

Charlie McElligott

Managing Director Cross-Asset Strategy Global Equity Derivatives

NOMURA

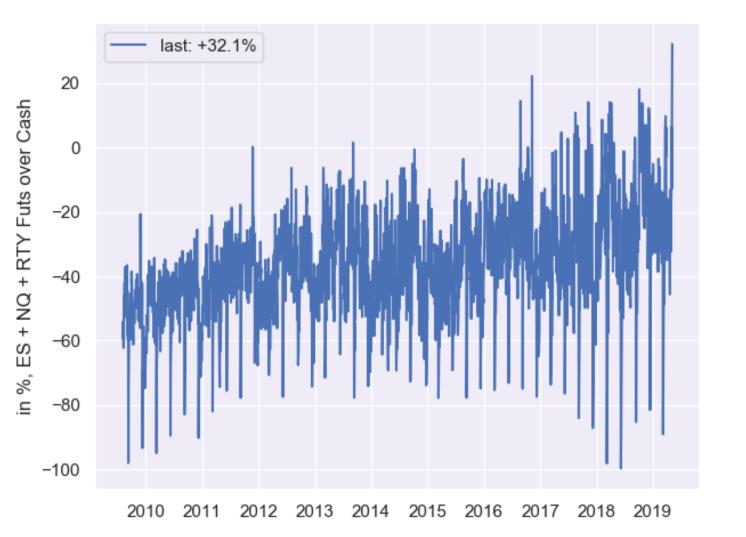
May 7th Unwind was Futures-driven (% over Cash notional):

This likely confirms both my key risks highlighted Sunday night after the Trump Tariff tweet: that

1) profit-taking / de-risking from the massive Asset Manager "Long" in US Eq futs and

2)the heightened likelihood of CTA deleveraging through "sell triggers" on the gap lower were most likely responsible for Tuesday's selloff;

To show this, we measured the US Eq Futures notional volume traded (combined SPX, NDX, RTY) vs the Cash notional volume at 1.32 x's (a 3 z-score move when looking at the ratio):



Futures positioning Asset Mgr "Long" in US Eq (chart and table):



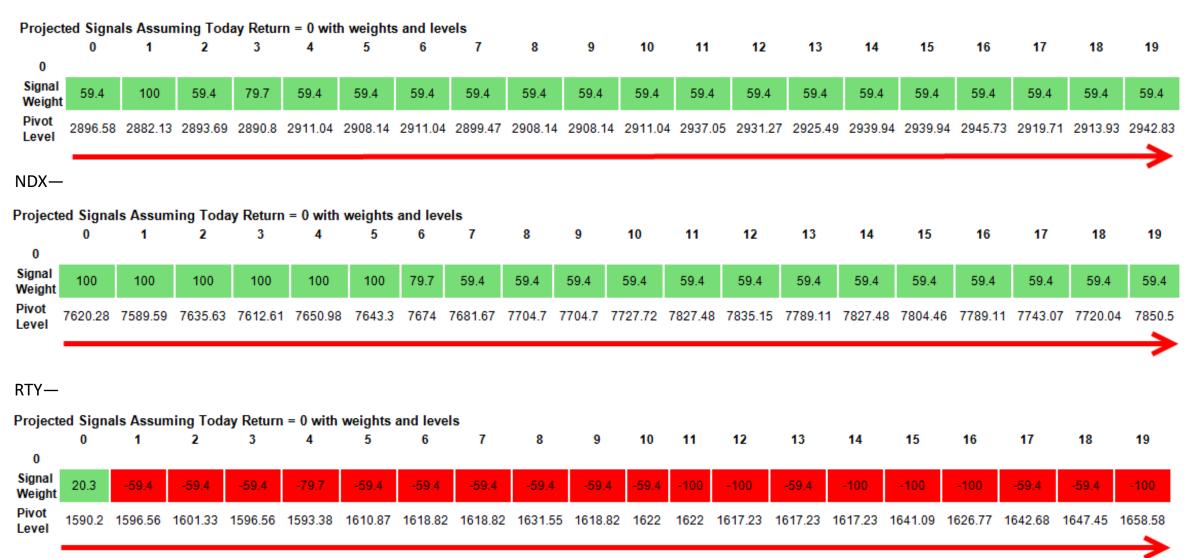
	SPX			NDX			RTY			AM Combined Net			
	Long	Short	Net	Long	Short	Net	Long	Short	Net	SPX	NDX	RTY	Total
1w	0.8	1.5	-0.8	0	-0.2	0.2	0.6	0.2	0.4	-0.8	0.2	0.4	-0.2
2w	2.3	5.4	-3.1	0.3	1	-0.7	1.2	0.1	1.1	-3.1	-0.7	1.1	-2.7
1m	11	3.7	7.3	0.9	1.6	-0.7	1.3	-1.3	2.6	7.3	-0.7	2.6	9.2
2m	28.4	2.8	25.6	2.5	-1.3	3.8	-1.3	-1.9	0.6	25.6	3.8	0.6	30
3m	40.9	9.7	31.2	4.8	0.9	3.9	3.3	1.9	1.4	31.2	3.9	1.4	36.5
6m	49.9	-18.2	68.1	4.3	-1.8	6	2.1	2.1	0.1	68.1	6	0.1	74.2
YTD	56.6	3.1	53.5	5.6	0	5.6	6.1	2.8	3.3	53.5	5.6	3.3	62.4

