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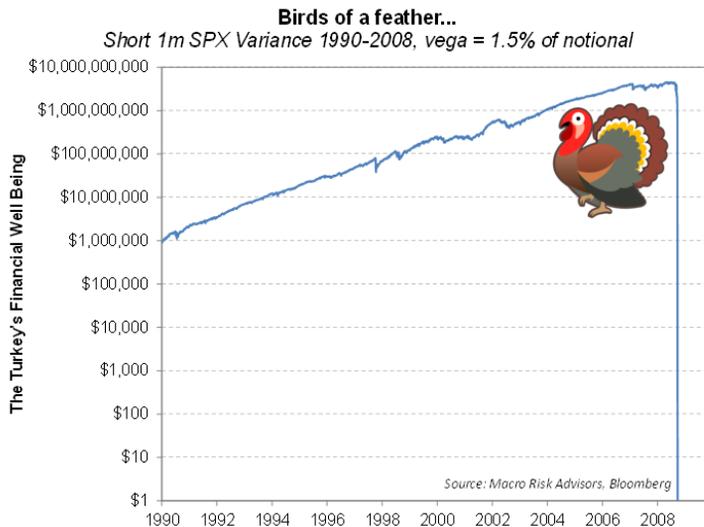
- XIV and SVXY were wiped out on Feb 5th, but how bad was the VIX blowup for the broader short vol trade?
- Short 1m variance: lost over a year's worth of P&L on Feb 5th, but rapidly recovered
- Weekly SPX straddle selling: Biggest drawdown since 2010 (-10%)
- Overwriters: underperformed in 2017, outperformed in Feb and act as a source of vol supply
- Vol target strategies: Outperformed (or kept pace) in 2017, similar size drawdown in 2018, underperformed on the rally back
- Spec short VIX futures exposure estimated at 375mm vega, down from 700mm vega pre-blowup

How bad was the “VIX Blowup” for short volatility strategies?

Pravit Chintawongvanich, Head of MRA Derivatives Strategy (e-mail)

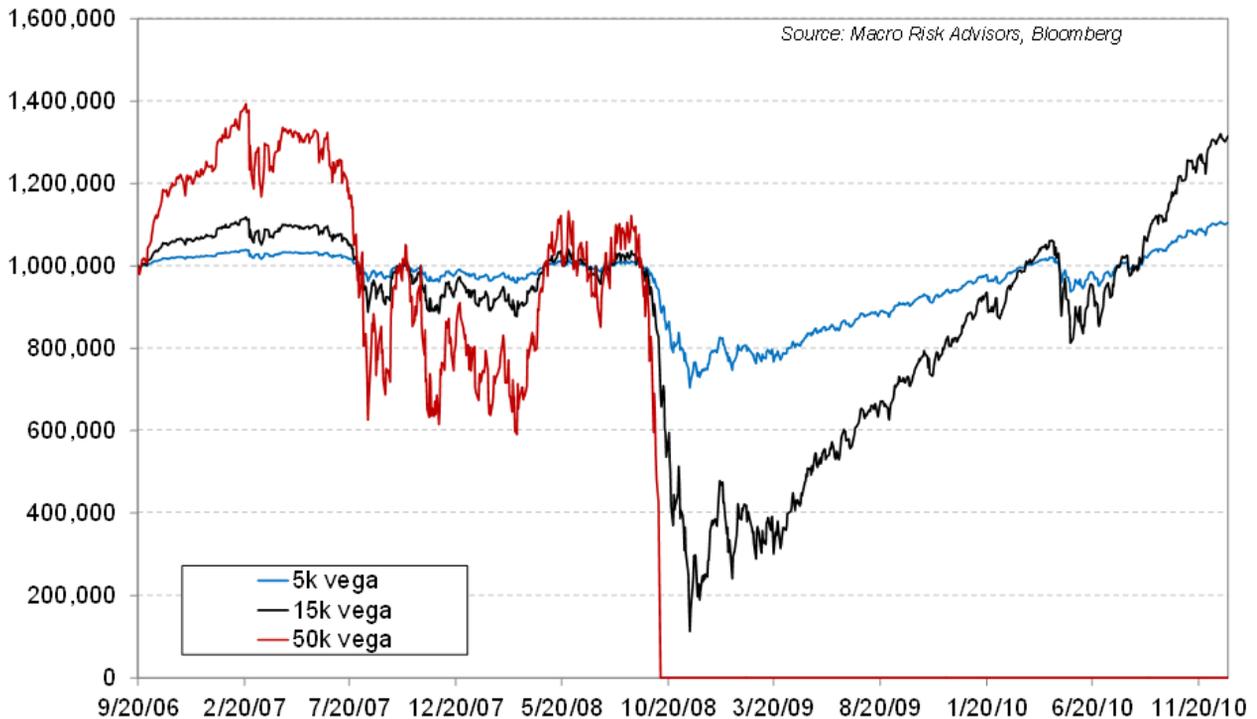
The “VIX blowup” of Feb 5th all but wiped out two popular exchange-traded short volatility products (XIV and SVXY) in a single day (read our note [“What Happened”](#) or listen to [this podcast](#) for the details). The XIV’s one-day 96% drop – after more than doubling in 2017 – brings the **“VIX turkey”** chart to mind (below). However, with all the attention on the implosion of these two products, it’s easy to forget that the global “short volatility” trade is much larger than XIV and SVXY – which together only had about \$3 billion of AUM at their peak and were mostly used by retail investors.

