# S&P Dow Jones Indices

A Division of S&P Global

# SPIVA® Japan Scorecard

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active vs. passive debate

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on a global scale.

Since the first publication of the S&P Indices Versus Active (SPIVA) U.S. Scorecard in 2002, S&P Dow Jones Indices has been the de facto scorekeeper of the ongoing active versus passive debate.

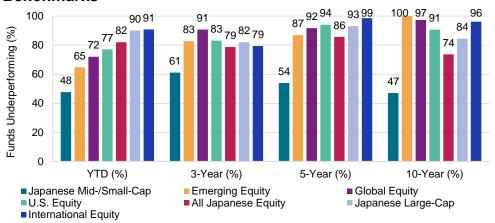
The SPIVA Japan Scorecard measures the performance of actively managed funds offered in Japan against their respective benchmarks over various time horizons, covering large-, mid- and small-cap segments, as well as international and global equity funds.

# Mid-Year 2023 Highlights

It was a challenging first half of 2023 for active management, as over one-half of funds underperformed their benchmarks in all but one of our reported categories.

For domestic Large Cap funds, 91% trailed the <u>S&P/TOPIX 150</u>, while Japanese Mid-/Small-Cap funds were the exception, with an underperformance rate of 48%.

**Exhibit 1: Fraction of Japan Funds Underperforming Their Benchmarks** 



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

The <u>S&P/TOPIX 150</u> posted 25.5% in the first six months of 2023, and **90% of Japanese** Large-Cap funds underperformed the index over the period.

- International Equity funds, which was the category with the lowest underperformance rate in 2022 (42%),<sup>1</sup> had the highest underperformance rate in the first half of 2023 (91%).
   At the five-year horizon, 99% of active managers in this category lagged their benchmark.
- Results for active managers were better in the Japanese Mid-/Small-Cap funds category, where 48% of actively managed funds underperformed the S&P Japan MidSmallCap in the first six months of 2023. These relatively better results were maintained in the long-term record of actively managed Japanese Mid-/Small-Cap funds, with 61%, 54% and 47% underperforming over the 3-, 5- and 10-year periods, respectively.
- All Japanese Equity funds generated a relatively range-bound underperformance rate over all our reported time horizons, with underperformance rates versus the <a href="S&P">S&P</a>
   Japan 500 ranging between 74% and 86%. In the first six months of 2023, the S&P Japan 500 posted 23.8%, and 82% of actively managed funds underperformed.
- After an underperformance rate of 53% in 2022, actively managed Japanese funds invested in U.S. equities increased their underperformance rate in the first half of 2023, with 77% underperforming the <u>S&P 500</u><sup>®</sup>.
- The <u>S&P Global 1200</u> posted a total return of 26.2% in JPY terms in the first six months of 2023, and 72% of Global Equity funds failed to beat the benchmark.
- While the <u>S&P Emerging BMI</u> rose by 14.6% in the first six months of 2023, 65% of Emerging Equity funds underperformed. As time horizons extended, as is common in SPIVA, the percentage of underperforming funds increased, with 83%, 87% and 100% failing to beat the benchmark over 3-, 5- and 10-year periods, respectively.
- Taken all together, the data in this report suggest that in the first half of 2023, the active funds offered in Japan had several headwinds and struggled to outperform their benchmarks. Among these active funds, however, Japanese Mid-/Small-Cap managers were relatively more successful when it came to turning opportunities into positive outcomes, continuing an admirable longer-term record for the category.

<sup>&</sup>lt;sup>1</sup> For more information, please see the <u>SPIVA Japan Year-End 2022 Scorecard</u>.

# Market Context

Following the banking crisis in early 2023, **global equities continued to recover** from their Q4 2022 lows. This was in part driven by the increased expectation of an economic soft landing in many areas as the U.S. Federal Reserve finally took a pause in its tightening cycle.