Current CTA model for SPX position / spot level across lookback periods:

PositionBySpotLe	vel - S&P 500			Today			Tomorrow Today's Return=0				
WindowName	WindowDays	Loading	NormLoading	Indicator	Signal	Weight	Indicator	Signal	Weight		
2W	11	0.00	0.0%	-0.7%	-1	0.0%	-1.6%	-1	0.0%		
1M	22	0.95	20.3%	-0.1%	-1	-20.3%	-0.2%	-1	-20.3%	1	
зм	66	0.00	0.0%	6.0%	1	0.0%	5.6%	1	0.0%		
6M	130	0.00	0.0%	5.2%	1	0.0%	3.1%	1	0.0%]	
1Y	260	3.72	79.7%	8.5%	1	79.7%	7.5%	1	79.7%		
Total		4.67	100.0%			59.4%			59.4%		
Indicator	Indicator	Indicator	1								
Return=0	Return=Step	Return=-Step								I 1	
-1.6%	-1.6%	-1.6%									
-0.2%	-0.2%	-0.2%	1								
5.6%	5.6%	5.6%	1							I .	
3.1%	3.1%	3.1%	-							I	
7.5%	7.5%	7.5%]							I 1	
			-								
Today's return	2W	1M	3M	6M	1Y	Position	Level	LastEOD	CurrentLevel	st. No	
-7.5%	-1	-1	-1	-1	-1	-100.0%	2 672 46	1			
						-100.0%	2,673.46			59	
-7.5%			-1	-1	0	-20.3%	2,673.75			•	
-7.5% -7.5%	-1 -1	-1		-1						59	
	-1		-1			-20.3%	2,673.75			59 0.	
-7.5%	-1 -1	-1 -1	-1 -1	-1 -1		-20.3% 59.4%	2,673.75 2,674.04			59 0. 0.	
-7.5% -5.6%	-1 -1 -1	-1 -1 -1	-1 -1 -1	-1 -1 -1		-20.3% 59.4% 59.4%	2,673.75 2,674.04 2,727.96			59 59 0. 0. 0. 0.	
-7.5% -5.6% -5.6%	-1 -1 -1 -1	-1 -1 -1 -1	-1 -1 -1	-1 -1 -1 -1		-20.3% 59.4% 59.4% 59.4%	2,673.75 2,674.04 2,727.96 2,728.24			59 0. 0. 0.	
-7.5% -5.6% -5.6% -5.6%	-1 -1 -1 -1 -1	-1 -1 -1 -1 -1 -1 -1	-1 -1 -1	-1 -1 -1 -1 -1 -1		-20.3% 59.4% 59.4% 59.4% 59.4%	2,673.75 2,674.04 2,727.96 2,728.24 2,728.53			59 0. 0. 0. 0.	
-7.5% -5.6% -5.6% -5.6% -3.1%	-1 -1 -1 -1 -1 -1 -1	-1 -1 -1 -1 -1 -1	-1 -1 -1	-1 -1 -1 -1 -1 -1 -1		-20.3% 59.4% 59.4% 59.4% 59.4% 59.4%	2,673.75 2,674.04 2,727.96 2,728.24 2,728.53 2,800.60			59 0. 0. 0. 0. 0. 0.	
-7.5% -5.6% -5.6% -5.6% -3.1% -3.1%	-1 -1 -1 -1 -1 -1 -1 -1 -1	-1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1	-1 -1 -1	-1 -1 -1 -1 -1 -1 0		-20.3% 59.4% 59.4% 59.4% 59.4% 59.4% 59.4%	2,673.75 2,674.04 2,727.96 2,728.24 2,728.53 2,800.60 2,800.89		59.4%	59 0. 0. 0. 0. 0. 0.	
-7.5% -5.6% -5.6% -5.6% -3.1% -3.1% -3.1%	-1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1	-1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1	-1 -1 -1	-1 -1 -1 -1 -1 -1 0		-20.3% 59.4% 59.4% 59.4% 59.4% 59.4% 59.4% 59.4%	2,673.75 2,674.04 2,727.96 2,728.24 2,728.53 2,800.60 2,800.89 2,801.18		59.4%	59 0. 0. 0. 0. 0. 0. 0. 0. 0.	
