

## S&P GIVI<sup>®</sup> Japan and Major Single Factors Q4 2019 Review

### S&P GIVI JAPAN PERFORMANCE

The [S&P GIVI \(Global Intrinsic Value Index\) Japan](#) underperformed its benchmark index, the [S&P Japan BMI](#), by 1.69% in Q4 2019 and 6.64% for the entire year.<sup>1</sup> Since its launch in March 2012, the S&P GIVI Japan has outperformed its benchmark index by 0.07% per year, with a tracking error of 2.48%.

In contrast to the sharp decline in Q4 2018, Q4 2019 delivered a rally across global equities markets, concluding a bullish 2019. While underperforming other major markets, the Japanese equities market posted a total return of 8.32% in Q4 2019 and 18.38% for the entire year, as measured by the S&P Japan BMI.

Despite the remaining uncertainties surrounding the U.S.-China relationship, the “phase one” trade deal seemed to provide significant relief for the Japanese equities market and helped to boost performance. Business sentiment was largely dragged down by manufacturing, as suggested by the December 2019 Tankan Survey, indicating a divergence between conditions in manufacturing and services. The rise in consumption tax in October 2019 hit the private consumption sector as expected.

The underperformance of the S&P GIVI Japan was mainly driven by the low beta leg due to its index construction. For low volatility indices, 2019 was a tough year, with low volatility ending as the worst performer out of five factors in the Japanese market. Various low volatility indices in the Japanese market underperformed the S&P Japan BMI.<sup>2</sup>

In Q4 2019, Industrials, Consumer Discretionary, and Information Technology were the best-performing sectors, while Energy, Utilities, and Real Estate were the laggards.

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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 calculated as the annualized standard deviations of monthly excess returns. It is not possible to invest directly in an index.

<sup>2</sup> The [S&P 500 Low Volatility Index](#) and MSCI Japan Minimum Volatility Index underperformed the S&P Japan BMI by 10.26% and 7.07, respectively.

**Exhibit 1: S&P GIVI Japan Live Performance and Attributes**

PERFORMANCE AS OF DEC. 31, 2019	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 2019	6.64	8.32	6.77	8.32	-1.69	0.00	-1.56
H2 2019	9.89	11.52	10.57	12.31	-2.42	-0.79	-1.74
2019	11.75	15.79	14.17	18.38	-6.64	-2.59	-4.21
Since March 2012 (Annualized)	11.93	11.49	12.40	11.86	0.07	-0.37	0.53
<b>PERFORMANCE SINCE LAUNCH (ANNUALIZED AGAINST THE S&amp;P JAPAN BMI)</b>							
Volatility (%)	14.94	16.78	14.50	16.14	-	-	-
Return/Volatility	0.80	0.68	0.86	0.74	-	-	-
Tracking Error (%)	2.48	1.89	2.92	-	-	-	-
Alpha (%)	0.93	-0.65	1.66	-	-	-	-
Beta	0.92	1.03	0.89	-	-	-	-

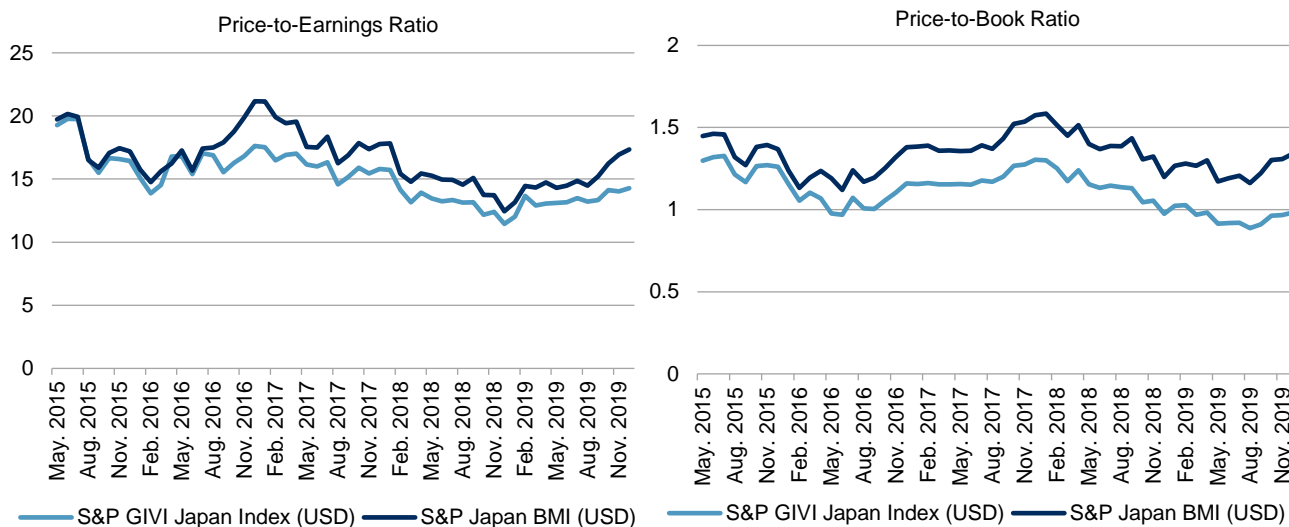
Source: S&P Dow Jones Indices LLC. Index performance is based on total returns in JPY. Data from March 31, 2012, to Dec. 31, 2019. Past performance is no guarantee of future results. Table is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance 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.

