

## S&P GIVI<sup>®</sup> Japan and Major Single Factors 2018 Review

### S&P GIVI JAPAN PERFORMANCE

The [S&P GIVI \(Global Intrinsic Value Index\) Japan](#) outperformed its benchmark index, the [S&P Japan BMI](#), by 2.46% in Q4 2018 and 2.48% for the entire year.<sup>1</sup> Since its launch in March 2012, the S&P GIVI Japan has outperformed its benchmark index by 1.03% per year, with a tracking error of 2.42%.

In Q4 2018, Japanese equities plunged by 17.25%, as measured by the S&P Japan BMI. The fourth quarter started low in a succession of natural disasters and concerns over the increase in the U.S. long-term interest rate. While it had a brief bounce in November, following the pattern of other markets, Japan tumbled into a bear market again in December and ended up posting its worst quarter of the year.

Spurred by the trade war issue and global economic uncertainties, Japan's market suffered from global investors' selling pressure. Throughout the year, around USD 48 billion in Japanese securities was offloaded by foreign investors, according to the Japan Exchange Group Inc. Despite the better-than-expected economic data released in December, when manufacturing activities remained strong and big manufacturers' sentiment seemed steady, the equities market could not stop from sliding amid fears of a global market slowdown caused by the U.S.-China friction, a drop in eurozone business confidence, and rising geopolitical concerns such as Brexit.

Given the geopolitical risk and the ongoing trade war conflict, defensive sectors continued to lead the market. Overall, Utilities, Healthcare, and Consumer Staples outperformed. Materials, Financials, Information Technology, and Energy (which suffered heavily from the oil price decline) were the biggest draggers.

In Q4 2018, the outperformance of the S&P GIVI Japan against the benchmark can be attributed to both the low beta leg and the intrinsic value leg. The low beta leg outperformed the benchmark for the quarter by 2.03%, and the intrinsic value leg outperformed by 0.08%.

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*S&P Dow Jones Indices' Market Attributes<sup>®</sup> series provides market commentary highlighting developments across various asset classes.*

<sup>1</sup> The S&P GIVI Japan is a strategy index constructed from the S&P Japan BMI, which serves as its benchmark index. The tracking error between the S&P GIVI Japan and its benchmark represents the difference between the strategy returns and the benchmark returns, reflecting the risk associated with the exposure to certain factors. Tracking error is the annualized standard deviations of monthly excess returns. It is not possible to invest directly in an index.

Exhibit 1: S&P GIVI Japan Live Performance and Attributes							
PERFORMANCE AS OF DEC. 31, 2018	GROSS TOTAL RETURN (%)				RETURN IN EXCESS OF THE S&P JAPAN BMI (%)		
	S&P GIVI JAPAN	S&P INTRINSIC VALUE WEIGHTED JAPAN INDEX	S&P LOW BETA JAPAN INDEX	S&P JAPAN BMI	S&P GIVI JAPAN	S&P INTRINSIC VALUE WEIGHTED JAPAN INDEX	S&P LOW BETA JAPAN INDEX
Q4 2018	-14.79	-17.17	-15.22	-17.25	2.46	0.08	2.03
H2 2018	-10.71	-12.13	-11.22	-12.50	1.79	0.37	1.28
2018	-12.92	-16.45	-11.96	-15.40	2.48	-1.05	3.43
Since March 2012 (Annualized)	11.96	10.87	12.14	10.93	1.03	-0.06	1.21
PERFORMANCE SINCE LAUNCH (ANNUALIZED AGAINST THE S&P JAPAN BMI)							
Volatility (%)	15.49	17.30	15.10	16.69	-	-	-
Return/Volatility	0.77	0.63	0.80	0.65	-	-	-
Tracking Error (%)	2.42	1.93	2.87	-	-	-	-
Alpha (%)	1.70	-0.31	2.11	-	-	-	-
Beta	0.92	1.03	0.89	-	-	-	-

Source: S&P Dow Jones Indices LLC. Index performance is based on total returns in JPY. Data from June 30, 2012, to Dec. 31, 2018. Past performance is no guarantee of future results. Table is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance. Notes: Tracking error is the annualized standard deviations of monthly excess returns, relative to the primary and secondary benchmarks. Alpha and beta are defined by the regression equation  $R_{i,t} = \alpha + \beta \cdot RBMI_{i,t} + \epsilon_t$ ; where  $R_{i,t}$  is the index return series and  $RBMI_{i,t}$  is the benchmark index return series.

