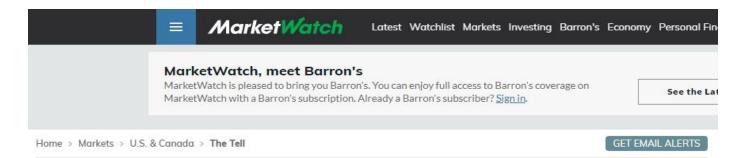
### Industry / Sector options now listed

Options Listing Date*	Index	Ticker (Option and Underlying)	Ticker (Options Settlement)	Price of Index (at close on Feb. 6, 2019)	Notional Value Covered by 1 Options Contract (approx. on Feb. 6, 2019)
Feb. 7	Materials Select Sector Index	SIXB	SISB	566.15	\$56,615
Feb. 11	Energy Select Sector Index	SIXE	SISE	653.05	\$65,305
Feb. 11	Communication Services Select Sector Index	SIXC	SISC	239.92	\$23,992
Feb. 12	Financial Select Sector Index	SIXM	SISM	320.16	\$32,016
Feb. 12	Industrials Select Sector Index	SIXI	SISIN	736.5	\$73,650
Feb. 13	Consumer Staples Select Sector Index	SIXR	SISR	539.04	\$53,904
Feb. 13	Real Estate Select Sector Index	SIXRE	SISRE	166.21	\$16,621
Feb. 13	Technology Select Sector Index	SIXT	SIST	688.43	\$68,843
Feb. 14	Consumer Discretionary Select Sector Index	SIXY	SISY	1094.19	\$109,419
Feb. 14	Health Care Select Sector Index	SIXV	SISV	910.07	\$91,007
Feb. 14	Utilities Select Sector Index	SIXU	SISUT	553.07	\$55,307

Sources: S&P Dow Jones Indices, LLC, Bloomberg, and Choe Options Exchange. Visit www.cboe.com/sectors for more information.

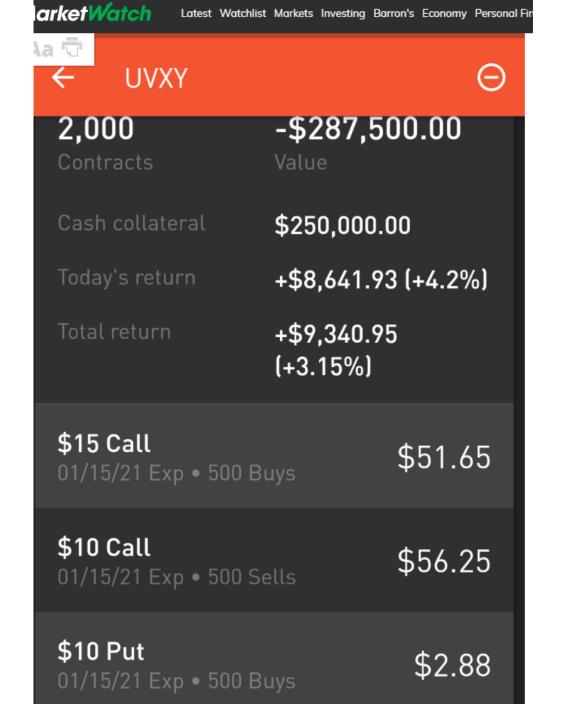
\* Listing dates are scheduled and are subject to regulatory approval.