-7.5% -5.6% -5.6% -5.6% -3.1% -3.1% -3.1% -3.1% -0.7%	-1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1	-1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1	-1 -1 -1	-1 -1 -1 -1 -1 -1 0		-20.3% 59.4% 59.4% 59.4% 59.4% 59.4% 59.4% 59.4% 59.4%	2,673.75 2,674.04 2,727.96 2,728.24 2,728.53 2,800.60 2,800.89 2,801.18 2,872.00	59.4%	59.4%	59 0. 0. 0. 0. 0. 0. 0. 0. 0.	
-7.5% -5.6% -5.6% -5.6% -3.1% -3.1% -3.1% -0.7% 0.0%	-1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -	-1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1	-1 -1 -1	-1 -1 -1 -1 -1 -1 0		-20.3% 59.4% 59.4% 59.4% 59.4% 59.4% 59.4% 59.4% 59.4% 59.4%	2,673.75 2,674.04 2,727.96 2,728.24 2,728.53 2,800.60 2,800.89 2,801.18 2,872.00 2,890.80	59.4%	59.4%	59 0. 0. 0. 0. 0. 0. 0. 15	
-7.5% -5.6% -5.6% -3.1% -3.1% -3.1% -0.7% 0.0% 0.2%	-1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -	-1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -	-1 -1 -1	-1 -1 -1 -1 -1 -1 0		-20.3% 59.4% 59.4% 59.4% 59.4% 59.4% 59.4% 59.4% 59.4% 59.4% 59.4%	2,673.75 2,674.04 2,727.96 2,728.24 2,728.53 2,800.60 2,800.89 2,801.18 2,872.00 2,890.80 2,890.80 2,897.06	59.4%	59.4%	59 0. 0. 0. 0. 0. 0. 0. 15 15	
-7.5% -5.6% -5.6% -3.1% -3.1% -3.1% -0.7% 0.0% 0.2% 0.2%	-1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -	-1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -	-1 -1 -1	-1 -1 -1 -1 -1 -1 0		-20.3% 59.4% 59.4% 59.4% 59.4% 59.4% 59.4% 59.4% 59.4% 59.4% 59.4% 59.4% 79.7%	2,673.75 2,674.04 2,727.96 2,728.24 2,728.53 2,800.60 2,800.89 2,801.18 2,872.00 2,890.80 2,897.06 2,897.06 2,897.34	59.4%	59.4%	59 0. 0. 0. 0. 0. 0. 0. 15 15 0.	
-7.5% -5.6% -5.6% -3.1% -3.1% -3.1% -0.7% 0.0% 0.2% 0.2% 0.2%	-1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -	-1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -	-1 -1 -1	-1 -1 -1 -1 -1 -1 0		-20.3% 59.4% 59.4% 59.4% 59.4% 59.4% 59.4% 59.4% 59.4% 59.4% 59.4% 59.4% 59.4% 59.4% 100.0%	2,673.75 2,674.04 2,727.96 2,728.24 2,728.53 2,800.60 2,800.89 2,801.18 2,872.00 2,890.80 2,897.06 2,897.06 2,897.34 2,897.63	59.4%	59.4%	59 0. 0. 0. 0. 0.	

