 38 | 81.58 |
| Global Equity | 1291 | 67.08 |
| Emerging Markets Equity | 298 | 72.15 |
| U.S. Equity | 393 | 66.41 |
| France Equity | 269 | 72.12 |
| Germany Equity | 93 | 79.57 |
| Italy Equity | 62 | 64.52 |
| Spain Equity | 95 | 68.42 |
| Netherlands Equity | 19 | 36.84 |
| FIVE-YEAR (GBP) | | |
| Europe Equity | 104 | 58.65 |
| Europe Ex-U.K. Equity | 132 | 69.70 |
| U.K. Equity | 454 | 65.64 |
| U.K. Large-/Mid-Cap Equity | 262 | 64.50 |
| U.K. Small-Cap Equity | 72 | 69.44 |
| Global Equity | 408 | 68.63 |
| Emerging Markets Equity | 117 | 72.65 |
| U.S. Equity | 183 | 62.30 |
| FIVE-YEAR (OTHER EUROPEAN LOCAL CURRENCIES) | | |
| Denmark Equity | 34 | 85.29 |
| Poland Equity | 65 | 93.85 |
| Switzerland Equity | 191 | 77.49 |
| Sweden Equity | 136 | 63.24 |

Source: S&P Dow Jones Indices LLC, Morningstar. Data for periods ending June 30, 2016. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

| Report 2: Survivorship Consistency of European Equity Funds (cont.) | | |
|--|------------------------------|-------------------------|
| FUND CATEGORY | NO. OF FUNDS AT START | SURVIVORSHIP (%) |
| TEN-YEAR (EUR) | | |
| Europe Equity | 1259 | 47.82 |
| Eurozone Equity | 768 | 46.09 |
| Nordic Equity | 31 | 61.29 |
| Global Equity | 1325 | 43.70 |
| Emerging Markets Equity | 192 | 57.81 |
| U.S. Equity | 509 | 37.33 |
| France Equity | 300 | 50.67 |
| Germany Equity | 117 | 55.56 |
| Italy Equity | 93 | 33.33 |
| Spain Equity | 124 | 45.16 |
| Netherlands Equity | 33 | 18.18 |
| TEN-YEAR (GBP) | | |
| Europe Equity | 73 | 39.73 |
| Europe Ex-U.K. Equity | 139 | 57.55 |
| U.K. Equity | 524 | 45.99 |
| U.K. Large-/Mid-Cap Equity | 331 | 42.30 |
| U.K. Small-Cap Equity | 74 | 55.41 |
| Global Equity | 323 | 53.87 |
| Emerging Markets Equity | 58 | 67.24 |
| U.S. Equity | 171 | 45.03 |
| TEN-YEAR (OTHER EUROPEAN LOCAL CURRENCIES) | | |
| Denmark Equity | 38 | 55.26 |
| Poland Equity | 27 | 100.00 |
| Switzerland Equity | 148 | 67.57 |
| Sweden Equity | 121 | 52.07 |

Source: S&P Dow Jones Indices LLC, Morningstar. Data for periods ending June 30, 2016. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