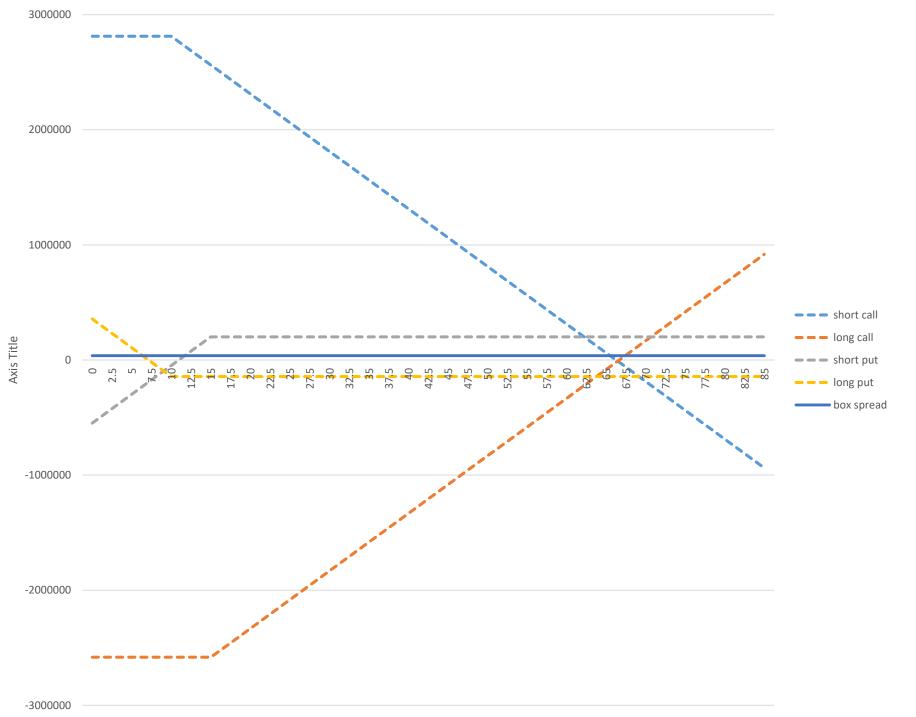


# Trader says he has 'no money at risk,' then promptly loses almost 2,000%

Published: Jan 22, 2019 2:43 p.m. ET







Net cash inflow: \$287,500

Margin required: \$250,000 [\$5 strike difference x 500 contracts x \$100 contract size] Fully covered by the cash inflow.

Net cash flow at expiry: \$37,500

Not bad for 2 years!

Problem: all of the above only guaranteed if trade held to expiry (Jan 2021) ...

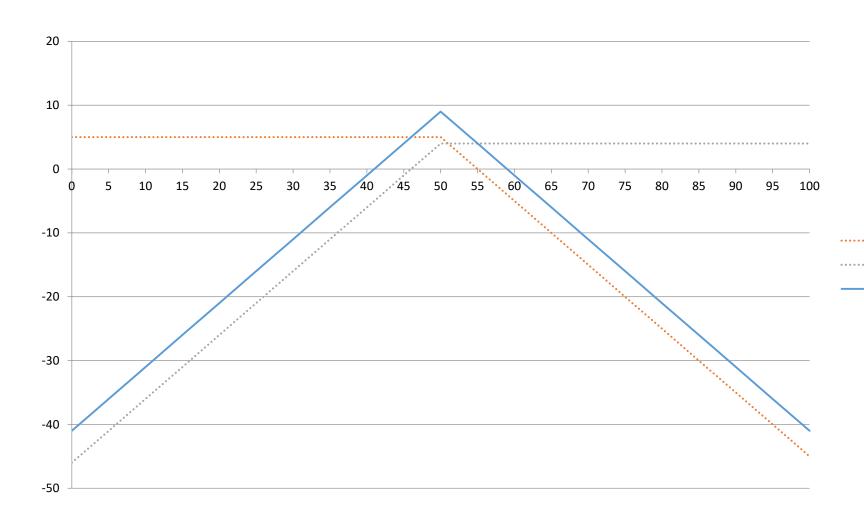
...and these are American options which can be exercised early ⊕

Arbitrage is usually an illusion.

### Ten different ways to trade volatility

- Straddles
- Strangles
- Spread trades
- Butterfly spreads
- Iron Condors
- Buy / Sell on implied volatility
- Options on VIX
- Futures on VIX
- Term structure of futures on VIX
- ETFs: UVXY

### <u>Straddles</u>



<u>Very large</u> margin requirements on short straddles!

Can also be long straddle

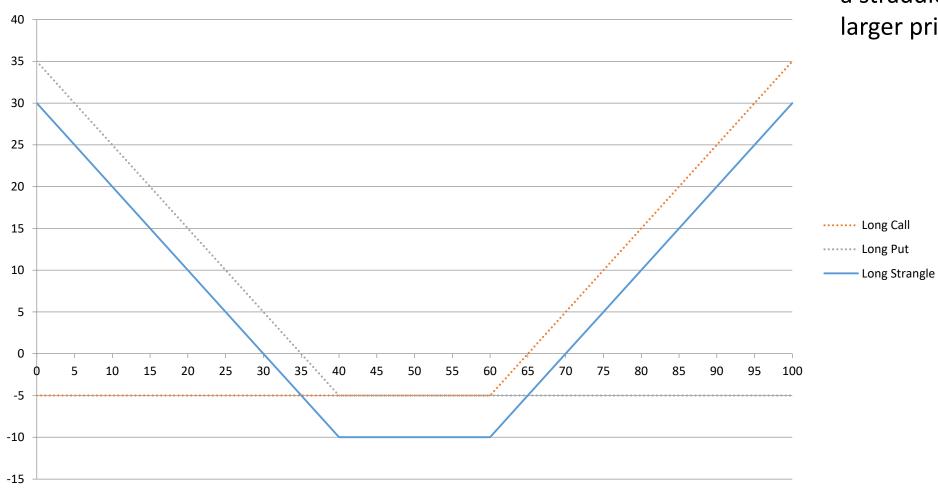
Take care to close out the "losing" leg for a loss to recoup some money on long straddle.