Both the intrinsic value leg and low beta leg of the S&P GIVI Japan underperformed the benchmark in 2019 (see Exhibit 1). Throughout 2019, the performance divergence of the intrinsic value leg and beta leg of the S&P GIVI Japan widened. The 12-month rolling correlation between the excess return of the two legs dropped from -0.33 in January 2019 to -0.65 in December 2019 (see Exhibit 2). Due to the application of a low beta screen prior to weighting stocks by intrinsic value, the S&P GIVI Japan tended to be more sensitive to the low beta leg. These aspects help to explain why the S&P GIVI Japan underperformed its benchmark and both legs in 2019.

There was an increasing value bias of the S&P GIVI Japan in 2019 (see Exhibit 3). The price-to-book ratio between the two indices widened to its highest level of the past five years. The divergence in price-to-earnings ratio between the S&P GIVI Japan and S&P Japan BMI came close to its historical high level of 2017.

**Exhibit 2: Rolling 12-Month Correlation between the Intrinsic Value Leg and the Low Beta Leg of the S&P GIVI Japan**

Source: S&P Dow Jones Indices LLC. Data as of Dec. 31, 2019. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

**Exhibit 3: Price-to-Earnings and Price-to-Book Ratios**

Source: S&P Dow Jones Indices LLC. Data as of Dec. 31, 2019. Past performance is no guarantee of future results. Charts are provided for illustrative purposes.

**Performance of Single Factors in the Japanese Market**

We examined the returns of five common single factors in the Japanese equities 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](#).

Quality was the best performer in all quarters in 2019 and was the only factor that beat the benchmark. It outperformed by 3.46% in Q4 2019 and 8.56% for the entire year. Low volatility and value were the worst performers and the only two that posted single-digit returns in 2019, underperforming the benchmark by 10.26% and 9.40%, respectively.

The persistent performance of quality suggests that the market has been rewarding companies that focus on profitability and financial quality. Amid global political uncertainties and domestic economic contraction, investors tend to focus on quality stocks rather than cyclical factors such as momentum and value. Similar to 2018, the record high Japanese equities buybacks had limited impact on the performance of the buyback factor, which underperformed the benchmark by 6.05%.

Over the long term, defensive factors remained strong. In terms of absolute return, quality and low volatility were the best-performing factors over the 3-, 5-, and 10-year horizons. The low volatility factor provided the best risk-adjusted return over the 3-, 5-, and 10-year horizons.

<b>Exhibit 4: 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	0.04	1.09	1.75	2.24	1.39	1.24
2-Month	1.14	2.60	4.47	4.23	2.84	3.16
3-month	4.57	7.91	11.78	7.29	8.24	8.32
2019	8.12	8.97	26.94	15.86	12.33	18.38
<b>ANNUAL RETURN (%)</b>						
1-Year	8.12	8.97	26.94	15.86	12.33	18.38
3-Year	6.76	4.07	9.91	4.32	3.45	6.80
5-Year	8.07	4.97	8.99	2.56	5.07	6.38
10-Year	10.73	9.00	11.15	7.46	8.83	9.02
<b>ANNUAL VOLATILITY (%)</b>						
3-Year	10.13	15.31	13.49	13.03	13.29	12.78
5-Year	12.03	20.46	15.69	14.80	16.19	15.28
10-Year	12.62	19.55	15.94	17.46	16.03	16.46
<b>ANNUAL RETURN/ANNUAL VOLATILITY</b>						
3-Year	0.67	0.27	0.73	0.33	0.26	0.53
5-Year	0.67	0.24	0.57	0.17	0.31	0.42
10-Year	0.85	0.46	0.70	0.43	0.55	0.55
<b>12-MONTH MAXIMUM DRAWDOWN (%)</b>						
10-Year	-12.94	-33.08	-19.22	-22.96	-22.06	-22.70

