

Volatility Traders Positioning for Increased Market Stability

Weekly Market Commentary

Equity vs Cross-Asset Volatility: Although trading across all risk assets was driven but a common set of high-impact macro risk factors last week, equity volatility market action uncharacteristically diverged from that of the other major asset classes. As shown in Exhibit 1, the US and other developed market equity volatilities demonstrated a material "spot down/ vol down" inverse skew dynamic vs the typical "spot down/ vol up" relationship. In the US for example, the VIX® Index fell 1.6pts wk/wk even as the S&P-500® Index declined -2.3%. By contrast, the primary benchmarks across rates, commodities and credit all reflected an expected heightened level of risk and volatility as the onslaught of monetary and trade policies roiled the markets. We believe this unusual occurrence can best be explained using a stochastics oscillation framework whereupon volatility divergences stem from differing sensitivities of risk assets to short vs. long term risks. Specifically, volatility in the equities markets in the latter half of last week embodied the attributes of a "fast" stochastic and was calibrated to the immediate risk of the now-averted US government shutdown. Conversely, cross-asset volatilities embodied the attributes of a "slow" stochastic and reflected the persistent economic risks due to inflationary concerns and President Trump's unpredictable tariff policy. As a result, credit volatility has rallied to 98th percentile highs as spreads continue to widen and demand for upside calls on gold has propelled GLD volatility from 55th to 83rd percentile highs as the safe haven asset sets new highs.

Skew: The VIX® Index has significantly underperformed the skew by 3.2 pts over the last week. (On the back of last week's S&P net decline of -2.2%, the VIX Index was expected to have risen 1.5pts to 25 instead of falling to 21.8). As shown in Exhibit 2, this VIX underperformance is due to a flattening in the S&P skew from an 83rd percentile high to its 1-year mean.

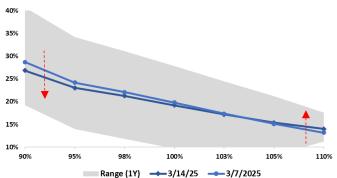
Vol of Vol: The near doubling in VIX from 15 to 28 in recent weeks has triggered a 30% increase in realized vol-of-vol. Interestingly, the VVIX Index which typically tracks the ebbs and flows of realized vol-of-vol has been moving in the opposite direction and has fallen 30% to 98 over the last week. (Exhibit 3). Given that the VVIX Index is widely interpreted as the market's forecast for vol-of-vol and serves as a proxy for the demand for VIX (call) options, this suggests that 1) volatility traders are currently positioning for the VIX to stabilize near current levels and 2) the abovementioned S&P skew flattening was driven by the unwind of S&P puts rather than as a source of funding for upside convexity via VIX calls.

Exhibit 1: Equities: Spot Down/ Vol Down

	Ticker	1M Implied Vol	Wkly Chg	Percentile (1Y)	1M Realized Vol	Implied- Realized Spread	Percentile (1Y)
	SPX	19.2	- 0.6	96	20.6	-1.4	35
	S RTY	24.8	-1.2	90	23.5	1.4	57
	QQQ	23.8	-0.3	93	27.4	-3.6	18
	SX5E	17.8	-0.6	96	19.8	-2.0	23
1	DAX MXEF MXEA EWZ	19.9	-1.1	98	28.1	-8.2	0
	MXEF	18.7	1.1	87	18.2	0.5	23
	MXEA	16.9	1 2.4	94	15.2	1.7	62
	E WZ	29.5	7.4	87	28.1	1.4	18
	FXI	30.7	-1 .9	75	33.9	-3.2	29
	USO	30.7	1 2.4	41	26.3	4.4	34
1	GLD	16.0	0.9	78	14.8	1.2	59
	Š TLT	14.5	1 0.3	66	14.1	0.4	58
	GLD TLT IEF	11.8	1.6	93	6.7	5.1	92
ď	5 LQD	7.1	1 0.7	44	6.0	1.1	75
	HYG	5.6	1 0.5	70	4.9	0.8	63
Sour	rce: Cboe, Bloomber	4					

