

S&P Dow Jones Indices

A Division of **S&P Global**

INDEX INVESTMENT STRATEGY

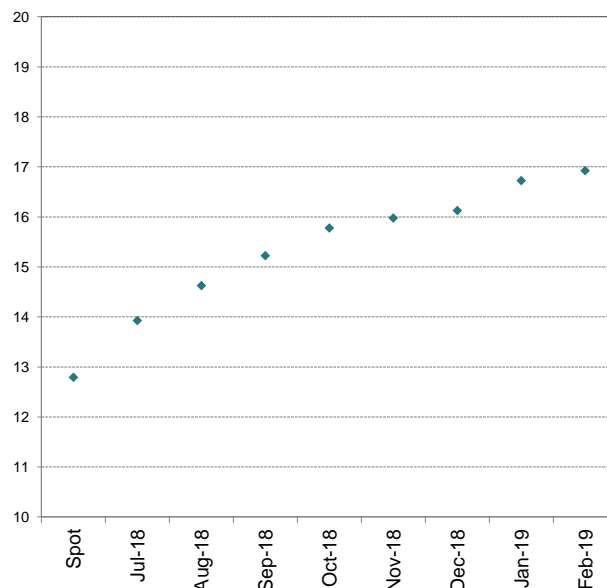
Index Dashboard: Risk & Volatility June 20, 2018

VOLATILITY MEASURES

Implied Volatility Measures	VIX	1m ±	200D Ave	Realized 1Yr
CBOE Volatility Index® (VIX®)	12.79	-0.63	13.88	12.49
CBOE Short-Term Volatility Index (VXST)	12.16	-0.20	13.48	12.49
CBOE 3-month Volatility Index (VXV)	14.79	-0.35	15.41	12.49
CBOE 1-Year Volatility (VIX1Y)	17.77	0.30	17.87	12.49
CBOE DJIA Volatility Index (VXD)	14.47	-0.15	14.54	13.46
VSTOXX® (V2X)	13.98	0.41	14.67	10.66
S&P/ASX 200 VIX (A-VIX)	11.94	0.59	12.50	9.77
S&P/TSX 60 VIX (VIXC)	11.67	-0.85	12.90	8.06
HSI Volatility Index (VHSI)	17.86	-0.25	17.68	16.25
CBOE/CME FX Yen Volatility (JYVIX)	7.60	0.22	8.53	6.98
CBOE/CME FX GBP Volatility (BPVIX)	8.24	0.34	8.35	7.78
CBOE/CME FX Euro Volatility (EUVIX)	8.26	0.51	7.48	7.43
CBOE / CBOT 10Yr US Tsy (TYVIX)	3.79	-0.29	4.09	3.65
CBOE Interest Rate Swap (SRVIX)	72.34	0.39	71.36	71.01
S&P/JPX JGB VIX® (SPJGB)	1.25	-0.05	1.57	1.07
CBOE Gold ETF Volatility Index (GVZ)	11.08	-0.69	11.82	9.77
CBOE Oil ETF Volatility Index (OVX)	28.06	2.33	26.03	23.78
CBOE VIX of VIX (VVIX)	98.51	3.72	100.85	149.45
Investable Volatility	1m ±	YTD	12m ±	
S&P Daily Inverse Short-Term VIX	8.76%	-94.73%	-91.62%	
S&P 500 VEQTOR Switch Index	2.03%	0.34%	11.49%	
S&P 500 Stock Covered Call Index	1.79%	3.54%	12.20%	
CBOE S&P 500 Buy-write Index	1.10%	2.81%	8.40%	
S&P 500 Dynamic VEQTOR Index	0.21%	5.14%	14.52%	
S&P Dynamic VIX Index	-1.81%	-17.67%	-22.55%	
S&P VIX Mid-Term Futures Index	-4.81%	2.21%	-21.93%	
S&P VIX Short-Term Futures Index	-10.23%	14.17%	-36.50%	
S&P 500	1.65%	3.50%	13.55%	

HEDGING COSTS

VIX Futures Term Structure



VIX Futures Indices Roll Costs (Monthly)

Short-term futures	5.03%
Mid-term futures	1.92%

REALIZED MEASURES

S&P 500 Correlations (Month-end)	1 Year	3 Year	10 Year
S&P Europe 350	0.67	0.76	0.88
S&P 500 Bond	0.20	0.25	0.36
S&P GSCI Commodity	0.53	0.24	0.62
U.S. Dollar Index	-0.44	-0.13	-0.57
S&P 500 Single Stocks	21-Day	12M Ave	3Y Ave
Dispersion (annualized)	21.35%	19.35%	19.22%
Volatility (annualized)	19.49%	20.78%	21.33%
Correlation (pairwise)	0.18	0.22	0.25

COMMENTARY

- Fears of an escalating global trade war may be dominating the headlines, but they have not unduly impacted U.S. equity markets. VIX closed last night at 12.79, down 0.63 since our last report.
- Currency volatilities are on the rise, however. Each of the euro, pound sterling and Japanese yen volatility measures have ticked up since our last report, with the euro-based EUVIX increasing the most. As well as trade uncertainty, a rift over migration policy is testing Germany's coalition government, while recent Eurozone economic growth figures have underwhelmed.
- With an OPEC meeting due this Friday, and with U.S. energy exports offering a potential target for Chinese tariffs, oil volatility was another gainer this month. The OVX rose by 2.33 points to 28.06, bringing it back above its trailing average.
- Despite the relatively low VIX level, the VIX futures curve is unusually flat – only 5% separates the front and front-next future. The continued moderately high dispersion and low correlation in U.S. equities may provide a clue as to why: the major recent risk trends and themes have been creating both relative winners and losers in equities. With stronger diversification effects in place, U.S. equity benchmark volatility may be at less risk of a spike in the near term.

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 June 20, 2018. **Volatility measures:** respective VIX and changes in those levels May 16, to June 20, 2018. 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 May 2018. **Stock Correlations, Dispersion and Volatility** based on index-weighted averages as of June 20, 2018. 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

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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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