How badly was the “short vol” trade hurt – is it just a flesh wound, or has it been dealt an irrecoverable blow?



Firstly, as we have stressed in many previous notes, shorting volatility is not inherently bad. It is shorting volatility with too much leverage that is a killer. While there are a few [horror stories](#), institutions that sell volatility generally **limit their leverage and/or use hedges**, earning a lower annualized return, but living to fight another day when volatility inevitably spikes. Not only did XIV and SVXY have dangerously high leverage (being wiped out if short-dated VIX futures at least doubled in a single day), they were also forced to rebalance their positions daily – ultimately pushing the market against themselves and getting trapped in a feedback loop of their own making. **XIV and SVXY should be regarded as extreme, hyper-levered versions of the short volatility trade.** Below, we show the outcome of selling 1-month variance from 2006-2010 with different amounts of leverage.

Too much of a good thing: shorting 1m VIX 2006-2010

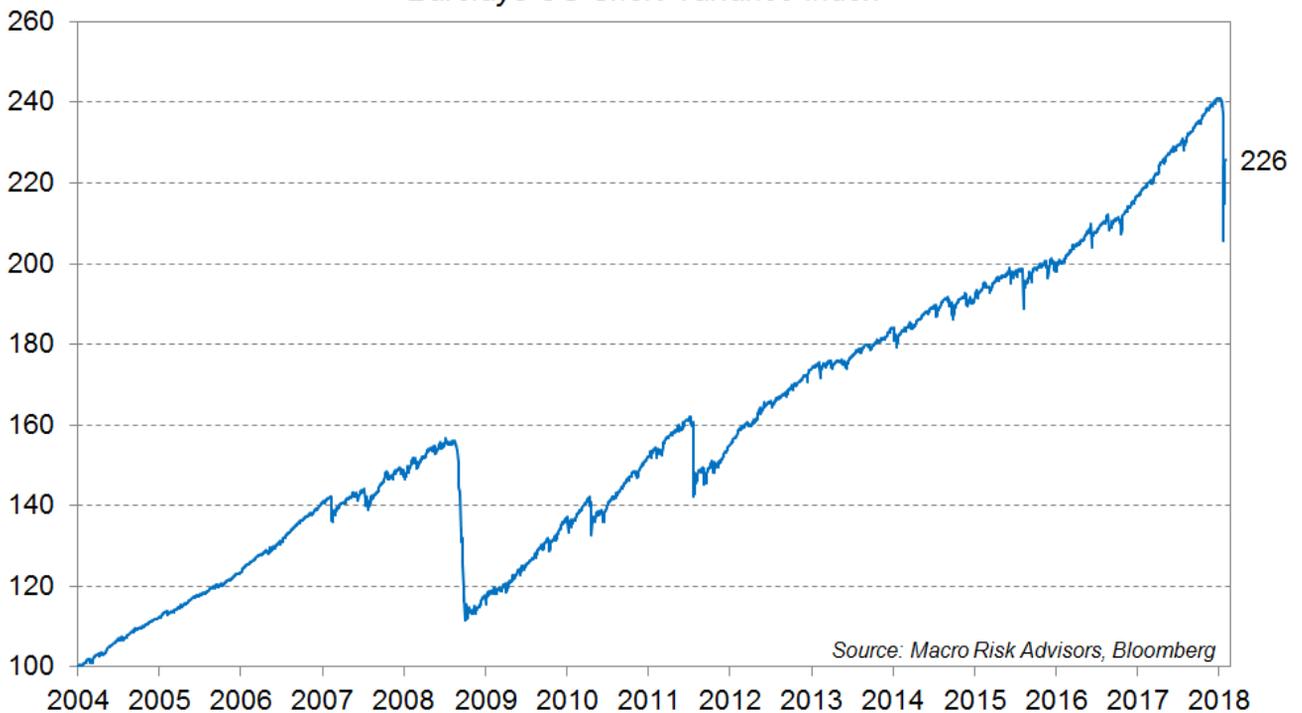


Selling Variance

Below, we chart the Barclays US Short Variance index: a simple “short variance” strategy that is closer to how an institutional investor would try to earn the volatility risk premium. Short variance strategies certainly took a hit on 2/5 – losing over a year’s worth of P&L in a single day – but quickly recovered. Although the index was down 15% peak-to-trough on 2/5, it has recovered and is now down only 6% - still profitable since the beginning of 2017. The magnitude of the shock is comparable to August 2011, where the index was down 12.4% peak to trough, but took a longer time to recover.

In short – **short variance took a hit, but this is mostly “just a flesh wound.”**