With Japanese equities hitting market index levels that have not been observed in more than 33 years, the Bank of Japan's new governor, Kazuo Ueda, remained supportive of the central bank's long-running ultra-easy monetary policy stance and decided to leave its short-term negative interest rate of -0.1% unchanged in June 2023. Meanwhile, **the Japanese yen continued to weaken** against other major currencies, reaching a seven-month low against the U.S. dollar as of June 30, 2023.

Against this backdrop, **the Japanese stock market performed exceptionally well** (see Exhibit 2). The S&P/TOPIX 150 was up 25.5%, compared with a total return of 25.0% for the S&P 500 in JPY terms (16.9% in USD terms).

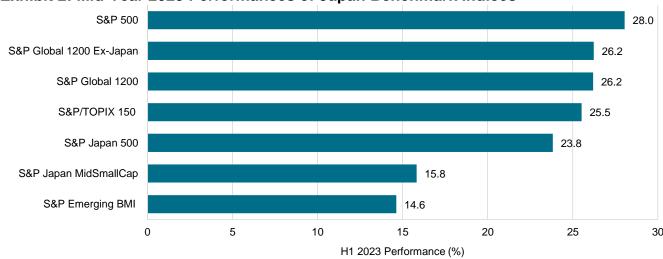


Exhibit 2: Mid-Year 2023 Performances of Japan Benchmark Indices

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.

Select aspects of the market landscape in the first six months of 2023 were **suggestive of a generally unfavorable environment for active managers in Japanese equities over the period**. First, active managers positioning defensively ran the risk of been punished for a conservative approach; with cash allocations likely a drag on returns. Second, as illustrated in Exhibit 2, the largest companies (as represented by the S&P/TOPIX 150) outperformed small-and mid-sized Japanese companies (as represented by the S&P Japan MidSmallCap). This suggests a headwind for active managers, who are typically less likely to own the largest stocks at market weight.

Third, when stock markets perform exceptionally well like Japanese equities did in the first half of 2023 (see Exhibit 2), it is typically harder for active funds to outperform their benchmarks. For example, if an active manager is at least a bit defensive, and hence, holds some cash, they would likely be penalized for it in market conditions like Japan experienced in H1 2023.

Fourth, the return potential by deviating from benchmark weights was not as good in the first six months of 2023 as in prior years. Offering a quantitative perspective on the return potential by deviating from benchmark weights, Exhibit 3 compares the annual returns of the cap-weighted S&P Japan 500 (our benchmark for active managers in the broad All Japanese Equity funds category) with the <u>S&P Japan 500 Equal Weight Index</u>, which represents the return potential from not weighting in line with market capitalization. The S&P Japan 500 Equal Weight Index underperformed its cap-weighted variant by 3.3%.

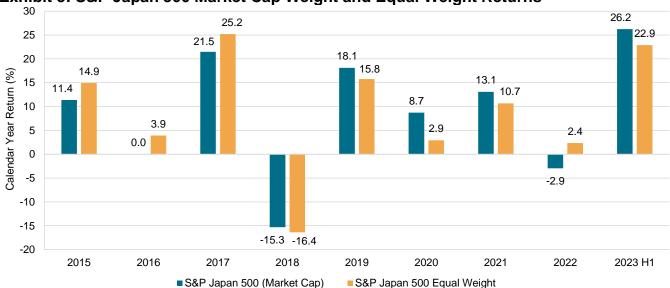
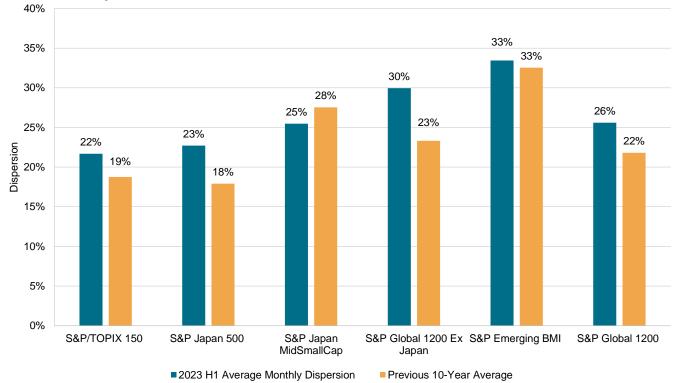


Exhibit 3: S&P Japan 500 Market Cap Weight and Equal Weight Returns

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

Given this market context, it appears that many managers could not overcome this challenge, as 82% of actively managed funds in the All Japanese Equity funds category underperformed the S&P 500 Japan.

