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S&P GIVI[®] Japan and Major Single Factors July 2017

S&P GIVI JAPAN PERFORMANCE

The <u>S&P GIVI (Global Intrinsic Value Index) Japan</u> underperformed its benchmark index, the <u>S&P</u> <u>Japan BMI</u>, by 1.10% in the second quarter of 2017.¹ Since its launch in March 2012, the S&P GIVI Japan has outperformed its benchmark index by 0.89% per year, with a tracking error of 2.39%.

After weakening in early April, the Japanese market trended upward for most of the second quarter to end 6.4% higher, as measured by the S&P Japan BMI. The Japanese yen was volatile throughout the period, reflecting global uncertainty, but ended on a softer note against most major currencies.

There was no clear pattern to sector performance. Energy was the worst-performing sector, due to weaker oil prices. Other sectors showed a mixed performance, with information technology and consumer staples gaining, while consumer discretionary lagged.

In this quarter, the underperformance of the S&P GIVI Japan against the benchmark can be attributed to overweighting consumer discretionary, underweighting information technology, and the selection effects within all sectors other than industrials and materials. The low beta and intrinsic value legs underperformed the benchmark for the quarter by 37 bps and 77 bps, respectively.

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S&P Dow Jones Indices' Market Attributes[®] series provides market commentary highlighting developments across various asset classes.

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 Attributes										
PERFORMANCE AS OF JUNE 30, 2017		GROSS TOTAI	L 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 2017	5.27	5.60	6.00	6.37	-1.10	-0.77	-0.37			
Q1 2017	-0.29	-0.10	0.13	0.47	-0.77	-0.57	-0.34			
H1 2017	4.96	5.50	6.14	6.87	-1.92	-1.37	-0.73			
Since March 2012 (Annualized)	15.98	15.30	15.82	15.09	0.89	0.21	0.73			
PERFORMANCE SINCE LAUNCH (ANNUALIZED AGAINST THE S&P JAPAN BMI)										
Volatility (%)	16.01	17.86	15.49	17.14	-	-	-			
Return/Volatility	1.00	0.86	1.02	0.88	-	-	-			
Tracking Error (%)	2.39	1.95	3.08	-	-	-	-			
Alpha (%)	1.76	-0.25	2.07	-	-	-	-			
Beta	0.93	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 June 30, 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 $Ri,t = \alpha + \beta \cdot RBMI,t + \epsilon t$; where Ri,t is the index return series and RBMI,t is the benchmark index return series.

Longest Peak-to-Trough Decline Relative to Benchmark

The drawdown of the S&P GIVI Japan relative to its benchmark continued its slow yet steady decline during the quarter. Looking at the number of months from peak to trough, the current drawdown has been going on for 17 months, starting in January 2016, and it is the longest one in the index's history since its first value date on Dec. 31, 1999. In terms of magnitude, it ended June 2017 down 3.19%, the fourth-largest drawdown historically (see Exhibit 2).

The value bias of the S&P GIVI Japan is illustrated in Exhibit 3, which shows selected valuation time series of S&P GIVI Japan and S&P Japan BMI. It is worth noting that while the S&P GIVI Japan trades at a lower price relative to the S&P Japan BMI the majority of time, in January 2017, the divergence in price-to-earnings ratio between the two indices widened to the highest level of the past five years.

Exhibit 2: Periods of Underperformance of the S&P GIVI Japan Relative to the S&P Japan BMI								
CATEGORY	LARGEST DRAWDOWN	LARGEST SECOND-LARGEST THIRD DRAWDOWN DRAWDOWN DF		FOURTH-LARGEST DRAWDOWN				
Drawdown	-8.33%	-5.73%	-4.44%	-3.19%				
Peak Date	April 03	June 05	Feb. 09	Jan. 16				
Trough Date	Oct. 03	Dec. 05	Dec. 09	June 17				
End Date	March 05	March 07	Aug. 11	-				
Number of Months From Peak to Trough	6	6	10	17				
Recovery Length (Number of Months)	17	15	20	-				

Source: S&P Dow Jones Indices LLC. Index performance is based on total returns in JPY. Data from Dec. 31, 1999, to June 30, 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.



Exhibit 3: Periods of Underperformance of the S&P GIVI Japan Relative to the S&P Japan BMI

Source: S&P Dow Jones Indices LLC. Index performance is based on total returns in JPY. Data from Dec. 31, 1999, to June 30, 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. Dividend yield, price to book, price to earnings, and return to equity are all based on trailing 12-month data.

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 <u>S&P Japan 500 Low Volatility Index</u>.
- Value: Represented by the <u>S&P Enhanced Value Japan LargeMidCap Index</u>.
- Momentum: Represented by the <u>S&P Momentum Japan LargeMidCap</u>.
- Quality: Represented by the <u>S&P Quality Japan LargeMidCap</u>.
- Buyback: Represented by <u>S&P Japan 500 Buyback Index</u>.