CTA future deleveraging indications with drop-offs—forward look-ahead of trigger levels:

SPX—

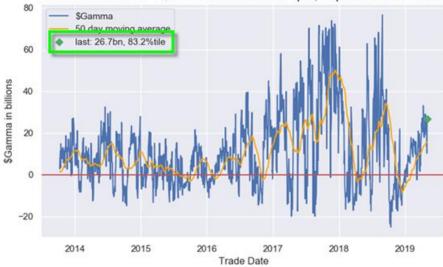


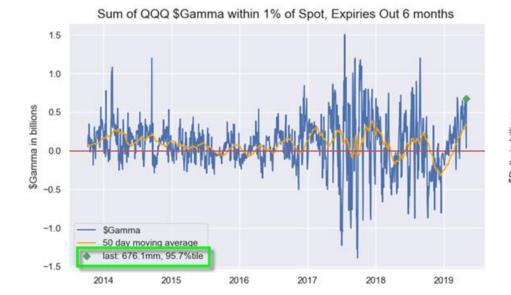
SPX/ SPY Consolidated and QQQ Gamma / Delta at Extremes (%iles from high to low change):

At highs last week--

As of 5/3/2019, SPX SPY + QQQ:

Sum of SPX and SPY \$Gamma within 1% of Spot, Expiries Out 6 months







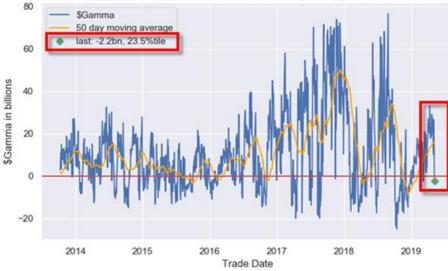
Sum of QQQ \$Delta Across Strikes, Expiries Out 6 months



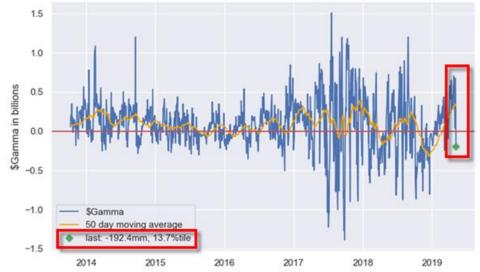
After May 7th—

As of 5/7/2019, SPX SPY + QQQ:

