S&P Dow Jones Indices

A Division of S&P Global

SPIVA® Japan

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

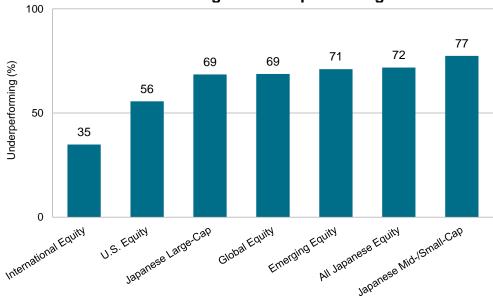
Since the first publication of the S&P Indices Versus Active (SPIVA) U.S. Scorecard in 2002, S&P Dow Jones Indices has been the de facto scorekeeper of the ongoing active versus passive debate.

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 as well as international and global equity funds.

Mid-Year 2022 Highlights

A firm majority of 72% of All Japanese Equity funds underperformed the broad-based <u>S&P Japan 500</u> over the first six months of 2022, and a majority of equity funds underperformed their benchmarks in every reported category apart from one. International Equity funds were the notable exception, with an underperformance rate of 35% in H1 2022.

Exhibit 1: H1 2022 Percentage of Underperforming Active Funds



Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2022. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

The <u>S&P/TOPIX 150</u> lost 5.19% in the first half of the year, and 69% of Japanese Large-Cap funds underperformed the index over the period. This was the worst underperformance rate reported for the large-cap category since June 2019, and it acted to push up the 10-year underperformance rate to 86% (from the 82% reported in December 2021).

- It was a different story in the International Equity funds category, with just 35% of actively managed funds underperforming the S&P Global 1200 Ex-Japan in H1 2022.
- For Japanese Mid-/Small-Cap funds, 77% underperformed the S&P Japan MidSmallCap, which declined 3.57% in H1 2022. However, the long-term record of actively managed Japanese Mid-/Small-Cap funds remained relatively admirable, with just 46%, 38% and 53% underperforming over the 3-, 5- and 10-year periods, respectively.
- The record of All Japanese Equity funds was surprisingly consistent over all our reported time horizons, with underperformance rates versus the S&P Japan 500 ranging between 70% and 75%. In H1 2022, during which the S&P Japan 500 was down 4.79%, 72% of actively managed funds underperformed.
- After 80% of U.S. Equity funds underperformed over 2021, actively managed Japanese funds invested in U.S. equities lowered their underperformance rate in H1 2022, with a slim majority of 56% underperforming the <u>S&P 500</u>° s loss of 5.57% in Japanese yen terms.
- The <u>S&P Global 1200</u> recorded a loss of 4.86% for the first half of 2022, and **69% of Global Equity funds failed to beat the benchmark**, often with considerably worse performance. The average total returns of funds in the category were -10.50% on an equal-weighted basis and -18.85% on an asset-weighted basis.
- As the <u>S&P Emerging BMI</u> dipped 1.05% in H1 2022, **71% of Emerging Equity funds** underperformed. Over longer time horizons, the proportion of underperforming funds
 increased to among the highest of any reported category, with **89%**, **95% and 100% failing** to beat the benchmark over **3**, **5** and **10** years, respectively.

Market Context

Japan had suffered from an arduous start to the year, facing a wide variety of challenges ranging from the lingering restrictions imposed in response to the pandemic, to a spike in energy prices and geopolitical uncertainty, and to a sharp rise in inflation and a series of rate hikes by central banks around the world.

Although the broad Japanese equity market declined, there were opportunities for positive returns among stable, dividend-paying stocks, such as those in the S&P/JPX Dividend Aristocrats® and in value strategies more broadly. Conversely, growth companies—as represented by the S&P Japan LargeCap Growth Index—fared particularly poorly in both relative and absolute terms (see Exhibit 2).