The Japanese equities market gained 6.4% in the second quarter of 2017, and single-factor returns had a low dispersion. The low volatility, quality, and buyback indices were able to outperform the benchmark, the <u>S&P Japan BMI</u>, with the low volatility index outperforming by 2.81%, the quality index outperforming by 1.89%, and the buyback index outperforming by 1.67%. The low volatility index performed well, as it rebounded from the relative lows seen at the end of February 2017. On the other hand, the enhanced value and momentum indices underperformed the benchmark this quarter by 41 bps and 14 bps, respectively.

MARKET ATTRIBUTES

Over the three-year period ending June 30, 2017, the quality factor was the top performer in terms of absolute return, followed by the low volatility factor. The quality index outperformed the benchmark by 3.61% per year. In terms of risk-adjusted return, the low volatility factor was the top performer over the same period. The index's volatility was 12.4%, versus 15.8% for the benchmark. As a result, its annual risk-adjusted return was higher than that of the benchmark—105 bps versus 66 bps, respectively.

Exhibit 4: 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	2.14	4.75	1.83	2.28	1.74	2.74			
2-Month	7.20	4.95	6.74	5.60	5.64	5.14			
3-Month	9.18	5.96	8.26	6.23	8.04	6.37			
ANNUAL RETURN (%)									
1-Year	22.77	48.77	34.45	12.93	34.44	31.21			
3-Year	12.96	8.96	14.06	7.15	12.49	10.45			
5-Year	19.37	17.22	20.72	14.32	20.00	18.30			
10-Year	5.50	3.73	2.75	-3.30	3.65	1.01			
ANNUAL VOLATILITY (%)									
3-Year	12.35	22.14	16.01	15.23	16.75	15.75			
5-Year	13.13	20.46	15.67	16.98	16.35	16.24			
10-Year	13.73	23.39	19.62	20.58	18.42	19.36			
ANNUAL RETURN/ANNUAL VOLATILITY									
3-Year	1.05	0.40	0.88	0.47	0.75	0.66			
5-Year	1.48	0.84	1.32	0.84	1.22	1.13			
10-Year	0.40	0.16	0.14	-0.16	0.20	0.05			
12-MONTH MAXIMUM DRAWDOWN (%)									
10-Year	-36.14	-54.09	-58.18	-69.80	-51.61	-56.86			
Source S&P Dow	Lange Indiage LLC	Index performance b	and an total raturn	n in IDV Data from	lung 20, 2007 to lun	0.20 2017 Doot			

Source: S&P Dow Jones Indices LLC. Index performance based on total returns in JPY. Data from June 30, 2007, to June 30, 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 5: Performance of Smart Beta Indices and Benchmarks in Japan										
	SMART BETA INDICES IN JAPAN				BENCHMARKS IN JAPAN					
PERIOD	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	ΤΟΡΙΧ	MSCI JAPAN IMI	S&P JAPAN BMI
CUMULATIVE RETURNS (%)										
1-Month	2.22	3.38	3.50	1.56	2.69	2.70	2.14	2.96	2.68	2.74
2-Month	4.14	4.24	4.21	5.05	4.84	4.96	4.56	5.42	5.06	5.14
3-Month	5.27	5.15	5.08	6.07	6.15	6.10	6.15	6.76	6.33	6.37
ANNUAL RETURN (%)										
1-Year	28.46	38.17	37.84	19.94	27.59	30.97	31.07	32.22	31.04	31.21
3-Year	11.26	10.55	9.81	12.29	7.77	9.59	11.73	10.72	10.34	10.45
5-Year	18.91	18.66	18.45	17.54	15.38	17.64	19.48	18.34	18.20	18.30
10-Year	2.81	1.56	1.65	3.19	-0.67	0.46	2.85	1.07	1.01	1.01
ANNUAL VOLATILITY (%)										
3-Year	14.55	18.18	18.68	12.29	16.19	16.57	16.35	16.07	15.86	15.75
5-Year	15.09	18.16	18.27	13.48	16.15	16.85	16.72	16.45	16.34	16.24
10-Year	17.32	21.03	20.97	15.02	20.97	19.90	20.74	19.38	19.42	19.36
ANNUAL RETURN/ANNUAL VOLATILITY										
3-Year	0.77	0.58	0.53	1.00	0.48	0.58	0.72	0.67	0.65	0.66
5-Year	1.25	1.03	1.01	1.30	0.95	1.05	1.17	1.12	1.11	1.13
10-Year	0.16	0.07	0.08	0.21	-0.03	0.02	0.14	0.06	0.05	0.05
12-MONTH MAXIMUM DRAV	NDOWN (%)								
10-Year	-50.60	-55.08	-56.28	-44.39	-57.54	-57.27	-57.22	-56.23	-56.72	-56.86

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 June 30, 2007, to June 30, 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.

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 <u>www.spdji.com</u> 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. Backtested 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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