····· Short Call

····· Short Put

- Short Straddle

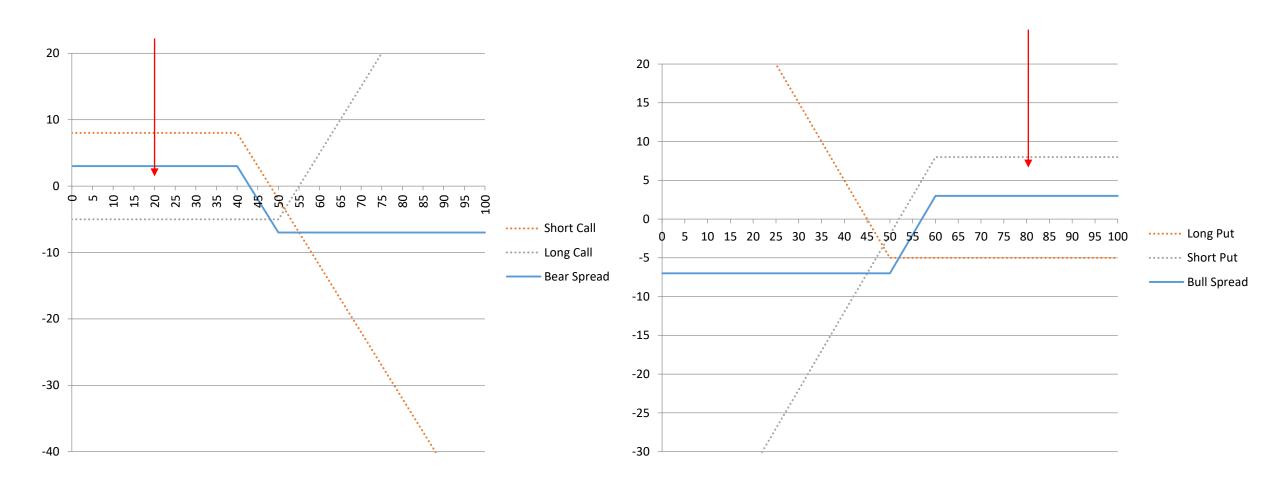
## <u>Strangles</u>



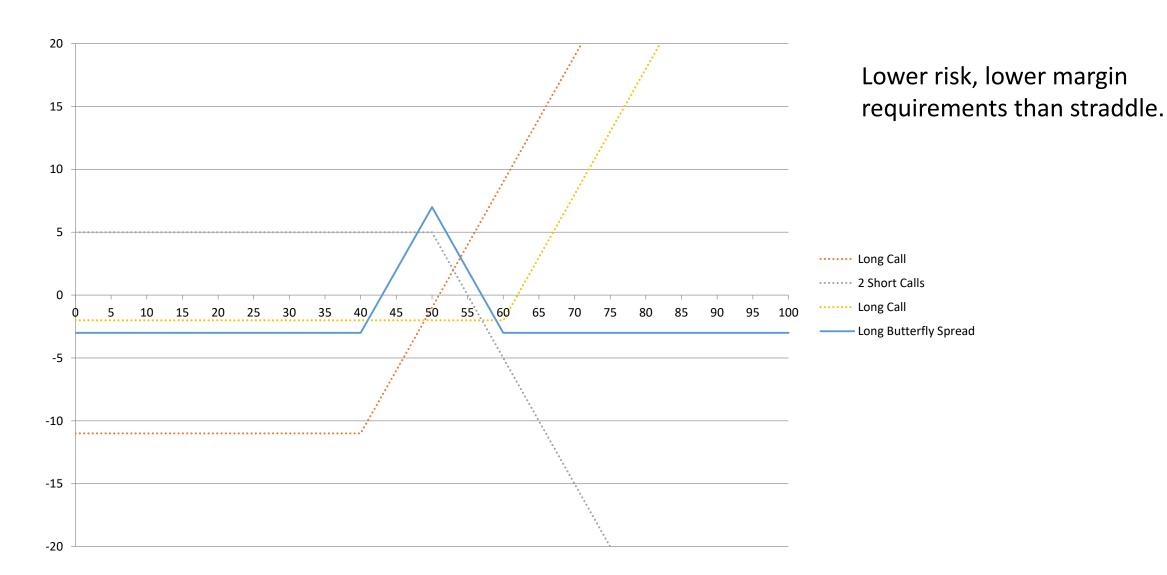
Typically cheaper to set up than a straddle ... but does require larger price movement.