Exhibit 2: Index Performance

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Index	YTD (%)	Excess Return versus S&P Japan 500 (%)
S&P Enhanced Value Japan LargeMidCap Index	13.38	18.17
S&P/JPX Dividend Aristocrats	9.31	14.10
S&P Japan 500 Low Volatility Index	6.31	11.10
S&P Japan 500 Equal Weight Index	-0.93	3.86
S&P Low Beta Japan Index	-2.66	2.13
S&P Japan MidSmallCap	-3.57	1.22
S&P Momentum Japan LargeMidCap Index	-4.46	0.33
S&P/TOPIX 150	-5.19	-0.40
S&P Quality Japan LargeMidCap	-12.56	-7.77
S&P Japan LargeCap Growth Index	-15.44	-10.65
S&P Japan 500	-4.79	-

Source: S&P Dow Jones Indices LLC. Data as of June 30, 2022. YTD index performance based on total return in JPY; excess total returns are versus the S&P Japan 500. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Select aspects of the market environment illustrated in Exhibit 2 are **suggestive of a generally favorable environment for active managers in Japanese equities over the period**. First, the largest companies (as represented by the S&P/TOPIX 150) had a lower return than small- and mid-sized Japanese companies (as represented by the S&P Japan MidSmallCap), which suggests a tailwind for active managers searching among the lesser-known names for sources of outperformance. Reinforcing this notion, **the equal-weighted version of the S&P Japan 500 outperformed the capitalization-weighted benchmark by**

nearly 4%, suggesting a material advantage from ignoring the market capitalization of companies when weighting portfolios.¹

The degree to which it was easy to pick single securities that outperformed the benchmark in H1 2022 is illustrated in Exhibit 3. While only 51% of constituents of the S&P Japan MidSmallCap outperformed that index, 58% of constituents from the S&P Japan 500 and a full 63% of constituents from the S&P/TOPIX 150 outperformed their indices. When nearly two out of every three stocks outperform the benchmark, it should—in theory—be easier for those picking stocks to pick winners.

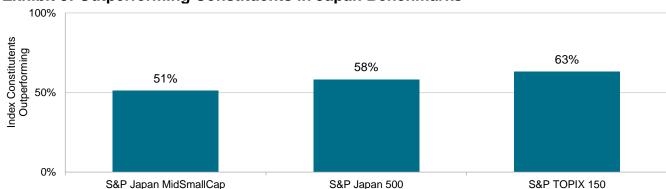


Exhibit 3: Outperforming Constituents in Japan Benchmarks

Source: S&P Dow Jones Indices LLC, FactSet. Data as of June 30, 2022. Index performance based on total return in JPY. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

Of course, there are expenses and costs associated with running any portfolio, and so an actively managed fund may still underperform even if they pick 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 very similarly, and it is harder to find differentiation, and other times when there is a larger difference between winners and losers. At the benchmark level, the degree to which securities differ (above or below) the average performance is measured by dispersion.² As illustrated in Exhibit 4, the average monthly annualized dispersion in the securities of the scorecard benchmarks was higher in the first half of 2022 than was typical over the past 10 years.

¹ For example, see Edwards, Tim and Craig J. Lazzara, "<u>Equal Weight Benchmarking: Raising the Monkey Bars</u>," S&P Dow Jones Indices, 2014

² For example, see Edwards, Tim and Craig J. Lazzara, "Dispersion: Measuring Market Opportunity," S&P Dow Jones Indices, 2014.

