

S&P GIVI[®] Japan and Major Single Factors July 2016

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 bps in the second quarter of 2016.¹ Since its launch in March 2012, the S&P GIVI Japan has outperformed its benchmark index by 1.63% per year, with a tracking error of 2.55%.

In the second quarter of 2016, Japanese equities fell 7.2%, as measured by the S&P Japan BMI. The relentlessly strong yen has been a major challenge, as global investors have sought safe havens, while the Brexit has added more uncertainty to an already uncertain world. The yen appreciated 8.32% during the quarter, which put downward pressure on the corporate sector, equity market performance, and the business cycle outlook. Similar to the first quarter of 2016, the low beta leg of the S&P GIVI Japan continued to provide downside protection, while the intrinsic value portion suffered. The three-year correlation between the excess return of the two legs was -0.54, the lowest level seen in the past 15 years.

Since its launch in March 2012, the S&P GIVI Japan has outperformed the S&P Japan BMI by 1.63% on an annualized basis. There has been a larger contribution from the low beta component (2.33%) than from the intrinsic value component (-0.70%). The sequential combination of low beta and intrinsic value appears to have added value. In terms of risk-adjusted performance, the S&P GIVI Japan had a risk-adjusted return of 0.76, versus 0.62 for its benchmark, due to the reduction in volatility. The annualized alpha for the S&P GIVI Japan was 2.24%, with a beta of 0.92 against its benchmark.

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¹ 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 Attribution							
Performance as of June 30, 2016	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
Q2 2016	-7.20	-8.67	-6.03	-7.22	0.02	-1.45	1.19
Q1 2016	-11.59	-13.31	-9.98	-11.62	0.02	-1.69	1.64
H1 2016	-17.95	-20.82	-15.40	-18.00	0.04	-2.83	2.59
Since March 2012 (Annualized)	13.22	10.89	13.93	11.60	1.63	-0.70	2.33
Performance Since Launch (Annualized Against the S&P Japan BMI)							
Volatility (%)	17.31	19.13	16.88	18.61	-	-	-
Return/Volatility	0.76	0.57	0.83	0.62	-	-	-
Tracking Error (%)	2.55	1.38	2.93	-	-	-	-
Alpha (%)	2.24	-0.85	3.12	-	-	-	-
Beta	0.92	1.03	0.90	-	-	-	-

Source: S&P Dow Jones Indices LLC. Index performance is based on total returns in JPY. Data from March 31, 2012, to June 30, 2016. 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](#).

When Japanese equities fell at the start of the second half of 2016, momentum, quality, and low volatility were able to outperform the benchmark, the [S&P Japan BMI](#). The momentum index outperformed the benchmark the most, by 3.43%, due to its overweight in consumer staples and underweight in financials. The two defensive factors, quality and low volatility, outperformed the benchmark by 2.11% and 2.06%, respectively.

Two pro-cyclical factors—value and buyback—underperformed in the second quarter of 2016. Value extended its consecutive 52-month period of underperformance, while value underperformed the benchmark by 9.39% YTD. Companies in the [S&P Japan 500](#) executed a record JPY 4.5 trillion in share buybacks in the fiscal year that ended in March 2016—a 33% increase year-over-year. This trend might continue under the background of negative interest rates (introduced in January 2016) and corporate governance reforms (with the first corporate governance codes in effect as of June 2015).

Over the past three-year period, the low volatility factor was the top performer in terms of absolute return. It outperformed the benchmark by 5.49% per year. The index's volatility was 12.1%, which was 4.84% lower than the benchmark. As a result, the annual risk-adjusted return was even higher compared to the benchmark—90 bps versus 32 bps, respectively. This can be expected in down markets.

Exhibit 2: Performance of the Five Factors in Japan						
Period	S&P Japan 500 Low Volatility Index	S&P Enhanced Value Japan LargeMidCap Index	S&P Quality Japan LargeMidCap	S&P Momentum Japan LargeMidCap	S&P Japan 500 Buyback Index	S&P Japan BMI
Cumulative Return (%)						
1-Month	-5.99	-14.37	-7.71	-6.44	-10.57	-9.41
2-Month	-3.87	-12.51	-4.22	-2.91	-7.49	-6.79
3-Month	-5.16	-12.65	-5.11	-3.79	-8.49	-7.22
1H 2016	-11.70	-27.39	-13.48	-14.04	-17.96	-18.00
Annual Return (%)						
1-Year	-9.77	-33.22	-19.13	-15.92	-20.22	-21.48
3-Year	10.83	1.06	9.06	5.96	7.90	5.34
5-Year	15.57	6.07	12.19	10.91	12.21	10.36
10-Year	4.64	2.32	1.76	-3.29	1.23	-0.48
Annual Volatility (%)						
3-Year	12.07	20.85	16.68	17.64	17.32	16.91
5-Year	14.39	21.65	17.50	19.45	17.90	18.46
10-Year	13.61	23.00	19.55	20.55	18.16	19.23
Annual Return/Annual Volatility						
3-Year	0.90	0.05	0.54	0.34	0.46	0.32
5-Year	1.08	0.28	0.70	0.56	0.68	0.56
10-Year	0.34	0.10	0.09	-0.16	0.07	-0.02
12-Month Maximum Drawdown (%)						
10-Year	-25.61	-46.77	-49.62	-55.51	-42.90	-46.32

Source: S&P Dow Jones Indices LLC. Index performance based on total returns in JPY. Data from March 31, 2006, to June 30, 2016. 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	
Cumulative Returns (%)											
1-Month	-8.90	-11.52	-11.65	-6.38	-9.66	-9.75	-9.47	-9.59	-9.45	-9.41	
2-Month	-6.33	-9.09	-9.48	-4.58	-7.21	-7.43	-6.37	-6.94	-6.94	-6.79	
3-Month	-7.20	-9.42	-9.84	-5.46	-7.50	-7.78	-6.89	-7.39	-7.33	-7.22	
1H 2016	-17.95	-22.07	-22.12	-11.17	-19.36	-19.33	-17.34	-18.54	-18.21	-18.00	
Annual Return (%)											
1-Year	-18.93	-26.41	-26.32	-10.07	-23.55	-23.41	-21.56	-21.97	-21.74	-21.48	
3-Year	7.06	3.21	3.96	9.69	3.11	4.11	6.25	5.25	5.19	5.34	
5-Year	12.17	8.76	9.31	13.67	8.02	9.57	11.73	10.27	10.22	10.36	
10-Year	1.80	-0.10	0.35	3.01	-	-0.75	1.80	-0.49	-0.40	-0.48	
Annual Volatility (%)											
3-Year	15.33	18.58	18.89	13.11	17.08	17.66	18.01	17.19	17.04	16.91	
5-Year	16.97	20.22	20.24	14.86	18.03	19.17	18.95	18.68	18.58	18.46	
10-Year	17.19	20.74	20.68	14.97	-	19.78	20.59	19.24	19.30	19.23	
Annual Return/Annual Volatility											
3-Year	0.46	0.17	0.21	0.74	0.18	0.23	0.35	0.31	0.30	0.32	
5-Year	0.72	0.43	0.46	0.92	0.44	0.50	0.62	0.55	0.55	0.56	
10-Year	0.10	0.00	0.02	0.20	-	-0.04	0.09	-0.03	-0.02	-0.02	
12-Month Maximum Drawdown (%)											
10 Years	-40.70	-45.89	-46.20	-34.31	-	-47.11	-47.84	-45.69	-46.29	-46.32	

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 March 31, 2006 to June 30, 2016. 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.

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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 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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