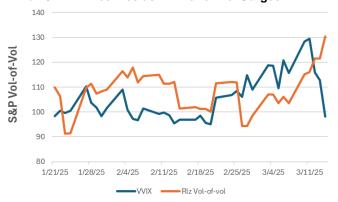
Source: Bloomberg, CBOE

Exhibit 2: S&P Skew Flattened on -2.2% S&P Decline



Source: CBOE

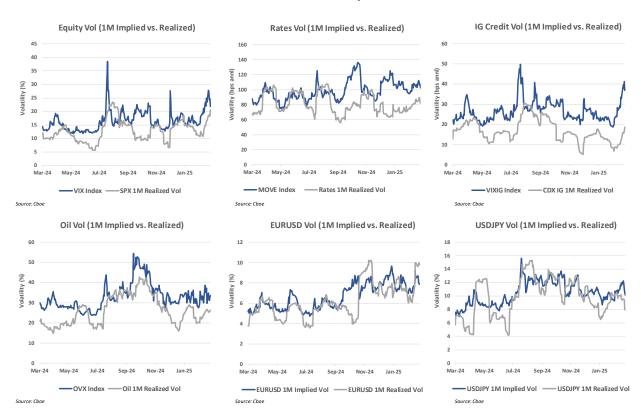
Exhibit 3: VVIX Declines as RIz Vol-of-Vol Surges



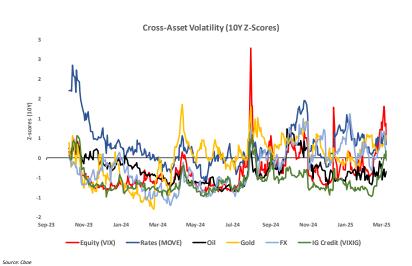
Source: Cboe



Cross-Asset Volatility Monitor



Cross-Asset Volatility Snapshot (10Y Lookback)



How to read this chart:

The chart shows how various asset class implied volatilities are trading relative to their own history, using a 10-year lookback.

The volatilities are ranked by z-scores, which compares the current volatility level for an asset versus its own 10-year history. A z-score of 42, for example, would mean that the current volatility level is trading 2 standard deviations above its long-term average (i.e. rich) while a z-score of -2 would mean it's trading 2 standard deviations below average (i.e. cheap)

Because each asset class volatility trades at different levels and often defined differently (e.g. lognormal vs. normal vol., price vs. bps vol), by standardizing using zscores, we're able to compare different asset class volatilities on the same scale - and see at a glance if there are any divergences or dislocations in the cross-asset volatility markets

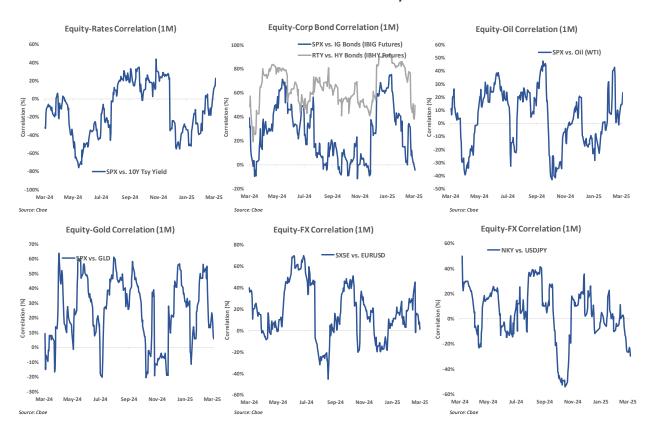


Cross-Asset Correlation Matrix (1M)