| Report 3: Average European Equity Fund Performance (Equal Weighted) | | | | |
|--|---------------------|----------------------------------|---------------------------------|--------------------------------|
| CATEGORY | ONE-YEAR (%) | THREE-YEAR (ANNUALIZED %) | FIVE-YEAR (ANNUALIZED %) | TEN-YEAR (ANNUALIZED %) |
| DATA IN EUR | | | | |
| Europe Equity | -10.27 | 7.77 | 6.45 | 2.55 |
| S&P Europe 350 | -10.47 | 8.24 | 7.36 | 3.68 |
| Eurozone Equity | -10.89 | 7.25 | 4.48 | 1.50 |
| S&P Eurozone BMI | -10.21 | 9.26 | 5.91 | 2.76 |
| Nordic Equity | 0.32 | 12.93 | 8.67 | 6.22 |
| S&P Nordic BMI | -3.25 | 12.72 | 10.06 | 6.70 |
| Global Equity | -6.45 | 9.04 | 7.94 | 3.05 |
| S&P Global 1200 | -1.74 | 13.19 | 12.85 | 6.58 |
| Emerging Markets Equity | -10.54 | 2.94 | 0.46 | 3.11 |
| S&P/IFCI | -10.36 | 5.31 | 2.66 | 5.92 |
| U.S. Equity | -2.45 | 12.98 | 13.12 | 5.48 |
| S&P 500 | 4.30 | 17.66 | 18.23 | 8.95 |
| France Equity | -4.76 | 10.01 | 5.62 | 2.57 |
| S&P France BMI | -6.67 | 9.38 | 6.42 | 3.36 |
| Germany Equity | -8.14 | 7.43 | 6.20 | 5.00 |
| S&P Germany BMI | -9.39 | 8.05 | 6.62 | 5.75 |
| Italy Equity | -22.07 | 6.46 | 1.94 | -2.79 |
| S&P Italy BMI | -24.35 | 5.93 | 0.00 | -3.92 |
| Spain Equity | -17.82 | 5.91 | 1.12 | 0.58 |
| S&P Spain BMI | -21.00 | 6.75 | 0.65 | 0.78 |
| Netherlands Equity | -6.09 | 10.74 | 6.61 | 2.03 |
| S&P Netherlands BMI | -6.82 | 13.57 | 11.24 | 6.32 |
| DATA IN GBP | | | | |
| Europe Equity | 4.94 | 8.25 | 6.90 | 6.19 |
| S&P Europe 350 | 5.01 | 7.18 | 5.59 | 5.64 |
| Europe Ex-U.K. Equity | 5.99 | 8.50 | 6.75 | 6.53 |
| S&P Europe Ex-U.K. BMI | 7.30 | 8.97 | 5.90 | 6.27 |
| U.K. Equity | -3.79 | 6.10 | 7.32 | 5.69 |
| S&P United Kingdom BMI | 2.42 | 5.78 | 6.43 | 5.54 |
| U.K. Large-/Mid-Cap Equity | -2.92 | 5.62 | 6.93 | 5.23 |
| S&P United Kingdom LargeMidCap | 3.52 | 4.93 | 5.32 | 4.87 |
| U.K. Small-Cap Equity | -6.19 | 7.79 | 8.77 | 7.32 |
| S&P United Kingdom SmallCap | -4.51 | 9.03 | 11.49 | 8.92 |
| Global Equity | 7.96 | 8.56 | 7.77 | 6.10 |
| S&P Global 1200 | 15.35 | 12.15 | 11.01 | 8.56 |
| Emerging Markets Equity | 6.19 | 2.91 | 0.01 | 6.95 |
| S&P/IFCI | 5.15 | 4.24 | 0.97 | 7.89 |
| U.S. Equity | 12.84 | 12.84 | 12.61 | 8.67 |
| S&P 500 | 22.34 | 16.46 | 16.28 | 10.97 |
| DATA IN OTHER EUROPEAN LOCAL CURRENCIES | | | | |
| Denmark Equity | 7.00 | 25.81 | 18.46 | 10.07 |
| S&P Denmark BMI | 4.19 | 25.88 | 19.87 | 12.01 |
| Poland Equity | -17.40 | -3.67 | -5.86 | 1.54 |
| S&P Poland BMI | -18.74 | -1.04 | -1.98 | 0.37 |
| Switzerland Equity | 1.36 | 8.07 | 8.05 | 3.65 |
| S&P Switzerland BMI | -2.57 | 6.41 | 9.33 | 4.30 |
| Sweden Equity | -0.04 | 14.86 | 10.04 | 7.93 |
| S&P Sweden BMI | -4.40 | 12.09 | 9.46 | 7.97 |

Source: S&P Dow Jones Indices LLC, Morningstar. Data for periods ending June 30, 2016. 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.

