

# SPIVA<sup>®</sup> Europe Scorecard

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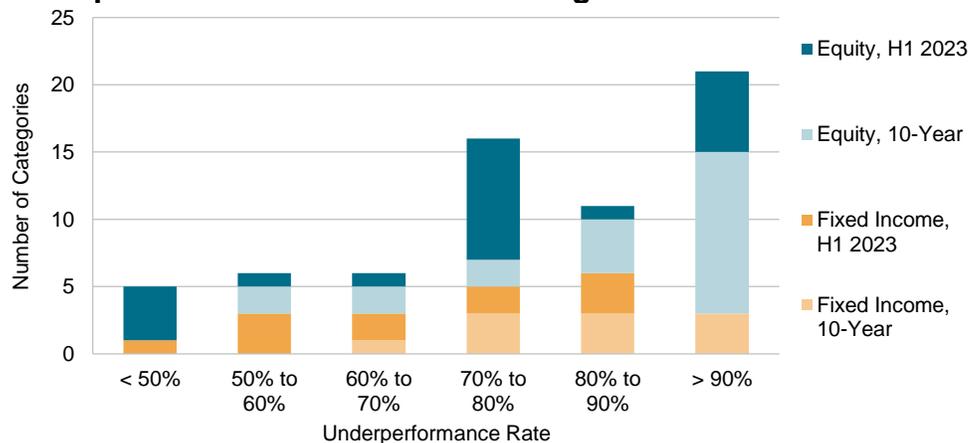
**Experience the**  
active vs. passive debate  
on a global scale.

Inaugurated in 2002, the S&P Indices versus Active (SPIVA) U.S. Scorecard has since been extended to Australia, Canada, Europe, India, Japan, Latin America, South Africa and the Middle East & North Africa (MENA), allowing investors to experience the active versus passive debate on a global scale. First published in 2014, the semiannual SPIVA Europe Scorecard reports on the performance of actively managed funds domiciled across Europe.

## Mid-Year 2023 Highlights

It was a challenging first half of 2023 for active managers in European equities, with over one-quarter of 22 categories recording underperformance rates of 90% or higher. Fixed income managers had a better start to the year in relative terms, with no categories registering underperformance rates of over 90%. Across both asset classes, however, underperformance rates increased to a similarly high average over a 10-year horizon.

### Exhibit 1: Distribution of Equity and Fixed Income Underperformance Rates across Categories



Source: S&P Dow Jones Indices LLC, Morningstar, Bloomberg LLC. Data as of June 30, 2023. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

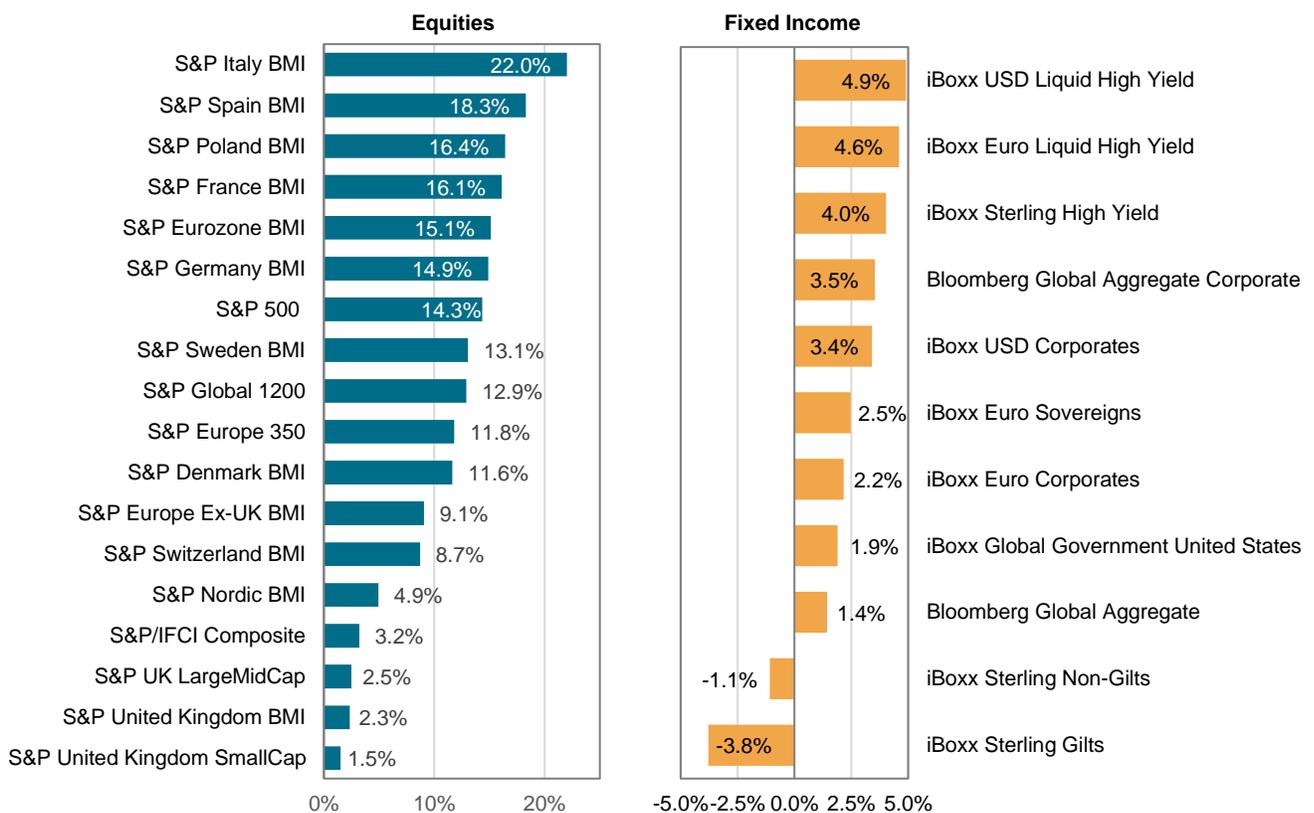
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- In H1 2023, **72%** of British pound sterling-denominated and **76%** of euro-denominated actively managed **Europe Equity funds** underperformed the [S&P Europe 350®](#), while **77% of Eurozone Equity funds** underperformed the [S&P Eurozone BMI](#).
- Euro-denominated **Global Equity funds** maintained a relatively high underperformance rate over longer time horizons. Over the 10-year period ending June 2023, **98% of funds underperformed** the [S&P Global 1200®](#).
- **British pound sterling- and euro-denominated U.S. Equity funds performed similarly, with 71% and 74%** underperforming in the first half of 2023 in GBP and EUR, respectively, and **95% and 97%**, respectively, underperforming over a 10-year horizon.
- **Only 12% of Poland Equity funds lagged** the [S&P Poland BMI](#) in H1 2023, the lowest underperformance rate among major single-country categories.
- Among country categories, **94%, 96% and 99% of France, Italy and Spain Equity funds lagged their benchmarks**, respectively, in the first six months of 2023.
- Actively managed **U.K. Large-/Mid-Cap Equity funds** had a good start to the year on a relative basis, with an underperformance rate of just 47% in H1 2023.
- Meanwhile, **95% of actively managed U.K. Small-Cap Equity funds** underperformed the [S&P United Kingdom SmallCap](#) in the first six months of 2023, **the highest ever underperformance rate for this category**.
- **For Government Bond (USD) funds, 86% underperformed** the iBoxx Global Government United States in H1 2023, the highest underperformance rate among our fixed income categories. Meanwhile, **Government Bond (GBP) funds** performed relatively better, with **52% underperforming** the iBoxx Sterling Gilts in the first half of 2023, although underperformance increased to 95% when measured over a 10-year period.
- European corporate bond funds outperformed their high yield and government bond peers. **Only 54% of Corporate Bond (EUR) funds** underperformed the iBoxx Euro Corporates. Meanwhile, **79% of High Yield Bond (EUR) funds** underperformed the iBoxx Euro Liquid High Yield, while 81% of **Government Bond (EUR) funds** underperformed the iBoxx Euro Sovereigns in H1 2023.
- **Corporate Bond (USD) funds** performed worse than their EUR and GBP peers, with **81% underperforming** the iBoxx USD Corporates.

# Market Context

In sharp contrast with last year’s steep losses, most international benchmarks staged a vigorous recovery in the first half of 2023. Gains were abundant across geographies, with the S&P Global 1200 up 13%, although with considerable levels of dispersion across stocks, sectors and country performances. Across European equities, there was an approximately 20% spread among our reported benchmarks, with Italian equities gaining 22% and U.K. small caps edging up just 2%. U.K. equities lagged across the capitalization spectrum, with the [S&P United Kingdom BMI](#) and the [S&P United Kingdom LargeMidCap](#) both up 2%. All of our EUR- and USD-denominated fixed income benchmarks clocked up solid gains, with the iBoxx USD Liquid High Yield posting an impressive 5% return. Two of our three pound sterling benchmarks, however, posted losses, with the iBoxx Sterling Gilts down 4% and the iBoxx Sterling Non-Gilts down 1%.