Selling SPX Variance: "Just a Flesh Wound" Barclays US Short Variance Index

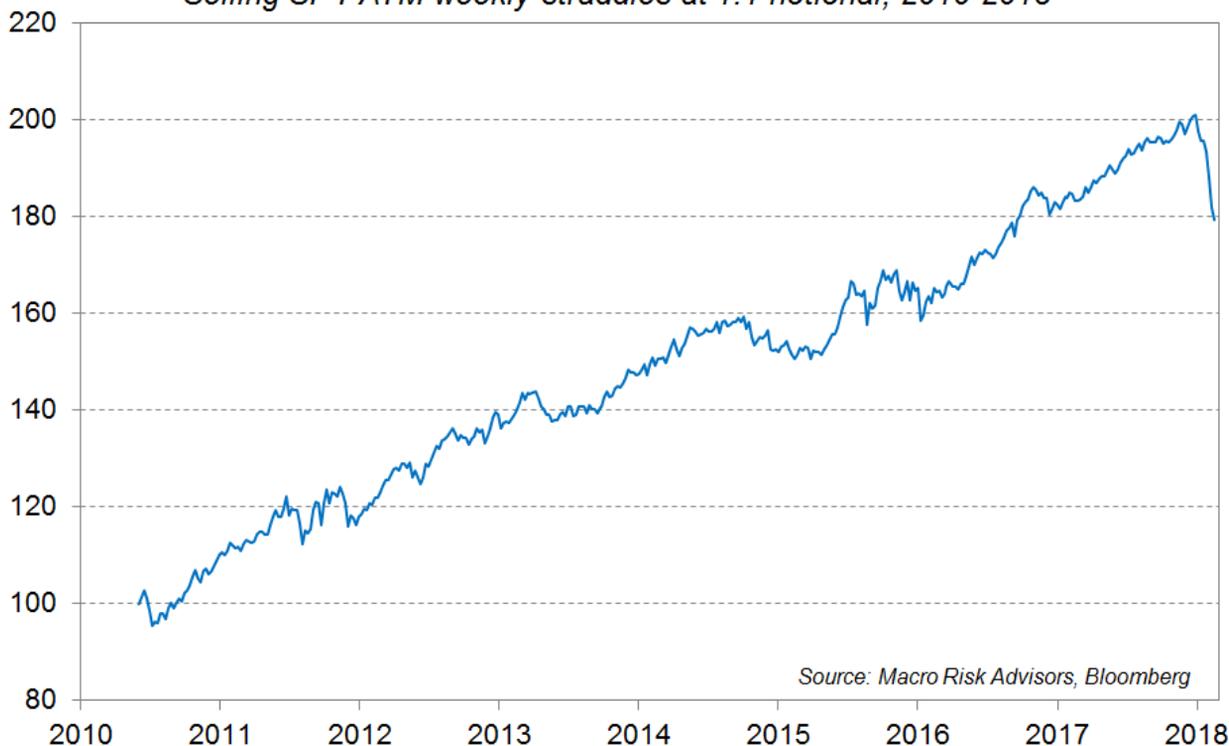


Weekly options selling

We discussed the profitability of selling weekly straddles in a [presentation at the CBOE RMC](#), then later revisited it in a note showing that [much of the weekly 'edge' appeared to be gone](#).

Looking at our 'benchmark' weekly options strategy that sells at-the-money 1-week straddles on SPY unhedged, it has lost nearly 11% peak to trough – the biggest drawdown experienced since June 2010 when the strategy began (and including the volatility of August 2011). The rally in the first weeks of January followed by the violent selloff on the week of 2/5 and subsequent bounce back have made selling weekly straddles a consistent loser this year. On the flip side, **some much-needed volatility risk premium has been restored to weekly options.**