| Report 4: Average European Equity Fund Performance (Asset Weighted) | | | | |
|--|---------------------|----------------------------------|---------------------------------|--------------------------------|
| CATEGORY | ONE-YEAR (%) | THREE-YEAR (ANNUALIZED %) | FIVE-YEAR (ANNUALIZED %) | TEN-YEAR (ANNUALIZED %) |
| DATA IN EUR | | | | |
| Europe Equity | -9.82 | 7.96 | 7.02 | 3.07 |
| S&P Europe 350 | -10.47 | 8.24 | 7.36 | 3.68 |
| Eurozone Equity | -11.23 | 7.37 | 4.67 | 1.55 |
| S&P Eurozone BMI | -10.21 | 9.26 | 5.91 | 2.76 |
| Nordic Equity | -0.77 | 12.35 | 8.70 | 6.25 |
| S&P Nordic BMI | -3.25 | 12.72 | 10.06 | 6.70 |
| Global Equity | -6.20 | 9.66 | 8.81 | 3.72 |
| S&P Global 1200 | -1.74 | 13.19 | 12.85 | 6.58 |
| Emerging Markets Equity | -10.76 | 3.81 | 1.29 | 4.06 |
| S&P/IFCI | -10.36 | 5.31 | 2.66 | 5.92 |
| U.S. Equity | -1.67 | 13.82 | 13.75 | 6.03 |
| S&P 500 | 4.30 | 17.66 | 18.23 | 8.95 |
| France Equity | -6.96 | 8.63 | 5.26 | 2.41 |
| S&P France BMI | -6.67 | 9.38 | 6.42 | 3.36 |
| Germany Equity | -9.99 | 7.66 | 6.46 | 5.71 |
| S&P Germany BMI | -9.39 | 8.05 | 6.62 | 5.75 |
| Italy Equity | -22.13 | 6.51 | 1.95 | -2.70 |
| S&P Italy BMI | -24.35 | 5.93 | 0.00 | -3.92 |
| Spain Equity | -16.65 | 6.16 | 1.82 | 1.42 |
| S&P Spain BMI | -21.00 | 6.75 | 0.65 | 0.78 |
| Netherlands Equity | -5.79 | 10.36 | 6.09 | 2.70 |
| S&P Netherlands BMI | -6.82 | 13.57 | 11.24 | 6.32 |
| DATA IN GBP | | | | |
| Europe Equity | 6.39 | 8.70 | 7.85 | 7.70 |
| S&P Europe 350 | 5.01 | 7.18 | 5.59 | 5.64 |
| Europe Ex-U.K. Equity | 6.97 | 8.72 | 7.31 | 6.57 |
| S&P Europe Ex-U.K. BMI | 7.30 | 8.97 | 5.90 | 6.27 |
| U.K. Equity | -3.92 | 5.59 | 7.02 | 5.68 |
| S&P United Kingdom BMI | 2.42 | 5.78 | 6.43 | 5.54 |
| U.K. Large-/Mid-Cap Equity | -3.36 | 5.58 | 7.08 | 5.40 |
| S&P United Kingdom LargeMidCap | 3.52 | 4.93 | 5.32 | 4.87 |
| U.K. Small-Cap Equity | -5.03 | 8.47 | 9.51 | 7.81 |
| S&P United Kingdom SmallCap | -4.51 | 9.03 | 11.49 | 8.92 |
| Global Equity | 11.11 | 10.29 | 9.23 | 7.00 |
| S&P Global 1200 | 15.35 | 12.15 | 11.01 | 8.56 |
| Emerging Markets Equity | 7.88 | 3.28 | 1.93 | 8.52 |
| S&P/IFCI | 5.15 | 4.24 | 0.97 | 7.89 |
| U.S. Equity | 14.13 | 13.54 | 12.87 | 9.00 |
| S&P 500 | 22.34 | 16.46 | 16.28 | 10.97 |
| DATA IN OTHER EUROPEAN LOCAL CURRENCIES | | | | |
| Denmark Equity | 6.62 | 25.69 | 18.27 | 10.32 |
| S&P Denmark BMI | 4.19 | 25.88 | 19.87 | 12.01 |
| Poland Equity | -18.15 | -3.75 | -9.30 | -1.38 |
| S&P Poland BMI | -18.74 | -1.04 | -1.98 | 0.37 |
| Switzerland Equity | 1.37 | 8.41 | 8.63 | 4.09 |
| S&P Switzerland BMI | -2.57 | 6.41 | 9.33 | 4.30 |
| Sweden Equity | -1.54 | 14.03 | 9.83 | 8.15 |
| S&P Sweden BMI | -4.40 | 12.09 | 9.46 | 7.97 |