Despite these headwinds, there were also opportunities for outperformance through stock selection in the first six months of 2023. At the benchmark level, the degree to which securities differ—above or below—from the average performance is measured by dispersion. As illustrated in Exhibit 4, the average monthly annualized dispersion in the securities of the scorecard comparison indices was higher in the first half of 2023 than the average over the past 10 years.



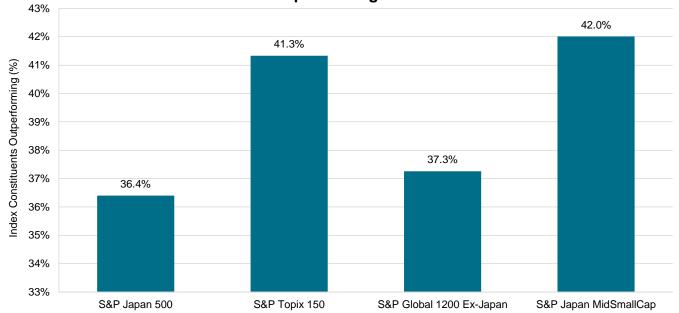
**Exhibit 4: Dispersion of Constituent Returns in Benchmark Indices** 

Source: S&P Dow Jones Indices LLC. Data as of June 30, 2023. Index performance based on total return in JPY with the exception of the S&P Global 1200 Index, which is in USD. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

Of course, there are expenses and costs associated with any strategy, and so an actively managed fund may still underperform even if it picks outperforming securities. Ideally, a manager should hope to find not just securities that outperform, but those that outperform materially. There are times when most securities perform similarly and differentiation is harder to find, and other times when the difference between winners and losers is larger.

As Exhibit 1 illustrates, the Japanese Mid-/Small-Cap category deserves particular attention: 48% of Japanese Mid-/Small-Cap funds underperformed the S&P Japan MidSmallCap, making it the only category in which fewer than one-half of managers trailed the benchmark over the course of H1 2023.

Perhaps one contributor to managers' relative success in the mid/small space is the proportion of stocks in the benchmark that outperformed the index itself. This is best illustrated through an examination of skewness of stock returns in the category (see Exhibit 5). While 41% of constituents from the S&P/TOPIX 150, 36% of stocks in the S&P Japan 500 and 37% of stocks in the S&P Global 1200 Ex-Japan outperformed their benchmarks, **42% of constituents of the S&P Japan MidSmallCap outperformed the index**.



**Exhibit 5: Percent of Constituents Outperforming Benchmarks** 

Source: S&P Dow Jones Indices LLC, FactSet. Data as of June 30, 2023. Index performance based on total return in JPY. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

As Exhibit 5 shows, there is not always an even split between outperformers and underperformers. Typically, the distribution of stock returns is positively skewed, meaning fewer than half of the constituents outperform the benchmark average. In rare scenarios when this skewness reverses and more stocks exceed the average stock return, it should theoretically be easier than usual for managers to outperform through concentrated stock selection. When fewer single stocks outperform, they might also be harder to find.

The distribution of stock returns can provide further insight into the relatively better performance of Japanese Mid-/Small-Cap funds, as illustrated in Exhibit 6. The median stock in the index rose by 12.3%, while the simple average of all returns was 16.2%, **indicating a positively skewed return distribution.** Positive skews correspond to frequent but small losses and infrequent but large positive gains. This suggests that Japanese Mid-/Small-Cap managers had access to an opportunity set of stocks with a handful of "winners" generating larger return values and a random probability of selecting one greater than in other categories, though still less than 50%.