**Exhibit 2: H1 2023 Performance of Europe Scorecard Comparison Indices**

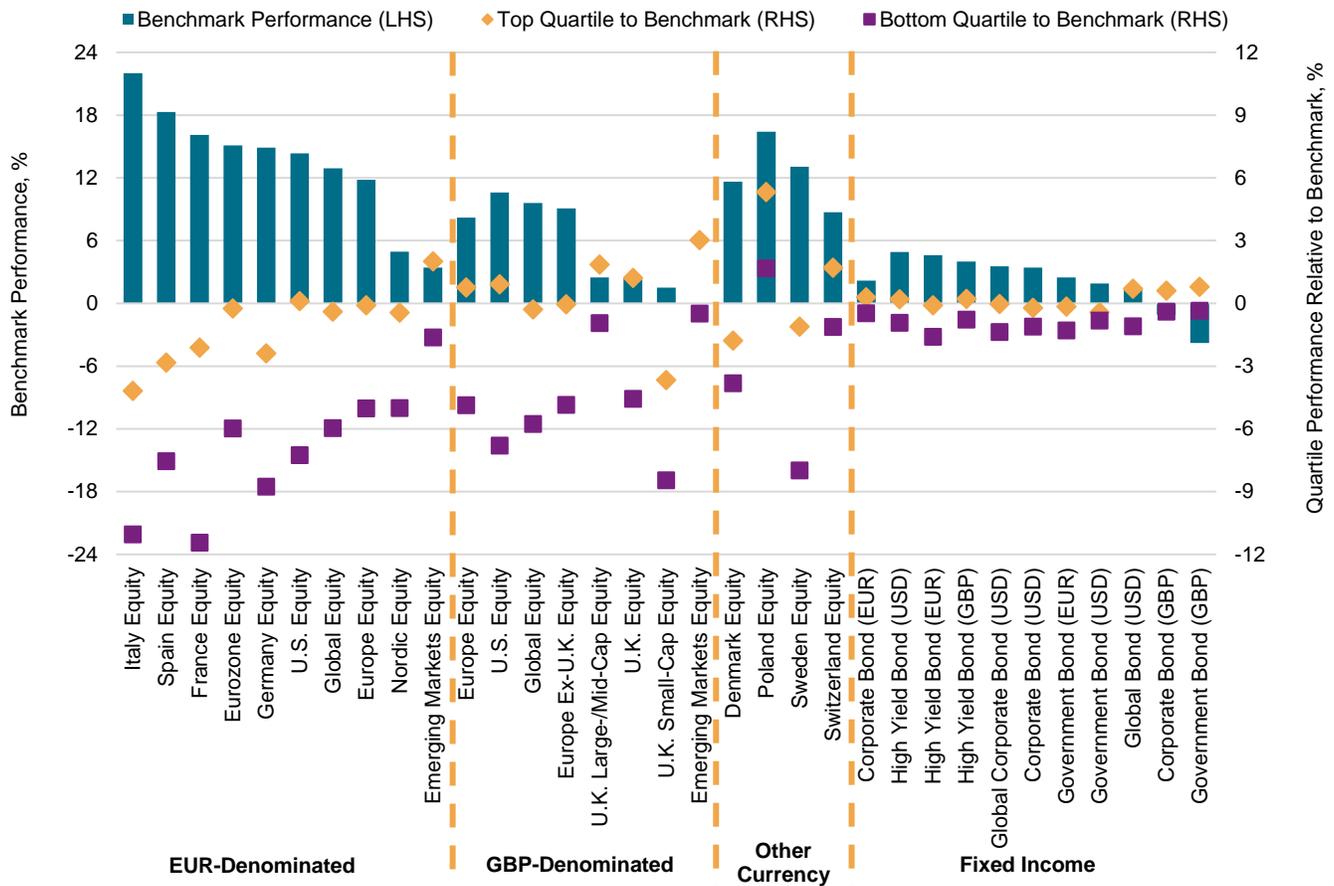


Source: S&P Dow Jones Indices LLC, Bloomberg LLC. Data as of June 30, 2023. Index performance based on total returns in local currency. Past performance is no guarantee of future results. Charts are provided for illustrative purposes.

Conditions such as those experienced by markets in the first six months of 2023, replete with high sector dispersion amid a vigorous rally, would have rewarded managers who played offence. Such managers were, however, (very) few and far between, especially among EUR-denominated funds: in 8 of the 10 relevant categories, and in all 5 with the 5 highest

benchmark returns, even top-quartile managers trailed the benchmark, which means that fund selection skills were not much help for asset allocators in the region. Exhibit 3 shows the difference in returns that distinguished funds in the bottom quartile among peers to the benchmark, together with the difference again between top-quartile return over H1 2023 and the benchmark (the quartile breakpoints themselves are provided in Reports 5 and 10). At the greatest extreme, in Italy, even top-quartile funds lagged the [S&P Italy BMI](#) by over 4%, while bottom-quartile funds lagged it by over 11%.

### Exhibit 3: Fund Selection Skills Were of Little Help in Many Categories

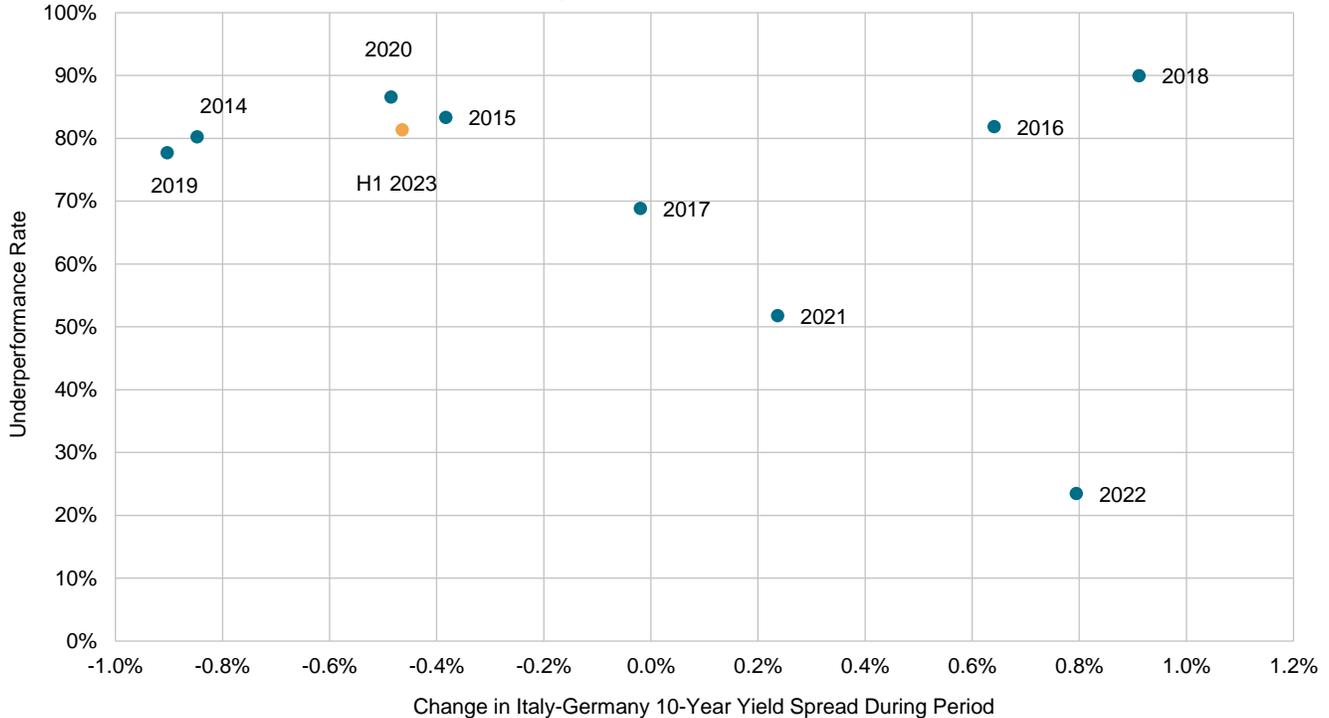


Source: S&P Dow Jones Indices LLC, Morningstar, Bloomberg LLC. Data as of June 30, 2023. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

Turning to fixed income, European government bond fund managers also had a challenging first half of 2023. After a decent 2021 and 2022, when just 52% and 23% of actively managed Government Bond (EUR) funds underperformed the iBoxx Euro Sovereigns, respectively, the underperformance rate rose to 81% in the first half of 2023. According to stereotype, bond investors are a risk-averse breed, and their cautiousness with respect to the riskier segments of the Eurozone government bond market may have been to active managers' detriment in H1 2023. Exhibit 4 plots the underperformance rate of active Government Bond (EUR) funds against the change in the 10-year Italy-Germany government bond yield spread. As the chart illustrates, in periods when the spread tightened—that is, when Italian bonds outperformed

their German peers, as they did in H1 2023—the underperformance rate of active Government Bond (EUR) funds tended to rise, and vice versa.

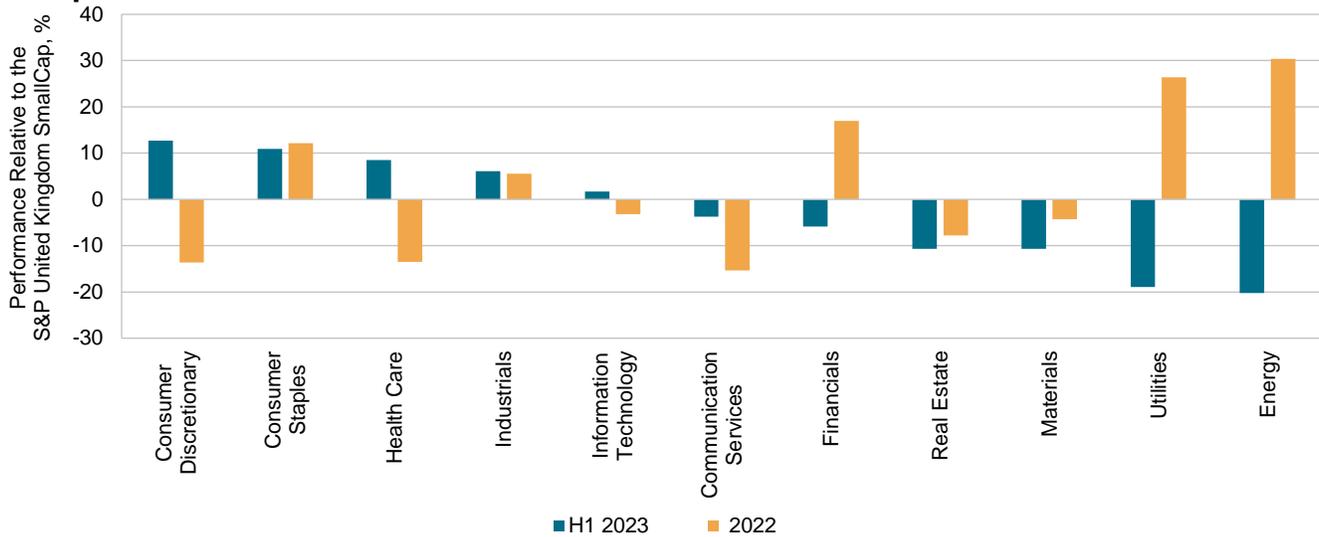
**Exhibit 4: Active Government Bond (EUR) Fund Underperformance Rate Tended to Rise When Italian Government Bonds Outperformed German Bunds**



Source: S&P Dow Jones Indices LLC, Morningstar, Bloomberg LLC. Data as of June 30, 2023. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

In the U.K., the relative fortunes of large-/mid-cap and small-cap active managers reversed between 2022 and the first half of 2023. Following a difficult 2022, when 97% of U.K. Large-/Mid-cap Equity managers underperformed, active funds in the category turned in a decent performance in H1 2023, with an underperformance rate of slightly below 50%. U.K. Small-Cap Equity managers, on the other hand, had a challenging first six months of 2023, with an underperformance rate of 95%. One thing that might have caught out active small-cap managers is the dramatic reversal of performance among the sectors of the S&P United Kingdom SmallCap, as shown in Exhibit 5. Consumer Discretionary and Health Care were last year’s second and third worst-performing sectors, lagging the index by 14% and 13%, respectively; the two best-performing sectors were Energy, which led at 30%, and Utilities, with 26%. In the first half of 2023, Consumer Discretionary and Health Care were the two best-performing sectors, while Utilities and Energy were the two biggest underperformers.