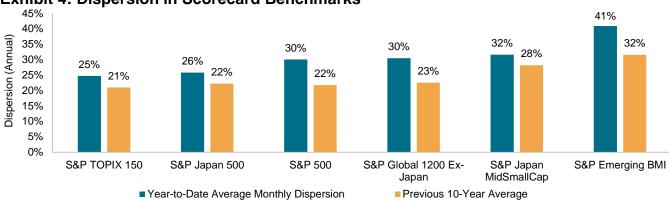


Exhibit 4: Dispersion in Scorecard Benchmarks

Source: S&P Dow Jones Indices LLC. Data as of June 30, 2022. Index performance based on total return in JPY. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

Taken all together, Exhibits 1 to 4 may be seen to present a puzzling combination of data. Exhibits 2, 3 and 4 suggest that there was an abundance of opportunity for active managers to profit by deviating from benchmark weights, and materially so in comparison to previous years. However, except for one reported category, a majority of actively managed funds still underperformed their benchmarks (see Exhibit 1). Exhibit 5 does not resolve this puzzle, but it does offer some perspective on the results. Specifically, for each reported fund category, the exhibit plots the interquartile range among fund performances—the difference between the minimum return required to be in the top 25% of funds and the minimum return required to avoid being placed in the bottom 25%. Compared to the roughly 5% decline in the S&P Japan 500 over the period, the spread is remarkably wide—above 10% in every domestic category. One consequence of this wide spread in returns is that, in the first half of 2022, the "typical" fund performance was very different from the "average."

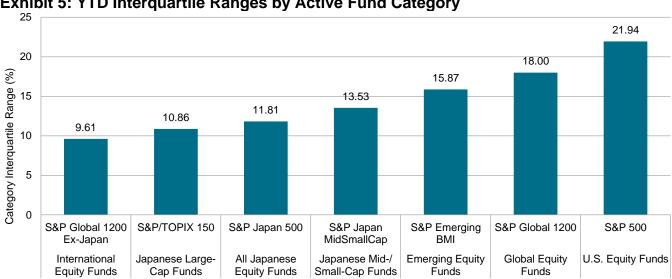


Exhibit 5: YTD Interguartile Ranges by Active Fund Category

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2022. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

A Unique Scorecard for the Active Versus Passive Debate

Since its first publication 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 Outperformed by the Index (Based on Absolute Return)

Fund Category	Comparison Index	YTD (%)	1-Year (%)	3-Year (%)	5-Year (%)	10-Year (%)
Japanese Large-Cap Funds	S&P/TOPIX 150	68.54	75.65	76.40	83.94	86.18
Japanese Mid-/Small-Cap Funds	S&P Japan MidSmallCap	77.46	73.73	46.12	37.76	52.94
All Japanese Equity Funds	S&P Japan 500	71.84	75.43	69.87	74.14	75.32
U.S. Equity Funds	S&P 500	55.65	61.72	95.49	92.91	87.50
Global Equity Funds	S&P Global 1200	68.73	74.39	76.42	85.49	94.41
International Equity Funds	S&P Global 1200 Ex- Japan	34.85	57.14	86.76	92.54	92.31
Emerging Equity Funds	S&P Emerging BMI	71.05	67.57	89.16	95.35	100.00

Source: S&P Dow Jones Indices LLC, Morningstar. Data for periods ending June 30, 2022. 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 Funds Outperformed by the Index (Based on Risk-Adjusted Return)

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Fund Category	Comparison Index	3-Year (%)	5-Year (%)	10-Year (%)
Japanese Large-Cap Funds	S&P/TOPIX 150	84.47	89.09	87.17
Japanese Mid-/Small-Cap Funds	S&P Japan MidSmallCap	51.14	44.90	70.00
All Japanese Equity Funds	S&P Japan 500	79.85	80.99	82.07
U.S. Equity Funds	S&P 500	97.74	95.28	96.88
Global Equity Funds	S&P Global 1200	86.18	86.53	95.10
International Equity Funds	S&P Global 1200 Ex-Japan	95.59	89.55	96.15
Emerging Equity Funds	S&P Emerging BMI	96.39	97.67	100.00