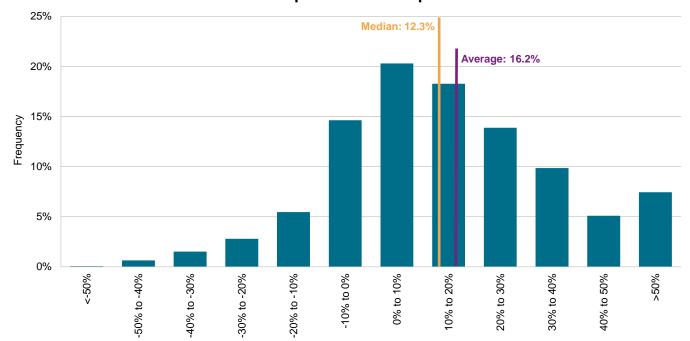


Exhibit 6: 2022 Distribution of S&P Japan MidSmallCap Constituent Returns

Source: S&P Dow Jones Indices LLC, FactSet. Data as of June 30, 2023. Index performance based on total return in JPY. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

Beyond successful stock picking within the benchmark, outperforming Japanese Mid-/Small-Cap funds may have also crept into the large-cap universe for higher return. Given the outperformance of larger stocks versus smaller ones shown in Exhibit 2, such an approach could have been fruitful. Testing our assumption, we examined holdings of the top 10 highest-performing funds in the Japanese Mid-/Small-Cap category and discovered that during H1 2023, on average, large-cap stocks outside of the benchmark made up 8.8% of portfolio weight in Japanese Mid-/Small-Cap funds. Further, some of the top 10 funds in the Japanese Mid-/Small-Cap category held as much as 30% of their portfolio in large caps.

Taken all together, the preceding exhibits present a combination of data suggesting that active managers faced several barriers to outperformance, including reduced reward for deviation from benchmark weights in comparison to previous years. However, some of those who outperformed achieved results by investing outside of their benchmark. Outside of the Japanese Mid-/Small-Cap category, where more than one-half of managers found success in H1 2023, the vast majority of actively managed funds still underperformed their comparison indices, especially over longer time horizons (see Exhibit 1).

# A Unique Scorecard for the Active Versus Passive Debate

Since its first publication in the U.S. 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 Japan 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 results in the returns of a JPY 10 billion fund affecting the average in the same manner as the returns of a JPY 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 1a: Percentage of Funds Underperforming Their Benchmarks (Based on Absolute Return)

Comparison Index	YTD (%)	1-Year (%)	3-Year (%)	5-Year (%)	10-Year (%)
S&P/TOPIX 150	90.00	83.44	81.98	93.13	84.46
S&P Japan MidSmallCap	47.69	48.50	61.06	53.89	47.02
S&P Japan 500	81.98	75.59	78.74	85.61	73.60
S&P 500	77.05	80.33	83.08	93.98	90.57
S&P Global 1200	72.00	84.49	90.67	91.67	97.35
S&P Global 1200 Ex- Japan	90.77	98.48	79.41	98.51	96.08
S&P Emerging BMI	64.71	67.14	82.72	86.90	100.00
	S&P/TOPIX 150  S&P Japan MidSmallCap  S&P Japan 500  S&P 500  S&P Global 1200  S&P Global 1200 Ex-Japan	S&P/TOPIX 150 90.00  S&P Japan MidSmallCap 47.69  S&P Japan 500 81.98  S&P 500 77.05  S&P Global 1200 72.00  S&P Global 1200 Ex-Japan 90.77	S&P/TOPIX 150       90.00       83.44         S&P Japan MidSmallCap       47.69       48.50         S&P Japan 500       81.98       75.59         S&P 500       77.05       80.33         S&P Global 1200       72.00       84.49         S&P Global 1200 Ex-Japan       90.77       98.48	S&P/TOPIX 150       90.00       83.44       81.98         S&P Japan MidSmallCap       47.69       48.50       61.06         S&P Japan 500       81.98       75.59       78.74         S&P 500       77.05       80.33       83.08         S&P Global 1200       72.00       84.49       90.67         S&P Global 1200 Ex-Japan       90.77       98.48       79.41	S&P/TOPIX 150       90.00       83.44       81.98       93.13         S&P Japan MidSmallCap       47.69       48.50       61.06       53.89         S&P Japan 500       81.98       75.59       78.74       85.61         S&P 500       77.05       80.33       83.08       93.98         S&P Global 1200       72.00       84.49       90.67       91.67         S&P Global 1200 Ex-Japan       90.77       98.48       79.41       98.51