A year's worth of P&L wiped out...
Selling SPY ATM weekly straddles at 1:1 notional, 2010-2018



How did overwriters (covered call sellers) perform?

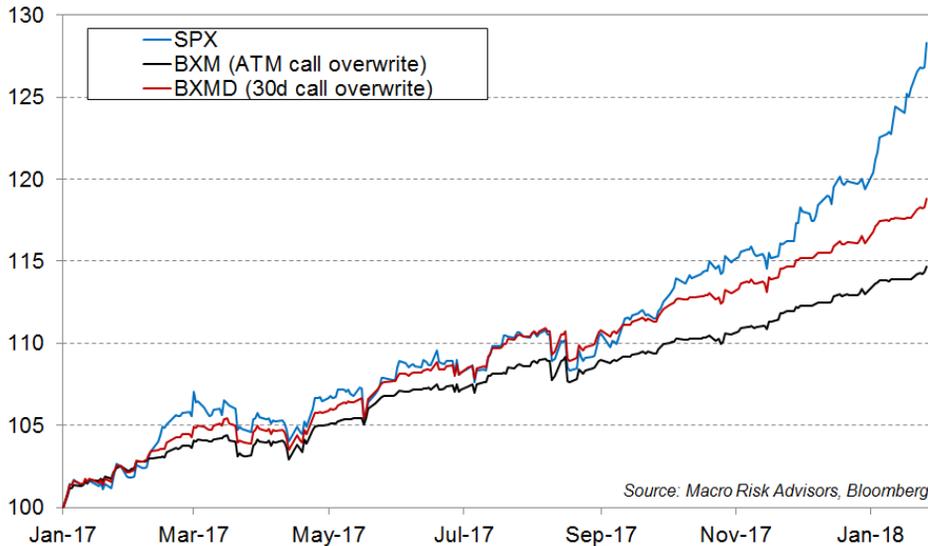
Long story short: **overwriters outperformed.**

Overwriters are commonly perceived of as “vol sellers”, but an often misunderstood point is that **overwriters actually OUTPERFORM the market during selloffs and periods of high volatility.** In fact, an overwriter **needs** the market to sell off, in order to outperform. The **worst environment for an overwriter is when the market keeps rallying straight up.** As such, overwriters actually breathed a sigh of relief when the markets sold off on February 5th.

To understand this, look at this chart of overwriters vs. the S&P from 2017 through Jan 2018. You can see that the S&P handily trounced the overwriters.