## Performance of Single Factors in the Japanese Market

We examined the return of five common single factors in the Japanese equity market that have demonstrated the ability to earn a persistent premium over long periods of time: low volatility, value, quality, momentum, and buyback. The returns of these factors are represented by the performance of our systematic rules-based indices.

- Low volatility: Represented by the [S&P Japan 500 Low Volatility Index](#).
- Value: Represented by the [S&P Enhanced Value Japan LargeMidCap Index](#).
- Momentum: Represented by the [S&P Momentum Japan LargeMidCap](#).
- Quality: Represented by the [S&P Quality Japan LargeMidCap](#).
- Buyback: Represented by [S&P Japan 500 Buyback Index](#).

Amid a more cautious market sentiment, we saw defensive factors take the lead. Low volatility delivered the highest return among these five factors—the S&P Japan 500 Low Volatility Index outperformed the benchmark, the S&P Japan BMI, by 7.3% in Q4 and by 9.34% for 2018. It was the only factor that outperformed the benchmark in Q4. While enhanced value slightly underperformed in Q4, it pulled off a 0.21% outperformance against the benchmark for the year.

Momentum, buyback, and quality underperformed the benchmark in both Q4 and for the year, underperforming by 6.51%, 5.9%, and 0.76%, respectively. In accordance with Prime Minister Abe's Stewardship Code and Corporate Governance Code, Japanese equities buyback surged in 2018 in an effort to increase shareholder distributions. Nevertheless, the buyback factor underperformed the benchmark in both Q4 and 2018, as companies delivering heavy buybacks do not necessarily guarantee its outperformance

Over the three-year period, defensive factors stood out as well. Low volatility was the best-performing factor in terms of both absolute return and risk-adjusted return, followed by the quality and enhanced value factors. Momentum and buyback factors underperformed mainly because cyclical stocks have been widely sold over the past few years and in 2018.

<b>Exhibit 2: Performance of the Five Factors in Japan</b>						
<b>PERIOD</b>	<b>S&amp;P JAPAN 500 LOW VOLATILITY INDEX</b>	<b>S&amp;P ENHANCED VALUE JAPAN LARGEMIDCAP INDEX</b>	<b>S&amp;P QUALITY JAPAN LARGEMIDCAP</b>	<b>S&amp;P MOMENTUM JAPAN LARGEMIDCAP</b>	<b>S&amp;P JAPAN 500 BUYBACK INDEX</b>	<b>S&amp;P JAPAN BMI</b>
<b>CUMULATIVE RETURN (%)</b>						
1-Month	-6.88	-9.82	-9.50	-10.24	-11.20	-10.17
2-Month	-4.72	-11.34	-7.83	-9.12	-10.96	-8.76
3-Month	-9.94	-17.97	-18.38	-19.99	-19.14	-17.25
2018	-6.06	-15.19	-16.16	-21.90	-21.30	-15.40
<b>ANNUAL RETURN (%)</b>						
1-Year	-6.06	-15.19	-16.16	-21.90	-21.30	-15.40
3-Year	4.35	2.03	3.53	-3.41	-0.19	1.19
5-Year	9.84	5.24	7.38	1.20	5.12	4.96
10-Year	9.38	11.14	10.40	4.55	8.61	8.07
<b>ANNUAL VOLATILITY (%)</b>						
3-Year	11.85	20.43	14.89	15.57	16.39	15.37
5-Year	11.72	19.48	15.35	15.91	15.86	15.22
10-Year	13.07	21.23	16.55	17.95	17.10	17.12
<b>ANNUAL RETURN/ANNUAL VOLATILITY</b>						
3-Year	0.37	0.10	0.24	-0.22	-0.01	0.08
5-Year	0.84	0.27	0.48	0.08	0.32	0.33
10-Year	0.72	0.52	0.63	0.25	0.50	0.47
<b>12-MONTH MAXIMUM DRAWDOWN (%)</b>						
10-Year	-28.85	-45.54	-50.14	-61.92	-45.28	-48.38

Source: S&P Dow Jones Indices LLC. Index performance based on total returns in JPY. Data from June 30, 2008, to Dec. 31, 2018. Past performance is no guarantee of future results. Table is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