Source: S&P Dow Jones Indices LLC, Morningstar. Results shown for all time horizons over which the comparison index total return was positive. Data for periods ending June 30, 2022. 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	302	97.35
Japanese Mid-/Small-Cap Funds	213	98.12
All Japanese Equity Funds	515	97.67
U.S. Equity Funds	124	99.19
Global Equity Funds	355	99.44
International Equity Funds	66	100.00
Emerging Equity Funds	76	90.79
1-Year		
Japanese Large-Cap Funds	308	93.18
Japanese Mid-/Small-Cap Funds	217	95.39
All Japanese Equity Funds	525	94.10
U.S. Equity Funds	128	93.75
Global Equity Funds	328	97.56
International Equity Funds	63	100.00
Emerging Equity Funds	74	89.19
3-Year		
Japanese Large-Cap Funds	322	83.54
Japanese Mid-/Small-Cap Funds	219	89.50
All Japanese Equity Funds	541	85.95
U.S. Equity Funds	133	81.95
Global Equity Funds	246	89.02
International Equity Funds	68	86.76
Emerging Equity Funds	83	73.49
5-Year		
Japanese Large-Cap Funds	330	74.24
Japanese Mid-/Small-Cap Funds	196	85.71
All Japanese Equity Funds	526	78.52
U.S. Equity Funds	127	77.17
Global Equity Funds	193	78.76
International Equity Funds	67	79.10

Source: S&P Dow Jones Indices LLC, Morningstar. Data for periods ending June 30, 2022. 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	304	59.21
Japanese Mid-/Small-Cap Funds	170	65.88
All Japanese Equity Funds	474	61.60
U.S. Equity Funds	32	56.25
Global Equity Funds	143	51.75
International Equity Funds	52	63.46
Emerging Equity Funds	80	33.75

Source: S&P Dow Jones Indices LLC, Morningstar. Data for periods ending June 30, 2022. 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	-5.19	-0.46	10.39	6.75	11.98
Japanese Large-Cap Funds	-7.77	-4.25	9.15	5.38	11.44
S&P Japan MidSmallCap	-3.57	-4.59	5.61	2.92	11.35
Japanese Mid-/Small-Cap Funds	-11.66	-11.36	6.52	4.59	13.55
S&P Japan 500	-4.79	-1.23	9.48	5.92	11.92
All Japanese Equity Funds	-9.37	-7.22	8.10	5.06	12.21
S&P 500	-5.57	9.41	19.49	15.62	19.13
U.S. Equity Funds	-5.11	4.01	14.41	10.70	13.79
S&P Global 1200	-4.86	5.96	16.13	12.40	16.04
Global Equity Funds	-10.50	-5.93	12.15	8.93	12.51
S&P Global 1200 Ex-Japan	-4.84	6.40	16.54	12.83	16.34
International Equity Funds	-1.96	6.24	14.08	10.08	13.33
S&P Emerging BMI	-1.05	-4.69	9.77	7.39	9.80
Emerging Equity Funds	-6.51	-10.47	5.47	3.49	6.81

Source: S&P Dow Jones Indices LLC, Morningstar. Data for periods ending June 30, 2022. Returns for periods greater than one year are annualized. Index performance based on total return. Funds are equal weighted, but indices are not. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Report 4: Average Fund Performance (Asset-Weighted)

Index/Fund Category	YTD (%)	1-Year (%)	3-Year (%)	5-Year (%)	10-Year (%)
S&P/TOPIX 150	-5.19	-0.46	10.39	6.75	11.98
Japanese Large-Cap Funds	-9.73	-5.62	8.67	5.11	11.16
S&P Japan MidSmallCap	-3.57	-4.59	5.61	2.92	11.35
Japanese Mid-/Small-Cap Funds	-11.49	-10.63	6.88	4.19	11.77
S&P Japan 500	-4.79	-1.23	9.48	5.92	11.92
All Japanese Equity Funds	-10.38	-7.52	8.01	4.80	11.33
S&P 500	-5.57	9.41	19.49	15.62	19.13
U.S. Equity Funds	-15.37	-5.18	14.88	11.69	12.68
S&P Global 1200	-4.86	5.96	16.13	12.40	16.04
Global Equity Funds	-18.85	-18.91	10.29	8.11	11.80
S&P Global 1200 Ex-Japan	-4.84	6.40	16.54	12.83	16.34
International Equity Funds	-6.00	0.08	13.73	9.56	13.01
S&P Emerging BMI	-1.05	-4.69	9.77	7.39	9.80
Emerging Equity Funds	-7.84	-14.11	6.81	5.74	7.05