The S&P handily trounced overwriters in 2017 and Jan 2018

SPX vs. 1-month ATM and 30-delta call overwrite strategies

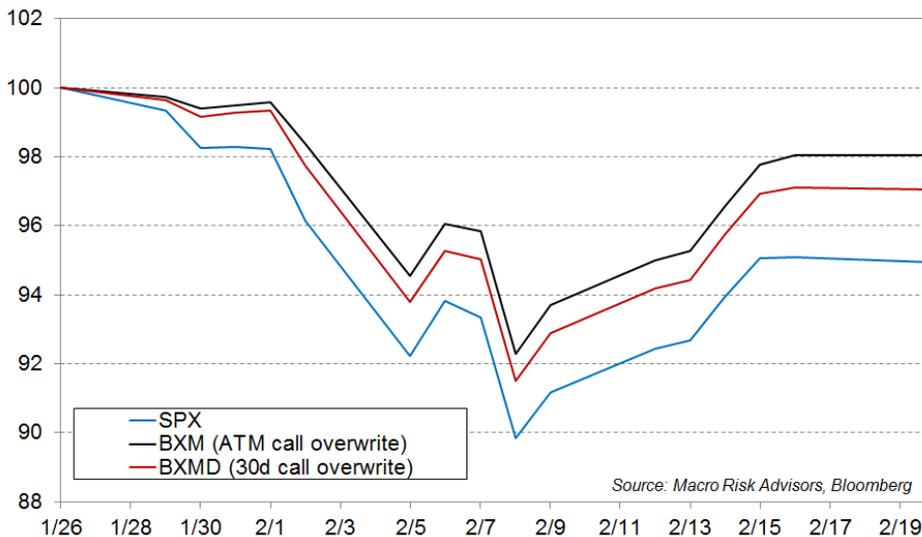


Source: Macro Risk Advisors, Bloomberg

Now consider the performance of overwriters since the SPX high on Jan 26th. You can see that overwriters **outperformed.**

Overwriters outperformed the S&P during the volatility of Feb '18

SPX vs. 1-month ATM and 30-delta call overwrite strategies



Source: Macro Risk Advisors, Bloomberg

The simple reason is that an overwriter has the exact same stock position as a buy-and-hold investor, but with an added short call option (for which they have earned a premium). **The only way for them to outperform the S&P is if the market is sideways or down** (since that is the only scenario that makes the call expire worthless).

Furthermore, if the market sells off, overwriters can now sell a call option at a **higher premium**. In fact, overwriters typically roll their call options when the market sells off. In other words, since the call option they sold is now near-worthless, they buy it back, and sell a new, meatier at-the-money option. Thus **overwriters actually act as a source of vol supply when the market sells off. This is a potentially large source of vol selling supply that appears during times of volatility demand (vol spikes) and is often overlooked.** Furthermore, **overwriters will never be forced vol buyers when the market sells off.** In a [note last year, we outlined the ecosystem of overwriters](#).