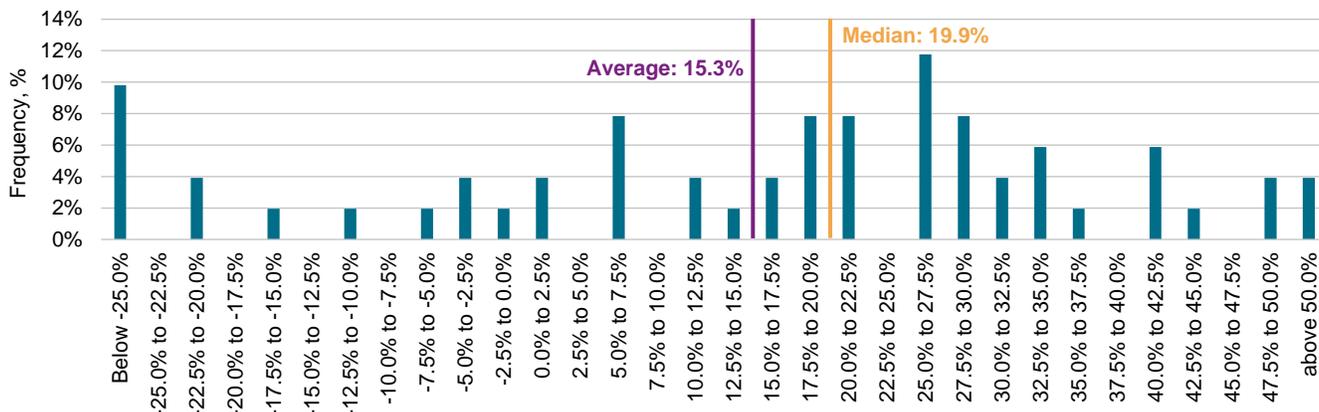
### Exhibit 5: S&P United Kingdom SmallCap Relative Sector Performance Shifted Compared to 2022



Source: S&P Dow Jones Indices LLC. Data as of June 30, 2023. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

Unlike their colleagues in much of Europe, Polish active managers did an outstanding job in the first half of 2023. Even bottom-quartile managers outperformed the S&P Poland BMI by a comfortable 1.7%, and their underperformance rate of 12% was the lowest across all categories in our mid-year report. The wind was definitely at local stock pickers’ back, as—unlike in most regions in most periods—the median stock outperformed the benchmark by a wide margin. Exhibit 6 shows the distribution of the performance of the members of the S&P Poland BMI for the first six months of 2023. The median stock in the index rose by 19.9%, while the simple average of all returns was 15.3%. The upshot of this skewed distribution of returns is that **59% of the stocks in the S&P Poland BMI outperformed the index during the first six months**, providing significantly improved odds for stock pickers.

### Exhibit 6: S&P Poland BMI Constituent Returns Were Heavily Skewed in the First Half of 2023



Source: S&P Dow Jones Indices LLC. Data as of June 30, 2023. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

# A Unique Scorecard for the Active versus Passive Debate

Since the publication of the first U.S. Scorecard over 20 years ago, the SPIVA Scorecard has served as the de facto scorekeeper of the active versus passive debate. For two decades, we have heard passionate arguments from believers in both camps when headline numbers have deviated from their beliefs.

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

- **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 with a popular benchmark regardless of their investment category. The SPIVA Europe Scorecard makes an appropriate comparison by measuring a fund's returns against the returns of a benchmark that reflects the fund's investment category.
- **Asset-Weighted Returns:** Average returns for a fund group are often calculated using only equal weighting, which means the returns of a larger fund affect the average in the same manner as the returns of a smaller 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 1a: Percentage of European Equity Funds Outperformed by Benchmarks (Based on Absolute Returns)

Fund Category	Comparison Index	YTD (%)	1-Year (%)	3-Year (%)	5-Year (%)	10-Year (%)
<b>Euro-Denominated Funds (EUR)</b>						
Europe Equity	S&P Europe 350	75.97	82.03	89.29	93.35	92.84
Eurozone Equity	S&P Eurozone BMI	77.26	78.56	84.47	88.87	96.14
Nordic Equity	S&P Nordic BMI	78.26	86.96	85.71	95.24	92.59
Global Equity	S&P Global 1200	78.49	80.95	91.59	96.02	98.22
Emerging Markets Equity	S&P/IFCI Composite	49.18	61.56	76.37	82.27	95.65
U.S. Equity	S&P 500	74.26	76.53	87.09	95.47	97.18
France Equity	S&P France BMI	94.47	95.07	95.59	98.60	97.80
Germany Equity	S&P Germany BMI	90.11	83.52	64.58	86.73	83.16
Italy Equity	S&P Italy BMI	95.92	96.08	90.38	92.86	89.36
Spain Equity	S&P Spain BMI	98.51	98.53	82.22	94.25	90.41
<b>British Pound Sterling-Denominated Funds (GBP)</b>						
Europe Equity	S&P Europe 350	71.82	78.90	88.00	90.91	80.00
Europe Ex-U.K. Equity	S&P Europe Ex-U.K. BMI	77.61	60.00	68.75	82.73	89.34
U.K. Equity	S&P United Kingdom BMI	60.76	65.22	82.04	82.82	77.11
U.K. Large-/Mid-Cap Equity	S&P United Kingdom LargeMidCap	46.97	62.77	83.45	85.90	83.33
U.K. Small-Cap Equity	S&P United Kingdom SmallCap	94.87	89.61	62.03	54.55	58.23
Global Equity	S&P Global 1200	76.74	73.37	87.55	91.09	95.28
Emerging Markets Equity	S&P/IFCI Composite	36.97	50.46	68.00	72.04	90.98
U.S. Equity	S&P 500	70.52	70.61	79.48	91.94	94.64
<b>Funds Denominated in Other European Local Currencies</b>						
Denmark Equity	S&P Denmark BMI	91.43	100.00	100.00	100.00	100.00
Poland Equity	S&P Poland BMI	12.00	52.00	46.15	45.16	54.29
Switzerland Equity	S&P Switzerland BMI	52.97	48.50	63.39	90.34	68.39
Sweden Equity	S&P Sweden BMI	83.02	78.10	46.94	69.37	61.54

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of 30, 2023. 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 1b: Percentage of European Equity Funds Outperformed by Benchmarks (Based on Risk-Adjusted Returns)

Fund Category	Comparison Index	3-Year (%)	5-Year (%)	10-Year (%)
<b>Euro-Denominated Funds (EUR)</b>				
Europe Equity	S&P Europe 350	93.52	94.94	94.50
Eurozone Equity	S&P Eurozone BMI	84.12	87.10	95.47
Nordic Equity	S&P Nordic BMI	76.19	100.00	100.00
Global Equity	S&P Global 1200	92.66	95.16	99.06
Emerging Markets Equity	S&P/IFCI Composite	80.12	84.59	96.27
U.S. Equity	S&P 500	87.64	96.32	99.37
France Equity	S&P France BMI	95.10	98.60	95.59
Germany Equity	S&P Germany BMI	66.67	83.67	87.37
Italy Equity	S&P Italy BMI	86.54	91.07	87.23
Spain Equity	S&P Spain BMI	81.11	94.25	86.30
<b>British Pound Sterling-Denominated Funds (GBP)</b>				
Europe Equity	S&P Europe 350	93.00	92.93	88.89
Europe Ex-U.K. Equity	S&P Europe Ex-U.K. BMI	73.61	88.49	89.34
U.K. Equity	S&P United Kingdom BMI	91.02	85.92	87.89
U.K. Large-/Mid-Cap Equity	S&P United Kingdom LargeMidCap	94.24	91.03	90.00
U.K. Small-Cap Equity	S&P United Kingdom SmallCap	59.49	-	62.03
Global Equity	S&P Global 1200	87.35	91.96	97.94
Emerging Markets Equity	S&P/IFCI Composite	69.50	74.73	95.49
U.S. Equity	S&P 500	77.73	96.21	99.40
<b>Funds Denominated in Other European Local Currencies</b>				
Denmark Equity	S&P Denmark BMI	100.00	100.00	100.00
Poland Equity	S&P Poland BMI	23.08	38.71	45.71
Switzerland Equity	S&P Switzerland BMI	73.21	89.37	79.89
Sweden Equity	S&P Sweden BMI	59.18	72.97	67.52

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2023. Results not shown for periods in which the benchmark return was negative. Risk-adjusted return is computed as annualized average monthly return divided by annualized standard deviation of the monthly return for the measured periods. Index performance based on total return. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