Source: S&P Dow Jones Indices LLC, Morningstar. Data for periods ending June 30, 2016. Index performance based on total returns. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

| Report 5: Quartile Breakpoints of European Equity Funds | | | |
|--|-----------------------|------------------------|-----------------------|
| FUND CATEGORY | THIRD QUARTILE | SECOND QUARTILE | FIRST QUARTILE |
| ONE-YEAR (EUR) | | | |
| Europe Equity | -13.99 | -11.03 | -6.91 |
| Eurozone Equity | -14.44 | -11.87 | -8.72 |
| Nordic Equity | -5.94 | -1.67 | 6.03 |
| Global Equity | -10.00 | -7.22 | -4.15 |
| Emerging Markets Equity | -12.61 | -11.08 | -9.10 |
| U.S. Equity | -5.50 | -2.28 | 1.16 |
| France Equity | -10.47 | -7.36 | -0.43 |
| Germany Equity | -12.40 | -10.38 | -6.21 |
| Italy Equity | -25.08 | -20.91 | -18.95 |
| Spain Equity | -23.05 | -18.61 | -13.91 |
| Netherlands Equity | -7.26 | -4.73 | -4.29 |
| ONE-YEAR (GBP) | | | |
| Europe Equity | 0.04 | 3.96 | 10.26 |
| Europe Ex-U.K. Equity | 2.21 | 4.60 | 8.66 |
| U.K. Equity | -7.35 | -3.97 | 0.04 |
| U.K. Large-/Mid-Cap Equity | -5.36 | -2.47 | 0.62 |
| U.K. Small-Cap Equity | -9.23 | -5.22 | -2.46 |
| Global Equity | 3.43 | 7.80 | 12.18 |
| Emerging Markets Equity | 2.91 | 5.68 | 8.73 |
| U.S. Equity | 9.98 | 13.43 | 17.71 |
| ONE-YEAR (OTHER EUROPEAN LOCAL CURRENCIES) | | | |
| Denmark Equity | 4.82 | 6.63 | 8.57 |
| Poland Equity | -16.52 | -11.47 | -7.27 |
| Switzerland Equity | -3.24 | -0.52 | 6.72 |
| Sweden Equity | -6.28 | -2.95 | 5.18 |
| THREE-YEAR (EUR) | | | |
| Europe Equity | 5.01 | 6.88 | 9.19 |
| Eurozone Equity | 5.13 | 6.68 | 8.25 |
| Nordic Equity | 9.15 | 12.64 | 14.91 |
| Global Equity | 6.63 | 8.68 | 10.78 |
| Emerging Markets Equity | 1.34 | 3.01 | 4.32 |
| U.S. Equity | 11.01 | 13.52 | 15.03 |
| France Equity | 6.58 | 8.01 | 12.38 |
| Germany Equity | 4.36 | 6.26 | 8.62 |
| Italy Equity | 3.31 | 6.04 | 7.68 |
| Spain Equity | 2.60 | 4.61 | 7.02 |
| Netherlands Equity | 10.39 | 11.91 | 13.14 |
| THREE-YEAR (GBP) | | | |
| Europe Equity | 5.50 | 7.02 | 10.23 |
| Europe Ex-U.K. Equity | 6.28 | 7.74 | 9.43 |
| U.K. Equity | 4.16 | 5.82 | 7.90 |
| U.K. Large-/Mid-Cap Equity | 3.95 | 5.33 | 6.99 |
| U.K. Small-Cap Equity | 5.71 | 8.41 | 11.44 |
| Global Equity | 6.44 | 8.57 | 11.03 |
| Emerging Markets Equity | 1.66 | 2.76 | 4.67 |
| U.S. Equity | 10.97 | 13.08 | 14.52 |
| THREE-YEAR (OTHER EUROPEAN LOCAL CURRENCIES) | | | |
| Denmark Equity | 23.03 | 24.38 | 27.27 |
| Poland Equity | -3.81 | 0.87 | 3.84 |
| Switzerland Equity | 5.16 | 6.98 | 10.94 |
| Sweden Equity | 11.78 | 13.70 | 18.42 |