Sum of SPX and SPY \$Gamma within 1% of Spot, Expiries Out 6 months



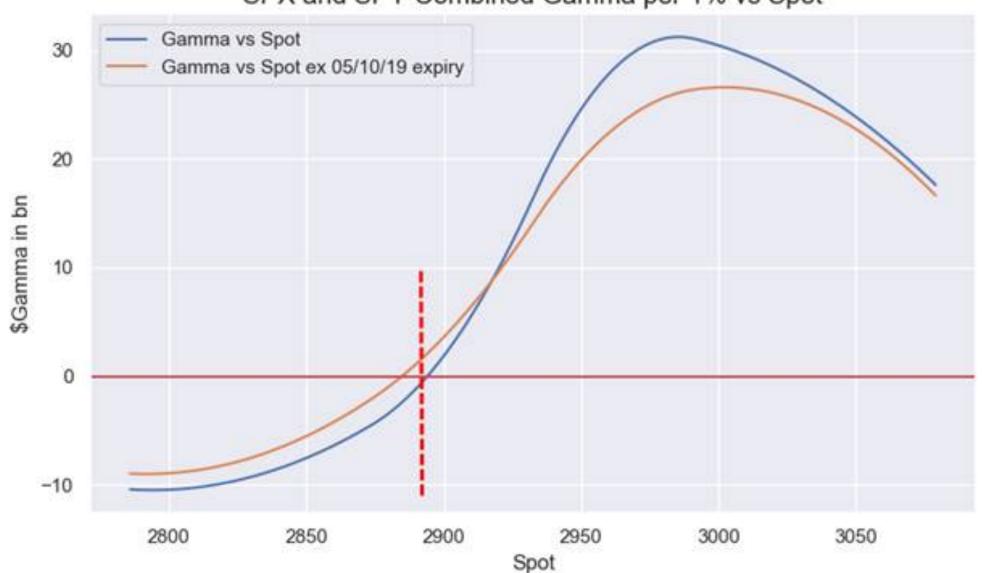




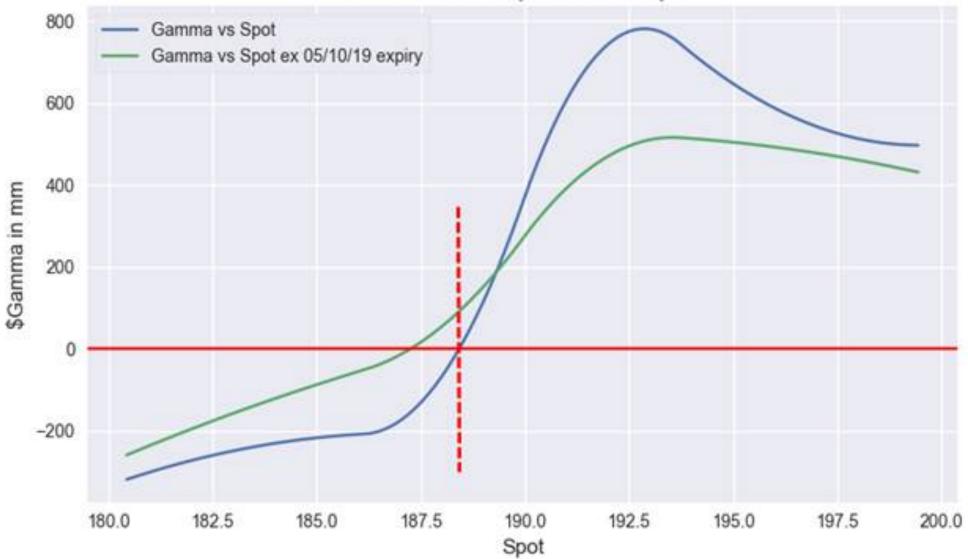




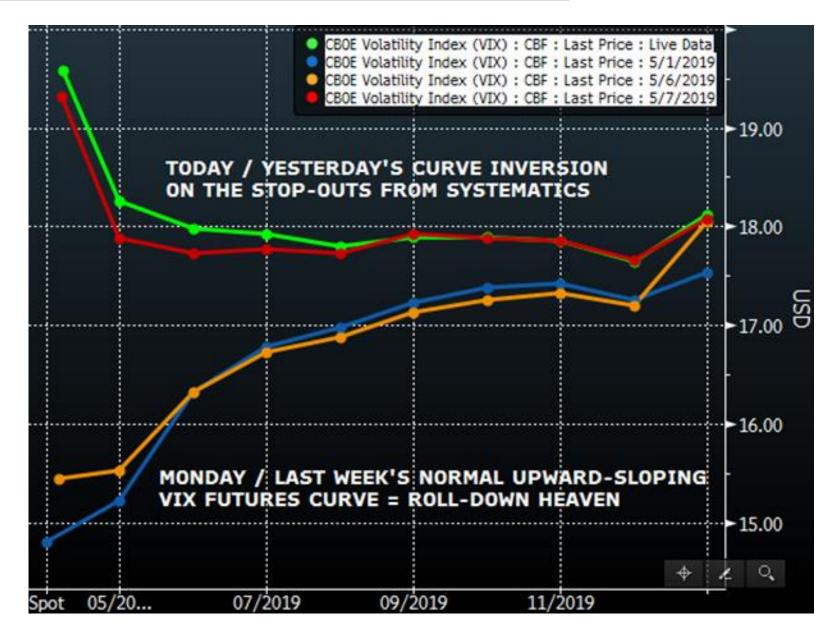




SPX and SPY Combined Gamma per 1% vs Spot



QQQ Gamma per 1% vs Spot



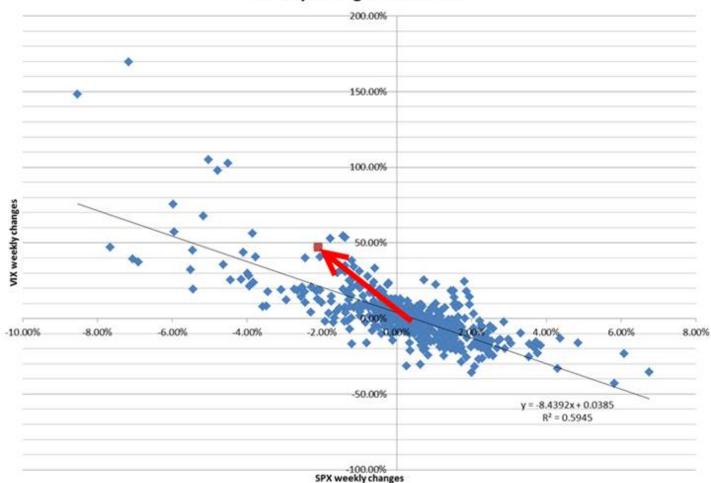
VVIX / VIX ratio 3d move the 2nd largest since Feb 5th 2018 "Leveraged Short VIX ETN Extinction Event" (only behind the "Mnuchin Massacre" on Christmas Eve 2018):