**Report 2: Survivorship of European Equity Funds**

<b>Fund Category</b>	<b>Number of Funds at Start</b>	<b>Survivorship (%)</b>
<b>YTD (EUR)</b>		
Europe Equity	1028	97.96
Eurozone Equity	541	98.89
Nordic Equity	23	95.65
Global Equity	1576	98.98
Emerging Markets Equity	364	99.18
U.S. Equity	408	99.51
France Equity	199	97.99
Germany Equity	91	98.90
Italy Equity	49	100.00
Spain Equity	67	95.52
<b>YTD (GBP)</b>		
Europe Equity	110	94.55
Europe Ex-U.K. Equity	134	94.78
U.K. Equity	316	95.57
U.K. Large-/Mid-Cap Equity	132	96.21
U.K. Small-Cap Equity	78	93.59
Global Equity	602	99.00
Emerging Markets Equity	211	99.05
U.S. Equity	251	99.20
<b>YTD (Other European Local Currencies)</b>		
Denmark Equity	35	100.00
Poland Equity	25	100.00
Switzerland Equity	236	99.58
Sweden Equity	106	100.00

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2023. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

**Report 2: Survivorship of European Equity Funds (cont.)**

<b>Fund Category</b>	<b>Number of Funds at Start</b>	<b>Survivorship (%)</b>
<b>1-Year (EUR)</b>		
Europe Equity	1046	95.22
Eurozone Equity	555	95.68
Nordic Equity	23	95.65
Global Equity	1522	96.98
Emerging Markets Equity	359	96.94
U.S. Equity	392	97.45
France Equity	203	95.07
Germany Equity	91	97.80
Italy Equity	51	96.08
Spain Equity	68	94.12
<b>1-Year (GBP)</b>		
Europe Equity	109	90.83
Europe Ex-U.K. Equity	135	91.85
U.K. Equity	322	91.61
U.K. Large-/Mid-Cap Equity	137	91.24
U.K. Small-Cap Equity	77	92.21
Global Equity	582	96.91
Emerging Markets Equity	218	94.95
U.S. Equity	245	95.51
<b>1-Year (Other European Local Currencies)</b>		
Denmark Equity	35	100.00
Poland Equity	25	100.00
Switzerland Equity	233	97.85
Sweden Equity	105	99.05

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2023. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

**Report 2: Survivorship of European Equity Funds (cont.)**

<b>Fund Category</b>	<b>Number of Funds at Start</b>	<b>Survivorship (%)</b>
<b>3-Year (EUR)</b>		
Europe Equity	1064	83.27
Eurozone Equity	573	86.04
Nordic Equity	21	95.24
Global Equity	1308	89.14
Emerging Markets Equity	347	87.61
U.S. Equity	364	89.84
France Equity	204	87.25
Germany Equity	96	87.50
Italy Equity	52	84.62
Spain Equity	90	71.11
<b>3-Year (GBP)</b>		
Europe Equity	100	77.00
Europe Ex-U.K. Equity	144	77.78
U.K. Equity	334	81.74
U.K. Large-/Mid-Cap Equity	139	80.58
U.K. Small-Cap Equity	79	86.08
Global Equity	514	86.38
Emerging Markets Equity	200	83.00
U.S. Equity	229	86.03
<b>3-Year (Other European Local Currencies)</b>		
Denmark Equity	37	86.49
Poland Equity	26	96.15
Switzerland Equity	224	90.63
Sweden Equity	98	93.88

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2023. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

**Report 2: Survivorship of European Equity Funds (cont.)**

<b>Fund Category</b>	<b>Number of Funds at Start</b>	<b>Survivorship (%)</b>
<b>5-Year (EUR)</b>		
Europe Equity	1068	72.28
Eurozone Equity	566	79.68
Nordic Equity	21	80.95
Global Equity	1157	79.52
Emerging Markets Equity	344	72.67
U.S. Equity	353	73.65
France Equity	214	80.37
Germany Equity	98	77.55
Italy Equity	56	76.79
Spain Equity	87	67.82
<b>5-Year (GBP)</b>		
Europe Equity	99	62.63
Europe Ex-U.K. Equity	139	65.47
U.K. Equity	355	70.99
U.K. Large-/Mid-Cap Equity	156	64.10
U.K. Small-Cap Equity	77	83.12
Global Equity	460	74.35
Emerging Markets Equity	186	69.89
U.S. Equity	211	72.51
<b>5-Year (Other European Local Currencies)</b>		
Denmark Equity	36	75.00
Poland Equity	31	80.65
Switzerland Equity	207	83.57
Sweden Equity	111	76.58

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2023. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

**Report 2: Survivorship of European Equity Funds (cont.)**

<b>Fund Category</b>	<b>Number of Funds at Start</b>	<b>Survivorship (%)</b>
<b>10-Year (EUR)</b>		
Europe Equity	1019	54.17
Eurozone Equity	596	60.23
Nordic Equity	27	40.74
Global Equity	1067	55.95
Emerging Markets Equity	322	54.35
U.S. Equity	319	56.74
France Equity	227	59.91
Germany Equity	95	67.37
Italy Equity	47	57.45
Spain Equity	73	56.16
<b>10-Year (GBP)</b>		
Europe Equity	90	48.89
Europe Ex-U.K. Equity	122	53.28
U.K. Equity	380	48.16
U.K. Large-/Mid-Cap Equity	180	41.67
U.K. Small-Cap Equity	79	55.70
Global Equity	339	53.98
Emerging Markets Equity	133	49.62
U.S. Equity	168	47.62
<b>10-Year (Other European Local Currencies)</b>		
Denmark Equity	32	68.75
Poland Equity	35	71.43
Switzerland Equity	174	67.24
Sweden Equity	117	56.41

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2023. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

**Report 3a: Average European Equity Fund Performance (Equal-Weighted)**

Category	YTD (%)	1-Year (%)	3-Year (%)	5-Year (%)	10-Year (%)
<b>Euro-Denominated Funds (EUR)</b>					
Europe Equity	8.99	11.80	8.53	3.91	6.41
S&P Europe 350	11.82	17.72	12.67	7.50	8.36
Eurozone Equity	11.72	16.62	9.25	3.98	6.54
S&P Eurozone BMI	15.11	23.04	12.20	6.49	8.98
Nordic Equity	2.07	5.26	8.45	6.16	8.15
S&P Nordic BMI	4.93	11.43	11.01	8.89	10.27
Global Equity	9.93	10.37	9.03	6.60	8.00
S&P Global 1200	12.91	13.96	13.76	11.06	11.99
Emerging Markets Equity	3.68	-1.09	2.57	1.39	3.47
S&P/IFCI Composite	3.41	-0.71	4.89	3.09	5.73
U.S. Equity	11.87	12.04	12.02	9.84	11.23
S&P 500	14.35	14.60	15.71	13.84	14.86
France Equity	9.06	13.30	10.53	2.85	7.26
S&P France BMI	16.12	26.55	16.29	8.66	10.40
Germany Equity	8.97	10.80	4.96	1.74	5.44
S&P Germany BMI	14.90	21.40	6.29	3.46	6.86
Italy Equity	13.37	21.85	14.04	5.93	8.43
S&P Italy BMI	22.01	35.90	17.32	8.61	9.82
Spain Equity	12.80	13.66	12.08	0.37	4.42
S&P Spain BMI	18.29	21.92	13.63	3.56	6.32

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2023. Returns shown are annualized for periods greater than one year. 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 3a: Average European Equity Fund Performance (Equal-Weighted) (cont.)**

Index/Fund Category	YTD (%)	1-Year (%)	3-Year (%)	5-Year (%)	10-Year (%)
<b>British Pound Sterling-Denominated Funds (GBP)</b>					
Europe Equity	6.26	13.03	7.26	4.18	7.57
S&P Europe 350	8.20	17.41	10.55	6.86	8.39
Europe Ex-U.K. Equity	6.63	16.61	7.96	5.37	8.29
S&P Europe Ex-U.K. BMI	9.07	18.60	9.37	7.17	9.42
U.K. Equity	0.82	3.68	6.77	1.24	5.65
S&P United Kingdom BMI	2.34	7.34	10.06	2.89	5.75
U.K. Large-/Mid-Cap Equity	2.62	6.96	8.41	2.25	5.67
S&P United Kingdom LargeMidCap	2.48	8.13	10.75	3.35	5.59
U.K. Small-Cap Equity	-4.56	-6.15	4.07	-0.14	6.80
S&P United Kingdom SmallCap	1.50	2.44	5.11	-0.38	5.81
Global Equity	6.88	10.72	7.77	7.35	9.49
S&P Global 1200	9.58	13.66	11.75	10.41	12.04
Emerging Markets Equity	1.27	0.21	1.84	1.77	4.63
S&P/IFCI Composite	0.02	-1.02	2.90	2.48	5.74
U.S. Equity	8.83	12.38	10.30	9.82	12.47
S&P 500	10.60	14.24	13.52	13.16	14.87
<b>Funds Denominated in Other European Local Currencies</b>					
Denmark Equity	8.30	13.74	10.98	9.16	13.85
S&P Denmark BMI	11.64	25.87	19.43	17.27	17.20
Poland Equity	17.82	27.69	12.55	6.74	3.16
S&P Poland BMI	16.42	26.24	10.29	2.98	3.89
Switzerland Equity	9.00	9.06	5.79	4.86	7.34
S&P Switzerland BMI	8.71	8.11	6.27	7.82	7.63
Sweden Equity	7.66	13.37	10.79	9.54	12.16
S&P Sweden BMI	13.06	20.52	10.52	10.04	11.53

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2023. Returns shown are annualized for periods greater than one year. 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 3b: Average European Equity Fund Performance (Asset-Weighted)**

Index/Fund Category	YTD (%)	1-Year (%)	3-Year (%)	5-Year (%)	10-Year (%)
<b>Euro-Denominated Funds (EUR)</b>					
Europe Equity	10.47	14.16	8.48	4.33	6.58
S&P Europe 350	11.82	17.72	12.67	7.50	8.36
Eurozone Equity	13.02	19.41	9.81	4.61	6.97
S&P Eurozone BMI	15.11	23.04	12.20	6.49	8.98
Nordic Equity	1.75	5.48	8.14	6.29	7.96
S&P Nordic BMI	4.93	11.43	11.01	8.89	10.27
Global Equity	10.49	10.42	9.76	7.58	8.80
S&P Global 1200	12.91	13.96	13.76	11.06	11.99
Emerging Markets Equity	3.54	-1.54	2.18	1.47	3.82
S&P/IFCI Composite	3.41	-0.71	4.89	3.09	5.73
U.S. Equity	11.88	11.83	12.26	10.42	11.44
S&P 500	14.35	14.60	15.71	13.84	14.86
France Equity	11.49	17.77	11.60	4.14	7.36
S&P France BMI	16.12	26.55	16.29	8.66	10.40
Germany Equity	11.25	17.51	4.60	1.67	5.85
S&P Germany BMI	14.90	21.40	6.29	3.46	6.86
Italy Equity	14.26	23.45	13.85	5.43	7.90
S&P Italy BMI	22.01	35.90	17.32	8.61	9.82
Spain Equity	13.39	14.84	12.60	0.78	4.90
S&P Spain BMI	18.29	21.92	13.63	3.56	6.32