		Equities				Corporate Credit			Rates			Commodities			Foreign Exchange			
		SPX	RTY	SX5E	NKY	MXEF	IBIG (\$IG)	IBHY (\$HY)	CDX IG	CDX HY	Tsy 10Y	Tsy 30Y	Oil	Gold	Copper	EURUSD	USDJPY	GBPUSI
	SPX																	
es	RTY	94%																
Equities	SX5E	44%	34%															
8	NKY	-26%	-25%	48%														
	MXEF	17%	17%	57%	51%													
a	IBIG (\$IG Bonds)	-4%	-12%	-12%	-18%	-26%												
Corporate Credit	IBHY (\$HY Bonds)	57%	50%	5%	-30%	-5%	53%											
d S	CDX IG	-88%	-84%	-24%	31%	-9%	-18%	-82%										
٥	CDX HY	-87%	-86%	-16%	40%	-2%	-16%	-80%	98%									
Rates	Tsy 10Y	23%	35%	-21%	-6%	27%	-54%	13%	-30%	-32%								
. g	Tsy 30Y	15%	26%	-28%	-6%	21%	-56%	10%	-22%	-24%	99%							
odi-	Oil	23%	33%	-18%	-4%	-12%	-46%	16%	-30%	-34%	54%	56%						
Commodi	Gold	6%	6%	11%	29%	15%	-6%	-9%	-7%	-5%	37%	30%	4%					
Ŝ	Copper	5%	9%	45%	40%	31%	-30%	-29%	15%	18%	13%	10%	-16%	31%				
gn ige	EURUSD	13%	16%	9%	0%	17%	23%	33%	-26%	-26%	18%	15%	-35%	26%	37%			
Foreign Exchange	USDJPY	25%	33%	-27%	-29%	-19%	-33%	15%	-30%	-33%	53%	51%	48%	0%	-29%	-42%		
R R	GBPUSD	15%	16%	25%	7%	17%	26%	29%	-28%	-27%	8%	2%	-26%	42%	44%	90%	-50%	

Source: Choe

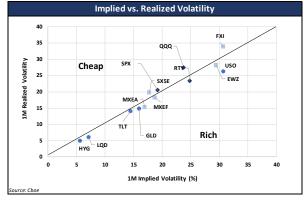
Cross-Asset Correlation Analysis

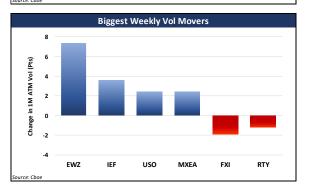


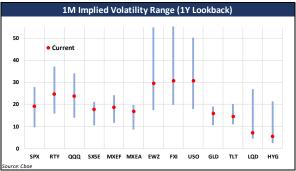


Macro Equity Volatility

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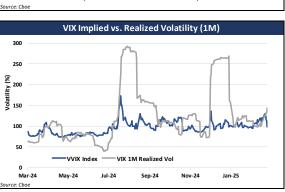




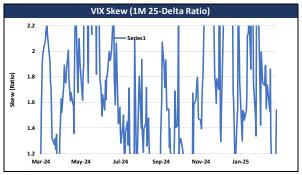


VIX Index Volatility









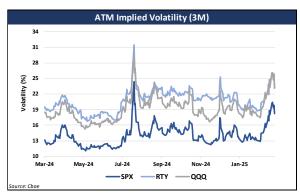
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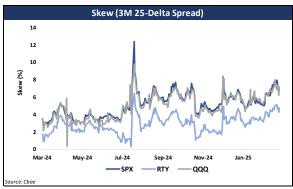
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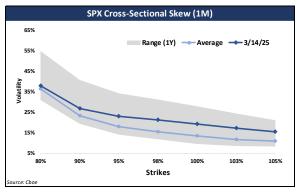
US Index Volatility

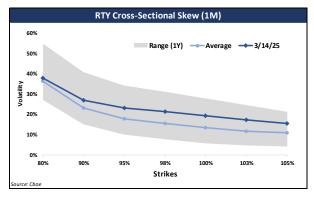


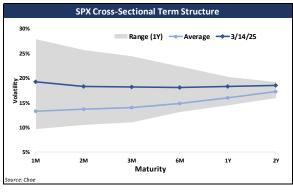


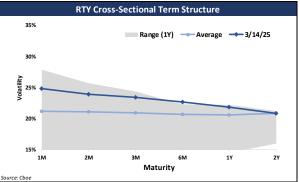












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