Vol is either "too high" or the S&P should be a lot lower

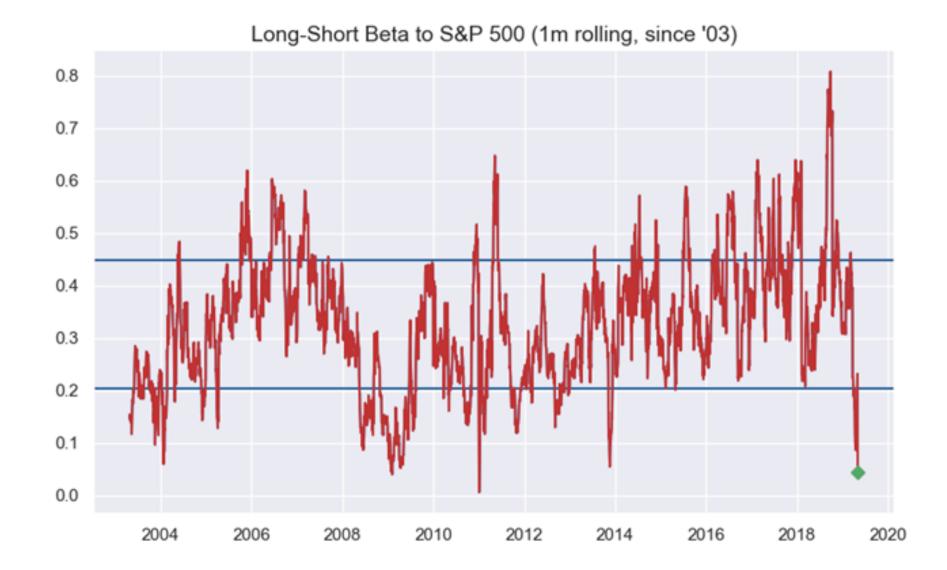
VVIX still at 105, upside skew at 3% / downside skew at 81st %ile / ratio of 25d put and 25d call skew 91st %ile

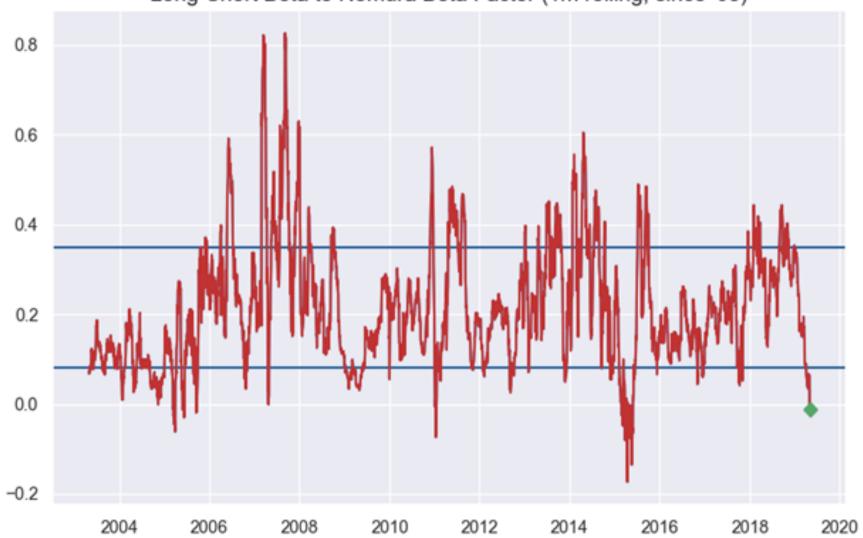
Per the previous two year lookback as "standard," yesterday's SPX performance "should have" seen VIX close at 15.95—but instead, it closed at 19.32 (and +47.3% WoW), which captures the relative extremes of the "short vol" unwind which behind the VIX futures curve inversion