Source: S&P Dow Jones Indices LLC, Morningstar. Data for periods ending June 30, 2016. Index performance based on total returns. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

| Report 5: Quartile Breakpoints of European Equity Funds (cont.) | | | |
|--|-----------------------|------------------------|-----------------------|
| FUND CATEGORY | THIRD QUARTILE | SECOND QUARTILE | FIRST QUARTILE |
| FIVE-YEAR (EUR) | | | |
| Europe Equity | 4.02 | 5.71 | 8.03 |
| Eurozone Equity | 2.52 | 4.03 | 5.47 |
| Nordic Equity | 7.00 | 9.10 | 10.47 |
| Global Equity | 5.69 | 7.91 | 10.01 |
| Emerging Markets Equity | -0.90 | 0.40 | 1.70 |
| U.S. Equity | 11.95 | 13.49 | 15.06 |
| France Equity | 3.39 | 4.74 | 6.71 |
| Germany Equity | 3.66 | 5.42 | 7.13 |
| Italy Equity | 0.21 | 1.37 | 3.49 |
| Spain Equity | -1.46 | 0.18 | 2.34 |
| Netherlands Equity | 6.69 | 7.53 | 7.85 |
| FIVE-YEAR (GBP) | | | |
| Europe Equity | 4.64 | 6.71 | 8.77 |
| Europe Ex-U.K. Equity | 4.86 | 6.02 | 7.72 |
| U.K. Equity | 5.38 | 7.16 | 9.22 |
| U.K. Large-/Mid-Cap Equity | 5.15 | 6.28 | 8.13 |
| U.K. Small-Cap Equity | 7.64 | 9.09 | 10.71 |
| Global Equity | 6.16 | 7.74 | 9.57 |
| Emerging Markets Equity | -1.17 | 0.24 | 1.37 |
| U.S. Equity | 11.26 | 12.72 | 13.98 |
| FIVE-YEAR (OTHER EUROPEAN LOCAL CURRENCIES) | | | |
| Denmark Equity | 16.49 | 17.43 | 19.53 |
| Poland Equity | -5.19 | -0.79 | 1.60 |
| Switzerland Equity | 6.95 | 8.05 | 8.88 |
| Sweden Equity | 8.26 | 9.04 | 13.21 |
| TEN-YEAR (EUR) | | | |
| Europe Equity | 1.02 | 2.21 | 3.88 |
| Eurozone Equity | 0.06 | 1.13 | 2.40 |
| Nordic Equity | 4.45 | 5.85 | 6.99 |
| Global Equity | 2.16 | 3.24 | 4.34 |
| Emerging Markets Equity | 1.82 | 2.79 | 4.00 |
| U.S. Equity | 4.67 | 5.84 | 6.90 |
| France Equity | 0.85 | 1.69 | 3.97 |
| Germany Equity | 4.10 | 5.14 | 6.33 |
| Italy Equity | -3.63 | -2.86 | -1.70 |
| Spain Equity | -0.73 | 0.27 | 1.64 |
| Netherlands Equity | 2.07 | 2.35 | 2.72 |
| TEN-YEAR (GBP) | | | |
| Europe Equity | 5.61 | 6.51 | 7.81 |
| Europe Ex-U.K. Equity | 5.09 | 5.91 | 7.39 |
| U.K. Equity | 4.46 | 5.71 | 7.46 |
| U.K. Large-/Mid-Cap Equity | 3.94 | 5.14 | 6.39 |
| U.K. Small-Cap Equity | 5.86 | 7.80 | 9.22 |
| Global Equity | 4.92 | 6.27 | 7.53 |
| Emerging Markets Equity | 5.87 | 6.76 | 7.55 |
| U.S. Equity | 7.75 | 9.23 | 10.12 |
| TEN-YEAR (OTHER EUROPEAN LOCAL CURRENCIES) | | | |
| Denmark Equity | 9.01 | 9.61 | 10.90 |
| Poland Equity | -3.30 | -1.80 | -0.37 |
| Switzerland Equity | 2.43 | 3.53 | 5.28 |
| Sweden Equity | 6.78 | 7.53 | 9.22 |

Source: S&P Dow Jones Indices LLC, Morningstar. Data for periods June 30, 2016. 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 other major 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, GBP, and Other European Local Currencies

The SPIVA Europe Scorecard covers both regional and country-specific funds that are denominated in EUR, GBP, and other European local currencies, and they have been mapped to the relevant Morningstar fund categories as we indicate here. 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.