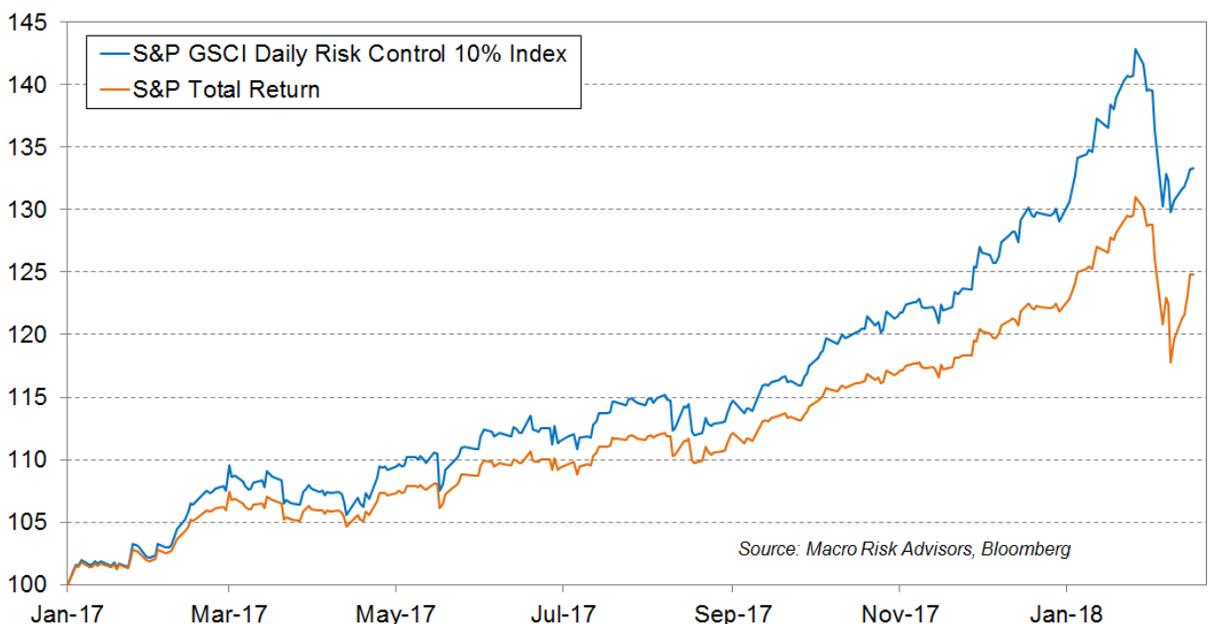
Volatility Target Strategies

While volatility target strategies are often thrown in with “short volatility” strategies, **they have little in common with actual volatility trading strategies other than having the word “volatility” in their name.** These strategies have garnered high attention in recent years due to their tendency to de-risk when **realized** (not implied) volatility rises – potentially exacerbating a selloff. Importantly, **these strategies do NOT trade options**, and unlike a traditional “short volatility” strategy, **they do not have unlimited risk.**

In other words, in a traditional “short vol” strategy, if you sell vol at 20, your risk is unlimited, because vol could go to 40, or 60, or 100, or even higher. But volatility target strategies do not sell vol. They are just long equities in a varying allocation based on the level of realized volatility. In other words, if they target 12 vol, and realized vol is 12, then they are at 100% exposure. If realized vol then jumps to 16, then to reach their target vol of 12, their allocation needs to be $12/16 = 75\%$, and they sell 25% of their exposure. This “short gamma” aspect (where they sell stocks as volatility rises) is probably the only similarity they have to actual “short volatility” strategies. **Under no circumstances would they actually be buyers of volatility.**

Looking at a “typical” vol target strategy, the S&P GSCI Daily Risk Control 10% index, we see it actually outperformed the S&P (due to using leverage capped at 150%) during 2017, but suffered a drawdown of roughly the same size from peak to trough (approx. -10%). However, the S&P has recovered more rapidly, since the vol control strategy has de-risked (and thus has less long equity exposure for the bounce back).

Volatility Target Indices: Similar drawdown, slower bounce back
S&P GSCI Daily Risk Control 10% Index vs. S&P



How big is the “short vol” trade post VIX blowup?

Long story short – nobody can really estimate the size of all the short volatility programs out there, since much of it is OTC and there are also definitional issues (do overwriters count? Put writers? Structured notes with an embedded put? Etc). However, we can take a “naïve” approach to estimating the amount of exposure specifically to **short VIX futures**. We sum up the short vega from SVXY, short interest in VXX, TVIX, and UVXY, and the short futures position among “leveraged funds” and “asset managers” reported to CFTC. The exposure has dropped significantly post-blowup, to \$375 million vega (from nearly \$700). However, this number should be taken with a big grain of salt. Firstly, the equity short interest is only updated once every 2 weeks and has not been updated since pre-blowup (so if there was significant covering in short VXX etc, this is not reflected yet). Secondly, the short interest in many of the VIX ETPs could simply reflect market maker positions rather than directional shorts. And finally, the short VIX futures position reported to CFTC could be hedged with long risk positions elsewhere (e.g. long VIX calls).

Total Vega of "VIX Shorts" (USD Millions)



In case you missed it – podcast about the XIV blowup

I was on the most recent [Bloomberg “Odd Lots” podcast](#) to walk through the dynamics of the short vol trade, and how XIV and SVXY blew up. It’s a 30 minute listen and a nice high level overview of what happened.