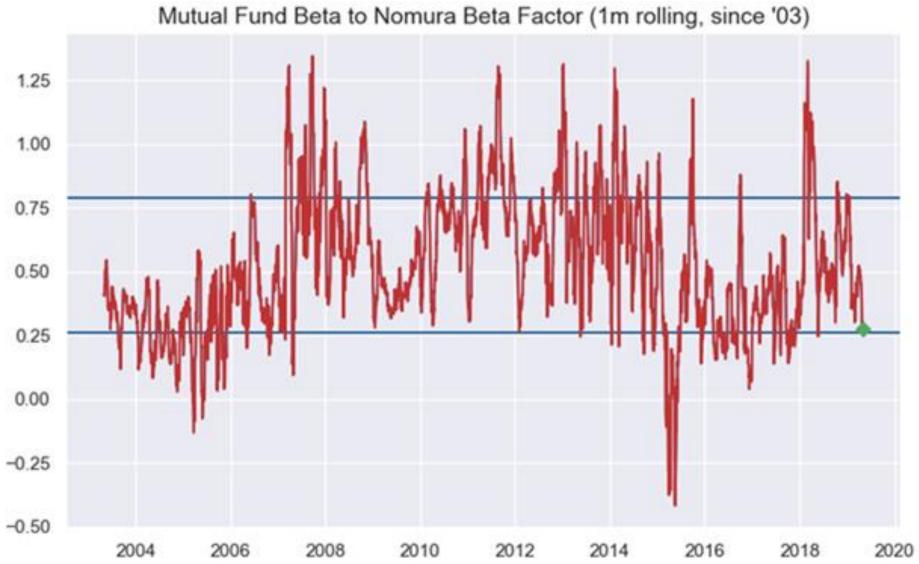
Weekly Changes VIX vs SPX

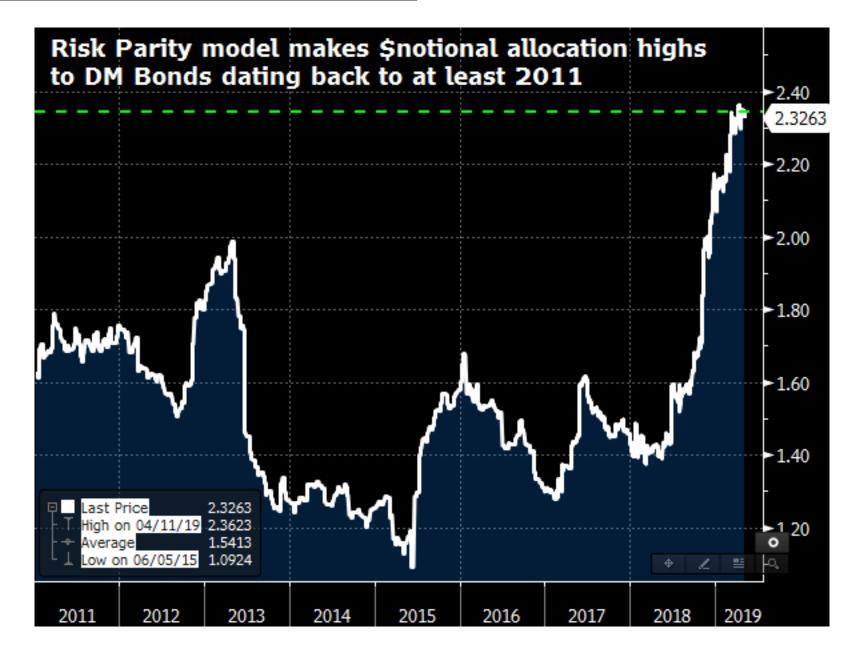
<u>"Buyside Embrace of Economic Pessimism / Slow-Flation"—Hedge Fund L/S "Beta to SPX" (at 0th %ile since 2003!), HF L/S "Beta to Beta" (1st %ile) and Mutual Fund "Beta to Beta" (15th %ile):</u>

