

S&P Dow Jones Indices

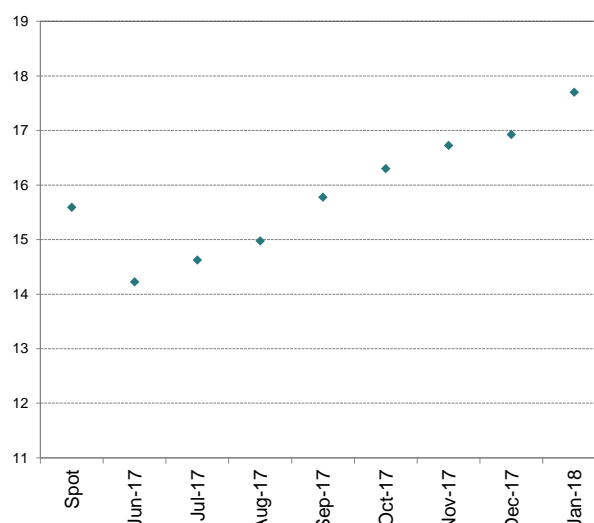
A Division of **S&P Global**

Index Dashboard: Risk & Volatility May 18, 2017

VOLATILITY MEASURES				
Implied Volatility Measures	VIX	1m ±	200D Ave	RLZ (1Yr)
CBOE Volatility Index® (VIX®)	15.59	+ 0.66	12.87	9.94
CBOE Short-Term Volatility Index (VXST)	20.17	+ 3.97	11.89	9.94
CBOE 3-month Volatility Index (VXV)	15.60	+ 0.52	15.30	9.94
CBOE DJIA Volatility Index (VXD)	13.70	-0.66	12.69	9.66
VSTOXX® (V2X)	16.14	-8.06	18.04	15.13
S&P/ASX 200 VIX (A-VIX)	12.48	-1.16	13.03	11.70
S&P/TSX 60 VIX (VIXC)	14.64	+ 0.23	13.06	9.70
HSI Volatility Index (VHSI)	12.84	-2.72	15.81	14.28
CBOE/CME FX Yen Volatility (JYVIX)	10.40	-0.54	11.81	11.60
CBOE/CME FX GBP Volatility (BPVIX)	7.28	-2.31	9.76	13.49
CBOE/CME FX Euro Volatility (EUVIX)	8.48	-3.67	8.83	7.73
CBOE / CBOT 10Yr US Tsy (TYVIX)	5.00	-0.74	5.22	4.54
CBOE Interest Rate Swap (SRVIX)	82.97	-2.19	86.12	81.44
S&P/JPX JGB VIX® (SPJGB)	1.78	-0.15	2.37	2.01
CBOE Gold ETF Volatility Index (GVX)	13.03	-1.47	14.97	13.60
CBOE Oil ETF Volatility Index (OVX)	33.90	+ 4.09	34.53	32.35
CBOE VIX of VIX (VVIX)	111.48	+ 13.59	89.16	123.18
Investable Volatility	1m ±	YTD	12m ±	
S&P Daily Inverse Short-Term VIX	4.23%	44.72%	146.37%	
CBOE S&P 500 Buy-write Index	1.59%	5.03%	12.83%	
S&P 500 Stock Covered Call Index	0.93%	5.05%	13.38%	
S&P 500 VEQTOR Switch Index	0.67%	6.22%	20.09%	
S&P 500 Dynamic VEQTOR Index	-0.24%	3.84%	3.91%	
S&P Dynamic VIX Index	-1.48%	-9.43%	-9.84%	
S&P VIX Mid-Term Futures Index	-2.19%	-25.93%	-42.43%	
S&P VIX Short-Term Futures Index	-8.44%	-36.70%	-73.97%	
S&P 500	0.81%	5.28%	15.13%	

HEDGING COSTS

VIX Futures Term Structure



VIX Futures Indices Roll Costs (Monthly)

Short-term futures	2.81%
Mid-term futures	3.61%

REALIZED MEASURES

S&P 500 Correlations (Month-end)	1 Year	3 Year	10 Year
S&P Europe 350	0.32	0.76	0.88
S&P 500 Bond	-0.04	0.19	0.36
S&P GSCI Commodity	-0.13	0.26	0.52
U.S. Dollar Index	0.04	-0.13	-0.50
S&P 500 Single Stocks	21-Day	12M Ave	3Y Ave
Dispersion (annualized)	19.41	18.33	18.58
Volatility (annualized)	17.92	18.26	20.77
Correlation (pairwise)	0.22	0.26	0.35

COMMENTARY

- After several months of suppressed equity volatility, VIX responded dramatically to a sudden recalibration in the U.S. political environment, closing last night at 15.59 after rising 46% over a single day's trading.
- Despite the somewhat gradual escalation in pressure on the Trump administration over the past few months, the equity markets were taken by surprise. As recently as last week VIX was near its all-time lows; on Monday and Tuesday it finished in single digits for only the tenth and eleventh time ever.
- The VIX term structure would suggest that the market is digesting a one-time repricing, as opposed to a structural change in the risk regime. The one-week VXST closed considerably higher at 20, while the first VIX future closed more than a point below VIX. Repeating the pattern observed in the immediate aftermath of the presidential election, dispersion rose while correlations remained muted: the so-called "Trump trade" was one that emphasized some sectors and business over others, instead of an overall market outlook.
- Elsewhere, our report indicates the significant drop in European volatility that occurred after the French presidential election, with the VSTOXX dropping a whopping eight points to close at 16.14.
- In fact, with the European political situation looking more secure, and despite the U.S. intrigue, most of our reported volatility measures are down this month.

Sources: S&P Dow Jones Indices LLC and/or its affiliates, CBOE, U.S. Federal Reserve (Dollar index and 10Yr Swap Rate), all as of May 17, 2017. **Volatility measures:** respective VIX and changes in those levels April 19, 2017 to May 17, 2017. 200D Average is the moving average based on trading days, colour coded by whether current respective VIX is above or below average. 1 year realized volatility calculated according to previous 1 years daily returns, annualised. **Investable Index performance** based on total return. **Index Correlations** of monthly returns between total return indices, in USD to month-end Apr 2017. **Stock Correlations, Dispersion and Volatility** based on index-weighted averages, as of May 17, 2017. VIX futures **monthly roll costs** are expressed as the weighted sum of the percentage difference in price between each future and the future next closer to expiry, expressed as a fraction of that futures price and weighted according to that future's weight in the either the S&P VIX Short-Term Futures Index, or the S&P VIX Mid-Term Futures Index, as appropriate. Charts and graphs are provided for illustrative purposes. Past performance is no guarantee of future results. For more information, please visit our website at www.spdji.com

About the VIX® Network

The VIX Network is an association of exchanges and index providers dedicated to establishing standards that help investors understand, measure, and manage volatility. The Network's members have obtained, from Chicago Board Options Exchange ("CBOE") and its partner S&P Dow Jones Indices ("S&P DJI"), the rights to use the methodology of the CBOE Volatility Index ("VIX") to calculate their own volatility indices. In addition to CBOE and S&P DJI, members include: Australian Securities Exchange, CME Group, Deutsche Borse AG, Hang Seng Indexes in Hong Kong, National Stock Exchange of India, LIFFE, Taiwan Futures Exchange, and the TMX Group in Canada.

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Prospective application of the methodology used to construct the index(es) as well as revisions to economic data 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(es). Please refer to the index methodology for the particular index in question, available at www.spdji.com, for more details about such 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.

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