## APPENDIX

Exhibit 3: Performance of Smart Beta Indices and Benchmarks in Japan

PERIOD	SMART BETA INDICES IN JAPAN				BENCHMARKS IN JAPAN					
	S&P GIVI JAPAN	FTSE RAFI JAPAN INDEX	MSCI JAPAN VALUE WEIGHTED INDEX	MSCI JAPAN MINIMUM VOLATILITY INDEX	JPX-NIKKEI INDEX 400	MSCI JAPAN INDEX	NIKKEI 225	TOPIX	MSCI JAPAN IMI	S&P JAPAN BMI
<b>CUMULATIVE RETURNS (%)</b>										
1-Month	-8.50	-9.59	-9.79	-6.65	-9.92	-9.81	-10.28	-10.21	-10.13	-10.17
2-Month	-7.51	-9.95	-9.75	-3.90	-8.91	-8.89	-8.50	-9.04	-8.84	-8.76
3-Month	-14.79	-17.35	-16.90	-10.32	-17.46	-17.13	-16.78	-17.60	-17.25	-17.25
2018	-12.92	-15.55	-15.05	-6.16	-15.67	-14.85	-10.29	-15.97	-15.43	-15.40
<b>ANNUAL RETURN (%)</b>										
1-Year	-12.92	-15.55	-15.05	-6.16	-15.67	-14.85	-10.29	-15.97	-15.43	-15.40
3-Year	1.24	1.16	0.66	2.73	0.48	0.62	3.68	1.00	1.02	1.19
5-Year	6.37	4.90	4.76	7.97	4.59	4.29	6.15	4.95	4.84	4.96
10-Year	9.10	8.17	8.82	8.20	9.11	7.62	10.53	7.92	8.04	8.07
<b>ANNUAL VOLATILITY (%)</b>										
3-Year	14.30	17.14	17.52	11.08	15.33	15.49	16.38	15.58	15.30	15.37
5-Year	13.87	16.84	17.10	11.73	15.40	15.72	16.14	15.48	15.26	15.22
10-Year	15.50	19.00	18.72	13.46	16.67	17.57	18.41	17.24	17.18	17.12
<b>ANNUAL RETURN/ANNUAL VOLATILITY</b>										
3-Year	0.09	0.07	0.04	0.25	0.03	0.04	0.22	0.06	0.07	0.08
5-Year	0.46	0.29	0.28	0.68	0.30	0.27	0.38	0.32	0.32	0.33
10-Year	0.59	0.43	0.47	0.61	0.55	0.43	0.57	0.46	0.47	0.47
<b>12-MONTH MAXIMUM DRAWDOWN (%)</b>										
10-Year	-42.81	-47.44	-47.82	-36.83	-23.89	-49.30	-49.61	-47.68	-48.45	-48.38

Source: S&P Dow Jones Indices LLC, MSCI, FTSE, TSE. Performance based on total return in JPY. Data from June 30, 2008, to Dec. 31, 2018. Past performance is no guarantee of future results. Table is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

## PERFORMANCE DISCLOSURE

The S&P GIVI Japan was launched on March 19, 2012. The S&P Intrinsic Value Weighted Japan Index and S&P Low Beta Japan Index were launched on May 8, 2014. The S&P Japan 500 Low Volatility Index was launched on June 8, 2015. The S&P Enhanced Value Japan LargeMidCap Index was launched on April 27, 2015. The S&P Quality Japan LargeMidCap was launched on June 8, 2014. The S&P Momentum Japan LargeMidCap was launched on November 18, 2014. The S&P Japan 500 Buyback Index was launched on October 17, 2014. All information presented prior to an index's Launch Date is hypothetical (back-tested), not actual performance. The back-test calculations are based on the same methodology that was in effect on the index Launch Date. However, when creating back-tested history for periods of market anomalies or other periods that do not reflect the general current market environment, index methodology rules may be relaxed to capture a large enough universe of securities to simulate the target market the index is designed to measure or strategy the index is designed to capture. For example, market capitalization and liquidity thresholds may be reduced. Complete index methodology details are available at [www.spdji.com](http://www.spdji.com). Past performance of the Index is not an indication of future results. Prospective application of the methodology used to construct the Index may not result in performance commensurate with the back-test returns shown.

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The back-test period does not necessarily correspond to the entire available history of the Index. Please refer to the methodology paper for the Index, available at [www.spdji.com](http://www.spdji.com) for more details about the index, including the manner in which it is rebalanced, the timing of such rebalancing, criteria for additions and deletions, as well as all index calculations.

Another limitation of using back-tested information is that the back-tested calculation is generally prepared with the benefit of hindsight. Back-tested information reflects the application of the index methodology and selection of index constituents in hindsight. No hypothetical record can completely account for the impact of financial risk in actual trading. For example, there are numerous factors related to the equities, fixed income, or commodities markets in general which cannot be, and have not been accounted for in the preparation of the index information set forth, all of which can affect actual performance.

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