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2023. Returns shown are annualized for periods greater than one year. Index performance based on total return. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

**Report 3b: Average European Equity Fund Performance (Asset-Weighted) (cont.)**

Index/Fund Category	YTD (%)	1-Year (%)	3-Year (%)	5-Year (%)	10-Year (%)
<b>British Pound Sterling-Denominated Funds (GBP)</b>					
Europe Equity	5.14	10.82	4.24	2.50	7.39
S&P Europe 350	8.20	17.41	10.55	6.86	8.39
Europe Ex-U.K. Equity	7.34	18.62	7.26	5.62	8.52
S&P Europe Ex-U.K. BMI	9.07	18.60	9.37	7.17	9.42
U.K. Equity	1.52	5.33	6.58	1.12	5.34
S&P United Kingdom BMI	2.34	7.34	10.06	2.89	5.75
U.K. Large-/Mid-Cap Equity	3.02	7.98	7.41	1.78	5.47
S&P United Kingdom LargeMidCap	2.48	8.13	10.75	3.35	5.59
U.K. Small-Cap Equity	-5.19	-7.70	2.95	-0.38	6.95
S&P United Kingdom SmallCap	1.50	2.44	5.11	-0.38	5.81
Global Equity	7.59	11.75	7.90	8.25	10.59
S&P Global 1200	9.58	13.66	11.75	10.41	12.04
Emerging Markets Equity	1.47	0.35	1.75	1.68	4.49
S&P/IFCI Composite	0.02	-1.02	2.90	2.48	5.74
U.S. Equity	8.96	12.26	9.11	9.93	12.66
S&P 500	10.60	14.24	13.52	13.16	14.87
<b>Funds Denominated in Other European Local Currencies</b>					
Denmark Equity	8.85	14.58	11.29	9.93	14.13
S&P Denmark BMI	11.64	25.87	19.43	17.27	17.20
Poland Equity	17.82	27.69	11.90	4.24	1.81
S&P Poland BMI	16.42	26.24	10.29	2.98	3.89
Switzerland Equity	8.94	8.61	5.88	5.55	7.97
S&P Switzerland BMI	8.71	8.11	6.27	7.82	7.63
Sweden Equity	8.99	15.53	10.31	8.74	11.68
S&P Sweden BMI	13.06	20.52	10.52	10.04	11.53

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2023. Returns shown are annualized for periods greater than one year. Index performance based on total return. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

## Report 4: Return/Volatility Ratio of European Equity Funds and Benchmarks

Category	Benchmark	Benchmark			Asset-Weighted			Equal-Weighted		
		3-Year	5-Year	10-Year	3-Year	5-Year	10-Year	3-Year	5-Year	10-Year
<b>Euro-Denominated Funds (EUR)</b>										
Europe Equity	S&P Europe 350	0.81	0.47	0.60	0.53	0.26	0.46	0.54	0.23	0.45
Eurozone Equity	S&P Eurozone BMI	0.67	0.35	0.56	0.57	0.26	0.45	0.56	0.23	0.44
Nordic Equity	S&P Nordic BMI	0.60	0.49	0.69	0.47	0.34	0.53	0.48	0.33	0.54
Global Equity	S&P Global 1200	0.95	0.69	0.90	0.72	0.50	0.69	0.68	0.44	0.63
Emerging Markets Equity	S&P/IFCI Composite	0.39	0.20	0.41	0.17	0.09	0.27	0.20	0.09	0.25
U.S. Equity	S&P 500	0.99	0.81	1.04	0.81	0.61	0.80	0.79	0.57	0.78
France Equity	S&P France BMI	0.87	0.46	0.64	0.66	0.22	0.47	0.63	0.16	0.48
Germany Equity	S&P Germany BMI	0.33	0.18	0.40	0.23	0.08	0.32	0.29	0.09	0.34
Italy Equity	S&P Italy BMI	0.79	0.38	0.49	0.71	0.27	0.43	0.74	0.30	0.47
Spain Equity	S&P Spain BMI	0.67	0.18	0.35	0.67	0.04	0.29	0.63	0.02	0.26
<b>British Pound Sterling-Denominated Funds (GBP)</b>										
Europe Equity	S&P Europe 350	0.76	0.48	0.67	0.26	0.15	0.54	0.49	0.26	0.58
Europe Ex-U.K. Equity	S&P Europe Ex-U.K. BMI	0.63	0.48	0.71	0.48	0.36	0.65	0.52	0.34	0.62
U.K. Equity	S&P United Kingdom BMI	0.76	0.20	0.46	0.46	0.07	0.40	0.46	0.07	0.42
U.K. Large-/Mid-Cap Equity	S&P United Kingdom LargeMidCap	0.84	0.24	0.46	0.54	0.11	0.42	0.60	0.14	0.44
U.K. Small-Cap Equity	S&P United Kingdom SmallCap	0.28	-0.02	0.36	0.18	-0.02	0.45	0.25	-0.01	0.44
Global Equity	S&P Global 1200	0.96	0.76	1.04	0.68	0.62	0.92	0.66	0.55	0.83
Emerging Markets Equity	S&P/IFCI Composite	0.24	0.18	0.41	0.13	0.11	0.32	0.15	0.12	0.33
U.S. Equity	S&P 500	1.01	0.89	1.18	0.65	0.62	0.94	0.78	0.63	0.95
<b>Funds Denominated in Other European Local Currencies</b>										
Denmark Equity	S&P Denmark BMI	1.16	1.08	1.19	0.64	0.57	0.97	0.62	0.53	0.95
Poland Equity	S&P Poland BMI	0.39	0.12	0.20	0.61	0.22	0.11	0.65	0.36	0.20
Switzerland Equity	S&P Switzerland BMI	0.45	0.59	0.64	0.41	0.40	0.65	0.40	0.34	0.60
Sweden Equity	S&P Sweden BMI	0.54	0.52	0.73	0.49	0.42	0.69	0.53	0.48	0.75

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2023. 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**

<b>Fund Category</b>	<b>Third Quartile (%)</b>	<b>Second Quartile (%)</b>	<b>First Quartile (%)</b>
<b>YTD (EUR)</b>			
Europe Equity	6.81	9.51	11.74
Eurozone Equity	9.14	12.94	14.88
Nordic Equity	-0.06	2.03	4.51
Global Equity	6.96	9.75	12.52
Emerging Markets Equity	1.79	3.46	5.43
U.S. Equity	7.11	11.75	14.47
France Equity	4.69	9.99	14.02
Germany Equity	6.15	9.85	12.52
Italy Equity	10.97	14.97	17.84
Spain Equity	10.75	12.25	15.46
<b>YTD (GBP)</b>			
Europe Equity	3.35	6.16	8.97
Europe Ex-U.K. Equity	4.22	7.45	9.04
U.K. Equity	-2.22	1.63	3.56
U.K. Large-/Mid-Cap Equity	1.55	2.81	4.34
U.K. Small-Cap Equity	-6.94	-4.21	-2.15
Global Equity	3.83	6.37	9.31
Emerging Markets Equity	-0.47	1.01	3.05
U.S. Equity	3.81	8.00	11.52
<b>YTD (Other European Local Currencies)</b>			
Denmark Equity	7.83	9.08	9.87
Poland Equity	18.10	20.13	21.75
Switzerland Equity	7.60	8.50	10.43
Sweden Equity	5.08	9.12	11.95

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2023. Returns shown are annualized for periods greater than one year. 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.)**

<b>Fund Category</b>	<b>Third Quartile (%)</b>	<b>Second Quartile (%)</b>	<b>First Quartile (%)</b>
<b>1-Year (EUR)</b>			
Europe Equity	7.52	13.11	16.72
Eurozone Equity	11.66	18.82	22.60
Nordic Equity	0.73	6.23	9.61
Global Equity	7.07	10.10	13.24
Emerging Markets Equity	-4.12	-1.88	1.61
U.S. Equity	8.64	11.62	14.30
France Equity	7.18	14.82	22.23
Germany Equity	3.69	13.06	19.26
Italy Equity	17.82	23.83	29.49
Spain Equity	10.20	14.12	17.45
<b>1-Year (GBP)</b>			
Europe Equity	9.14	14.48	17.13
Europe Ex-U.K. Equity	12.78	17.94	20.69
U.K. Equity	-1.55	5.43	8.63
U.K. Large-/Mid-Cap Equity	5.17	7.60	9.96
U.K. Small-Cap Equity	-11.56	-6.13	-1.04
Global Equity	7.43	10.51	13.97
Emerging Markets Equity	-3.39	-0.33	3.22
U.S. Equity	8.37	11.53	15.66
<b>1-Year (Other European Local Currencies)</b>			
Denmark Equity	11.35	14.78	16.95
Poland Equity	22.41	25.42	29.81
Switzerland Equity	6.79	8.73	10.74
Sweden Equity	8.27	15.38	19.76

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2023. Returns shown are annualized for periods greater than one year. 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.)**