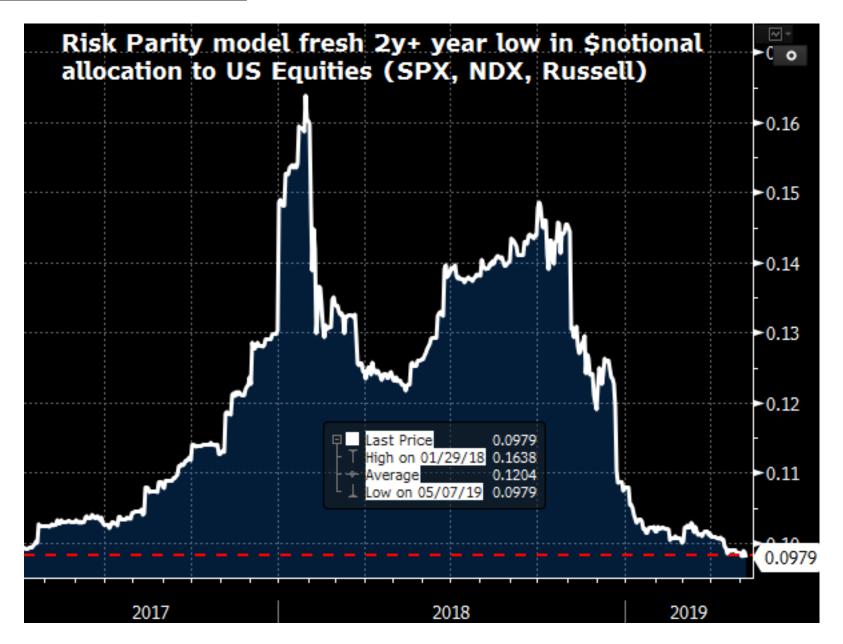




Long-Short Beta to Nomura Beta Factor (1m rolling, since '03)







CTA Bond / Rates "Long":

		Sig(Today)	Sig(1d)	Sig(1w)	Sig(1m)	CurrentLevel	LevelToSell	LevelToBuy	Pos(Today)	Pos(1d)	Pos(1w)	Pos(1m)
Bonds	USD_10Y	100	100	100	100	124.016	121.729	nan	41.12	41.14	39.79	35.28
	EUR_10Y	100	100	100	100	166.08	160.908	nan	26.76	26.73	26.54	25.56
	JPY_10Y	100	50	100	100	152.76	152.521	nan	29.78	14.87	28.31	26.39
	GBP_10Y	100	100	100	100	127.54	126.263	nan	16.13	16.06	16.14	14.95
	AUD_10Y	100	100	100	100	98.205	93.4775	nan	3.77	3.77	3.73	3.59
	CAD_10Y	100	100	100	100	138.65	134.862	nan	1.94	1.94	1.95	1.86
	CHF_10Y	100	100	100	100	157.46	155.26	nan	2.77	2.77	2.73	2.6
	FRA_10Y	100	100	100	100	162.57	155.345	nan	1.96	1.96	1.93	1.94
	ITA_10Y	100	43	36	100	130.38	130.122	nan	1.56	0.66	0.51	1.3
	ESP_10Y	100	100	100	100	152.5	143.811	nan	2.32	2.32	2.22	2.16
MM	ED4	100	100	100	100	97.665	97.6003	nan	97.25	97.25	97.11	86.14
	ER4	100	100	100	100	100.31	100.284	nan	97.25	97.25	97.11	86.14
	YE4	100	100	100	100	99.975	99.9712	nan	58.35	58.35	58.27	51.69
	L4	100	100	100	100	99.05	99.0244	nan	58.35	58.35	58.27	51.69

	Global bonds	Global Equities	US equities	US bonds
this week	9,519.0	(321.0)	2,181.0	2,118.0
1m	41,627.6	(8,433.2)	1,191.1	25,202.9
3m	132,129.4	(75,155.0)	(12,975.8)	83,804.0
6m	78,356.2	(154,295.3)	(79,959.7)	79,739.7
2018	(28,285.4)	56,830.7	(38,455.1)	61,499.1
YTD	139,538.7	(95,429.2)	(37,954.9)	89,943.8