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2023. Outperformance is based on equal-weighted fund counts. Index performance based on total returns. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

# Report 1b: Percentage of Funds Underperforming Their Benchmarks (Based on Risk-Adjusted Return)

Fund Category	Comparison Index	3-Year (%)	5-Year (%)	10-Year (%)
Japanese Large-Cap Funds	S&P/TOPIX 150	76.58	95.52	86.82
Japanese Mid-/Small-Cap Funds	S&P Japan MidSmallCap	70.67	61.66	65.56
All Japanese Equity Funds	S&P Japan 500	77.08	90.34	80.31
U.S. Equity Funds	S&P 500	74.62	96.99	96.23
Global Equity Funds	S&P Global 1200	86.19	91.67	96.69
International Equity Funds	S&P Global 1200 Ex-Japan	73.53	98.51	96.08
Emerging Equity Funds	S&P Emerging BMI	80.25	90.48	100.00

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2023. Outperformance is based on equal-weighted fund counts. Index performance based on total returns. Results shown for all time horizons over which the comparison index total return was positive. Risk-adjusted return is computed as the annualized average monthly return divided by the 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 2: Survivorship of Funds** 

Fund Category	Number of Funds at Start	Survivorship (%)
YTD		
Japanese Large-Cap Funds	310	98.71
Japanese Mid-/Small-Cap Funds	195	97.95
All Japanese Equity Funds	505	98.42
U.S. Equity Funds	122	96.72
Global Equity Funds	375	99.47
International Equity Funds	65	98.46
Emerging Equity Funds	68	94.12
1-Year		
Japanese Large-Cap Funds	308	97.08
Japanese Mid-/Small-Cap Funds	200	95.50
All Japanese Equity Funds	508	96.46
U.S. Equity Funds	122	93.44
Global Equity Funds	374	96.52
International Equity Funds	66	95.45
Emerging Equity Funds	70	91.43
3-Year		
Japanese Large-Cap Funds	333	84.38
Japanese Mid-/Small-Cap Funds	208	86.54
All Japanese Equity Funds	541	85.21
U.S. Equity Funds	130	81.54
Global Equity Funds	268	88.81
International Equity Funds	68	83.82
Emerging Equity Funds	81	70.37
5-Year		
Japanese Large-Cap Funds	335	77.31
Japanese Mid-/Small-Cap Funds	193	83.42
All Japanese Equity Funds	528	79.55
U.S. Equity Funds	133	72.18
Global Equity Funds	216	79.63
International Equity Funds	67	77.61
Emerging Equity Funds	84	64.29

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 Funds (cont.)

Fund Category	Number of Funds at Start	Survivorship (%)
10-Year		
Japanese Large-Cap Funds	296	63.18
Japanese Mid-/Small-Cap Funds	151	69.54
All Japanese Equity Funds	447	65.32
U.S. Equity Funds	53	58.49
Global Equity Funds	151	52.32
International Equity Funds	51	64.71
Emerging Equity Funds	83	30.12

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 3: Average Fund Performance (Equal-Weighted)

