

## S&P GIVI<sup>®</sup> Japan and Major Single Factors 2017 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 1.21% in Q4 2017 and 2.99% for the entire year.<sup>1</sup> Since its launch in March 2012, the S&P GIVI Japan has outperformed its benchmark index by 0.68% per year, with a tracking error of 2.34%.

As measured by the S&P Japan BMI, Japanese equities produced a strong return of 8.7% in Q4 2017. Prime Minister Shinzo Abe comfortably won the election in October, providing political stability and boosting confidence that there should be few changes to his economic policies. As a result, November brought a significant pickup in net purchases of Japanese equities by foreign investors, which added to the over USD 4.5 billion purchased by the Bank of Japan.<sup>2</sup>

The strong quarter was amid improving economic data released in December—the better-than-forecast industrial production data, an unexpected improvement in core inflation, and strong sentiment in business conditions, according to the quarterly Tankan survey. Earnings growth continued to be strong—a 16% year-over-year growth based on one-year forward earnings—although the market is still trading at a 13% discount to developed market equities on one-year forward P/E.

The market increase in the quarter was led by the energy, industrials, consumer staples, and materials sectors, as industrial metals and crude oil prices recovered, and the improved economic prospects and strong corporate results tended to favor more cyclical sectors. The laggards were telecommunication services and utilities, as traditionally defensive sectors typically underperform in a rising market.

#### Contributor:

Tianyin Cheng, Market Commentary, Director, Strategy & ESG Indices, [tianyin.cheng@spglobal.com](mailto:tianyin.cheng@spglobal.com)

*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.

<sup>2</sup> Sources of Changes in Current Account Balances at the Bank of Japan and Market Operations (Final Figures): Bank of Japan, [www.boj.or.jp/en/statistics/boj/fm/ujqf/index.htm/](http://www.boj.or.jp/en/statistics/boj/fm/ujqf/index.htm/).

In Q4 2017, the underperformance of the S&P GIVI Japan against the benchmark can be mainly attributed to selection effects within sectors, especially in financials and industrials, rather than allocation effects across sectors. The low beta and intrinsic value legs underperformed the benchmark for the quarter by 46 bps and 25 bps, respectively.

Exhibit 1: S&P GIVI Japan Live Performance and Attributes							
PERFORMANCE AS OF DEC. 29, 2017	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 2017	7.48	8.44	8.24	8.69	-1.21	-0.25	-0.46
H2 2017	13.05	13.71	13.85	13.82	-0.77	-0.11	0.04
2017	18.66	19.97	20.84	21.64	-2.99	-1.68	-0.80
Since March 2012 (Annualized)	16.96	16.46	16.96	16.28	0.68	0.18	0.68
PERFORMANCE SINCE LAUNCH (ANNUALIZED AGAINST THE S&P JAPAN BMI)							
Volatility (%)	15.39	17.20	14.91	16.52	-	-	-
Return/Volatility	1.10	0.96	1.14	0.99	-	-	-
Tracking Error (%)	2.34	1.89	2.98	-	-	-	-
Alpha (%)	1.68	-0.31	2.15	-	-	-	-
Beta	0.92	1.04	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. 29, 2017. 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](#).

Boosted by the Japanese equities growth trend in Q4 2017, the enhanced value and momentum factors saw significant outperformance against the benchmark, the [S&P Japan BMI](#), by 1.7% and 1.4%, respectively, in the quarter. The quality and low volatility indices underperformed the benchmark the most, by 1.6% and 1.5%, respectively. This is not unexpected when the market is rising.

In 2017, the momentum factor was the top performer in terms of absolute return, followed by the buyback and quality factors. They outperformed the benchmark by 3.8%, 3.6%, and 3.1%, respectively. This shows that the market has been chasing after stocks with high risk-adjusted

momentum and rewarding companies that focus on shareholder return and financial quality in 2017. The low volatility factor underperformed the benchmark by 1.9% in 2017. It was the worst-performing and only underperforming factor for the year.

<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	1.12	4.38	0.48	1.88	2.16	1.66
2-Month	2.94	5.77	1.98	2.92	3.77	3.17
3-Month	7.21	10.40	7.08	10.08	8.96	8.69
YTD	19.78	21.94	24.75	25.48	25.22	21.64
<b>ANNUAL RETURN (%)</b>						
1-Year	19.78	21.94	24.75	25.48	25.22	21.64
3-Year	13.22	11.30	13.06	7.84	13.15	10.81
5-Year	20.05	17.79	21.59	16.88	20.85	18.37
10-Year	7.82	7.09	5.93	0.70	6.37	4.18
<b>ANNUAL VOLATILITY (%)</b>						
3-Year	12.46	22.28	15.83	15.07	16.68	15.66
5-Year	13.11	19.17	15.50	17.19	16.05	15.61
10-Year	13.61	23.19	19.43	20.35	18.35	19.19
<b>ANNUAL RETURN/ANNUAL VOLATILITY</b>						
3-Year	1.06	0.51	0.82	0.52	0.79	0.69
5-Year	1.53	0.93	1.39	0.98	1.30	1.18
10-Year	0.57	0.31	0.31	0.03	0.35	0.22
<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 Dec. 31, 2007, to Dec. 29, 2017. 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	1.56	2.54	2.12	0.25	1.24	1.39	0.32	1.57	1.54	1.66
2-Month	2.86	3.44	3.10	1.73	2.84	2.84	3.59	3.08	3.09	3.17
3-Month	7.48	8.91	8.31	5.79	8.70	8.60	12.04	8.69	8.64	8.69
YTD	18.66	20.15	18.01	14.45	18.06	20.14	21.33	22.23	21.37	21.64
<b>ANNUAL RETURN (%)</b>										
1-Year	18.66	20.15	18.01	14.45	18.06	20.14	21.33	22.23	21.37	21.64
3-Year	11.21	11.11	10.01	10.46	7.98	9.68	11.30	11.17	10.68	10.81
5-Year	19.19	18.79	18.40	17.79	15.42	17.54	19.07	18.53	18.29	18.37
10-Year	5.61	4.51	4.74	5.37	2.14	3.48	5.99	4.24	4.12	4.18
<b>ANNUAL VOLATILITY (%)</b>										
3-Year	14.43	18.07	18.55	12.11	16.11	16.41	16.52	15.99	15.75	15.66
5-Year	14.57	17.18	17.41	13.31	15.73	16.19	16.41	15.81	15.71	15.61
10-Year	17.17	20.92	20.80	14.88	20.80	19.77	20.68	19.22	19.26	19.19
<b>ANNUAL RETURN/ANNUAL VOLATILITY</b>										
3-Year	0.78	0.61	0.54	0.86	0.50	0.59	0.68	0.70	0.68	0.69
5-Year	1.32	1.09	1.06	1.34	0.98	1.08	1.16	1.17	1.16	1.18
10-Year	0.33	0.22	0.23	0.36	0.11	0.18	0.29	0.22	0.21	0.22
<b>12-MONTH MAXIMUM DRAWDOWN (%)</b>										
10-Year	-42.81	-47.44	-47.82	-36.83	-49.90	-49.30	-49.61	-47.68	-48.45	-48.38

Source: S&P Dow Jones Indices LLC, MSCI, FTSE, TSE. \*Performance of the JPX/Nikkei 400 based on price returns in JPY, and performance for all others based on total return in JPY. Data from Dec. 31, 2007, to Dec. 29, 2017. 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 Nov. 18, 2014. The S&P Japan 500 Buyback Index was launched on Oct. 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. Complete index methodology details are available at [www.spdji.com](http://www.spdji.com).

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.

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. 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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