<b>Fund Category</b>	<b>Third Quartile (%)</b>	<b>Second Quartile (%)</b>	<b>First Quartile (%)</b>
<b>3-Year (EUR)</b>			
Europe Equity	5.97	8.79	11.01
Eurozone Equity	6.97	9.41	11.41
Nordic Equity	6.26	8.53	10.86
Global Equity	6.92	9.34	11.46
Emerging Markets Equity	0.31	2.38	5.35
U.S. Equity	10.17	12.67	14.41
France Equity	7.79	11.47	13.82
Germany Equity	2.53	4.96	7.84
Italy Equity	11.69	14.02	15.80
Spain Equity	9.75	11.53	13.49
<b>3-Year (GBP)</b>			
Europe Equity	4.22	7.05	9.84
Europe Ex-U.K. Equity	5.50	8.52	10.21
U.K. Equity	3.36	6.86	9.88
U.K. Large-/Mid-Cap Equity	4.98	8.40	10.27
U.K. Small-Cap Equity	1.76	3.98	7.51
Global Equity	5.49	8.19	10.08
Emerging Markets Equity	-0.69	1.78	5.47
U.S. Equity	8.15	11.45	13.27
<b>3-Year (Other European Local Currencies)</b>			
Denmark Equity	10.44	11.21	11.57
Poland Equity	7.50	10.77	13.20
Switzerland Equity	4.86	5.83	6.85
Sweden Equity	8.30	11.55	13.42

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2023. Returns shown are annualized for periods greater than one year. 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.)**

<b>Fund Category</b>	<b>Third Quartile (%)</b>	<b>Second Quartile (%)</b>	<b>First Quartile (%)</b>
<b>5-Year (EUR)</b>			
Europe Equity	2.09	4.16	5.91
Eurozone Equity	2.36	4.25	5.65
Nordic Equity	5.45	6.64	7.70
Global Equity	4.82	6.87	8.74
Emerging Markets Equity	0.12	1.78	3.05
U.S. Equity	8.18	10.35	12.05
France Equity	0.42	2.87	5.64
Germany Equity	0.81	2.02	2.76
Italy Equity	4.42	5.73	7.13
Spain Equity	-0.49	0.52	1.86
<b>5-Year (GBP)</b>			
Europe Equity	2.31	4.09	6.19
Europe Ex-U.K. Equity	4.40	6.03	7.37
U.K. Equity	-0.43	1.30	2.91
U.K. Large-/Mid-Cap Equity	0.47	2.20	3.25
U.K. Small-Cap Equity	-1.63	-0.21	2.31
Global Equity	5.59	7.50	9.33
Emerging Markets Equity	0.99	1.94	3.77
U.S. Equity	7.83	10.08	11.77
<b>5-Year (Other European Local Currencies)</b>			
Denmark Equity	8.61	9.82	10.67
Poland Equity	2.70	4.81	7.61
Switzerland Equity	3.32	5.14	7.07
Sweden Equity	7.20	9.71	12.05

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2023. Returns shown are annualized for periods greater than one year. 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.)**

<b>Fund Category</b>	<b>Third Quartile (%)</b>	<b>Second Quartile (%)</b>	<b>First Quartile (%)</b>
<b>10-Year (EUR)</b>			
Europe Equity	5.20	6.46	7.59
Eurozone Equity	5.40	6.79	7.63
Nordic Equity	8.40	8.96	9.62
Global Equity	6.83	8.25	9.72
Emerging Markets Equity	2.35	3.52	4.66
U.S. Equity	9.88	11.30	12.77
France Equity	6.21	7.38	8.62
Germany Equity	4.42	5.70	6.71
Italy Equity	7.48	8.52	9.28
Spain Equity	3.20	4.55	5.72
<b>10-Year (GBP)</b>			
Europe Equity	6.85	7.97	9.01
Europe Ex-U.K. Equity	7.65	8.33	9.19
U.K. Equity	4.47	5.74	6.96
U.K. Large-/Mid-Cap Equity	4.42	5.33	6.27
U.K. Small-Cap Equity	5.81	7.00	8.04
Global Equity	7.90	9.25	10.91
Emerging Markets Equity	3.42	4.71	5.44
U.S. Equity	10.67	12.51	13.81
<b>10-Year (Other European Local Currencies)</b>			
Denmark Equity	13.52	14.27	14.57
Poland Equity	3.27	5.00	6.30
Switzerland Equity	6.61	7.58	8.58
Sweden Equity	11.08	12.29	14.84

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2023. Returns shown are annualized for periods greater than one year. Index performance based on total returns. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

### Report 6a: Percentage of European Fixed Income Funds Outperformed by Benchmarks (Based on Absolute Returns)

Fund Category	Comparison Index	YTD (%)	1-Year (%)	3-Year (%)	5-Year (%)	10-Year (%)
Corporate Bond (EUR)	iBoxx Euro Corporates	54.39	44.44	45.09	64.22	79.06
Government Bond (EUR)	iBoxx Euro Sovereigns	81.33	34.32	47.98	73.71	90.46
High Yield Bond (EUR)	iBoxx Euro Liquid High Yield	79.10	77.65	76.50	79.04	72.39
Corporate Bond (GBP)	iBoxx Sterling Non-Gilts	49.06	32.71	43.75	50.43	73.45
Government Bond (GBP)	iBoxx Sterling Gilts	52.38	26.19	54.35	66.67	95.00
High Yield Bond (GBP)	iBoxx Sterling High Yield	66.67	50.00	66.67	93.75	-
Corporate Bond (USD)	iBoxx USD Corporates	81.36	75.44	59.32	72.88	81.82
Government Bond (USD)	iBoxx Global Government United States	85.71	50.00	56.00	81.48	96.77
High Yield Bond (USD)	iBoxx USD Liquid High Yield	67.05	67.05	57.30	72.22	85.48
Global Bond (USD)	Bloomberg Global Aggregate	54.22	39.76	53.75	64.84	87.01
Global Corporate Bond (USD)	Bloomberg Global Aggregate Corporate	75.86	53.33	60.71	56.00	63.64

Source: S&P Dow Jones Indices LLC, Morningstar, Bloomberg LLC. Data as of June 30, 2023. Outperformance is based on equal-weighted fund counts. Index performance based on total return. Underperformance rates for the High Yield Bond (GBP) category are reported for time horizons over which its comparison index was live. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

### Report 6b: Percentage of European Fixed Income Funds Outperformed by Benchmarks (Based on Risk-Adjusted Returns)

Fund Category	Comparison Index	3-Year (%)	5-Year (%)	10-Year (%)
Corporate Bond (EUR)	iBoxx Euro Corporates	-	-	80.53
Government Bond (EUR)	iBoxx Euro Sovereigns	-	-	87.40
High Yield Bond (EUR)	iBoxx Euro Liquid High Yield	74.32	78.44	76.12
Corporate Bond (GBP)	iBoxx Sterling Non-Gilts	-	-	75.22
Government Bond (GBP)	iBoxx Sterling Gilts	-	-	96.67
High Yield Bond (GBP)	iBoxx Sterling High Yield	66.67	100.00	-
Corporate Bond (USD)	iBoxx USD Corporates	-	69.49	75.76
Government Bond (USD)	iBoxx Global Government United States	-	81.48	96.77
High Yield Bond (USD)	iBoxx USD Liquid High Yield	49.44	65.56	77.42
Global Bond (USD)	Bloomberg Global Aggregate	-	-	87.01
Global Corporate Bond (USD)	Bloomberg Global Aggregate Corporate	-	56.00	63.64

Source: S&P Dow Jones Indices LLC, Morningstar, Bloomberg LLC. Data as of June 30, 2023. Index performance based on total returns. Results not shown for periods in which the benchmark return was negative. Underperformance rates for the High Yield Bond (GBP) category are reported for time horizons over which its comparison index was live. Risk-adjusted return is computed as annualized average monthly return divided by annualized standard deviation of the monthly return for the measured periods. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

**Report 7: Survivorship of European Fixed Income Funds**

Fund Category	Number of Funds at Start	Survivorship (%)
<b>YTD</b>		
Corporate Bond (EUR)	353	98.58
Government Bond (EUR)	166	98.19
High Yield Bond (EUR)	177	98.87
Corporate Bond (GBP)	106	99.06
Government Bond (GBP)	42	92.86
High Yield Bond (GBP)	12	91.67
Corporate Bond (USD)	59	96.61
Government Bond (USD)	21	100.00
High Yield Bond (USD)	88	97.73
Global Bond (USD)	83	97.59
Global Corporate Bond (USD)	29	96.55
<b>1-Year</b>		
Corporate Bond (EUR)	351	96.30
Government Bond (EUR)	169	96.45
High Yield Bond (EUR)	179	96.09
Corporate Bond (GBP)	107	97.20
Government Bond (GBP)	42	92.86
High Yield Bond (GBP)	12	91.67
Corporate Bond (USD)	57	96.49
Government Bond (USD)	22	90.91
High Yield Bond (USD)	88	96.59
Global Bond (USD)	83	90.36
Global Corporate Bond (USD)	30	100.00

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2023. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

**Report 7: Survivorship of European Fixed Income Funds (cont.)**

Fund Category	Number. of Funds at Start	Survivorship (%)
<b>3-Year</b>		
Corporate Bond (EUR)	346	88.73
Government Bond (EUR)	198	79.80
High Yield Bond (EUR)	183	85.79
Corporate Bond (GBP)	112	90.18
Government Bond (GBP)	46	78.26
High Yield Bond (GBP)	15	73.33
Corporate Bond (USD)	59	88.14
Government Bond (USD)	25	76.00
High Yield Bond (USD)	89	86.52
Global Bond (USD)	80	83.75
Global Corporate Bond (USD)	28	85.71
<b>5-Year</b>		
Corporate Bond (EUR)	327	79.20
Government Bond (EUR)	213	66.67
High Yield Bond (EUR)	167	77.84
Corporate Bond (GBP)	117	79.49
Government Bond (GBP)	51	60.78
High Yield Bond (GBP)	16	68.75
Corporate Bond (USD)	59	74.58
Government Bond (USD)	27	70.37
High Yield Bond (USD)	90	78.89
Global Bond (USD)	91	67.03
Global Corporate Bond (USD)	25	72.00

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2023. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

**Report 7: Survivorship of European Fixed Income Funds (cont.)**

Fund Category	Number. of Funds at Start	Survivorship (%)
<b>10-Year</b>		
Corporate Bond (EUR)	339	57.52
Government Bond (EUR)	262	45.42
High Yield Bond (EUR)	134	67.91
Corporate Bond (GBP)	113	57.52
Government Bond (GBP)	60	33.33
High Yield Bond (GBP)	16	56.25
Corporate Bond (USD)	33	63.64
Government Bond (USD)	31	35.48
High Yield Bond (USD)	62	66.13
Global Bond (USD)	77	48.05
Global Corporate Bond (USD)	11	81.82