Index/Fund Category	YTD (%)	1-Year (%)	3-Year (%)	5-Year (%)	10-Year (%)
S&P/TOPIX 150	25.52	27.86	18.40	10.18	10.04
Japanese Large-Cap Funds	21.26	23.38	15.39	7.55	9.20
S&P Japan MidSmallCap	15.82	19.86	12.03	4.51	9.07
Japanese Mid-/Small-Cap Funds	16.18	21.82	11.31	4.90	10.74
S&P Japan 500	23.82	26.24	17.01	8.95	9.85
All Japanese Equity Funds	19.28	22.82	13.82	6.57	9.72
S&P 500	28.05	27.24	26.33	18.45	17.18
U.S. Equity Funds	21.14	21.13	23.39	13.06	11.31
S&P Global 1200	26.19	26.26	24.20	15.54	14.25
Global Equity Funds	21.69	18.68	16.86	11.25	10.39
S&P Global 1200 Ex-Japan	26.24	26.16	24.61	15.95	14.58
International Equity Funds	20.21	19.43	21.51	12.70	11.21
S&P Emerging BMI	14.62	9.17	14.43	7.69	7.85
Emerging Equity Funds	13.69	8.15	11.07	5.11	4.99

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2023. Index performance based on total returns. Returns for periods greater than one year are annualized. 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 Fund Performance (Asset-Weighted)** 

Index/Fund Category	YTD (%)	1-Year (%)	3-Year (%)	5-Year (%)	10-Year (%)
S&P/TOPIX 150	25.52	27.86	18.40	10.18	10.04
Japanese Large-Cap Funds	21.89	23.90	14.97	7.40	9.06
S&P Japan MidSmallCap	15.82	19.86	12.03	4.51	9.07
Japanese Mid-/Small-Cap Funds	16.87	21.12	11.97	5.07	9.27
S&P Japan 500	23.82	26.24	17.01	8.95	9.85
All Japanese Equity Funds	20.15	22.96	13.92	6.51	9.14
S&P 500	28.05	27.24	26.33	18.45	17.18
U.S. Equity Funds	31.59	25.61	19.88	14.72	11.31
S&P Global 1200	26.19	26.26	24.20	15.54	14.25
Global Equity Funds	26.36	21.20	12.82	10.75	10.20
S&P Global 1200 Ex-Japan	26.24	26.16	24.61	15.95	14.58
International Equity Funds	21.57	20.02	20.06	12.33	11.06
S&P Emerging BMI	14.62	9.17	14.43	7.69	7.85
Emerging Equity Funds	15.05	10.69	11.14	7.17	5.50

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

Report 5: Quartile Breakpoints of Fund Performance

Fund Category	Third Quartile (%)	Second Quartile (%)	First Quartile (%)
YTD			
Japanese Large-Cap Funds	19.31	21.64	23.78
Japanese Mid-/Small-Cap Funds	11.16	16.23	20.07
All Japanese Equity Funds	16.06	20.28	22.97
U.S. Equity Funds	15.58	20.20	27.73
Global Equity Funds	14.52	19.80	27.43
International Equity Funds	15.24	21.88	23.21
Emerging Equity Funds	10.91	13.25	15.47

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

Report 5: Quartile Breakpoints of Fund Performance (cont.)