### Spread trades

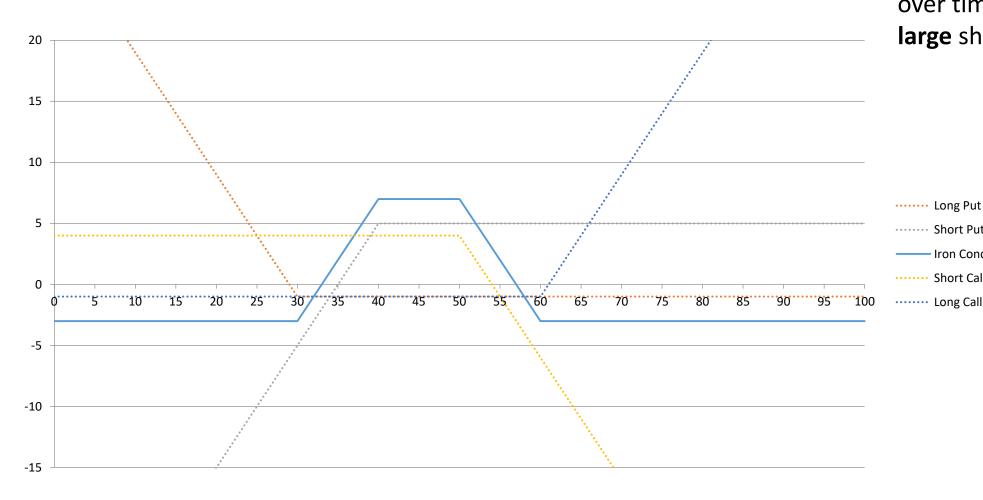
Typically have to wait all the way to expiry for max profit.



# **Butterfly spreads**



### Iron Condors



Betting against the extremes.

Often results in steady profits over time ... followed by very large short-term losses!

····· Long Put ····· Short Put Iron Condor ····· Short Call

# Buy / Sell on implied volatility

- Track implied volatility for the asset you know
- Buy when IV is low, sell when IV is high
- Changes in IV often swamped by directional movement
  - Example: buy call option when IV low ... if this is followed by a large spike in IV it's very, very likely also associated with a large decrease in asset price.
- Can work better for buying puts ... get your protection in place when it's cheap (calm before the storm!)
- IV is the market forecast of likely future price ranges, so you need to be right and market wrong to profit from this.