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2023. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

**Report 8a: Average European Fixed Income Fund Performance (Equal-Weighted)**

Index/Fund Category	YTD (%)	1-Year (%)	3-Year (%)	5-Year (%)	10-Year (%)
Corporate Bond (EUR)	2.02	0.44	-3.02	-1.31	0.56
iBoxx Euro Corporates	2.16	0.11	-3.38	-1.20	0.97
Government Bond (EUR)	1.63	-3.86	-5.04	-2.00	0.33
iBoxx Euro Sovereigns	2.47	-4.74	-6.01	-1.91	1.02
High Yield Bond (EUR)	3.62	7.41	0.74	0.42	2.26
iBoxx Euro Liquid High Yield	4.60	9.42	1.66	1.34	2.79
Corporate Bond (GBP)	-1.17	-6.70	-6.38	-1.48	1.92
iBoxx Sterling Non-Gilts	-1.08	-6.93	-6.30	-1.51	1.98
Government Bond (GBP)	-3.56	-13.92	-11.73	-4.16	0.48
iBoxx Sterling Gilts	-3.78	-15.39	-12.14	-4.38	0.30
High Yield Bond (GBP)	3.60	6.39	1.36	1.44	3.42
iBoxx Sterling High Yield	4.01	5.38	1.27	2.31	-
Corporate Bond (USD)	2.59	1.19	-3.13	1.35	2.01
iBoxx USD Corporates	3.41	1.88	-3.12	1.87	2.64
Government Bond (USD)	1.56	-1.83	-4.49	-0.12	0.41
iBoxx Global Government United States	1.89	-2.15	-4.96	0.43	1.04
High Yield Bond (USD)	4.43	7.70	2.29	2.27	2.98
iBoxx USD Liquid High Yield	4.91	8.68	2.60	2.88	3.81
Global Bond (USD)	1.31	-0.17	-4.00	-0.88	0.06
Bloomberg Global Aggregate	1.43	-1.32	-4.96	-1.09	0.20
Global Corporate Bond (USD)	2.91	1.74	-3.37	0.47	1.40
Bloomberg Global Aggregate Corporate	3.53	2.06	-3.45	0.52	1.59

Source: S&P Dow Jones Indices LLC, Morningstar, Bloomberg LLC. Data as of June 30, 2023. Returns shown are annualized for periods greater than one year. Index performance based on total returns. Funds are equal weighted, but indices are not. Index returns for iBoxx Sterling High Yield are reported for time horizons over which the index was live. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

**Report 8b: Average European Fixed Income Fund Performance (Asset-Weighted)**

Index/Fund Category	YTD (%)	1-Year (%)	3-Year (%)	5-Year (%)	10-Year (%)
Corporate Bond (EUR)	2.12	0.49	-3.11	-1.06	1.00
iBoxx Euro Corporates	2.16	0.11	-3.38	-1.20	0.97
Government Bond (EUR)	1.80	-3.75	-4.75	-1.78	0.57
iBoxx Euro Sovereigns	2.47	-4.74	-6.01	-1.91	1.02
High Yield Bond (EUR)	3.74	7.96	0.91	0.74	2.51
iBoxx Euro Liquid High Yield	4.60	9.42	1.66	1.34	2.79
Corporate Bond (GBP)	-0.76	-5.84	-5.72	-1.17	2.13
iBoxx Sterling Non-Gilts	-1.08	-6.93	-6.30	-1.51	1.98
Government Bond (GBP)	-2.21	-9.07	-8.10	-2.70	1.00
iBoxx Sterling Gilts	-3.78	-15.39	-12.14	-4.38	0.30
High Yield Bond (GBP)	3.43	6.13	1.15	1.30	3.24
iBoxx Sterling High Yield	4.01	5.38	1.27	2.31	-
Corporate Bond (USD)	2.75	1.54	-2.65	1.92	2.61
iBoxx USD Corporates	3.41	1.88	-3.12	1.87	2.64
Government Bond (USD)	1.71	-1.71	-4.04	-0.02	0.48
iBoxx Global Government United States	1.89	-2.15	-4.96	0.43	1.04
High Yield Bond (USD)	4.60	8.10	2.70	2.60	3.22
iBoxx USD Liquid High Yield	4.91	8.68	2.60	2.88	3.81
Global Bond (USD)	0.47	-0.79	-4.40	-1.45	-0.25
Bloomberg Global Aggregate	1.43	-1.32	-4.96	-1.09	0.20
Global Corporate Bond (USD)	2.74	1.88	-2.57	1.58	2.33
Bloomberg Global Aggregate Corporate	3.53	2.06	-3.45	0.52	1.59

Source: S&P Dow Jones Indices LLC, Morningstar, Bloomberg LLC. Data as of June 30, 2023. Returns shown are annualized for periods greater than one year. Index performance based on total returns. Index return for iBoxx Sterling High Yield are reported for time horizons over which the index was live. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

**Report 9: Return/Volatility Ratio of European Fixed Income Funds and Benchmarks**

Category	Benchmark	Benchmark			Asset-Weighted			Equal-Weighted		
		3-Year	5-Year	10-Year	3-Year	5-Year	10-Year	3-Year	5-Year	10-Year
Corporate Bond (EUR)	iBoxx Euro Corporates	-0.55	-0.19	0.20	-0.52	-0.18	0.21	-0.54	-0.23	0.13
Government Bond (EUR)	iBoxx Euro Sovereigns	-0.85	-0.31	0.19	-0.86	-0.37	0.14	-0.92	-0.41	0.08
High Yield Bond (EUR)	iBoxx Euro Liquid High Yield	0.24	0.15	0.41	0.13	0.09	0.39	0.11	0.05	0.35
Corporate Bond (GBP)	iBoxx Sterling Non-Gilts	-0.73	-0.19	0.29	-0.62	-0.14	0.30	-0.66	-0.17	0.27
Government Bond (GBP)	iBoxx Sterling Gilts	-1.11	-0.45	0.04	-1.08	-0.40	0.15	-1.13	-0.44	0.06
High Yield Bond (GBP)	iBoxx Sterling High Yield	0.18	0.26	-	0.15	0.13	0.43	0.18	0.15	0.47
Corporate Bond (USD)	iBoxx USD Corporates	-0.40	0.24	0.44	-0.40	0.28	0.49	-0.46	0.19	0.38
Government Bond (USD)	iBoxx Global Government United States	-0.87	0.07	0.22	-0.80	-0.01	0.14	-0.89	-0.03	0.11
High Yield Bond (USD)	iBoxx USD Liquid High Yield	0.29	0.31	0.51	0.35	0.30	0.47	0.30	0.26	0.43
Global Bond (USD)	Bloomberg Global Aggregate	-0.62	-0.16	0.03	-0.59	-0.23	-0.05	-0.56	-0.14	0.01
Global Corporate Bond (USD)	Bloomberg Global Aggregate Corporate	-0.39	0.06	0.24	-0.33	0.21	0.39	-0.42	0.06	0.23

Source: S&P Dow Jones Indices LLC, Morningstar, Bloomberg LLC. Data as of June 30, 2023. Index performance based on total returns. Return/volatility ratios for iBoxx Sterling High Yield are reported for time horizons over which the index was live. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

**Report 10: Quartile Breakpoints of European Fixed Income Funds**

Fund Category	Third Quartile (%)	Second Quartile (%)	First Quartile (%)
<b>YTD</b>			
Corporate Bond (EUR)	1.69	2.11	2.46
Government Bond (EUR)	1.18	1.64	2.33
High Yield Bond (EUR)	3.00	3.79	4.51
Corporate Bond (GBP)	-1.46	-1.01	-0.46
Government Bond (GBP)	-4.13	-3.78	-2.98
High Yield Bond (GBP)	3.24	3.57	4.23
Corporate Bond (USD)	2.31	2.66	3.20
Government Bond (USD)	1.08	1.31	1.48
High Yield Bond (USD)	3.99	4.59	5.12
Global Bond (USD)	0.34	1.29	2.15
Global Corporate Bond (USD)	2.17	3.06	3.51
<b>1-Year</b>			
Corporate Bond (EUR)	-0.40	0.33	1.29
Government Bond (EUR)	-4.94	-4.17	-3.13
High Yield Bond (EUR)	6.30	7.74	9.39
Corporate Bond (GBP)	-7.19	-6.09	-4.84
Government Bond (GBP)	-15.05	-14.11	-12.14
High Yield Bond (GBP)	5.08	5.69	6.66
Corporate Bond (USD)	0.57	1.36	1.90
Government Bond (USD)	-2.45	-2.04	-1.38
High Yield Bond (USD)	7.13	7.98	8.90
Global Bond (USD)	-1.81	-0.33	1.07
Global Corporate Bond (USD)	1.00	2.00	2.29

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2023. Returns shown are annualized for periods greater than one year. Index performance based on total returns. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

**Report 10: Quartile Breakpoints of European Fixed Income Funds (cont.)**

Fund Category	Third Quartile (%)	Second Quartile (%)	First Quartile (%)
<b>3-Year</b>			
Corporate Bond (EUR)	-3.64	-3.19	-2.59
Government Bond (EUR)	-6.17	-5.58	-3.82
High Yield Bond (EUR)	0.07	0.85	1.71
Corporate Bond (GBP)	-6.63	-5.89	-4.92
Government Bond (GBP)	-12.61	-11.79	-11.21
High Yield Bond (GBP)	0.39	0.86	2.27
Corporate Bond (USD)	-3.89	-3.29	-1.98
Government Bond (USD)	-5.33	-4.53	-3.63
High Yield Bond (USD)	1.81	2.65	3.22
Global Bond (USD)	-5.62	-4.59	-2.69
Global Corporate Bond (USD)	-4.22	-3.49	-2.89
<b>5-Year</b>			
Corporate Bond (EUR)	-1.67	-1.26	-0.87
Government Bond (EUR)	-2.43	-2.07	-1.57
High Yield Bond (EUR)	-0.10	0.67	1.38
Corporate Bond (GBP)	-1.81	-1.33	-0.82
Government Bond (GBP)	-5.03	-4.31	-3.90
High Yield Bond (GBP)	0.50	1.47	1.81
Corporate Bond (USD)	1.21	1.75	2.06
Government Bond (USD)	-0.34	-0.11	0.41
High Yield Bond (USD)	2.25	2.65	3.27
Global Bond (USD)	-1.64	-0.92	-0.26
Global Corporate Bond (USD)	-0.28	0.77	1.14