Fund Category	Third Quartile (%)	Second Quartile (%)	First Quartile (%)
1-Year			
Japanese Large-Cap Funds	20.61	23.34	26.75
Japanese Mid-/Small-Cap Funds	16.66	21.06	26.04
All Japanese Equity Funds	18.97	22.82	26.32
U.S. Equity Funds	16.38	19.48	26.00
Global Equity Funds	13.31	18.03	23.67
International Equity Funds	16.04	20.35	22.66
Emerging Equity Funds	2.72	6.76	10.89
3-Year			
Japanese Large-Cap Funds	12.83	15.35	17.83
Japanese Mid-/Small-Cap Funds	6.96	11.05	15.44
All Japanese Equity Funds	10.44	14.39	16.97
U.S. Equity Funds	19.49	22.03	25.51
Global Equity Funds	14.93	18.81	21.45
International Equity Funds	18.91	21.24	24.58
Emerging Equity Funds	6.68	10.94	14.12
5-Year			
Japanese Large-Cap Funds	6.21	7.59	8.92
Japanese Mid-/Small-Cap Funds	2.23	5.06	6.82
All Japanese Equity Funds	5.03	6.80	8.42
U.S. Equity Funds	11.36	13.41	14.62
Global Equity Funds	10.35	12.32	14.59
International Equity Funds	10.65	12.60	13.87
Emerging Equity Funds	3.49	5.50	7.13
10-Year			
Japanese Large-Cap Funds	8.22	9.31	10.04
Japanese Mid-/Small-Cap Funds	9.17	10.33	12.09
All Japanese Equity Funds	8.39	9.52	10.50
U.S. Equity Funds	10.36	12.51	14.59
Global Equity Funds	9.22	10.90	12.38
International Equity Funds	10.18	11.93	12.92
Emerging Equity Funds	5.22	6.10	6.64
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Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2023. Index performance based on total returns. Returns for periods greater than one year are annualized. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

# Appendix A: SPIVA Methodology

## Percentage of Funds Outperformed by the Index

To correct for survivorship bias, we use the opportunity set available at the beginning of the period as the denominator. We determine the count of funds that have survived and beat the index. We then report the index outperformance percentage.

#### Survivorship (%)

This measure represents the percentage of funds in existence at the beginning of the time period that 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 more accurately reflect the returns of the total money invested in that particular style category.

#### **Quartiles Breakpoints**

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

## Survivorship Bias

Many funds might liquidate or merge during a period of study. This usually occurs due to continued poor performance by the fund. Therefore, if index returns were compared to fund returns using only surviving funds, the comparison would be biased in favor of the fund category. These reports remove this bias by (a) using the entire investment opportunity set,

made up of all funds in that particular category at the outset of the period, as the denominator for outperformance calculations, (b) explicitly showing the survivorship rate in each category, and (c) constructing peer average return series for each category based on all available funds at the outset of the period.

#### Fees

The fund returns used are net of fees, excluding loads.

#### **Indices**

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

#### S&P/TOPIX 150

The S&P/TOPIX 150 is designed to represent the large-cap universe for Japan. It includes 150 highly liquid securities of leading blue-chip companies from each of the Global Industry Classification Standard (GICS®) sectors of the Japanese market.

#### S&P Japan MidSmallCap

The S&P Japan MidSmallCap combines the S&P Japan MidCap and S&P Japan SmallCap and comprises the stocks representing the lowest 30% of float-adjusted market cap in Japan. It is a subset of the <u>S&P Japan BMI</u>, a comprehensive, rules-based index measuring Japanese stock market performance.

#### S&P Japan 500

The S&P Japan 500 is designed to represent the Japanese investable market. Index constituents are drawn from eligible companies listed on the Tokyo, Osaka or JASDAQ exchanges. Data is sourced from the comprehensive Toyo Keizai database. Constituents represent the large-, mid- and small-cap components of the Japanese equity markets.

#### 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 top 500 companies in the leading industries of the U.S. economy, and it provides over 80% coverage of U.S. equities.

#### S&P Global 1200

Capturing approximately 70% of the world's capital markets, the S&P Global 1200 is a composite of seven headline indices, many of which are accepted leaders in their regions. It includes the S&P 500 (U.S.), <u>S&P Europe 350</u><sup>®</sup> (Europe), S&P/TOPIX 150 (Japan), <u>S&P/TSX</u>

60 (Canada), <u>S&P/ASX All Australian 50</u> (Australia), <u>S&P Asia 50</u> (Asia Ex-Japan) and <u>S&P Latin America</u> 40 (Latin America).

#### S&P Global 1200 Ex-Japan

The S&P Global 1200 Ex-Japan is a composite of six 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/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** Emerging BMI

The S&P Emerging BMI captures all companies domiciled in emerging markets within the S&P Global BMI with a float-adjusted market capitalization of at least USD 100 million and a minimum annual trading liquidity of USD 50 million.

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