Source: S&P Dow Jones Indices LLC, Morningstar. Data for periods ending June 30, 2022. 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	-12.87	-8.50	-2.01
Japanese Mid-/Small-Cap Funds	-18.23	-12.78	-4.70
All Japanese Equity Funds	-15.11	-10.10	-3.30
U.S. Equity Funds	-16.86	-7.28	5.08
Global Equity Funds	-18.80	-9.54	-0.80
International Equity Funds	-6.75	-3.35	2.85
Emerging Equity Funds	-14.59	-3.73	1.28

Source: S&P Dow Jones Indices LLC, Morningstar. Data for periods ending June 30, 2022. 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 Fund Performance (cont.)

Fund Category	Third Quartile	Second Quartile	First Quartile
1 Year			
Japanese Large-Cap Funds	-8.31	-4.41	0.39
Japanese Mid-/Small-Cap Funds	-18.21	-11.17	-3.76
All Japanese Equity Funds	-13.14	-6.25	-1.10
U.S. Equity Funds	-7.14	4.75	18.96
Global Equity Funds	-13.12	-2.85	6.16
International Equity Funds	-0.22	5.65	12.75
Emerging Equity Funds	-20.71	-9.45	-1.84
3 Year			
Japanese Large-Cap Funds	7.48	9.28	10.48
Japanese Mid-/Small-Cap Funds	3.65	6.98	9.24
All Japanese Equity Funds	6.31	8.52	10.23
U.S. Equity Funds	13.04	14.82	16.45
Global Equity Funds	11.06	14.04	16.27
International Equity Funds	12.84	14.13	15.53
Emerging Equity Funds	1.49	6.66	9.53
5-Year			
Japanese Large-Cap Funds	4.27	5.36	6.57
Japanese Mid-/Small-Cap Funds	2.73	4.29	5.82
All Japanese Equity Funds	3.63	5.09	6.44
U.S. Equity Funds	8.55	10.57	12.03
Global Equity Funds	7.83	10.04	11.94
International Equity Funds	7.96	10.33	11.65
Emerging Equity Funds	1.53	4.55	5.57
10 Year			
Japanese Large-Cap Funds	10.31	11.23	11.93
Japanese Mid-/Small-Cap Funds	11.17	12.65	15.65
All Japanese Equity Funds	10.57	11.47	12.96
U.S. Equity Funds	14.96	16.64	18.91
Global Equity Funds	12.13	13.57	14.98
International Equity Funds	12.95	14.35	15.21
Emerging Equity Funds	7.27	7.75	8.53

Source: S&P Dow Jones Indices LLC, Morningstar. Data for periods ending June 30, 2022. Index performance based on total returns. 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 pth percentile for a set of data is the value that is greater than or equal to p% of the data, but is less than or equal to (100-p)% of the data. In other words, it is a value that divides the data into two parts: the lower p% of the values and the upper (100-p)% of the values. The first quartile is the 75th percentile, the value separating the elements of a population into the lower 75% and the upper 25%. The second quartile is the 50th percentile and the third quartile is the 25th percentile. For fund category quartiles in a particular time horizon, the data used is the return of the largest share class of the fund net of fees, excluding loads.

Survivorship Bias

Many funds might liquidate or merge during a period of study. This usually occurs due to continued poor performance by the fund. Therefore, if index returns were compared to fund returns using only surviving funds, the comparison would be biased in favor of the fund category. 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>[®] (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 40</u> (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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