| Exhibit 1: Morningstar Categories and SPIVA Peer Groups for European Equity Funds | |
|--|--|
| EUROPEAN FUNDS DENOMINATED IN EUROS (EUR) | |
| MORNINGSTAR CATEGORY | SPIVA CATEGORY |
| Europe Open-Ended Europe Flex-Cap Equity | |
| Europe Open-Ended Europe Large-Cap Blend Equity | |
| Europe Open-Ended Europe Large-Cap Growth Equity | S&P Europe 350 (EUR) Gross Total Return |
| 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 Eurozone Flex-Cap Equity | |
| Europe Open-Ended Eurozone Large-Cap Equity | S&P Eurozone BMI (EUR) Gross Total Return |
| 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 | |
| Europe Open-Ended Italy Equity | S&P Italy BMI (EUR) Gross Total Return |
| Europe Open-Ended Netherlands Equity | S&P Netherlands BMI (EUR) Gross Total Return |
| Europe Open-Ended Nordic Equity | S&P Nordic BMI (EUR) Gross Total Return |
| Europe Open-Ended Spain Equity | S&P Spain BMI (EUR) Gross Total Return |

Source: S&P Dow Jones Indices LLC and Morningstar. Table is provided for illustrative purposes.

Exhibit 1: Morningstar Categories and SPIVA Peer Groups for European Equity Funds (cont.)**EUROPEAN FUNDS DENOMINATED IN POUND STERLING (GBP)**

| MORNINGSTAR CATEGORY | SPIVA CATEGORY |
|--|---|
| Europe Open-Ended Europe Flex-Cap Equity | |
| Europe Open-Ended Europe Large-Cap Blend Equity | |
| Europe Open-Ended Europe Large-Cap Growth Equity | S&P Europe 350 (GBP) (WM) Gross Total Return |
| 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 | |
| Europe Open-Ended U.K. Large-Cap Growth Equity | S&P United Kingdom LargeMidCap (GBP) Gross Total Return |
| 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 | |
| Europe Open-Ended U.K. Large-Cap Growth Equity | |
| Europe Open-Ended U.K. Large-Cap Value Equity | S&P United Kingdom BMI (GBP) Gross Total Return |
| Europe Open-Ended U.K. Mid-Cap Equity | |
| Europe Open-Ended U.K. Small-Cap Equity | |
| Europe Open-Ended U.K. Flex-Cap Equity | |
| EUROPEAN FUNDS DENOMINATED IN OTHER EUROPEAN LOCAL CURRENCIES | |
| Europe Open-Ended Denmark Equity | S&P Denmark BMI (Local Currency) Gross Total Return |
| Europe Open-Ended Poland Equity | S&P Poland BMI (Local Currency) Gross Total Return |
| Europe Open-Ended Sweden Large-Cap Equity | S&P Sweden BMI (Local Currency) Gross Total Return |
| Europe Open-Ended Sweden Small/Mid-Cap Equity | |
| Europe Open-Ended Switzerland Small/Mid-Cap Equity | S&P Switzerland BMI (Local Currency) Gross Total Return |
| Europe Open-Ended Switzerland Large-Cap Equity | |

Source: S&P Dow Jones Indices LLC and Morningstar. Table is provided for illustrative purposes.

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.

Exhibit 2: Morningstar Categories and SPIVA Peer Groups for International Equity Funds

EUR-DENOMINATED INTERNATIONAL FUNDS

| MORNINGSTAR CATEGORY | SPIVA CATEGORY |
|--|------------------------------------|
| Europe Open-Ended Global Large-Cap Blend Equity | |
| Europe Open-Ended Global Large-Cap Growth Equity | |
| Europe Open-Ended Global Large-Cap Value Equity | S&P Global 1200 Total Return (EUR) |
| Europe Open-Ended Global Small-Cap Equity | |
| Europe Open-Ended U.S. Large-Cap Blend Equity | |
| Europe Open-Ended U.S. Large-Cap Growth Equity | |
| Europe Open-Ended U.S. Large-Cap Value Equity | S&P 500 Total Return (EUR) |
| Europe Open-Ended U.S. Mid-Cap Equity | |
| Europe Open-Ended U.S. Flex-Cap Equity | |
| Europe Open-Ended U.S. Small-Cap Equity | |
| Europe Open-Ended Global Emerging Markets Equity | S&P/IFCI Total Return (EUR) |
| Europe Open-Ended Global Large-Cap Blend Equity | |
| Europe Open-Ended Global Large-Cap Growth Equity | |
| Europe Open-Ended Global Large-Cap Value Equity | S&P Global 1200 Total Return (GBP) |
| Europe Open-Ended Global Small-Cap Equity | |
| Europe Open-Ended U.S. Large-Cap Blend Equity | |
| Europe Open-Ended U.S. Large-Cap Growth Equity | |
| Europe Open-Ended U.S. Large-Cap Value Equity | S&P 500 Total Return (GBP) |
| Europe Open-Ended U.S. Mid-Cap Equity | |
| Europe Open-Ended U.S. Small-Cap Equity | |
| Europe Open-Ended U.S. Flex-Cap Equity | |
| Europe Open-Ended Global Emerging Markets Equity | S&P/IFCI (GBP) |