### U.S. Markets close in 2.07.3

### Options on VIX

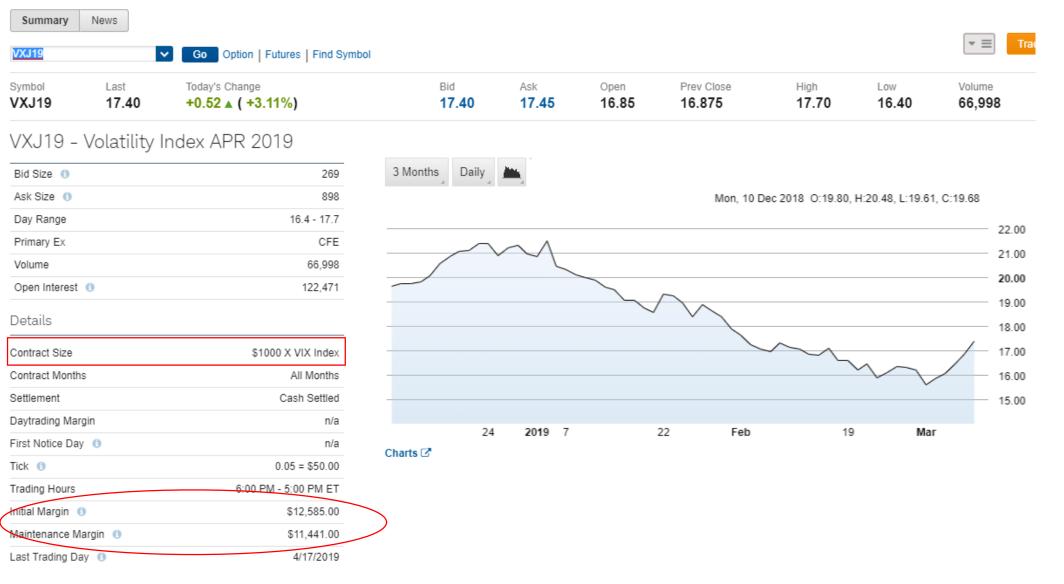
Show: VIX More Calls And Puts Mar 19 2019 (W) ▼ Go Refresh VOLATILITY S&P 500 ( VIX ) Last 17.22 Change 0.63 Bid 0.00 Ask 0.00 Volume 2,479,000 Trade | News | Chart VIX @ 17.22 March 19 2019 Calls March 19 2019 Puts 11 Days to Exp Choose a Strategy ▼ Clear Selections **Get Quote** P&L Calc Trade Delta Vol Change Bid Ask Strike Bid Ask Change Vol Delta IV Open Int Last Last Open Int 162.86 0.898 20 0 0.00 4.90 5.170 4.40 5.10 12.50 0.00 0.05 0.03 0.01 -0.02295.17 147.88 29 0.78 0.8891.160 4.68 4.40 4.60 13.00 0.00 0.05 0.01 -0.03 59 46.534 -0.02585.09 133.26 0.878 18 4.20 13.50 792 0.70 3.90 4.10 0.10 0.05 -0.05 476 71.066 -0.04485.85 0.00 133.41 0.843 2.575 121 0.65 3.60 3.50 3.70 14.00 0.10 0.07 -0.08 22.642 139,036 82.48 0.05 -0.065118.28 0.826 3.519 18 0.60 3.00 14.50 3.10 3.20 0.15 0.20 0.15 -0.10 6.130 81.558 -0.12190.60 120.58 0.777 23.827 921 0.55 2.70 2.70 2.80 15.00 20,602 177,888 0.25 0.30 0.27 -0.13 -0.17291.67 116.29 0.680 71,250 1,468 0.50 2.10 2.00 2.10 16.00 4,777 93,336 0.55 0.65 0.59 -0.26 -0.29995.87 0.568 22.868 0.40 1.50 120.03 164,334 1.55 1.60 17.00 1.05 1.10 1.10 -0.25 14,415 68,458 -0.43499.67 122.50 5,847 0.30 1.20 1.75 1.75 -0.384.136 60,647 -0.558104.43 0.46286,609 1.10 1.20 18.00 1.65 41,505 129.62 0.376 87.030 1.634 0.25 1.00 0.85 0.95 19.00 2.35 2.45 2.36 -0.54410 -0.668106.01 29,345 108.71 3.30 -0.60 48 -0.754132.55 0.299251.716 20.461 0.10 0.65 0.65 20.00 3.10 0.70 139.95 6 16,546 116.04 0.247 143,976 46.848 0.16 0.56 0.50 0.60 21.00 4.00 4.20 4.02 -0.68 -0.808Choose a Strategy ▼ Clear Selections Trade Get Quote P&L Calc

Implied volatility of VIX!!??

### Futures on VIX

Margin requirements. Highly volatile.

### Futures Quote Detail



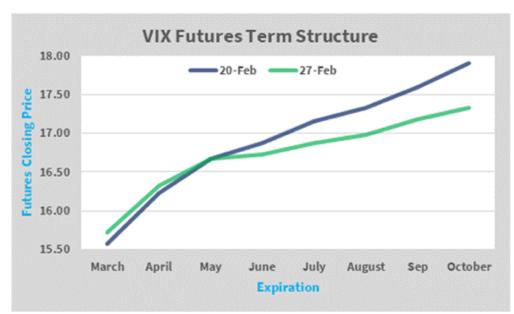
### Term structure of futures on VIX

MAR 5, 2019, 13:50 PM

Inside Volatility Trading: March 5, 2019

BY CBOE BLOG

### Flattening of VIX Futures Term Structure



The Cboe Volatility Index® ("VIX") futures term structure flattened at the end of February due to some sizeable spread trades. These trades appear to be positioned to benefit from a shift in the term structure curve from contango (upward sloping) to backwardation (downward sloping), which tends to happen when there is a volatility spike.

Bet on curve to flatten / invert:

long short-term / short long-term

Bet on curve to steepen: short short-term / long long-term

Lower margin requirements than outright directional trade in futures.

### ETFs: UVXY, EXIV, XVZ



### Bottom Line

Potentially high risk trading

Many strategies involve margin requirements

Most strategies are short-term, speculative.
 Buy-and-hold not typically a part of volatility trading.