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2023. Returns shown are annualized for periods greater than one year. Index performance based on total returns. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

**Report 10: Quartile Breakpoints of European Fixed Income Funds(cont.)**

Fund Category	Third Quartile (%)	Second Quartile (%)	First Quartile (%)
<b>10-Year</b>			
Corporate Bond (EUR)	0.38	0.78	1.11
Government Bond (EUR)	0.15	0.60	0.93
High Yield Bond (EUR)	1.70	2.60	3.28
Corporate Bond (GBP)	1.59	1.95	2.32
Government Bond (GBP)	-0.39	0.00	0.09
High Yield Bond (GBP)	2.40	3.27	3.72
Corporate Bond (USD)	1.59	2.24	2.65
Government Bond (USD)	0.31	0.46	0.73
High Yield Bond (USD)	2.60	3.26	3.63
Global Bond (USD)	-0.49	-0.12	0.39
Global Corporate Bond (USD)	0.99	1.22	1.86

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2023. Returns shown are annualized for periods greater than one year. 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 are obtained for all actively managed funds for which month-end data are available during the performance period. The data include funds domiciled in European markets. Offshore European equity funds are excluded. Funds are classified based on the Morningstar fund classification system.

### European Equity Funds Denominated in EUR, GBP and Other European Local Currencies

The SPIVA Europe Scorecard covers 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 indicated in Exhibit 7. 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 7: Morningstar Categories and SPIVA Peer Groups for European Equity Funds

European Funds Denominated in Euros (EUR)	
Morningstar Category	SPIVA Category
EAA Fund Europe Flex-Cap Equity	Europe Equity
EAA Fund Europe Large-Cap Blend Equity	
EAA Fund Europe Large-Cap Growth Equity	
EAA Fund Europe Large-Cap Value Equity	
EAA Fund Europe Mid-Cap Equity	
EAA Fund Europe Small-Cap Equity	Eurozone Equity
EAA Fund Eurozone Flex-Cap Equity	
EAA Fund Eurozone Large-Cap Equity	
EAA Fund Eurozone Mid-Cap Equity	
EAA Fund Eurozone Small-Cap Equity	

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

## Exhibit 7: Morningstar Categories and SPIVA Peer Groups for European Equity Funds (cont.)

European Funds Denominated in Euros (EUR)	
Morningstar Category	SPIVA Category
EAA Fund France Equity	France Equity
EAA Fund France Small/Mid-Cap Equity	
EAA Fund Germany Equity	Germany Equity
EAA Fund Germany Small/Mid-Cap Equity	
EAA Fund Italy Equity	Italy Equity
EAA Fund Nordic Equity	Nordic Equity
EAA Fund Spain Equity	Spain Equity
European Funds Denominated in British Pound Sterling (GBP)	
Morningstar Category	SPIVA Category
EAA Fund Europe Flex-Cap Equity	Europe Equity
EAA Fund Europe Large-Cap Blend Equity	
EAA Fund Europe Large-Cap Growth Equity	
EAA Fund Europe Large-Cap Value Equity	
EAA Fund Europe Mid-Cap Equity	
EAA Fund Europe Small-Cap Equity	
EAA Fund Europe Ex-UK Equity	Europe Ex-U.K. Equity
EAA Fund Europe Ex-UK Small/Mid-Cap Equity	
EAA Fund UK Large-Cap Blend Equity	U.K. Large-/Mid-Cap Equity
EAA Fund UK Large-Cap Growth Equity	
EAA Fund UK Large-Cap Value Equity	
EAA Fund UK Mid-Cap Equity	
EAA Fund UK Small-Cap Equity	U.K. Small-Cap Equity
EAA Fund UK Large-Cap Blend Equity	U.K. Equity
EAA Fund UK Large-Cap Growth Equity	
EAA Fund UK Large-Cap Value Equity	
EAA Fund UK Mid-Cap Equity	
EAA Fund UK Small-Cap Equity	
EAA Fund UK Flex-Cap Equity	
European Funds Denominated in Other European Local Currencies	
Morningstar Category	SPIVA Category
EAA Fund Denmark Equity	Denmark Equity
EAA Fund Poland Equity	Poland Equity
EAA Fund Sweden Equity	Sweden Equity
EAA Fund Sweden Small/Mid-Cap Equity	
EAA Fund Switzerland Equity	Switzerland Equity
EAA Fund Switzerland Small/Mid-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 EUR and GBP. These categories also include multiple Morningstar classifications.

### Exhibit 8: Morningstar Categories and SPIVA Peer Groups for International Equity Funds

Morningstar Category	SPIVA Category
EAA Fund Global Large-Cap Blend Equity	Global Equity
EAA Fund Global Large-Cap Growth Equity	
EAA Fund Global Large-Cap Value Equity	
EAA Fund Global Small/Mid-Cap Equity	U.S. Equity
EAA Fund U.S. Large-Cap Blend Equity	
EAA Fund U.S. Large-Cap Growth Equity	
EAA Fund U.S. Large-Cap Value Equity	
EAA Fund U.S. Mid-Cap Equity	
EAA Fund U.S. Flex-Cap Equity	
EAA Fund U.S. Small-Cap Equity	Emerging Markets Equity
EAA Fund Global Emerging Markets Equity	

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

## Fixed Income Funds

The SPIVA Europe Scorecard reports on Corporate Bond, High Yield Bond and Government Bond categories in EUR, GBP and USD. In addition, Global Bond and Global Corporate Bond categories are reported in USD. They have been mapped to the relevant Morningstar fund categories as shown in Exhibit 9.

### Exhibit 9: Morningstar Categories and SPIVA Peer Groups European Fixed Income Funds

Morningstar Category	SPIVA Category
EAA Fund EUR Corporate Bond	Corporate Bond (EUR)
EAA Fund EUR Government Bond	Government Bond (EUR)
EAA Fund EUR High Yield Bond	High Yield Bond (EUR)
EAA Fund GBP Corporate Bond	Corporate Bond (GBP)
EAA Fund GBP Government Bond	Government Bond (GBP)
EAA Fund GBP High Yield Bond	High Yield Bond (GBP)
EAA Fund USD Corporate Bond	Corporate Bond (USD)
EAA Fund USD Government Bond	Government Bond (USD)
EAA Fund USD High Yield Bond	High Yield Bond (USD)
EAA Fund Global Bond	Global Bond (USD)
EAA Fund Global Corporate Bond	Global Corporate Bond (USD)

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

## Appendix B: Glossary

### Percentage of Funds Underperforming 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 products in existence at the beginning of the time period that is 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 managers 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.

### Quartile 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.

### 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

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

## Equity

### S&P 500

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

### S&P/IFCI Composite

The [S&P/IFCI Composite](#) 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-UK BMI

The S&P Europe Ex-UK 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.

## 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 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.

## Fixed Income

### iBoxx Euro Corporates

The iBoxx Euro Corporates is a fixed income index that is designed to represent the market for EUR-denominated investment grade corporate bonds. The index comprises of bonds with fixed coupons and a minimum notional of EUR 500 million.

### iBoxx Euro Sovereigns

The iBoxx Euro Sovereigns is a fixed income index that is designed to represent the market for EUR-denominated investment grade sovereign bonds. The index comprises fixed coupon bonds issued by governments of the Eurozone that have a minimum notional of EUR 1 billion.

### iBoxx Euro Liquid High Yield

The iBoxx Euro Liquid High Yield is a fixed income index that is designed to reflect the performance of EUR-denominated sub-investment grade corporate debt, comprising fixed coupon and floating rates bonds with a minimum notional of EUR 250 million.

### iBoxx Sterling Non-Gilts

The iBoxx Sterling Non-Gilts is a fixed income index that is designed to represent the market for GBP-denominated investment grade bonds, including corporate, non-U.K. sovereigns and sub-sovereigns and collateralized bonds. Eligible bonds have a fixed coupon and a minimum notional of GBP 250 million.

### iBoxx Sterling Gilts

The iBoxx Sterling Gilts is a fixed income index that is designed to represent the market for GBP-denominated gilts. The index comprises bonds issued by the U.K. government that have a fixed coupon and a minimum notional of GBP 2 billion.

### iBoxx Sterling High Yield

The iBoxx Sterling High Yield is a fixed income index that is designed to represent the market for GBP-denominated sub-investment grade corporate debt. Eligible bonds have fixed or floating coupons and a minimum notional of GBP 250 million.

### iBoxx USD Corporates

The iBoxx USD Corporates is a fixed income index that is designed to represent the market for USD-denominated investment grade corporate bonds. Eligible bonds have fixed coupons and a minimum notional of USD 500 million.

## iBoxx Global Government United States

The iBoxx Global Government United States is a fixed income index that is designed to represent the market for Treasury notes and bonds issued by the U.S. government. Eligible bonds have fixed coupons and a minimum notional of USD 2 billion.

## iBoxx USD Liquid High Yield

The iBoxx USD Liquid High Yield is a fixed income index that is designed to represent the market for USD-denominated high yield corporate debt from developed markets with fixed coupons. Eligible bonds need to have a time to maturity at issuance of 15 years or less and a minimum notional of USD 400 million.

## Bloomberg Global Aggregate

The Bloomberg Global Aggregate is a measure of global investment grade debt from a multitude of local currency markets. This multi-currency benchmark includes treasury, government-related, corporate and securitized fixed-rate bonds from developed and emerging markets issuers.

## Bloomberg Global Aggregate Corporate

The Bloomberg Global Aggregate Corporate is a measure of global investment grade, fixed-rate corporate debt. This multi-currency benchmark includes bonds from developed and emerging markets issuers within the industrial, utility and financial sectors.

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