Source: S&P Dow Jones Indices LLC and Morningstar. Table is provided for illustrative purposes.

APPENDIX B

Glossary—Reports

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 (%)

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 p 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 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/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 DENMARK BMI

The S&P Denmark BMI, a subset of the [S&P Global BMI](#), is an equity index that is designed to represent the Danish stock market. The S&P Global BMI is a comprehensive, rules-based index designed to measure global stock market performance.

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 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 ITALY BMI

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

S&P NETHERLANDS BMI

The S&P Netherlands BMI, a subset of the [S&P Global BMI](#), is an equity index that is designed to represent the Dutch stock market. The S&P Global BMI is a comprehensive, rules-based index designed to measure global stock market performance.

S&P NORDIC BMI

The S&P Nordic BMI, a subset of the S&P Global BMI, is an equity index that is designed to represent the Swedish, Danish, Norwegian, and Finnish stock markets. The S&P Global BMI is a comprehensive, rules-based index designed to measure global stock market performance.

S&P POLAND BMI

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

S&P SPAIN BMI

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

S&P SWEDEN BMI

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

S&P SWITZERLAND BMI

The S&P Switzerland BMI, a subset of the S&P Global BMI, is an equity index that is designed to represent the Swiss 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.

GLOBAL RESEARCH & DESIGN CONTACT INFORMATION**Global Head**

| | |
|----------------|-----------------------------|
| Charles Mounts | charles.mounts@spglobal.com |
|----------------|-----------------------------|

New York

| | |
|------------------|-------------------------------|
| Phillip Brzenk | phillip.brzenk@spglobal.com |
| Smita Chirputkar | smita.chirputkar@spglobal.com |
| Qing Li | qing.li@spglobal.com |
| Berlinda Liu | berlinda.liu@spglobal.com |
| Ryan Poirier | ryan.poirier@spglobal.com |
| Aye Soe | aye.soe@spglobal.com |
| Peter Tsui | peter.tsui@spglobal.com |
| Hong Xie | hong.xie@spglobal.com |
| Kelly Tang | kelly.tang@spglobal.com |

Beijing

| | |
|-----------|------------------------|
| Liyu Zeng | liyu.zeng@spglobal.com |
|-----------|------------------------|

Hong Kong

| | |
|---------------|----------------------------|
| Priscilla Luk | priscilla.luk@spglobal.com |
|---------------|----------------------------|

London

| | |
|---------------|----------------------------|
| Sunjiv Mainie | sunjiv.mainie@spglobal.com |
| Daniel Ung | daniel.ung@spglobal.com |
| Andrew Innes | andrew.innes@spglobal.com |

Mexico City

| | |
|---------------|----------------------------|
| Maria Sanchez | maria.sanchez@spglobal.com |
|---------------|----------------------------|

Mumbai

| | |
|-----------------|------------------------------|
| Utkarsh Agrawal | utkarsh.agrawal@spglobal.com |
|-----------------|------------------------------|

GENERAL DISCLAIMER

Copyright © 2016 by S&P Dow Jones Indices LLC, a part of S&P Global. All rights reserved. Standard & Poor's®, S&P 500® and S&P® are registered trademarks of Standard & Poor's Financial Services LLC ("S&P"), a subsidiary of S&P Global. 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 and from sources believed to be reliable. No content contained in these materials (including index data, ratings, credit-related analyses and data, research, valuations, model, software or other application or output therefrom) or any part thereof (Content) may be modified, reverse-engineered, reproduced or distributed in any form or 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.