Source: S&P Dow Jones Indices LLC. Index performance based on total returns in JPY. Data from Dec. 31, 2009, to Dec. 31, 2019. 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 5: 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	0.53	1.27	1.32	-0.23	1.46	1.33	1.73	1.45	1.27	1.24
2-Month	2.24	2.75	2.90	0.75	3.30	3.23	3.37	3.42	3.21	3.16
3-Month	6.64	7.74	7.84	4.48	8.48	8.27	8.93	8.59	8.36	8.32
2019	11.75	13.97	14.95	11.31	18.96	18.94	20.72	18.12	18.88	18.38
<b>ANNUAL RETURN (%)</b>										
1-Year	11.75	13.97	14.95	11.31	18.96	18.94	20.72	18.12	18.88	18.38
3-Year	4.91	4.96	4.84	6.13	6.56	6.75	9.53	6.65	6.86	6.80
5-Year	6.01	5.71	5.39	7.08	6.10	5.97	8.35	6.40	6.39	6.38
10-Year	9.57	8.35	8.64	9.55	-	8.53	10.50	8.93	8.97	9.02
<b>ANNUAL VOLATILITY (%)</b>										
3-Year	11.38	13.36	13.34	9.37	12.84	12.69	13.95	12.88	12.71	12.78
5-Year	13.93	17.03	17.32	11.58	15.50	15.67	16.13	15.52	15.30	15.28
10-Year	15.05	17.95	17.93	12.87	-	16.89	17.31	16.61	16.51	16.46
<b>ANNUAL RETURN/ANNUAL VOLATILITY</b>										
3-Year	0.43	0.37	0.36	0.65	0.51	0.53	0.68	0.52	0.54	0.53
5-Year	0.43	0.34	0.31	0.61	0.39	0.38	0.52	0.41	0.42	0.42
10-Year	0.64	0.47	0.48	0.74	-	0.51	0.61	0.54	0.54	0.55
<b>12-MONTH MAXIMUM DRAWDOWN (%)</b>										
10-Year	-21.01	-27.84	-29.06	-14.40	-23.22	-24.71	-22.90	-23.34	-22.96	-22.70

Source: S&P Dow Jones Indices LLC, MSCI, FTSE, TSE. Performance based on total return in JPY. Data from Dec. 31, 2009, to Dec. 31, 2019. 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 March 19, 2012. The S&P Intrinsic Value Weighted Japan Index and S&P Low Beta Japan Index were launched May 8, 2014. The S&P Japan 500 Low Volatility Index was launched June 8, 2015. The S&P Enhanced Value Japan LargeMidCap Index was launched April 27, 2015. The S&P Quality Japan LargeMidCap was launched June 8, 2014. The S&P Momentum Japan LargeMidCap was launched November 18, 2014. The S&P Japan 500 Buyback Index was launched 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.

S&P Dow Jones Indices defines various dates to assist our clients in providing transparency. The First Value Date is the first day for which there is a calculated value (either live or back-tested) for a given index. The Base Date is the date at which the Index is set at a fixed value for calculation purposes. The Launch Date designates the date upon which the values of an index are first considered live: index values provided for any date or time period prior to the index's Launch Date are considered back-tested. S&P Dow Jones Indices defines the Launch Date as the date by which the values of an index are known to have been released to the public, for example via the company's public website or its datafeed to external parties. For Dow Jones-branded indices introduced prior to May 31, 2013, the Launch Date (which prior to May 31, 2013, was termed "Date of introduction") is set at a date upon which no further changes were permitted to be made to the index methodology, but that may have been prior to the Index's public release date.

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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